Soil Feasibility Study Report
Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma
EPA Identification No. OK0001010917

Remedial Investigation/Feasibility Study
Contract: EP-W-06-004
Task Order: 0128-RICO-06GG

Prepared for
U.S. Environmental Protection Agency
Region 6
1201 Elm Street, Suite 500
Dallas, Texas 75270-2102

Prepared by
EA Engineering, Science, and Technology, Inc., PBC
405 S. Highway 121
Building C, Suite 100
Lewisville, Texas 75067
(972) 315-3922

August 17, 2021
Revision: 03
EA Project No. 14342.128

90044670

Forward

The Draft Final Soil Feasibility Study Report, Revision 03, was prepared for the United States Environmental Protection Agency by EA Engineering, Science, and Technology, Inc., PBC (EA) in May 2021. No additional comments were received, and the report was edited by the EPA to update the report date and identify the draft final as the Final Soil Feasibility Study, Revision 03, dated August 17, 2021.

TABLE OF CONTENTS

Page

LIST OF FIGURES iv
LIST OF TABLES v
LIST OF ACRONYMS AND ABBREVIATIONS vi
1. INTRODUCTION 1
1.1 PURPOSE AND SCOPE 1
1.2 REPORT ORGANIZATION 2

2. SITE DESCRIPTION AND BACKGROUND 3
2.1 SITE DESCRIPTION 3
2.2 SITE HISTORY 4

2.2.1 Previous Investigation and Removal Activities 4
2.2.2 Source Control Record of Decision Summary 5

2.3 SURFACE FEATURES 5
2.4 FUTURE LAND AND GROUNDWATER USE 6
2.5 GEOLOGY AND HYDROGEOLOGY 6
2.6 REMEDIAL INVESTIGATION RESULT SUMMARY 7
2.7 SUMMARY OF HUMAN HEALTH RISK ASSESSMENT 8

2.7.1 Introduction 8
2.7.2 Data Grouping and COPC Identification 8
2.7.3 Exposure Assessment 9
2.7.4 Risk Characterization 10
2.7.5 Additional Evaluation of Potential Risk Concerns 12

2.8 SUMMARY OF ECOLOGICAL RISK ASSESSMENT 13

2.8.1 Introduction 13
2.8.2 SLERA Results 13
2.8.3 SLERA Refinement 14

3. GROUNDWATER DATA GAP AND POTENTIAL TECHNOLOGIES 16
3.1 GROUNDWATER DATA GAP 16
3.2 POTENTIAL GROUNDWATER REMEDIAL TECHNOLOGIES 16
3.3 GROUNDWATER USE 18

4. REMEDIAL ACTION OBJECTIVES 19
4.1 REMEDIAL ACTION OBJECTIVES 19

4.1.1 Soil 19
4.1.2 Sediment and East Tank Farm 20
4.1.3 Groundwater 20

4.2 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS 21

4.2.1 Definition of Applicable or Relevant and Appropriate Requirements 21
4.2.2 Classifications of Applicable or Relevant and Appropriate Requirements 22

4.3 PRELIMINARY REMEDIATION GOALS 22
4.4 REMEDIAL ACTION OBJECTIVES 24
4.5 OCCURRENCE AND VOLUME OF SOILS ABOVE PRGS 24

4.5.1 Lorraine Process Area – Estimated Volume for Lead and BaP Impacted Soil 24
4.5.2 Wilcox Process Area – Estimated Volume for Lead Impacted Soil 25
4.5.3 East Tank Farm – Estimated Volume for Lead Impacted Soil 27
4.5.4 All Process Areas – Total Estimated Volume for Lead Impacted Soil/Sediment 27

5. DEVELOPMENT AND SCREENING OF TECHNOLOGIES 28
5.1 GENERAL RESPONSE ACTIONS AND REMEDIAL TECHNOLOGIES 28
5.2 REMEDIAL TECHNOLOGY SCREENING 28

5.2.1 Preliminary Screening Criteria 28
5.2.2 Technology Screening Summary 29

6. DEVELOPMENT OF REMEDIAL ALTERNATIVES 34
6.1 COMMON COMPONENTS FOR SOIL ALTERNATIVES 34
6.2 ALTERNATIVE S-1: NO FURTHER ACTION 34
6.3 ALTERNATIVE S-2: SOIL EXCAVATION AND OFFSITE DISPOSAL 35
6.4 ALTERNATIVE S-3: SOIL EXCAVATION AND ONSITE CONTAINMENT REPOSITORY 36
6.5 ALTERNATIVE S-4: SOIL EXCAVATION AND ONSITE CONSOLIDATION AND CAPPING 37

7. EVALUATION OF REMEDIAL ALTERNATIVES 39
7.1 ALTERNATIVE EVALUATION 39
7.2 COMPARATIVE ANALYSIS 39

7.2.1 Overall Protection of Human Health and Environment 39
7.2.2 Compliance with ARARs 40
7.2.3 Long-Term Effectiveness and Permanence 40
7.2.4 Reduction of TMV through Treatment 40

7.3 EVALUATION CRITERIA 40

7.3.1 Threshold Criteria 41
7.3.2 Balancing Criteria 41
7.3.3 Modifying Criteria - State and Community Acceptance 43
7.3.4 Short-Term Effectiveness 43

7.3.5 Implementability 43
7.3.6 Cost 43

8. REFERENCES 44

APPENDIX A: RESPONSES TO COMMENTS ON FEASIBILITY STUDY REPORT, REVISION 02

APPENDIX B: TECHNICAL MEMORANDUM ON DATA GAP INVESTIGATION

APPENDIX C: DEVELOPMENT OF HUMAN HEALTH RISK BASED PRELIMINARY REMEDIATION GOALS TECHNICAL MEMORANDUM; DEVELOPMENT OF ECOLOGICAL PRELIMINARY REMEDIATION GOALS TECHNICAL MEMORANDUM

APPENDIX D: DETAILED COST ESTIMATES

LIST OF FIGURES

Number Title

1-1 Site Location Map

2-1 Site Layout of Former Operational Areas

2-2 Wetland Delineation Overview Map

2-3 Potentiometric Surface Map, December 2018

2-4 Human Health Conceptual Site Model

2-5 Ecological Conceptual Site Model

2-6 Areas Addressed under the Source Control Record of Decision

2-7 Soil Exceedances above Benzo(a)pyrene and Residential Lead Preliminary Remediation Goals in Lorraine Process Area

2-8 Soil Exceedances above Residential Lead and Commercial/Industrial Lead Preliminary Remediation Goals in Wilcox Process Area

2-9 Soil Exceedances above Residential Lead Preliminary Remediation Goal in Wilcox Process Area

2-10 Soil Exceedances above Residential Lead Preliminary Remediation Goal in East Tank Farm

2-11 Soil Exceedances in Residential and Industrial Areas above Benzo(a)pyrene and Residential Lead Preliminary Remediation Goals

LIST OF TABLES

Number Title

4-1 Potentially Applicable or Relevant and Appropriate Requirements

5-1 Technology Screening for Soil

6-1 Summary of Soil Alternatives

7-1 Evaluation of Soil Remedial Alternatives

7-2 Comparative Analysis of Soil Remedial Alternatives

LIST OF ACRONYMS AND ABBREVIATIONS

95UCLM	95 % Upper confidence limit of the mean
µg/dl	Microgram(s) per deciliter
ARAR	Applicable or relevant and appropriate requirement
bgs	Below ground surface
BaP	Benzo(a)pyrene
BRAPF	Baseline Risk Assessment Problem Formulation
CalEPA	California Environmental Protection Agency
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
cm/s	Centimeter per second
COC	Chemical of concern
COPC	Chemical of potential concern
COPEC	Constituent of potential ecological concern
CSM	Conceptual site model
cy	Cubic yard(s)
EA	EA Engineering, Science, and Technology, Inc., PBC
EPA	U.S. Environmental Protection Agency
EPC	Exposure point concentration
ERA	Ecological Risk Assessment
FS	Feasibility Study
ft	Foot (feet)
ft^2	Square feet
GRA	General Response Action
HDPE	High density polyethylene
HHRA	Human Health Risk Assessment
HQ	Hazard quotient
IC	Institutional control
IEUBK	Integrated Exposure Uptake Biokinetic
ISB	*In situ* enhanced bioremediation
ISCO	*In situ* chemical oxidation
ISS	*In situ* stabilization and solidification
LNAPL	Light non-aqueous phase liquid
LTU	Land treatment units
LUC	Land use control

LIST OF ACRONYMS AND ABBREVIATIONS (CONTINUED)

mg/kg	Milligram(s) per kilogram
mil	Milli-inch
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NFA	No further action
NPL	National Priorities List
OAC	Oklahoma Administrative Code
ODEQ	Oklahoma Department of Environmental Quality
OSWER	Office of Solid Waste and Emergency Response
PAH	Polycyclic aromatic hydrocarbons
PEL	Probable effects level
PRG	Preliminary remediation goal
RAC	Remedial Action Contract
RACER	Remedial Action Cost Engineering and Requirements
RAO	Remedial action objective
RCRA	Resource Conservation and Recovery Act
RI	Remedial investigation
ROD	Record of Decision
site	Wilcox Oil Superfund Site
SLERA	Screening Level Ecological Risk Assessment
TBC	To be considered
TMV	Toxicity, mobility, or volume
TRV	Toxicity reference value
VOC	Volatile organic compound

1. INTRODUCTION

EA Engineering, Science, and Technology, Inc., PBC (EA) has prepared this Feasibility Study (FS) Report for the U.S. Environmental Protection Agency (EPA) for the Wilcox Oil Company Superfund Site (site) in Bristow, Creek County, Oklahoma (Figure 1-1) under Remedial Action Contract (RAC) Number EP-W-06-004 and Task Order 0128-RICO-06GG. This report addresses soil contamination at the site. The groundwater extent of contamination remains under investigation and will be addressed in a separate report.

This revised FS Report, incorporates the comments from the EPA on the FS Report, Revision 01 which was submitted on 22 March 2021. The responses to comments on the FS Report, Revision 02 are provided in Appendix A.

EA prepared this report based on the Remedial Investigation (RI) Report, Revision 02 (EA 2020a), Human Health Risk Assessment (HHRA), Revision 03 (EA 2020b), and Screening Level Ecological Risk Assessment (SLERA), Revision 01 (EA 2020c), and in accordance with regulations and guidance documents that include, but are not limited to, the following:

- National Oil and Hazardous Substance Pollution Contingency Plan (NCP), 40 Code of Federal Regulations (CFR) Part 300

- *Guidance for Conducting Remedial Investigations and Feasibility Studies under Comprehensive Environmental Response, Compensation, and Liability Act* (CERCLA), Office of Solid Waste and Emergency Response [OSWER] Directive 9355.3-01 (EPA 1988)

This FS was drafted following the framework provided in the EPA Guidance for Conducting RIs and FS under CERCLA (EPA 1988).

1.1 PURPOSE AND SCOPE

The purpose of this report is to support identification and evaluation of potential remedies that address soil contamination at the site by:

- Proposing the preliminary remedial action objectives (RAOs);

- Defining specific preliminary remediation goals (PRGs); and,

- Developing and analyzing a range of remedial alternatives.

1.2 REPORT ORGANIZATION

This FS is divided into the following chapters:

- ***Chapter 1, Introduction***—Presents the purpose of this FS Report and its organization.
- ***Chapter 2, Site Description and Background***—Provides a summary of the site history, results of RI, HHRAs and ecological risk assessments (ERAs), site conceptual site model (CSM), and potential groundwater remedial technologies.
- ***Chapter 3, Groundwater Data Gap and Potential Technologies***—Discusses existing data gap for groundwater and technologies that may be considered for future groundwater remediation.
- ***Chapter 4, Remedial Action Objectives***—Defines RAOs, proposes PRGs, and identifies the applicable or relevant and appropriate requirements (ARARs) for the site.
- ***Chapter 5, Development and Screening of Technologies***—Identifies and screens various potential remedial technologies and options that may be used to address chemical of concern (COC)-impacted soil.
- ***Chapter 6, Development of Remedial Alternatives***—Presents the remedial alternatives and the components of each alternative.
- ***Chapter 7, Evaluation of Remedial Alternatives***—Presents the detailed analysis and comparative analysis of the alternatives.
- ***Chapter 8, References***—Provides the list of references used in this report.

2. SITE DESCRIPTION AND BACKGROUND

2.1 SITE DESCRIPTION

The Wilcox Oil Company site is an abandoned and demolished oil refinery and associated tank farm located north of Bristow, Creek County, Oklahoma (Figure 1-1). It is situated by Route 66 to the west; a residential area and Turner Turnpike to the north and northwest; Sand Creek to the west and southwest; and residential, agricultural, and wooded areas to the east and south. The approximate geographic coordinates for the site are 35°50'31" North latitude and 96°23'02" West longitude (EA 2020a). The site spans approximately 140 to 150 acres and has been divided into five (5) major former operational areas (Figure 2-1):

- The Wilcox Process Area
- The Lorraine Process Area
- The East Tank Farm
- The North Tank Farm, and
- The Loading Dock Area.

Previous activities associated with the facility operations caused site contamination. Some refinery waste is still present at the site, and the site is fenced and secured to deter trespassing and potential contact with the waste.

The Wilcox Process Area is approximately 26 acres in size and is fenced. Most of the equipment and storage tanks used in the past were auctioned and/or salvaged by private landowners; any remaining structures are in ruins. Four aboveground storage tanks, a number of discarded drums and pieces of scrap iron and piping remain at the site. A former lead additive area is barren and located at the southwest portion of the Wilcox Process Area. There are multiple areas of stressed vegetation, barren soil, and visible black tarry waste of a hydrocarbon nature. Buildings in the northern and eastern parts of the former refinery were used as residences and are therefore considered as such, although they are currently vacant. An intermittent creek (West Tributary) flows southward across the eastern portion of the refinery process area through a small pond in the southeast corner of the Wilcox Process Area into Sand Creek. Hydrocarbon waste has also been observed in several drainage channels that empty into Sand Creek.

The Lorraine Process Area is approximately 8 acres, fenced, and to the west of the Wilcox Process Area across the railroad tracks. No refinery structures remain in the area. The First Assembly of God Church (currently vacant), a playground, and a vacant residence (parsonage) are located in this area. Sand Creek borders the western boundary of the area. A drainage feature is located near the northwestern corner of the former process area that drains south into Sand Creek. Similar to the Wilcox Process Area, there are multiple areas of stressed vegetation, barren soil, and visible, black tarry waste present in the area.

The East Tank Farm is located to the east of the Wilcox Process Area and is approximately 80 acres. The area includes pits, ponds, and a number of circular berms that surrounded former tank locations. All of the former crude oil storage tanks have been removed; however, remnants of

the former tank locations remain visible. It is not known if underground piping associated with the tanks remains in place or was removed. Many of the berms surrounding the pits, ponds, and former tanks have been breached or leveled. The three residential properties, which are occupied, are located on or directly next to former tank locations in the East Tank Farm. There are multiple areas of stressed vegetation, barren soil, and visible black tarry waste. The East Tributary is located along the eastern boundary of the East Tank Farm and perennially flows south through a series of ponds to Sand Creek.

Magellan Midstream Partners, LP operates a pumping station in the north-western portion of the East Tank Farm Area, as well as an active pipeline that transects the East Tank Farm, Loading Dock, and North Tank Farm Areas from the southeast to the northwest. Magellan Midstream Partners, LP pumps several different petroleum products through the active pipeline, including kerosene, gasoline, jet fuel, and diesel.

The North Tank Farm is located north of Refinery Road, also referred to as E0810, and west of the railroad tracks and is approximately 20 acres. All the tanks and other structures that were used to support Lorraine Refinery have been removed. An occupied residence is located in the center of the North Tank Farm. There are areas of stressed vegetation, and visible black tarry waste is present.

The Loading Dock Area is approximately 7 acres and is located north of the Wilcox Process Area and east of the North Tank Farm and railroad tracks. The Loading Dock Area was used for loading and unloading product by rail. There are multiple areas of stressed vegetation, barren soil, and visible black tarry waste of a hydrocarbon nature, similar to the rest of site.

2.2 SITE HISTORY

The property was used for oil refinery operations from 1915 until about November 1963. A modern, upgraded oil refinery plant was constructed in 1929 and consisted of a skimming plant, cracking unit, and re-distillation battery with a vapor recovery system and treatment equipment. The Wilcox Oil Company expanded when it acquired the Lorraine Refinery in 1937. Wilcox Oil Company sold the property to a private individual in 1963. Most of the equipment and storage tanks were auctioned or salvaged for scrap metal by the new property owners. Wilcox Oil Company currently no longer operates in Oklahoma. Based on information from the Oklahoma Secretary of States' office, the company merged with Tenneco Oil Company in 1967. On 24 May 2013, EPA proposed the site to the National Priorities List (NPL). On 12 December 2013, the site officially became a Federal Superfund site (EPA Identification No. OK0001010917), when it was added to the NPL.

2.2.1 Previous Investigation and Removal Activities

The EPA and ODEQ have conducted multiple investigations at the site since 1994. The details of the investigations can be found in the individual documents listed in the RI Report (EA 2020a).

In September and October 2017, EPA conducted a removal action and removed oily, tarry sludge and contaminated soils from a residential property at the site. Approximately 1,329 tons of impacted soils and sludge were removed and disposed offsite (Weston 2017). The area was backfilled with clean soil, graded, and reseeded.

2.2.2 Source Control Record of Decision Summary

A Source Control Record of Decision (ROD) Summary was issued in September 2018. The Source Control ROD is limited in scope and addresses specific refinery tank waste locations and the lead additive area source material through excavation, treatment, and offsite disposal (EPA 2018). This source control action is an early/interim action that does not constitute the final remedy for the site; therefore, any subsequent actions to address the remaining risks and threats posed by the site conditions will be documented in a final site-wide decision document. This FS Report provides support for the site-wide decision document.

2.3 SURFACE FEATURES

The site topography generally slopes to the south and southwest on the western portion of the site toward Sand Creek and southeast on the eastern portion of the site toward the East Tributary. Sandstone outcrops are present throughout. The railroad tracks run through the western portion of the site, dividing the North Tank Farm and Loading Dock Area, and Wilcox Process and Lorraine Process Areas. Several drainage features are present at the site. The West Tributary, an intermittent stream, is located along the eastern side of the Wilcox Process Area; the East Tributary, a perennial stream, and five ponds are located within the East Tank Farm; and several smaller drainage channels transect the southern portion of the Wilcox Process Area east of the railroad. All streams and channels flow southward to Sand Creek (EA 2020a) at the southern and southwestern boundaries of the site. Sand Creek meanders approximately 3.5 miles south and east from the site until it merges with Little Deep Fork Creek.

A wetland survey was conducted in September 2016 and identified five wetland areas at the site (EA 2017) (Figure 2-2). Three wetlands are located in the Wilcox Process Area, one in the North Tank Farm, and one in the East Tank Farm. Among the five wetlands, three are connected with Sand Creek. These include the scrub-shrub wetland in the Wilcox Process Area associated with West Tributary, the wetland in the North Tank Farm with vegetated drainage ditches to Sand Creek, and the scrub-shrub wetland on the north boundary of East Tank Farm along the East Tributary. The forested and emergent wetlands in the Wilcox Process Area are not directly connected with any tributaries and appear to obtain water from surficial runoff (EA 2017).

There are seven residential buildings/houses at the site, one in the North Tank Farm, one in the Lorraine Process Area, two in the Wilcox Process Area, and three in the East Tank Farm. The houses in the Lorraine Process Area and Wilcox Process Area are currently unoccupied while the rest of the houses in the other areas are occupied. A church and a playground are located in the Lorraine Process Area.

Staining of the soil, black tarry waste, stressed vegetation, and barren areas are present throughout the site. Storage tanks, refinery-related debris, and piping still remain in the Wilcox Process Area, while evidence remains of former tank berms that were cut and leveled in the East Tank Farm (EA 2020a).

2.4 FUTURE LAND AND GROUNDWATER USE

Residential use is expected to continue for all residential properties in the East Tank Farm, Lorraine Process Area, and Wilcox Process Area. A large portion of the East Tank Farm, currently used for grazing, may be used as a residential property in the future based on discussions with the current landowner. The residential area in the Wilcox Process Area includes the house, storage tanks, and driveway.

The remaining portion of the Wilcox Process Area consists of the remaining refinery structures and features, which is currently unused. It is likely that the anticipated reuse for this property would be industrial; however, residential considerations for this portion remain.

Residential properties associated with the North Tank Farm, the Lorraine Process Area, and one property along Refinery Road in the Wilcox Process Area are currently on public water supply. The public water system is supplied by four city water wells approximately 400 feet (ft) deep in the Vamoose-Ada aquifer. Residences located on or near the East Tank Farm, and the southernmost property in the Wilcox Process Area, obtain water from individual groundwater wells set in the Barnsdall Formation, which is much shallower than the Vamoose-Ada aquifer (EA 2020a).

2.5 GEOLOGY AND HYDROGEOLOGY

The site is situated on the Pennsylvanian-aged Barnsdall Formation, which is composed of fine-grained sandstone overlain by shale. Thickness ranges from 80 to 200 ft (ODEQ 2008) but is approximately 200 ft thick at the site. Sandstone outcrops of the Barnsdall Formation are common throughout the site. Southeast of the former refinery, the underlying Pennsylvanian-aged Wann Formation and underlying Iola Limestone are exposed. The Wann Formation varies in thickness from 40 to 180 ft and is comprised of shale and fine- to medium-grained sandstone. The Iola Limestone ranges in thickness from 15 to 20 ft and consists of a calcareous fine-grained sandstone and limestone with some shale.

Approximately 0.25 miles to the southeast of the former refinery, Quaternary-aged alluvial deposits associated with Sand Creek occur. These deposits consist of sand, silt, clay, and lenticular beds of gravel that overlie the older geologic units where these deposits exist. Thickness in these deposits ranges from 5 to 50 ft (25 ft average). Given that Sand Creek borders the site to the south, localized alluvium may be present (ODEQ 2009).

The Barnsdall Formation is a bedrock aquifer and is not considered a principal groundwater resource by the Oklahoma State Department of Health (ODEQ 1994). It consists of massive-to-thin beds of coarse-to-fine grain sandstone, irregularly interbedded with sandy to silty shale.

Under the Barnsdall Formation lies the Vamoose-Ada aquifer in close proximity to the west of the site. The Vamoose-Ada aquifer is an important central Oklahoma regional drinking water aquifer (E&E 1999), which is the source for the public water supply in the area.

The shallowest regional water-bearing formation in the upper part of the Barnsdall Formation is unconfined and is overlain by the unconfined shallow perched groundwater zone. The Barnsdall Formation potentially receives groundwater recharge from precipitation and infiltration from the perched groundwater zones. The shallowest regional water-bearing formation (associated with the Barnsdall Formation) is reportedly less than 25 ft below ground surface (bgs) (ODEQ 1994). Depths to seasonal perched groundwater zones are less than 10 ft and depth to groundwater ranged from 4.84 to 15.97 ft bgs in the groundwater monitoring wells installed within the Lorraine and Wilcox Process Areas. The primary groundwater flow path for the perched groundwater zone is to the south towards Sand Creek. Figure 2-3 presents a potentiometric surface map based on December 2018 data. The local gradient averages approximately 0.002 ft per ft across this portion of the site at an estimated velocity of 1.3 ft per year.

2.6 REMEDIAL INVESTIGATION RESULT SUMMARY

The RI was conducted during a series of eight field events that occurred from August 2016 through December 2018. In 2016, a geophysical survey, a Rapid Optical Scanning Tool laser-induced fluorescence survey, and a field-portable X-ray fluorescence survey across portions of the Wilcox Process Area, the Lorraine Process Area, and the East Tank Farm was performed as well as a passive soil gas survey and vapor intrusion sampling. A total of 473 surface soil samples, 355 subsurface soil samples, 44 sediment samples, 56 surface water samples, 35 groundwater samples, and multiple waste characterization samples (16 waste and multiple test pits locations where waste was visibly present) were collected during the sampling events (EA 2020a). In August 2020, a data gap investigation primarily associated with groundwater sampling was completed.

Samples collected during the RI were analyzed for volatile organic compounds (VOCs) including 1,2-dibromoethane, polycyclic aromatic hydrocarbons (PAH), semivolatile organic compounds, target analyte list metals (including mercury), and cyanide. A portion of these samples were also analyzed for hexavalent chromium, polychlorinated biphenyls, dioxins/furans, and soil parameters. Additionally, sediment analyses included acid volatile sulfide and simultaneously extracted metals, moisture, percent total solids and pH, while additional surface water parameters included hardness, pH, total dissolved solids, total suspended solids, and alkalinity.

The vapor intrusion investigation included a passive soil gas survey targeting a select list of VOCs, including benzene. Based on these results, additional sampling was conducted at existing structures to further assess the potential for vapor intrusion and included ambient air samples, indoor air sampling, sub-slab air sampling, and a crawl space sample. Samples were analyzed for VOCs using method TO-15. Indoor air samples were collected from existing buildings within the Lorraine Process Area and Wilcox Process Area.

The August Data Gap investigation focused on groundwater sampling conducted at existing wells and at new, temporary well locations to further delineate possible contaminant plumes in the Wilcox Process Area and the Lorraine Process Area. Aquifer tests were performed at existing monitoring wells to determine site-specific hydraulic parameters necessary for developing groundwater models to evaluate potential remedial options for aquifer restoration. Groundwater levels in existing monitoring wells were gauged and a survey of Sand Creek was conducted to establish static water level and investigate possible communication between the groundwater and creek. Supplemental surface waste samples were collected to provide additional data on potential waste sources. Appendix B provides details of the data gap investigation.

The RI results indicated that the site soil, sediment, surface water, and groundwater have been impacted by the refinery operations and contain concentrations of contaminants that required further review and evaluation under a HHRA and an ERA.

2.7 SUMMARY OF HUMAN HEALTH RISK ASSESSMENT

The following sections summarize the HHRA.

2.7.1 Introduction

The role of the HHRA is to quantify the risks associated with potential exposure to hazardous substances at a site in the absence of any remedial action or control, including institutional controls (ICs) (e.g., property use restrictions). A HHRA was performed to estimate the probability and magnitude of potential adverse human health effects from exposure to contaminants associated with the site assuming no remedial action was taken. The HHRA aids in risk management decisions and provides the basis for taking action. The HHRA identifies the exposure areas, exposure pathways, and contaminants that may be considered for remedial action. Figure 2-4 provides the HHRA CSM.

The HHRA followed EPA methodology and included the following information: the methodology for data grouping and identification of chemicals of potential concern (COPCs), the exposure assessment, the toxicity assessment, the site-specific risk assessment results, and the uncertainty analysis.

2.7.2 Data Grouping and COPC Identification

The HHRA evaluated RI samples of soil, groundwater, sediment, surface water, indoor air, and sub-slab soil gas samples. It is noted that the HHRA did not evaluate sample locations that were located within the area that will be addressed by the Source Control ROD. The EPA risk-based screening levels (EPA 2021) were the primary screening levels used for risk-based screening purposes in the HHRA, and COPCs were identified by comparing the maximum detected concentration to the appropriate screening level. COPCs are chemicals that are carried through the quantitative exposure and risk estimate portions of the HHRA.

Based upon the process areas and site use, the site was divided into five major former operational areas: the Wilcox and Lorraine Process Areas, the East and North Tank Farms, and the Loading Dock Area. The HHRA determined COPCs and evaluated potential risk concerns based upon these five operational areas.

2.7.3 Exposure Assessment

In the exposure assessment, the receptors of concern and potential exposure pathways were identified.

Current Onsite Trespasser - The risk to current site trespassers was evaluated based on exposure to site surface soil (0 to 2 ft bgs) and sediment/surface water including the drainages, ponds, and Sand Creek, as follows:

- Incidental ingestion of surface soil
- Dermal contact with surface soil
- Inhalation of particulates from windblown soil released to outdoor air
- Incidental ingestion of surface water
- Dermal contact with sediment and surface water.

Future Onsite Child and Adult Residents - The risk to future site child and adult residents was evaluated based on exposure to site surface (0 to 2 ft bgs) and subsurface soil (2 to 10 ft bgs), sediment/surface water (including the drainages, ponds, and Sand Creek), groundwater, and home-grown produce/beef, as follows:

- Incidental ingestion of soil
- Dermal contact with soil
- Inhalation of chemicals adsorbed to windblown soil released to outdoor air
- Incidental ingestion of surface water
- Dermal contact with sediment and surface water
- Ingestion of groundwater as tap water source
- Dermal contact with groundwater as tap water source
- Inhalation of chemicals volatilized from groundwater during domestic use
- Ingestion of home-grown produce
- Ingestion of beef.

Future Onsite Commercial/Industrial Worker - The risk to future site industrial workers was evaluated based on exposure to site surface (0 to 2 ft bgs) and subsurface soil (2 to 10 ft bgs), and groundwater, as follows:

- Incidental ingestion of surface soil
- Dermal contact with surface soil
- Inhalation of particulate from windblown soils released to outdoor air
- Ingestion of groundwater as tap water source

- Dermal contact with groundwater as tap water source
- Inhalation of chemicals volatilized from groundwater during use as a tap water supply.

Future Onsite Construction Workers - The risk to future site construction workers was evaluated based on exposure to site surface (0 to 2 ft bgs), subsurface soil (2 to 10 ft bgs), and groundwater, as follows:

- Incidental ingestion of soil
- Dermal contact with soil
- Inhalation of chemicals absorbed to windblown soil in outdoor air (i.e., fugitive dust)
- Dermal contact with groundwater and subsequent incidental ingestion
- Inhalation of volatiles while working in a trench.

2.7.4 Risk Characterization

The final step in the HHRA is the characterization of the potential risks associated with exposure to chemicals detected at a site. The HHRA evaluated each of the five operational areas for potential cancer risks and noncancer hazards from soil, sediment, surface water, groundwater, and ambient air.

Additionally, lead in soil was evaluated through blood-lead modeling. Lead risks for residents and trespassers were evaluated using EPA's Integrated Exposure Uptake Biokinetic Model (IEUBK) Lead Model. For worker exposures, lead was modeled using Recommendations of the Technical Review Workgroup for Lead, Calculations of Blood Lead Concentrations in Nonresidential Areas (i.e., the Adult Lead Model). Modeled blood level results are compared to the established threshold of no more than 5 percent of the population having a blood-lead of 5, 8, and 10 micrograms lead per deciliter (µg/dl) or greater.

Results of the HHRA are listed below, and further discussion related to PRGs is provided in Section 4 and Appendix C.

Indoor air samples from existing buildings within the Lorraine Process Area and Wilcox Process Area did reveal the presence of COCs. However, sub-slab soil gas samples did not reveal any COCs below these buildings. As a result, the indoor air COCs are likely a result of indoor source areas and not vapor intrusion from groundwater. Therefore, vapor intrusion from groundwater into existing buildings at the site is not considered complete, and indoor air COCs were not assessed further in the HHRA.

For all receptors and all operational areas:

- The potential exposures to surface water and sediment at the site do not exceed the EPA acceptable cancer risk range, and noncarcinogenic hazards are below the level of concern. Therefore, these media are not expected to pose human health concerns and no COCs are identified for surface water or sediment.

- The potential exposures to soil at the site do not exceed the EPA acceptable cancer risk range. Soil is not expected to pose excess cancer risk concerns; therefore, no COCs are identified for soil. Further assessment of benzo(a)pyrene (BaP) is discussed in the following section.

- The risk assessment determined that potential noncancer hazards associated with exposures to soil through the ingestion of home produce and beef may be present for all areas, and is primarily associated with the metals, cobalt, iron, and copper. These metals are sporadically detected across the soil medium, are collocated within proposed remediation areas, and are less than background (cobalt and copper). There is a high degree of uncertainty in the models because these pathways model potential health impacts from surface soil concentrations rather than actual produce and/or beef concentrations. Due to uncertainties associated with uptake from soil and the conservative assumptions in the model, the results are likely an overestimation of potential risk. None of these metals were identified as significant contributors to risk or as significant contributors based on target organs for soil direct contact. As a result, these metals are not identified as COCs.

For all receptors and the East Tank Farm, North Tank Farm, and the Loading Dock operational areas:

- The potential exposures to lead in soil do not result in a greater than 5% chance of exceeding a target blood lead level of 5, 8, or 10 µg/dl; therefore, lead in soil is not identified as a COC for these areas. (Further assessment of lead in the East Tank Farm is discussed in Section 4.)

For the Lorraine Process Area:

- The potential exposures to lead in surface soil by the future resident child may result in a greater than 5% chance of exceeding a target blood lead level of 5, 8, or 10 µg/dl; therefore, lead in soil is identified as a COC for this area.

- The potential exposures to lead in soil by the future commercial/industrial worker may result in a greater than 5% chance of exceeding a target blood lead level of 5 µg/dl; therefore, lead in soil is identified as a COC for this area.

- The potential exposures to lead in subsurface soil do not result in a greater than 5% chance of exceeding a target blood lead level of 5, 8, or 10 µg/dl for the future resident child and the future commercial/industrial worker; therefore, lead in subsurface soil is not identified as a COC.

For the Wilcox Process Area:

- The potential exposures to lead in surface soil by the future resident child may result in a greater than 5% chance of exceeding a target blood lead level of 5, 8, or 10 µg/dl; therefore, lead in soil is identified as a COC for this area.

- The potential exposures to lead in surface soil by the future commercial/industrial worker may result in a greater than 5% chance of exceeding a target blood lead level of 5 µg/dl; therefore, lead in soil is identified as a COC for this area.

- The potential exposures to lead in subsurface soil do not result in a greater than 5% chance of exceeding a target blood lead level of 5, 8, or 10 µg/dl for the future resident child and the future commercial/industrial worker; therefore, lead in subsurface soil is not identified as a COC for this receptor.

Groundwater potential risks were assessed based upon monitoring well results within the perched aquifer. The HHRA determined that potential exposures to groundwater exceed the EPA acceptable cancer risk range and the noncarcinogenic hazard level of concern for the resident, commercial/industrial worker, and construction worker. Due to the need for additional groundwater data, further identification of COCs and evaluation of potential alternatives will be conducted at a future date. Refer to Section 3 and Appendix B for further discussion.

2.7.5 Additional Evaluation of Potential Risk Concerns

The HHRA evaluated potential human health concerns based on the entire exposure area of each of the five operational areas. However, these areas are larger than representative areas that are typically evaluated for residential yards. To further evaluate the surface soil medium of concern and evaluate potential concerns for smaller exposure areas (i.e., potential residential yards), sample results were reviewed to determine if areas of high concentrations are present in soil within the five operational areas. Elevated concentrations of BaP are present on the Lorraine Process Area, within the northwest area, along E0810 Road, and just north of the church's parking lot. This grassy area is approximately 1 acre, which is equivalent to an average residential yard for the area. All samples collected within this area were combined to determine a BaP exposure point concentration (EPC) of 24.1 mg/kg, based on the 95% upper confidence limit of the mean (95UCLM). The resulting cumulative, lifetime excess carcinogenic risk for the resident adult and child was $2x10^{-4}$, which exceeds the EPA acceptable risk range. Noncarcinogenic hazards were 1 and 0.2 for the resident child and resident adult, respectively. Appendix C presents the BaP sample locations and concentrations evaluated, the ProUCL output, and risk calculations using the EPA Regional Screening Level calculator. As a result, BaP is identified as a COC for the Lorraine Process Area.

For the Lorraine Process Area:

- The potential exposure to BaP in soil exceeds the EPA acceptable cancer risk range and may pose a potential risk to the future child and adult resident. BaP in soil is identified as a COC in the Lorraine Process Area.

2.8 SUMMARY OF ECOLOGICAL RISK ASSESSMENT

EA conducted a SLERA in January 2020 following Steps 1, 2, and 3 of EPA's Ecological Risk Assessment Guidance (EPA 1997, 1998). This section provides an overall summary of the ERA.

2.8.1 Introduction

The purpose of the SLERA was to characterize and quantify potential environmental impacts from residual chemicals in soil, sediment, and surface water from site activities. The assessment was conducted in accordance with the process outlined in the document, *Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments* (EPA 1997) and other relevant EPA guidance.

The process for ERA outlined in EPA guidance includes eight steps (EPA 1997, 1998). Steps 1 and 2 represent the SLERA. The SLERA uses precautionary assumptions regarding exposure and toxicity to develop a CSM and identify constituents of potential ecological concern (COPECs). The CSM defines complete and significant exposure pathways and identifies assessment and measurement endpoints. The screening level evaluation relies on chemical analytical data.

Step 3 of the SLERA process is the Baseline Risk Assessment Problem Formulation (BRAPF). The BRAPF draws from the risk evaluation performed in the SLERA to identify COPECs, exposure pathways, assessment endpoints, and risk questions requiring further consideration. The BRAPF often includes a refinement of the screening level risk calculations through more realistic or more relevant exposure and toxicity data. The goal of the BRAPF is to provide a clear definition of the potential ecological risks for the site. This problem formulation forms the basis for either further assessment or, in cases where sufficient data are available, risk management if necessary. In the case of this site, SLERA and BRAPF refinement of risk calculations were performed.

2.8.2 SLERA Results

Potential receptors evaluated in the SLERA for the site include plants, soil invertebrates, amphibians and reptiles, birds, mammals, benthic invertebrates, and aquatic organisms. Potential ecological receptors and scenarios are shown in the CSM (Figure 2-5).

The SLERA used conservative assumptions, including conservative toxicity reference values (TRVs) and input parameters for food web models (e.g., 100% site use, 100% earthworm ingestion, etc.). The evaluation also assumed maximum exposure scenarios (e.g., maximum

ingestion rates and EPCs). Modifications were conducted as part of Step 3 of the ERA process that used more realistic EPCs (i.e., 95UCLM of the data) and incorporated lowest effect level TRVs. Despite the modifications, the SLERA identified potential risks (based on hazard quotients [HQs] greater than 1).

2.8.3 SLERA Refinement

SLERA refinement was conducted to evaluate COPECs for lower trophic level receptors (e.g., benthic invertebrates, plants, and soil invertebrates) that had SLERA HQs greater than 1 based on 95UCLMs. Further details are included in Appendix C of this report. The findings of the risk assessment are as following:

- The risk assessment determined that potential risks associated with exposures to lead in site soil (all 5 areas) are present for plants, insectivorous mammals, insectivorous birds, and herbivorous birds. Areas of concern are collocated with human health remediation areas; therefore, remediation based on an ecological lead exposure PRG is not proposed for soil.

- The risk assessment determined that potential risks associated with exposures to vanadium in the site soil (all 5 areas) are present for plants and insectivorous birds. Areas of concern are collocated with human health remediation areas; therefore, remediation based on an ecological vanadium exposure PRG is not proposed for soil.

- Potential risks to aquatic organisms in the ponds (cadmium, lead, BaP) and streams (manganese) from elevated concentrations of contaminants in the water column are likely to be reduced following removal of contaminated soil in the uplands. No remediation based on potential risks associated with surface water is proposed.

- Concentrations of total PAHs in stream sediment, when compared to the probable effects level (PEL) of 16.8 mg/kg (MacDonald et al 1996) indicates no potential risk to benthic organisms from total PAHs in stream sediments; therefore, no remediation based on potential risks to benthic invertebrates from PAHs is proposed.

- Because of infrequent detections of VOCs, the volatile nature of the chemicals, the absence of direct toxicological studies, and the unsubstantiated theoretical nature of the soil screening values, it is not expected that VOCs would result in unacceptable risk to populations of soil invertebrates; therefore, no remediation based on potential risks to soil invertebrates from VOCs is proposed.

- It is unlikely that there would be adverse impacts to the plant or soil invertebrate communities at the site from sporadic elevated concentrations of metals (zinc, manganese, copper, and chromium) based on the following, and as a result, no remediation based on potential risks to plants or soil invertebrates is proposed.

- Low HQs identified in the SLERA, based solely on a screen against Ecological Soil Screening Levels or screening benchmarks from Efroymson et al (Efroymson et al 1997a,b)

- Low potential for uptake and toxicity from naturally occurring metals, many of which are essential nutrients

- Sporadic elevated concentrations not linked to facility activities

- Lack of sufficient ecological habitat from long-term and/or continued future industrial, residential, and agricultural usage of many portions of the site

- Removal of select concentrations of metals during excavations for lead and/or BaP reduces the overall HQs.

3. GROUNDWATER DATA GAP AND POTENTIAL TECHNOLOGIES

Groundwater was investigated and poses unacceptable risk to human health as indicated in the previous section of this FS Report. A data gap investigation was conducted in August 2020. The following subsection summarizes the data gap investigation results, and detailed results are provided in Appendix B. Although this FS only addresses the soil contamination, this section provides information on potential technologies that may be considered for future groundwater remediation.

3.1 GROUNDWATER DATA GAP

The HHRA identified potential health risks associated with exposure to groundwater in the perched shallow groundwater unit, which could be utilized for domestic use, in the Wilcox Process Area and Lorraine Process Area.

Due to the limited groundwater data available, it was determined that a data gap investigation would be required to collect additional data on site groundwater conditions. Temporary wells were installed, and groundwater samples were collected at old and new monitoring wells, temporary wells, and water wells. Aquifer tests were performed at existing monitoring wells to evaluate site-specific hydraulic parameters. Groundwater levels were gauged, and a survey of Sand Creek was conducted to evaluate potential communication between groundwater and the creek. The data gap investigation results are summarized in the Technical Memorandum on Data Gap Investigation (Appendix B).

3.2 POTENTIAL GROUNDWATER REMEDIAL TECHNOLOGIES

A few potential technologies for the site groundwater can be explored based on the current understanding of the site, i.e., pump-and-treat, *in situ* enhanced bioremediation (ISB); *in situ* chemical oxidation (ISCO), and *in situ* stabilization and solidification (ISS). A full evaluation of alternatives should be conducted once more data are collected.

A light non-aqueous phase liquid (LNAPL) is present within the Wilcox Process Area and is identified as gasoline based on current data. The LNAPL's quantity, mobility and recoverability are currently not known, but if the LNAPL is found mobile and highly recoverable, potentially pump-and-treat or skimming technologies can be used to recover the LNAPL for offsite disposal. Based on the LNAPL observation at MW-04, however, its recovery rate is likely low and pumping may not be effective. Depending on remedial objectives, for mass control and reduction of mobility, ISS may be used to physically/chemically bind LNAPL with stabilizing reagents. However, ICs should be put in place to protect the stabilized area, and long-term monitoring may also be necessary to monitor potential leaching of stabilized contaminants into the dissolved phase.

Similar to LNAPL, if the dissolved phase plume is massive and unstable, pump-and-treat can be used to hydraulically control the plume and treat the contaminants. However, the pump-and-treat system will need components that treat both metals and organic contaminants from the

commingled plumes. Granular activated carbon or other absorbing materials can be used to treat the recovered petroleum hydrocarbons in the system, but are not effective for metals. Therefore, another treatment train would be needed, which may include an ion exchange system or a pH adjuster to precipitate metals. The system can become complex, and costs can be high for operation and maintenance. In addition, low recovery rates of the temporary wells and low hydraulic conductivity observed at the site may limit the cost-effectiveness of a pump-and-treat system.

ISB is an *in situ* technology to consider, and it involves injection of amendments into groundwater to stimulate aerobic biodegradation of benzene, naphthalene, and other petroleum hydrocarbons. Commercially available products of ISB amendments include the oxygen-releasing compounds by Regenesis and PermeOx by PeroxyChem. Although ISB will probably not directly address the lead, arsenic, and other dissolved metals in the groundwater, added oxygen-containing compounds can also react with dissolved metals, specifically dissolved iron and manganese, to generate iron and manganese oxides, which can bind and precipitate lead and arsenic.

ISCO as another *in situ* technology involving injection of chemical oxidant amendments into the subsurface to transform contaminants in groundwater into innocuous byproducts. Common ISCO reagents include hydrogen peroxide, sodium persulfate, potassium permanganate, sodium percarbonate, and ozone. These reagents can efficiently oxidize a wide range of compounds including benzene, naphthalene, and other organic compounds. However, ISCO may mobilize metals, especially for redox sensitive metals (i.e., chromium, arsenic, and lead). Therefore, it is not applicable for the areas with metal exceedances and could potentially make metal plumes worse. In addition, LNAPL presence at the site may lower the effectiveness of ISCO by coating the reagent particles and reducing reaction potential with the contaminants.

Provect-OX®, a commercial product made by Provectus Environmental Products, Inc., was found to be able to oxidize naphthalene and pentachlorophenol in the groundwater at another EPA Superfund site without increasing metal concentrations. Provect-OX® contains persulfate (as an oxidant) and ferric iron (as an activation agent) in a single premixed package. It has been found that residual iron and sulfate generated from persulfate decomposition can be used as electron acceptors for facultative reductive processes. Therefore, Provect-OX® may promote secondary enhanced bioremediation to manage residuals in the groundwater, which may be applicable to the site groundwater. A bench scale treatability study for ISCO must be conducted to determine a sufficient dosing of the oxidant to account for natural oxidant demand in the subsurface and also evaluate potential metal mobility caused by the oxidant.

Technologies that require injection target treated areas directly, so enhanced distribution of reagents is very important for improving treatment efficiency. The site's high heterogeneity may be a concern for injected reagents to be evenly distributed to the contaminated subsurface. Therefore, ISS can be an option to overcome the shortcomings at the site. During ISS, a large diameter rig is used to mix and homogenize amendments with soil/groundwater. The mixed materials are then used to form monoliths with certain strength and structural integrity to hold the contaminants in place. The use of monolith structures aide in minimizing leaching to the

groundwater. Typical ISS reagents include Portland cement, slag, fly ash, bentonite, organoclay, and powdered activated carbon. ISS can effectively stabilize metals and petroleum hydrocarbons in the groundwater but has been found to not be able to reduce naphthalene leaching potential in some projects. Therefore, it may be used in the source areas to significantly reduce the source contributions to the dissolved plumes. This option can address both soil and groundwater contaminated with LNAPL, metals, and organic compounds at the same time because the rig can mix reagents from unsaturated to saturated zones in one operation. A bench scale treatability study is required to develop an optimal reagent mixture prior to a full scale ISS implementation. In addition, as stated previously, ICs are required to prevent any earth moving activities in the ISS treated area.

Based on data gaps, the groundwater evaluation is taken no further, and the remainder of this FS will focus on soil.

3.3 GROUNDWATER USE

Groundwater in the process areas of the site is not currently used as a tap water source. It is noted that the State of Oklahoma does consider the shallow, perched groundwater as a "General Use Groundwater (Class II)," which can be used for beneficial use (ODEQ 2020).

4. REMEDIAL ACTION OBJECTIVES

The EPA has provided the RAOs and PRGs for contaminated soil at the site and the details are in the following sections along with a discussion of the ARARs. Additionally, the areas and volumes of contaminated soil exceeding the PRGs and used to support and evaluate technologies in this FS are provided.

4.1 REMEDIAL ACTION OBJECTIVES

RAOs define what the remedial actions should accomplish to protect potential receptors. Consistent with EPA guidance and the NCP (40 CFR § 300.430(e)(2)(i), these objectives consider the following:

- COCs
- Exposures based on risk assessments, including ARARs
- Receptors
- PRGs.

Human Health

4.1.1 Soil

The HHRA identified that there are potential human health concerns associated with exposure to surface soil under future anticipated land uses.

Benzo(a)pyrene
Potential exposures to BaP in surface soil at the site may pose a potential risk to residents in the Lorraine Process Area through direct contact, ingestion, and inhalation pathways.

Lead
Potential exposures to lead in surface soil at the site may pose a potential risk for the future child having a greater than 5% chance of exceeding target blood-lead levels of either 5, 8, and/or 10 µg/dl within the Lorraine Process Area and the Wilcox Process Area.

Potential exposures to lead in surface soil at the site may pose a potential risk for the future commercial/industrial worker having a greater than 5% chance of exceeding target blood-lead level of 5 µg/dl within the Lorraine and Wilcox Process Areas.

4.1.1.1 Waste Materials

Most of the waste at the site is relatively shallow. The waste materials encountered consisted primarily of surficial, crusted tar-like materials, in some cases flowable tar-like material, black stained soil, and oily soil.

Early in the RI process, 9 source areas (the lead additive area and 8 tank waste locations) were identified for early action; therefore, the source control action is limited in scope to address these specific source areas. The areas that are addressed under the Source Control ROD are presented in Figure 2-6.

All remaining waste materials were sampled and investigated during the RI and are evaluated under this FS in relation to the RAOs and PRGs developed for soil and associated with the future child resident.

4.1.2 Sediment and East Tank Farm

Although the HHRA did not identify excess human health risks concerns for exposure to sediment within Sand Creek, the tributaries, or onsite and nearby ponds, the pond and tributary located within the Wilcox Process Area is routinely dry and accessible by future residents. The pond and tributary are adjacent to the lead additive area and received run-off containing concentrations of lead that result is potential human health and ecological risk. Additionally, this tributary and pond discharge to Sand Creek. As a result, the sediment in the tributary and pond are considered soil and are evaluated under this FS in relation to the RAOs and PRGs developed for soil and associated with the future child resident.

Likewise, the HHRA did not identify human health concerns related to exposures to lead for the East Tank Farm, based upon an evaluation of the entire area; however, the western portion of the East Tank Farm has several locations that will be considered part of the soil remediation for lead due to the presence of lead at concentrations consistent with those present within the Lorraine and Wilcox Process Areas. There are four locations, and the associated concentrations are ETF-SB-136-0.5 (2,100 mg/kg) and ETF-SB-136-2.0 (2,730 mg/kg); ETF-SB-142-2.0 (729 mg/kg); ETF-SB-131-0.5 (555 mg/kg) and ETF-SB-131-2.0 (687 mg/kg); and ETF-SB07-116-1.0 (356 mg/kg). The soil will be considered and evaluated under this FS in relation to the RAOs and PRGs developed for soil and associated with the future child resident.

4.1.3 Groundwater

As noted in Section 3, data gaps associated with groundwater need to be addressed; therefore, no RAOs or PRGs are provided in the FS.

4.1.4 Ecological

As noted previously in Section 2.8.2, no ecological remediation goals are identified based on the results of the ERA. Contaminants identified as posing potential threats to ecological receptors were further assessed with the following conclusions:

- COCs lead and vanadium are collocated in areas where human health risk will be addressed; therefore, these metals and associated risks to ecological receptors will be addressed.

- Concentrations of PAHs are lower than concentrations expected to pose potential risks (i.e., PEL for benthic organisms).

- The presence of VOCs is sporadic and infrequent, and these compounds readily evaporate into the air. There is an absence of direct toxicological studies and uncertainty associated with the soil screening values for these compounds. Based on this, it is not expected that VOCs would result in unacceptable risk.

- Potential risks to aquatic organisms in the ponds (cadmium, lead, BaP) and streams (manganese) from elevated concentrations of contaminants in the water column are likely to be reduced following removal of contaminated soil in the uplands.

- It is unlikely that there would be adverse impacts to the plant or soil invertebrate communities at the site from sporadic elevated concentrations of metals (zinc, manganese, copper, and chromium) based on the following:

    - Potential risks are based solely on a screen against Ecological Soil Screening Levels or screening benchmarks from Efroymson et al. (Efroymson et al 1997a,b)

    - Low potential for uptake and toxicity from naturally occurring metals, many of which are essential nutrients

    - Sporadic elevated concentrations not linked to facility activities

    - Lack of sufficient ecological habitat from long-term and/or continued future industrial, residential, and agricultural usage of many portions of the site

    - Cleanup of soil areas associated with human health risk will also address concentrations of other metals and contaminants, thus reducing the overall exposure concentration and associated potential risk.

4.2 APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS

Remedial actions must protect public health and the environment. Section 121(d) of CERCLA requires that federal and state ARARs be identified and that response actions achieve compliance with the identified ARARs. This requirement makes CERCLA response actions consistent with pertinent federal and state environmental requirements as well as adequately protecting public health and the environment. Therefore, compliance with the ARARs is included in the development and evaluation of the remedial alternatives.

4.2.1 Definition of Applicable or Relevant and Appropriate Requirements

As defined in the NCP, “applicable requirements” are cleanup standards, standards of control, criteria, or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site. Only the

state standards that are identified by a state in a timely manner and that are more stringent than federal requirements may be applicable (40 CFR 300.5).

Relevant and appropriate requirements may not specifically apply but may address similar issues or situations that might be encountered at the site. A requirement must be either applicable or both relevant and appropriate to be selected as an ARAR.

4.2.2 Classifications of Applicable or Relevant and Appropriate Requirements

ARARs for remedial alternatives can be generally classified into the following three categories:

- ***Chemical-Specific*** are usually based on health- or risk-based numerical values or methodologies used to determine acceptable amounts or concentrations of chemicals that may be found in, or discharged to the environment, i.e., Maximum Contaminant Levels or State Water Quality Standards.

- ***Location-Specific*** are restrictions placed on the concentrations of hazardous substances or activities solely because they are in certain environmentally sensitive areas. Some examples of special locations regulated under various federal laws include floodplains, wetlands, historically significant cultural resources, and sensitive ecosystems or habitats.

- ***Action-Specific*** are usually technology- or activity-based requirements or limitations on actions or conditions involving specific substances.

In addition to these three categories, some EPA and State guidelines also need "to be considered" (TBC). The TBC are non-promulgated advisories, non-enforceable guidelines or criteria and standards useful for developing a remedial action criterion or evaluating protection of human health and / or environment. Examples include EPA reference doses and risk specific doses that may be used for determining the level of cleanup.

Table 4-1 presents the ARARs for the site. These ARARs are identified based on the site conditions and in consideration of potential remedial alternatives developed in the FS.

4.3 PRELIMINARY REMEDIATION GOALS

PRGs were determined for each of the chemicals identified as COCs. Only two chemicals were identified as potential concerns for soil: BaP (Lorraine Process Area) and lead (Lorraine Process Area and Wilcox Process Area). A PRG was developed for BaP based upon a cancer risk of 10^{-6}. The PRGs for lead in soil were determined based upon the blood-lead levels of 5, 8, and 10 µg/dl of lead in blood. The IEUBK model was used to determine the appropriate PRGs for the resident child. For the worker, the EPA Adult Lead Model was used to determine the appropriate PRGs for the various blood-lead levels. Detailed information on PRG calculations is included in Appendix C. The site-specific PRGs are chemical limits calculated using toxicity values and site-specific exposure conditions evaluated in the HHRA (EA 2020b).

The following equations were used to calculate site-specific PRGs:

For carcinogens:

$$Site - Specific\ PRG\ = \frac{EPC}{Risk} \times TR$$

Where,
TR = target carcinogenic risk level (i.e., 10^{-6})
Risk = chemical-specific cumulative carcinogenic risk shown in HHRA
EPC = chemical-specific exposure point concentration presented in HHRA.

For non-carcinogens:

$$Site - Specific\ PRG\ = \frac{EPC}{HQ} \times THQ$$

Where,
THQ = target hazard quotient (i.e., 1)
HQ = target organ specific and chemical-specific total hazard quotient shown in HHRA
EPC = chemical-specific exposure point concentration presented in HHRA.

The calculated PRGs for the site soil COCs, lead and BaP, for each receptor are listed below:

Residential lead PRGs based on a child resident:

- Lead – 200 mg/kg (residential use) at a target blood lead level of 5 µg/dl
- Lead – 300 mg/kg (residential use) at a target blood lead level of 8 µg/dl
- Lead – 400 mg/kg (residential use) at a target blood lead level of 10 µg/dl.

Commercial/Industrial lead PRGs based on a commercial/industrial worker:

- Lead – 460 mg/kg (commercial/industrial use) at a target blood lead level of 5 µg/dl
- Lead – 846 mg/kg (commercial/industrial use) at a target blood lead level of 8 µg/dl
- Lead – 1,103 mg/kg (commercial/industrial use) at a target blood lead level of 10 µg/dl.

Residential BaP PRG based on excess cancer risk of $1x10^{-6}$ for a child/adult resident:

- BaP – 0.12 mg/kg (residential) at an excess cancer risk of $1x10^{-6}$.

As noted in Section 4.1.4, addressing the risks to human health would address the ecological risks based on the future land use, which is assumed to be residential use at the site. The southern portion of the Wilcox Process Area is anticipated to be used for commercial/industrial use; however, consideration as residential remains.

As noted in Section 4.5, the difference in the volume of soil addressed under a residential scenario versus a commercial/industrial scenario for the Wilcox Process Area is minimal and estimated at approximately 5,959 total cubic yards (cy). Therefore, the lead PRG of 200 mg/kg

(residential use) at a target blood lead level of 5 μg/dl is selected as the PRG that will be used to evaluate potential remedial alternatives in this FS. This PRG is protective of the child resident, the commercial/industrial worker, and ecological receptors. Using a residential PRG also addresses contamination and allows for unlimited use and unrestricted exposure to the soil and would not require future operations and maintenance or ICs.

4.4 REMEDIAL ACTION OBJECTIVES

The RAOs were developed for contaminated soil to address unacceptable human health risks identified through the risk assessment process taking into account potential future land use and contaminant exposure pathways.

RAOs prevent human (and ecological) direct, inhalation, and ingestion exposures to soil (including the drainage and pond sediment within the Wilcox Process Area) for the future resident child containing lead concentrations of 200 mg/kg or greater that potentially result in a greater than 5% chance of exceeding a target blood lead level of 5 μg/dl.

RAOs prevent human direct, inhalation, and ingestion exposures to soil for the future resident adult and child containing BaP concentrations of 0.12 mg/kg or greater in the Lorraine Process Area that result in an excess cancer risk greater than $1x10^{-6}$.

4.5 OCCURRENCE AND VOLUME OF SOILS ABOVE PRGS

The soils exceeding the lead PRG are identified across the Wilcox and Lorraine Process Areas and the western portion of the East Tank Farm. The soils exceeding the BaP PRG are located in the Lorraine Process Area. Figures 2-7 through 2-11 show the areas.

For the purpose of this FS, the exceedance boundaries are estimated based on the assumption that a boundary line is in the midpoint between the sampling point with the exceedance and the nearby sampling point of non-exceedance. The depth of excavation is estimated to be 2 ft, which is consistent with data results as well as exposure scenarios. Additional sampling at the time of the design can be completed to further refine the extent of the contaminated soil and reduce uncertainty related to the location and size of remediation areas. The estimated volume of impacted soil including sediment is as follows:

4.5.1 Lorraine Process Area – Estimated Volume for Lead and BaP Impacted Soil

This area is considered residential and contains several locations exceeding the BaP PRG (Figure 2-7). The BaP contamination depth is from 0 to 2 ft bgs and covers four areas with a total of 10,728 square ft (ft^2). There are two areas with exceedances of the lead PRG (Figure 2-7). The depth of lead contamination is from 0 to 2 ft bgs. The lead exceedance areas cover a total of 37,775 ft^2. An additional area covering 9,210 ft^2 contains exceedances for both BaP and lead.

The following table summarizes the volume of soil with exceedances within the Lorraine Process Area.

Soil Volume Estimate: Lorraine Process Area

Property Type	Area (ft^2)	Depth (ft)	Volume (ft^3)	Volume (cy)
Residential	9,528	2	19,056	706
Residential	9,210	2	18,420	682
Residential	400	2	800	30
Residential	400	2	800	30
Residential	400	2	800	30
Residential	28,225	2	56,450	2,091
Residential	9,550	2	19,100	707
			Total Volume (cy)	**4,275**

The exceedance area covers approximately 57,713 ft^2 with an estimated volume of 4,275 cy.

4.5.2 Wilcox Process Area – Estimated Volume for Lead Impacted Soil

This area is divided into two areas based on the land use; one is a residential area and the other area is commercial/industrial; however, residential remains a consideration for all of the Wilcox Process Area. Based on this uncertainty, the estimated volumes based on the residential and the resident/commercial/industrial future uses are presented.

The residential area is assumed to be located in the northern Wilcox Process Area and includes the house, storage tanks, and driveway (Figure 2-8). The depth of the lead contamination is from 0 to 2 ft bgs. Three sediment samples, considered as soil as noted in previous sections, also exceed the soil residential lead PRG. The exceedance area covers approximately 53,394 ft^2 with an estimated volume of 3,955 cy.

The industrial area exceeds the lead PRG at multiple sample locations (Figure 2-8 and Figure 2-9). The depth of the lead contamination is primarily from 0 to 2 ft bgs. The exceedance area covers approximately 161,219 ft^2 with an estimated volume of 11,942 cy. The total estimated volume of soil under the resident/commercial/industrial future uses is 15,897 cy.

The following table summarizes the areas with exceedances within the Wilcox Process Area, assuming a lead PRG of 200 mg/kg for the residential areas and a lead PRG of 400 mg/kg for the commercial/industrial areas.

Soil Volume Estimate: Wilcox Process Area
(Residential and Commercial/Industrial)

Property Type	Lead PRG (mg/kg)	Area (ft^2)	Depth (ft)	Volume (ft^3)	Volume (cy)	Subtotal Volume (cy)
Residential	200	39,942	2	79,884	2,959	
Residential	200	13,452	2	26,904	996	*3,955*
Commercial/Industrial	400	7,324	2	14,648	543	
Commercial/Industrial	400	9,953	2	19,906	737	
Commercial/Industrial	400	110,416	2	220,832	8,179	
Commercial/Industrial	400	10,434	2	20,868	773	
Commercial/Industrial	400	10,577	2	21,154	783	
Commercial/Industrial	400	7,969	2	15,938	590	
Commercial/Industrial	400	4,546	2	9,092	337	*11,942*
Total Volume Residential/Commercial/Industrial (cy)						**15,897**

The areas represented in the table above can be observed in Figure 2-8.

A more conservative approach is to classify all of the Wilcox Process Area as residential with a PRG for lead of 200 mg/kg, due to its potential for future residential use. Using this approach and a depth of the lead contamination from 0 to 2 ft bgs, the estimated area covers approximately 295,058, ft^2 with an estimated volume of 21,856 cy.

The following table summarizes the areas with exceedances within the Wilcox Process Area, assuming a lead PRG of 200 mg/kg for all the areas.

Soil Volume Estimate: Wilcox Process Area
(Residential)

Property Type	Lead PRG (mg/kg)	Area (ft^2)	Depth (ft)	Volume (ft^3)	Volume (cy)
Residential	200	39,942	2	79,884	2,959
Residential	200	13,452	2	26,904	996
Residential	200	12,332	2	24,664	913
Residential	200	12,766	2	25,532	946
Residential	200	178,274	2	356,548	13,205
Residential	200	11,479	2	22,958	850
Residential	200	26,813	2	53,626	1,986
Total Volume Residential (cy)					**21,856**

The areas represented in the table above can be observed in Figure 2-9.

The difference between addressing the Wilcox Process Area as residential versus Residential/Commercial/Industrial is an estimated 5,959 cy. The additional volume of soil needing to be addressed under the residential scenario is minimal; therefore, the lead PRG is identified as Lead - 200 mg/kg (residential use) at a target blood lead level of 5 μg/dl. This is protective of the resident, the commercial/industrial worker, and ecological receptors. Using a residential cleanup level removes contamination to allow for unlimited use and unrestricted exposure to the soil and would not require future operations and maintenance or ICs. The residential assumption and estimated volumes are carried through the Comparison of Alternatives.

4.5.3 East Tank Farm – Estimated Volume for Lead Impacted Soil

This area is considered residential use and contains three lead exceedance areas. The depth of lead contamination is from 0 to 2 ft bgs, and the three areas cover a total of approximately 113,948 ft^2 (Figure 2-10) with an estimated volume of 8,441 cy.

The following table summarizes the areas with exceedances within the East Tank Farm.

Soil Volume Estimate: East Tank Farm

Property Type	Area (ft^2)	Depth (ft)	Volume (ft^3)	Volume (cy)
Residential	24,917	2	49,834	1,846
Residential	58,688	2	117,376	4,347
Residential	30,343	2	60,686	2,248
			Total Volume (cy)	**8,441**

4.5.4 All Process Areas – Total Estimated Volume for Lead Impacted Soil/Sediment

In summary, a total of 34,572 cy of contaminated soil and sediment with concentrations above the PRG of 200 mg/kg for lead are used to evaluate and compare soil alternatives in this FS (Figure 2-11).

Soil Volume Estimate: All Process Areas Using PRG of 200 mg/kg

Location	Property Type	Area (ft^2)	Depth (ft)	Volume (ft^3)	Volume (cy)
Lorraine Process Area	Residential	57,713	2	115,426	4,275
Wilcox Process Area	Residential	295,056	2	590,112	21,856
East Tank Farm	Residential	113,948	2	227,896	8,441
				Total Volume (cy)	**34,572**

5. DEVELOPMENT AND SCREENING OF TECHNOLOGIES

This section describes the process of development and screening of technologies. The development process starts by identifying general response actions (GRAs) and associated technologies for soils. The remedial technologies are then screened under the three criteria: effectiveness, implementability, and cost.

5.1 GENERAL RESPONSE ACTIONS AND REMEDIAL TECHNOLOGIES

GRAs may include institutional actions, containment, treatment, removal, disposal, or a combination of these as described in the EPA 1988 guidance (EPA 1988). As required by the NCP (40 CFR §300.430.e.6), selected remedial alternatives must include no further action (NFA) to be used as the baseline against which the effectiveness of all other alternatives are evaluated. Thus, NFA is included in the alternative evaluation for the site soil.

NFA means nothing is done to the site. NFA does not control, contain, or remediate contaminant sources, and it does not reduce the mobility, volume, or toxicity of the contamination at the site.

In addition, ICs are also included in evaluation of alternatives. ICs may include restrictions on land use, access restrictions, environmental monitoring, security measures, notification, and education advisories to inform the public and adjacent landowners about the site. Common ICs include zoning, enforceable land use restrictions (i.e., deed notice and covenant restriction), and long-term environmental monitoring.

The GRAs suitable for the site soils include following:

- NFA
- ICs
- Containment
- Removal / disposal
- Treatment.

Table 5-1 presents the GRAs and their individual technologies considered in this section.

5.2 REMEDIAL TECHNOLOGY SCREENING

This section presents and screens the remedial technologies presented in Table 5-1.

5.2.1 Preliminary Screening Criteria

Three preliminary screening criteria (i.e., effectiveness, implementability, and cost) were used to screen the remedial technologies. Definitions for these criteria are presented below.

Effectiveness is a measure of a technology's ability to: (1) reduce toxicity, mobility, or volume (TMV); (2) minimize residual risks; (3) afford long-term protection; (4) comply with ARARs;

(5) minimize short-term impacts; and (6) achieve protectiveness in a limited duration. Technologies that are significantly less effective than other technologies may be eliminated from the alternative development process. Technologies that do not provide adequate protection of human health and the environment are also eliminated from further consideration.

The effectiveness evaluation is focused on the following elements:

- Potential effectiveness of technologies in handling the areas or volumes of the soil to meet the RAOs.

- Potential impacts to human health and the environment during the construction and implementation phase.

- Reliability and proven effectiveness of the technologies with respect to the COCs under site-specific conditions.

Implementability is a measure of both technical and administrative feasibility of implementing a technology process. Initial technology screening eliminates technologies that are clearly ineffective or unusable at the site. Implementability aspects include:

- Technical feasibility that may include constructability or workability under site conditions, being able to operate and maintain to meet the PRGs, and the complexity of the technology.

- Administrative feasibility that may include permitting, and accessibility (easements, rights-of-way required; access to the properties to be addressed; and ability to impose ICs).

- Availability of services and materials which may include availability of special equipment, materials and specially trained and skilled workers required, and offsite treatment and disposal capacity.

Cost (capital and operation and maintenance costs) is a measure of resources that are required in technology implementation. The costs used in this document were obtained from published resources and previous projects. Cost evaluation at the technology screening phase is relative, typically presented as high, low, or medium compared to other technologies within the same technology type. The technologies with high cost but low protection of human health and environment are not considered for further evaluation.

5.2.2 Technology Screening Summary

Table 5-1 presents the rationales for technologies retained or eliminated based on the three preliminary criteria. The soil technologies and process options retained for further evaluation include NFA, ICs, excavation, containment and disposal. Based on the site conditions and as described previously, no treatment technologies have been retained as soil alternatives.

5.2.2.1 NFA (Retained)

NFA has been retained in accordance with the requirements of Subpart F of the NCP as a baseline for comparison with the other technologies.

5.2.2.2 Land Use Controls (Retained)

Land use controls (LUCs) are administrative measures developed to protect human health and safety from the presence of hazards. LUCs are measures that limit access or use of a property to protect people from site hazards or provide warnings of a potential site hazard. LUCs include engineering controls and physical barriers (e.g., fencing), educational programs (e.g., public notification of residual concerns), and administrative and legal controls (e.g., zoning restrictions and easements) that help to minimize the potential for human exposure. They have been retained for alternative development.

LUCs would be effective for reducing the potential exposure to the site soil. LUCs are implementable and costs are low, therefore, LUCs are retained.

5.2.2.3 Excavation (Retained)

Excavation can involve removal of all impacted soil and "hot spots" from a site. Excavation is a well-proven and effective method for removing impacted materials from a site to prevent direct contact and exposure to the contaminants. Therefore, it will address the relevant remedial objectives for the site. Excavation is a mature technology and easily implemented. Cost for excavation is low compared to other technologies. Therefore, this technology is retained for further consideration.

5.2.2.4 In Situ Treatments (Not Retained)

In situ treatment technologies treat contaminants in place. Compared to *ex situ* treatment technologies, *in situ* remedial technologies handle contaminated media in place; therefore, its process of handling hazardous materials potential is low, as well as disposal costs and exposure of the workers to the contaminants.

In Situ Solidification/Stabilization

ISS processes involve adding and mixing reagents with soil to trap, treat, or immobilize contaminants. This technology is typically implemented by grouting or using a large-diameter auger or other equipment to mix with soil while adding reagents. Treated soil will become stabilized to prevent contaminants from leaching out to groundwater. Types of solidifying/stabilizing reagents include Portland cement, fly ash, blast furnace slag, bentonite, organoclay, and powdered activated carbon. Note that *ex situ* solidification/stabilization is discussed separately under *Ex Situ* Treatment section.

ISS can be effective in stabilizing the contaminated soil and reducing contaminant migration vertically and horizontally. Overall, this technology will reduce the site risks and protect human health and environment. A treatability study is required prior to a full scale implementation to develop mixtures of reagents. However, the site contaminated soil is non-hazardous and is a low-level threat (not a principal threat waste) to the environment, ISS, or any other treatment technologies, therefore would not be cost effective compared to non-treatment technologies. In addition, ICs are required to protect the treated areas from intrusive activities, i.e., excavation, drilling and injections, which may limit future site use and development. Cost of *in situ* solidification/stabilization is high compared to other technologies. Therefore, this technology is not retained because of the high cost and waste still remaining in place at the site.

Phytoremediation

Phytoremediation is a process that uses plants to remove, transfer, stabilize and destroy contaminants in soil. There are six general approaches to phytoremediation: phytoaccumulation, phytodegradation, phytostabilization, phytovolatilization, rhizodegradation, and rhizofiltration (Interstate Technology and Regulatory Cooperation Work Group [ITRC] 1999). A variety of plants have shown limited uptake of metals and BaP in surface soil. A pilot treatability study is necessary to develop ideal environmental conditions for plant growth and remediation before a full-scale implementation. Although it is relatively easy to implement, the effectiveness of phytoremediation may not be reliable and relies on plant types, seasonal temperature change, soil type, pH, and moisture content. In addition, phytoremediation may require an extended time period compared to several other technologies. Cost of phytoremediation is low to medium depending on needs for long-term maintenance, replanting, and monitoring. Therefore, due to unreliability and uncertainty in effectiveness this technology will not be retained for further consideration.

5.2.2.5 Ex Situ Treatments (Not Retained)

Ex situ treatment involves the excavation and subsequent treatment of soil. The treated soil is either used as backfill within the site or taken offsite for final disposal depending on the final results of the treatment.

Landfarming

Landfarming is a bioremediation technology in which excavated soils are placed in land treatment units (LTUs) and mixed and tilled periodically to blend nutrients/amendments and water to enhance the biological activity within the LTUs. The LTUs are constructed with an impermeable liner i.e., compacted clay or high density polyethylene (HDPE) geomembrane, to protect the soil underneath the treatment area. Sprinkler systems are required for most of the cases to provide irrigation for the system (FRTR 1997).

Landfarming typically is applicable for treatment of lighter petroleum compounds and it becomes less effective for the PAHs with more aromatic rings, i.e., BaP. It is not certain with current data available if landfarming is effective for lead in soil. In addition, landfarming is easy

to implement but it may require a long period of time for microorganisms to degrade or stabilize the soil COCs, although the cost is low; therefore, landfarming is eliminated from further evaluation.

Ex Situ Solidification/Stabilization

Ex situ solidification/stabilization involves excavating and mixing contaminated materials with reagents to stabilize contaminants. The *ex situ* process is typically applicable to hazardous wastes to reduce the leaching potential and remove their hazardous/toxic characteristics before offsite disposal.

Ex situ solidification/stabilization is effective for lead in soil and is implementable, but the cost may be high. Based on the site data, the majority of the site soil is non-hazardous, which would not require treatment if disposed offsite. This technology does not provide better benefits for the soil remediation compared to non-treatment technologies; therefore, it is not considered for further evaluation.

Soil Washing

Soil washing is a process using a solution of leaching, surfactant, pH-adjustment or chelating agent to remove contaminants. The wash solution with washed COCs is treated by conventional wastewater treatment methods and treated soil can typically be reused onsite or sent offsite for non-hazardous disposal. This process can also be used to separate fines from coarse materials. The majority of contaminants are sorbed to the fines, and once separated the coarse materials could be reused.

Soil washing is an effective method for separating metals from soil. It is implementable with commercially available equipment. However, the process is complex and produces a large amount of wastewater, which can increase the cost significantly. Therefore, it is not considered for further evaluation.

5.2.2.6 Offsite Disposal (Retained)

Disposal includes placement of waste materials in a permanent repository that is subsequently managed to prevent reintroduction of contaminants into the environment. Waste material and contaminated soil removed from the site must be disposed of at an appropriate waste management facility.

Offsite disposal is an effective process for permanently removing impacted soil. Regulatory requirements regarding waste characteristics for the disposed soil would dictate the type of landfill facility. It is implementable and cost is at an average level compared with other technology. This option adequately addresses the RAOs, therefore this process will be retained for further consideration.

5.2.2.7 Onsite Containment (Retained)

Containment technologies control human and/or ecological exposure to COCs by preventing the migration of COCs and/or preventing direct contact with impacted media. Onsite containment includes consolidation and placement of impacted soil under a protective cover or into a containment repository constructed onsite to prevent exposure and minimize the potential migration of COCs.

An onsite containment will address the relevant remedial objectives. It is implementable but it will require ICs to protect the integrity of the repository.

6. DEVELOPMENT OF REMEDIAL ALTERNATIVES

This section presents the remedial alternatives that were retained for the site soil during the technology screening. The technologies retained were assembled to develop a range of alternatives and provide flexibility in selecting preferred alternatives. The development of the alternatives was based on the EPA's document, *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA* (EPA 1988), which advises to include:

- Alternatives that permanently reduce the TMV of contaminants. The range of alternatives should, if possible, vary in the degree of reliance on long-term management of untreated wastes;
- Permanent solutions to the maximum extent practicable;
- Use of innovative treatment technologies and resource recovery technologies to the maximum extent practicable;
- One or more containment alternatives that involve little or no treatment of hazardous contaminants; and,
- A "No Action" alternative.

The following remedial alternatives were identified as potential alternatives for the soil:

- Alternative S-1: NFA
- Alternative S-2: Soil excavation and offsite disposal
- Alternative S-3: Soil excavation and onsite containment repository
- Alternative S-4: Soil excavation, and onsite consolidation and capping.

Table 6-1 presents a summary of the alternatives and RAOs that each alternative potentially could achieve.

6.1 COMMON COMPONENTS FOR SOIL ALTERNATIVES

There are no common components across all alternatives. However, ICs would be common to all alternatives should the commercial/industrial scenario be selected for the southern portion of the Wilcox Process Area at the time of the ROD.

6.2 ALTERNATIVE S-1: NO FURTHER ACTION

Alternative S-1 assumes no remedial action for soil. It is used as a baseline for comparison to other remedial alternatives as required by the NCP. Under NFA, no remedial actions will be conducted at the site and contaminated soil posing unacceptable risks would be left in place.

6.3 ALTERNATIVE S-2: SOIL EXCAVATION AND OFFSITE DISPOSAL

Alternative S-2 includes excavation of soil exceeding the PRGs and disposal of the material offsite in a Resource Conservation and Recovery Act (RCRA) permitted and licensed landfill. Figure 2-11 show the locations of the soil exceeding the PRGs.

The main components of Alternative S-2 include:

- Pre-excavation delineation of contaminated soil exceeding the PRGs;
- Site preparation including removal of vegetation in the excavation areas, setup of work zones, installation of erosion and sediment controls near the creek and associated tributaries if excavation nearby, and utility clearance;
- Excavation of the contaminated soil;
- Transportation and disposal of the excavated material at an offsite disposal facility; and,
- Backfill and restoration of excavated areas.

A backhoe or excavator is generally used to perform the excavation. It is estimated that approximately 34,572 cy of soil will be excavated, sampled for waste characterization, and transported offsite for disposal. After removal of source materials, the excavated area will be documented and sampled to determine area, depth, volume removed, and concentrations of soil at the base and sides of excavation. The excavated areas will be backfilled with clean soil from an offsite location and re-vegetated. All excavation areas will be graded for drainage and appropriate erosion controls implemented.

During excavation activities, dust control measures, such as water spray, will be used to mitigate fugitive dust. Air monitoring equipment will be used to establish a safety perimeter based on the presence of potential vapors and/or dust to ensure the health and safety of onsite workers, the surrounding community, and the environment. Onsite workers directly involved in the excavation may be required to use respirators.

It is assumed for purposes of this FS that excavated soil will be characterized as non-hazardous waste based on historical data. Waste characterized as non-hazardous waste will be transported and disposed of at a RCRA Subtitle D Landfill. If the excavated soil is characterized as hazardous, it will be transported and disposed of at a RCRA Subtitle C Landfill. All trucks will be decontaminated prior to leaving the site, will be tarped to contain source materials within the bed of the truck, and will only transport material via the preapproved transportation route.

Alternative S-2 will meet the site RAOs by removal of the contamination offsite to prevent direct contact and prevent contaminants migrating to the groundwater and/or surface water. Since the material will be removed from the site, there will not be any post-remedial action maintenance or monitoring, and the site will be available for assumed land uses without restrictions on soil.

6.4 ALTERNATIVE S-3: SOIL EXCAVATION AND ONSITE CONTAINMENT REPOSITORY

Alternative S-3 includes excavating the contaminated soil and consolidating and placing the excavated soil in a containment repository constructed onsite. A potential location of the containment repository can be in the mid-portion of the Wilcox Process Area, as showed in Figure 2-11, which is away from tributaries and drainage basins or creeks. The location of the containment repository will be determined during the remedial design and shall be in accordance with ODEQ solid waste rules and Oklahoma Administrative Code (OAC) 252 Chapter 515. The excavation of the contaminated soil in this alternative is the same as that in Alternative S-2. However, the excavated soil will be placed in an onsite containment repository, rather than being transported offsite for disposal. The containment repository will be constructed to meet the regulatory requirements for RCRA subtitle D landfill and OAC 252:515.

It is estimated that approximately 34,572 cy of soil will be excavated and placed in the repository. Therefore, the repository is assumed to be approximately 360 ft by 150 ft and 20 ft in height.

The main components of Alternative S-3 include:

- Same components from Alternative S-2 for soil excavation, backfill and restoration of the excavated areas.
- Site preparation of the containment repository area including removal of vegetation and setup of the boundaries of the repository based on containment repository design.
- Installation of bottom liner of the containment repository.
- Placement and compaction of the excavated soil in the containment repository.
- Installation of a low permeability cap.
- Implementation of ICs to restrict the land uses in the containment repository area and prohibit any drilling and earth-moving activities at the repository area.
- Implementation of a groundwater program to monitor groundwater around the repository area in accordance with regulatory requirements.

A containment repository in general consists of, from bottom to the top:

- A bottom liner:
    - Compacted clay liner in 12-inch thickness with a hydraulic conductivity less than 1×10^{-7} centimeter per second (cm/s)

    - Geosynthetic clay liner
    - 60-milli-inch (mil) HDPE textured geomembrane
    - Composite drainage net
    - Protective cover.
- Excavated contaminated soil
- A cap:
    - A geosynthetic clay liner with a hydraulic conductivity less than 1×10^{-8} cm/s
    - A textured 60-mil low-density polyethylene geomembrane
    - A drainage layer constructed with composite drainage net
    - A protective soil cover at least 2.5 ft in thickness
    - A vegetation layer at least 6 inches in thickness.

A leachate collection system is assumed not necessary under this alternative. Water in a containment repository may be generated from precipitation entering through the cap, and the initial moisture content of the soil itself. Physical, chemical, and biological processes of the soil compounds can also produce water and other compounds, but the water generated from these processes is small compared to precipitation and infiltration. Due to the impermeable cap of the containment repository, precipitation into the repository would be limited and reduced. Therefore, the leachate generated from the repository is likely low. However, if this alternative is selected, design of the repository will need to include a water balance analysis to determine if a leachate collection system is required.

This alternative will address the RAOs by containing the contaminated material in the repository to prevent the direct exposure to the environment and leaching to the groundwater. However, the contaminated soil will remain at the site, thus ICs will be required to restrict the future land use and earth moving activities, which could potentially damage the repository. Groundwater will be monitored to confirm that the bottom liner prevents the contaminants in the repository from leaching to the groundwater. Because waste remains in place above levels that allow for unlimited use and unrestricted exposure, five-year reviews will be required.

6.5 ALTERNATIVE S-4: SOIL EXCAVATION AND ONSITE CONSOLIDATION AND CAPPING

Alternative S-4 includes excavating the contaminated soil and consolidating and capping it at the site. A potential location of the consolidation and capping can be the same as the location of the containment repository under Alternative S-3, as showed in Figure 2-11. The consolidation and capping location shall be selected in accordance with ODEQ solid waste rules and OAC 252 Chapter 515. The location will also be determined by its position away from the creek and residential areas, as well as its centrality. The excavation of the contaminated soil in this alternative is the same as that in Alternative S-2. However, the excavated soil will be placed in a consolidation location and capped, rather than being transported offsite for disposal or placed in a constructed containment repository. The difference between Alternative 3 and Alternative 4 is the bottom liner construction.

The main components of Alternative S-4 include:

- Same components from Alternative S-2 for soil excavation, backfill and restoration of the excavated areas
- Site preparation of the consolidation and capping area including removal of vegetation, and setup of work zones, staging areas, and the boundaries of the consolidation and capping
- Placement and compaction of the excavated soil in the consolidation area
- Installation of a low permeability cap, which would be the same as the cap under Alternative S-3
- Implementation of ICs to restrict the land use in the capping area and prohibit any drilling and earth-moving activities at the capping area
- Implementation of a groundwater program to monitor groundwater around the cap in accordance with regulatory requirements.

This alternative will address the RAOs by capping the contaminated soil to prevent the direct exposure to the environment, and minimize infiltration, therefore reducing leaching of the contaminants to the groundwater. However, the contaminated soil will remain at the site, thus ICs will be required to restrict the future land use and earth moving activities. Groundwater will be monitored to confirm that the capped contaminants are prevented from leaching to the groundwater. Because waste remains in place above levels that allow for unlimited use and unrestricted exposure, five-year reviews will be required.

7. EVALUATION OF REMEDIAL ALTERNATIVES

This section evaluates the remedial alternatives developed in the previous section following the EPA's RI/FS guidance (EPA 1988). The alternatives are evaluated based on the nine criteria listed in the NCP. Alternatives are compared, and key tradeoffs among them are identified to determine the most appropriate remedial actions for the site. The approach is designed to provide decision-makers with sufficient information to adequately compare the alternatives and provide the basis for selecting an appropriate site remedy pursuant to CERCLA requirements.

7.1 ALTERNATIVE EVALUATION

Evaluation of alternatives consists of the following two components:

- Evaluation of each alternative against seven of the nine evaluation criteria
- Comparative evaluation of alternatives relative to one another to identify key tradeoffs.

Table 7-1 presents the detailed evaluation of soil alternatives individually and following subsection presents comparative evaluation of the alternatives. The detailed evaluation confirms if alternatives achieve the threshold criteria, presents significant aspects and differentiators of the alternatives, and identifies uncertainties associated with the evaluation.

7.2 COMPARATIVE ANALYSIS

This section presents the comparison among the alternatives based on the detailed evaluation of each alternative. The comparison potentially identifies the most favorable alternative on each evaluation criterion. Table 7-2 provides a summary of comparative analysis for the soil alternatives.

7.2.1 Overall Protection of Human Health and Environment

All alternatives, except S-1 NFA, provide overall protection of human health and environment by either removing the soil and disposing offsite or containing the excavated soil onsite, in a construction repository or within a consolidated and capped area. Removing or containing contaminated soil eliminates or reduces the potential for exposures to site contaminants. Alternatives S-3 and S-4 include ICs to restrict land use and protect the containment repository and cap, respectively. Additionally, S-3 and S-4 will require operations and maintenance as well as five-year reviews to ensure protection.

Alternative S-2 ranks the most satisfactory among the three alternatives regarding protection of human health and environment because the contaminated soil will be removed permanently and disposed of offsite in an approved landfill. Under Alternatives S-3 and S-4, additional protection measures (i.e., ICs and five-year reviews) will be necessary to maintain protection at the site.

7.2.2 Compliance with ARARs

Table 4-1 presents a compilation of the federal, state, and local ARARs identified for the site. Compliance with ARARs is not applicable to S-1, NFS. All other alternatives are expected to comply with ARARs.

7.2.3 Long-Term Effectiveness and Permanence

Alternative S-1 will not provide long-term effectiveness and permanence. Alternative S-2 will provide the best long-term effectiveness and permanence because all contaminated soil is removed and disposed of offsite. Alternatives S-3 and S-4 will only provide long-term effectiveness and permanence if certain conditions are met. Since the contaminated soil will remain onsite, Alternatives S-3 and S-4 will require long-term monitoring and maintenance to protect the contaminated materials, eliminate direct exposure to all receptors, and prevent leaching into the groundwater. ICs and five-year reviews will be required to ensure protectiveness.

7.2.4 Reduction of TMV through Treatment

Alternative S-2 reduces TMV of the contaminants with respect to onsite conditions because the contamination will be physically removed from the site, albeit not through treatment. Alternatives S-3 and S-4 reduce mobility of the contaminants with respect to onsite conditions because the contamination will be physically removed and placed in a containment/capped area. The toxicity and volume remain unchanged.

7.3 EVALUATION CRITERIA

The alternatives are evaluated in this section based on the nine criteria required by 40 CFR Section 300.430(e). The nine criteria used to evaluate each alternative are listed below:

<u>Threshold Criteria</u>

- Overall protection of human health and the environment
- Compliance with ARARs.

<u>Balancing Criteria</u>

- Long-term effectiveness and permanence
- Reduction in TMV through treatment
- Short-term effectiveness
- Implementability
- Cost.

Modifying Criteria

- State acceptance
- Community acceptance.

The evaluation criteria are divided into three groups: threshold, balancing, and modifying criteria. The first two criteria are threshold criteria and must be met by the alternative to be eligible for selection as a remedial alternative. The NCP (see 40 CFR 300.430 (f)(1)(ii)(C) (1 to 6)), provides for waiving ARARs under six specific circumstances, otherwise ARARs must be met by the alternative in order to be eligible for selection as a remedial alternative. The next five criteria are balancing criteria and are the primary criteria upon which the detailed analysis is based. Unlike the threshold criteria, the five balancing criteria weigh the tradeoffs between alternatives. A low ranking for one balancing criterion can be offset by a higher ranking on another balancing criteria. The last two criteria are modifying criteria which are deferred until the public comment process has ended and comments from the state and community are received. The nine criteria are described in the following subsections.

7.3.1 Threshold Criteria

To be eligible for selection, an alternative must meet the two threshold criterion or, in the case of ARARs, must justify why a waiver is appropriate.

- **Overall Protection of Human Health and the Environment.** A remedy is protective if it adequately eliminates, reduces, or controls all current and potential risks posed by the site through exposure pathways. Evaluation of protectiveness focuses on the reduction or elimination of site risks by the proposed remedial alternative.

- **Compliance with ARARs.** This criterion is used to evaluate whether each alternative will meet all of the federal and state ARARs or whether there is justification for waiving one or more ARARs. Table 4-1 identifies and presents ARARs for the site.

7.3.2 Balancing Criteria

There are five balancing criteria, described below.

- **Long-Term Effectiveness and Permanence.** This criterion is used to assess the residual risks at the site after RAOs have been met. The primary focus of this criterion is the extent and effectiveness of controls used to manage the risk posed by treatment residuals or untreated materials remaining at the site. The following factors will be considered under this criterion:

    - Adequacy and reliability of remedial controls to mitigate the remaining risks after the remedial activities

    - Magnitude of the residual risks after remedial activities.

- **Reduction of TMV through Treatment.** This evaluation criterion addresses the CERCLA statutory preference for treatment options that permanently and significantly reduce the TMV of the contaminants. The following factors will be considered under this criterion:

  - The amount of hazardous materials that will be destroyed or treated
  - The degree of reduction in TMV measured as a percentage of reduction
  - The degree to which the treatment will be irreversible
  - The type and quantity of treatment residuals that will remain following treatment.

- **Short-Term Effectiveness.** This evaluation criterion addresses the effects of the alternative during the construction and implementation phase until the RAOs are met. Under this criterion, alternatives are evaluated for their effects on human health and the environment during implementation of the remedial action. The following factors will be considered:

  - Exposure of the community during implementation
  - Exposure of workers during construction
  - Environmental impacts resulted from implementation and construction
  - Time to achieve RAOs
  - Sustainability.

- **Implementability.** This criterion addresses the technical and administrative feasibility of implementing an alternative and the availability of various services and materials that may be required during its implementation. The following factors were considered:

  - Ability and difficulties to construct the technology
  - Ability to monitor effectiveness of the remedy
  - Availability of equipment and specialists
  - Availability of offsite treatment and disposal capacity and services
  - Ability to obtain approvals from regulatory agencies.

- **Cost.** Cost encompasses capital costs, and operations and maintenance costs incurred over the life of the project. As stated in the EPA guidance (EPA 2000), cost estimates in the FS are expected to provide an accuracy of minus 30 percent to plus 50 percent (-30 percent to +50 percent). The estimated costs are designed to be used only for evaluating and comparing alternative technologies and not for setting budgets. For cost estimation and comparison purposes, operations and maintenance is assumed to be 30 years; however, operations and maintenance will be required in perpetuity to ensure protectiveness of the remedy. A discount rate of 7% is used to determine the present worth cost for Alternatives S-2 through S-4.

  The Remedial Action Cost Engineering and Requirements® (RACER) software, Version 11.4, was used to develop order-of-magnitude costs for this FS. RACER® is a parametric

and integrated cost estimating program that was developed specifically for estimating costs associated with environmental investigation and remediation projects. It can be used at early order-of-magnitude stages of cost estimating. RACER® has been used by Department of Defense, Department of Energy, contractors, engineering consultants, state regulatory agencies and private sectors.

7.3.3 Modifying Criteria - State and Community Acceptance

State and community acceptance are the two modifying criteria. These two criteria evaluate the issues and concerns of the state and community regarding each alternative. These criteria cannot be evaluated until the state and community have reviewed and commented on the alternatives presented in the FS Report.

7.3.4 Short-Term Effectiveness

All alternatives, except Alternative S-1, pose short-term impacts during implementation of the alternatives on workers, communities, and the environment; however, the impacts are low. Proper personal protective equipment and best practice management will be used to alleviate the impacts. Alternative S-3 will require the longest time to implement due to the construction of the containment repository. The transportation of waste offsite in Alternative S-2 will present the greatest short-term risk to the community due to the use of local roads and highways to transport materials to the landfill.

7.3.5 Implementability

All alternatives except S-1 involve mature technologies and typical construction methods and equipment. Thus, they are readily implementable. However, Alternatives S-3 and S-4 involve more processes and technologies than Alternative S-2. Constructing a containment repository or a cap under Alternatives S-3 and S-4, respectively, will require more materials compared to Alternative S-2, and will involve a quality control and quality assurance program to ensure the liners or cap are constructed in accordance with the design. Therefore, Alternative S-2 ranks the most satisfactory regarding implementability, followed by Alternative S-4, then Alternative S-3.

7.3.6 Cost

Table 7-1 presents the cost of the alternatives for soil. Appendix D provides the detailed cost estimates. Overall, Alternative S-3 is highest in 30-year net present value among the alternatives.

8. REFERENCES

EA Engineering, Science, and Technology, Inc., PBC (EA). 2017. *Wetland Delineation Report, Wilcox Oil Company Superfund Site, Bristow, Creek County, Oklahoma, Revision 00.* January.

———. 2020a. *Remedial Investigation Report for Wilcox Oil Company Superfund Site Bristow, Creek County, Oklahoma, Revision 02.* 20 October.

———. 2020b. *Human Health Risk Assessment, Revision 03; Remedial Investigation/ Feasibility Study; Wilcox Oil Company Superfund Site*; Bristow, Creek County, Oklahoma. May.

———. 2020c. *Screening Level Ecological Risk Assessment Report, Revision 01; Remedial Investigation/Feasibility Study; Wilcox Oil Company Superfund Site*; Bristow, Creek County, Oklahoma. January

Ecology and Environment, Inc. (E&E). 1999. Site Assessment Report for Wilcox Refinery, Bristow, Creek County, Oklahoma. March.

Federal Remediation Technologies Roundtable (FRTR). 1997. Remediation Case Studies: Bioremediation and Vitrification, EPA/542/R-97/008.

Efroymson, R.A., M.E. Will, G.W. Sutter II, and A.C. Wooten (Efroymson et al). 1997a. *Toxicological Benchmarks for Screening Contaminants of Potential Concern for Effects on Terrestrial Plants: 1997 Revision*. Oak Ridge National Laboratory, Oak Ridge, Tennessee. 128 pp. ES/ER/TM-85/R3. November.

———. 1997b. *Toxicological Benchmarks for Screening Contaminants of Potential Concern for Effects on Soil and Litter Invertebrates: 1997 Revision*. Oak Ridge National Laboratory, Oak Ridge, Tennessee. 128 pp. ES/ER/TM-85/R3. November.

Interstate Technology and Regulatory Cooperation Work Group (ITRC). 1999. *Phytoremediation Decision T*ree. Phytoremediation Work Team, Trenton, NJ.

MacDonald, D.D., R.S. Carr, F.D. Calder, E.R. Long, and C.G. Ingersoll (MacDonald et al). 1996. Development and evaluation of sediment quality guidelines for Florida coastal waters. *Ecotoxicology* 5:253-278.

Oklahoma Department of Environmental Quality (ODEQ). 1994. *Preliminary Assessment of the Wilcox Oil Company Located in Bristow, Creek County, Oklahoma.* 15 December.

———. 2008. Preliminary Assessment of the Lorraine Refinery Site Located near Bristow, Creek County, Oklahoma. 28 September.

———. 2009. Site Inspection of the Lorraine Refinery (Lorraine Refining Company), Creek County, Oklahoma. 18 August.

———. 2020. Letter to Katrina Higgins-Coltrain, EPA, From: Todd Downham, ODEQ, Re: Groundwater Use, Wilcox Oil Company Superfund Site, Bristow, Creek County, Oklahoma. 19 May.

U.S. Environmental Protection Agency (EPA). 1988. *Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA.* EPA/540/G-89/004. OSWER Directive 9355.3-01. October.

———. 1997. *Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments. Interim Final.* Office of Solid Waste and Emergency Response, OSWER 9285.7-25. 5 June.

———. 1998. *Guidelines for Ecological Risk Assessment (Published on May 14, 1998, Federal Register 63(93):26846-26924).* EPA/630/R-95/002F. April.

———. 2000. *A Guide to Developing and Documenting Cost Estimates During the Feasibility Study*. EPA 540-R-00-002. OSWER 9355.0-75. July.

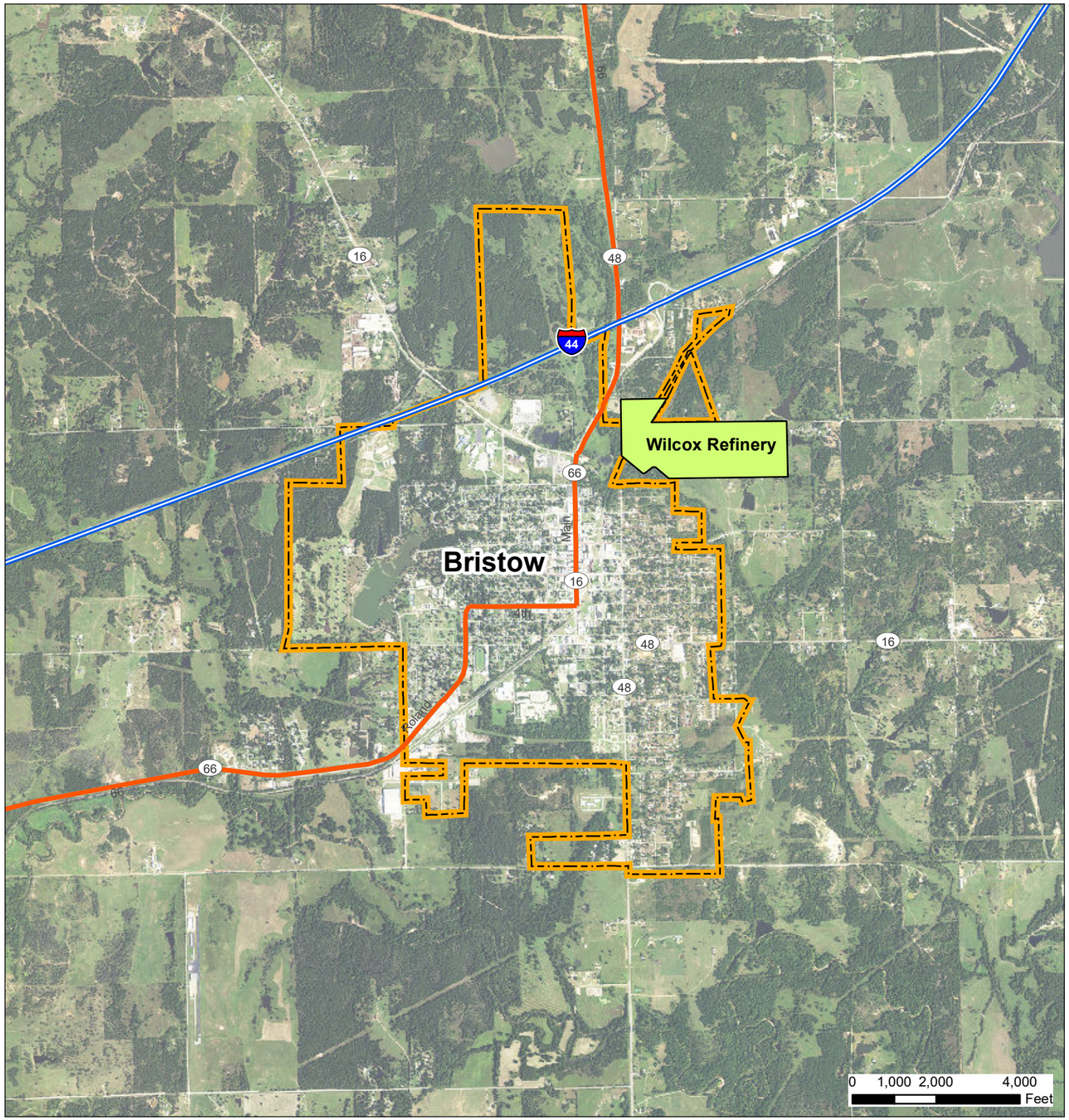
———. 2018. *Source Control Record of Decision Summary; Wilcox Oil Company Superfund Site, Bristow, Creek County, Oklahoma,* OK0001010917. September.

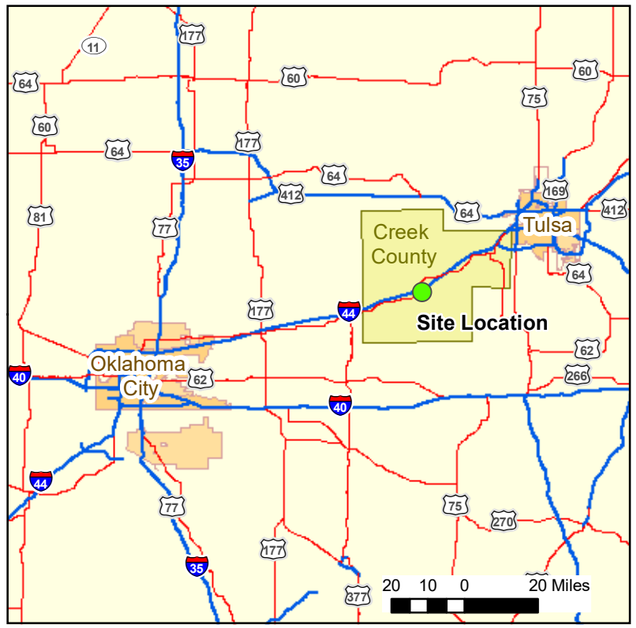
———. 2021. *Regional Screening Levels (RSLs) – Generic Tables*. May.

Weston Solutions (formerly Roy F. Weston, Inc.) (Weston). 2017. *Removal Action Report for Wilcox Oil Residence Site Removal, 34382 West 221st Street, Bristow, Creek County, Oklahoma*. December.

Figures

M:\Federal\EPA\RAC II\0128-Wilcox Oil RI-FS\GIS\MXDs\FS\1-Wilcox Location Map.mxd 5/6/2021 EA-Dallas jschwertz





Legend

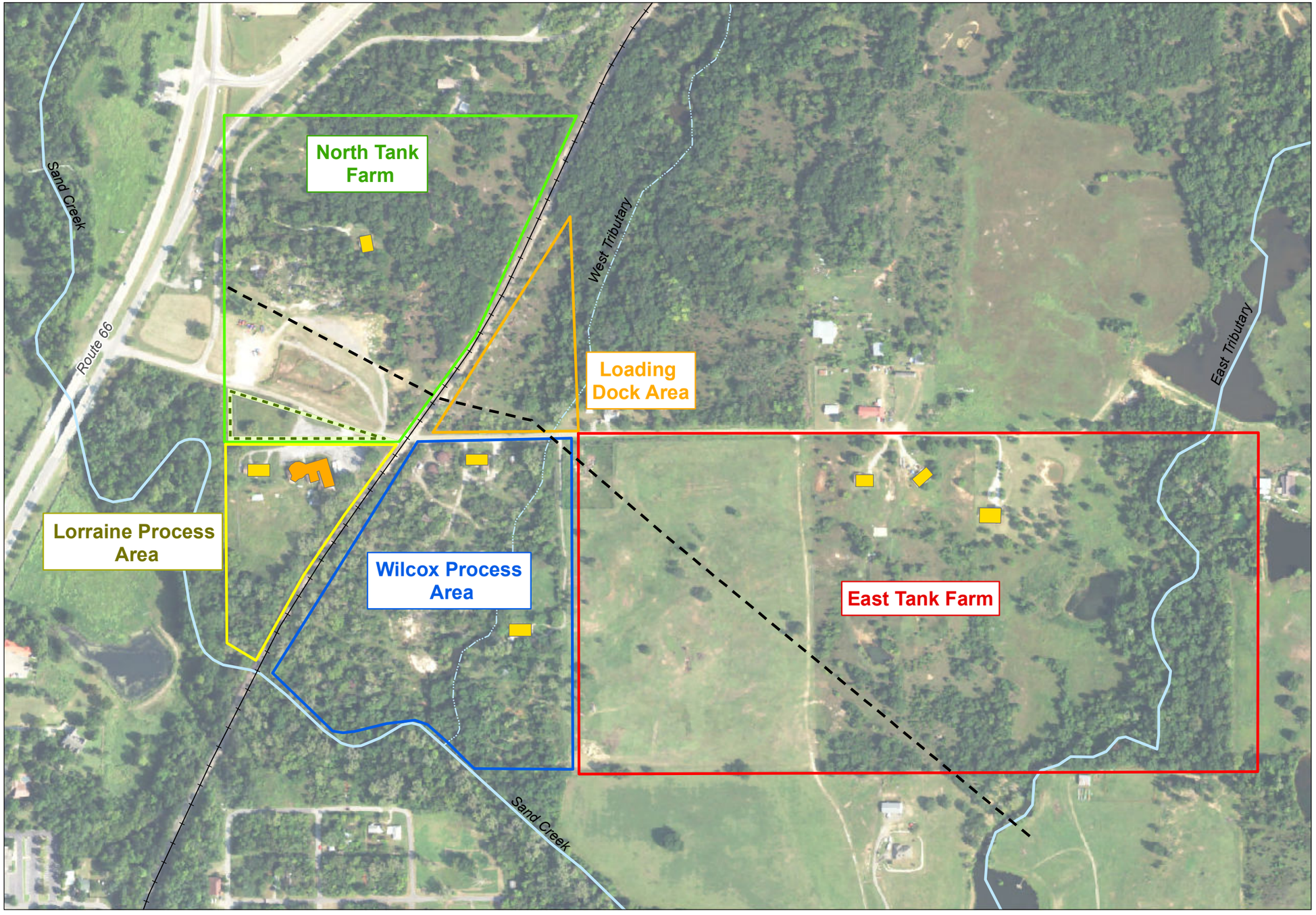
- Interstate
- Highway
- Bristow City Boundary
- Site Location

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Image Source: National Agriculture Imagery Program 2015

Figure 1-1
Site Location Map

M:\Federal\EPA\RAC II\0128-Wilcox Oil RI-FS\GIS\MXDs\FS\2-Site Layout.mxd 5/6/2021 EA-Dallas jschwertz



0 200 400 800 Feet

1 inch = 400 feet

Legend

- Stream, Intermittent
- Stream, Perennial
- Pipeline
- Railroad

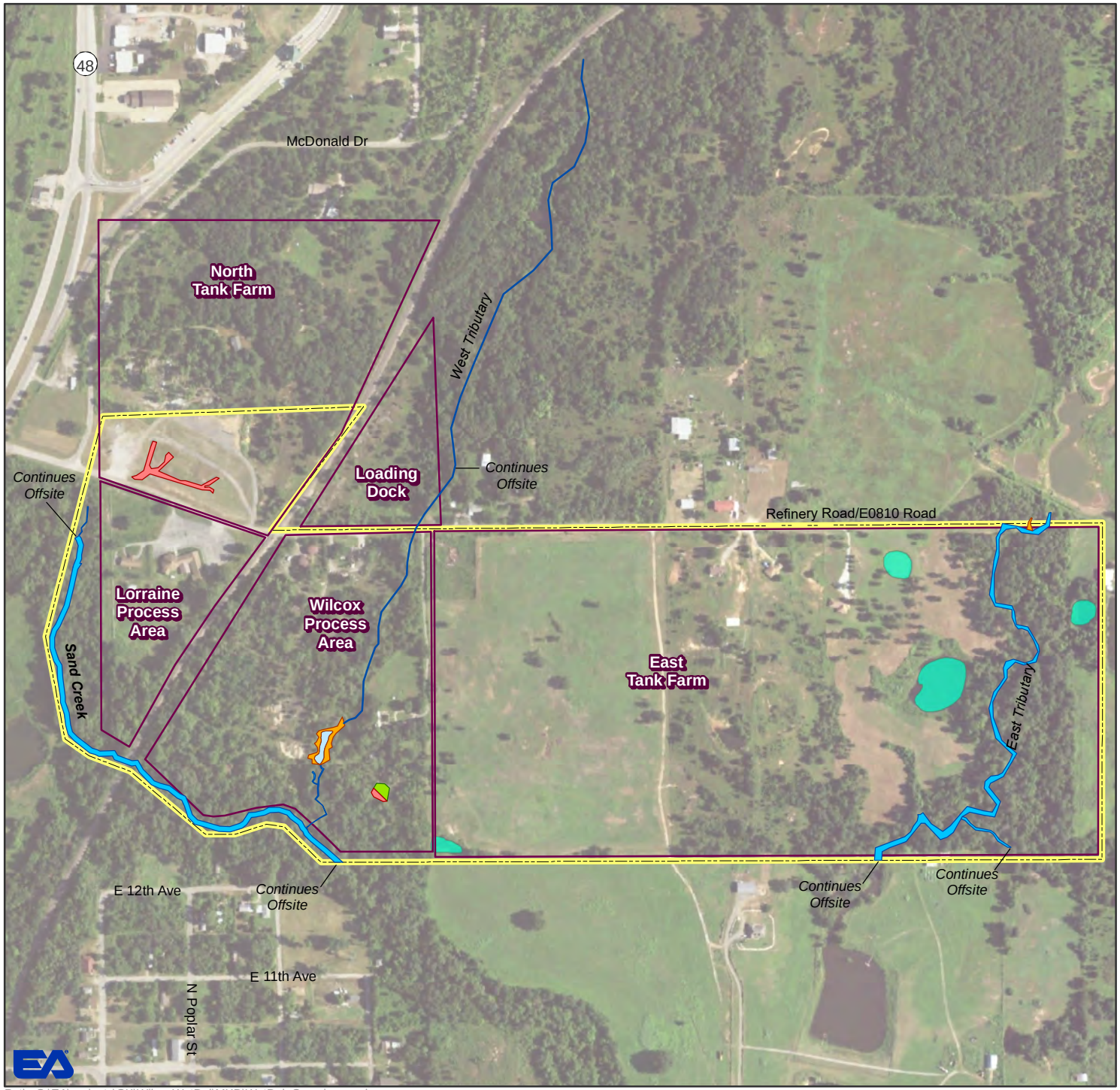
Onsite Building

- Church
- Residence
- Area will be designated as part of Lorraine Process Area for this investigation.

Image Source: National Agriculture Imagery Program 2015.

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Figure 2-1
Site Layout of Former Operational Areas



Legend

- Area of Review
- Farm Pond
- Operational Area
- Emergent Wetland
- Forested Wetland
- Open Water
- Scrub-Shrub Wetland
- Waters of the U.S.

N

0 500 1,000

Feet

January, 2017
Data Sources: USDA, 2015

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Figure 2-2
Wetland Delineation Overview Map

Path: C:\EA\projects\OK\WilcoxWetDel\MXD\WetDel_Overview.mxd

MW-01
792.60

MW-03
795.00

MW-02
780.08

MW-04
782.56

MW-05
777.41

MW-06
773.30

790

785

780

775

N

0 250 500
Feet

Legend

- Groundwater Sample Location
- Potentiometric Surface Gradient (ft MSL)

Source Area

- East Tank Farm
- Loading Dock Area
- Lorraine Process Area
- North Tank Farm
- Wilcox Process Area
- Railroad
- Historical Feature
- Onsite Building
- Drainage
- Stream, Intermittent
- Stream, Perennial

Image Source: National Agriculture Imagery Program 2015.

M:\Federal\EPA\R6\AC II\0128-Wilcox Oil RI-FS\GIS\MXD+JPG\Figxx_pot20181212.mxd 5/6/2021 EA tschwartz

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Figure 2-3
Potentiometric Surface Map
December 2018

PRIMARY SOURCE	PRIMARY RELEASE MECHANISM	SECONDARY SOURCE	SECONDARY RELEASE MECHANISM	TERTIARY SOURCE	TERTIARY RELEASE MECHANISM	QUATERNARY SOURCE	EXPOSURE ROUTE	POTENTIAL RECEPTORS			
								Current / Future			
								Commercial/ Industrial Worker	Recreational User/ Trespasser	Construction Worker	Resident
Source Areas (Refinery, Wood Treating, Pits, etc.)	Spills and Leaks	Surface Soil					Ingestion	C	C	C	C
							Dermal Contact	C	C	C	C
			Root Uptake	Homegrown Produce			Ingestion	I	I	I	C
				Cattle			Ingestion	I	I	I	C
			Wind Suspension	Outdoor Air (Particulates)			Inhalation	C	C	C	C
			Volatilization	Outdoor Air (VOCs)			Inhalation	I	I	I	I
			Overland Flow	Surface Water or Sediment			Ingestion	I	C	I	C
							Dermal Contact	I	C	I	C
					Wind Suspension	Outdoor Air (Particulates)	Inhalation	I	I	I	I
					Uptake/ Bioaccumulation	Fish (Fillet)	Ingestion	I	I	I	I
		Sediment					Ingestion	I	C	I	C
							Dermal Contact	I	C	I	C
					Desorption	Surface Water	Ingestion	I	C	I	C
							Dermal Contact	I	C	I	C
					Wind Suspension	Outdoor Air (Particulates)	Ingestion	I	I	I	I
		Surface Water					Ingestion	I	C	I	C
							Dermal Contact	I	C	I	C
			Sorption	Sediment			Ingestion	I	C	I	C
							Dermal Contact	I	C	I	C
					Wind Suspension	Outdoor Air (Particulates)	Inhalation	I	I	I	I
		Subsurface Soil					Ingestion	I	I	C	C
							Dermal Contact	I	I	C	C
			Wind Suspension	Outdoor Air (Particulates)			Inhalation	I	I	C	C
			Volatilization	Outdoor Air (VOCs)			Inhalation	C	I	C	C
				Indoor Air (VOCs)			Inhalation	C	I	I	C
			Infiltration and Percolation	Groundwater			Ingestion	C	I	C	C
							Dermal Contact	C	I	C	C
					Volatilization (Construction)	Construction Trench Air (VOCs)	Inhalation	I	I	C	I
					Volatilization (Domestic Use)	Indoor Air (VOCs)	Inhalation	C	I	I	C
					Volatilization (Vapor Intrusion)	Indoor Air (VOCs)	Inhalation	C	I	I	C

EXPLANATION

I	Incomplete or negligible exposure pathway
C	Potentially complete exposure pathway
VOC	Volatile organic compound

FIGURE 2-4 HUMAN HEALTH CONCEPTUAL SITE MODEL

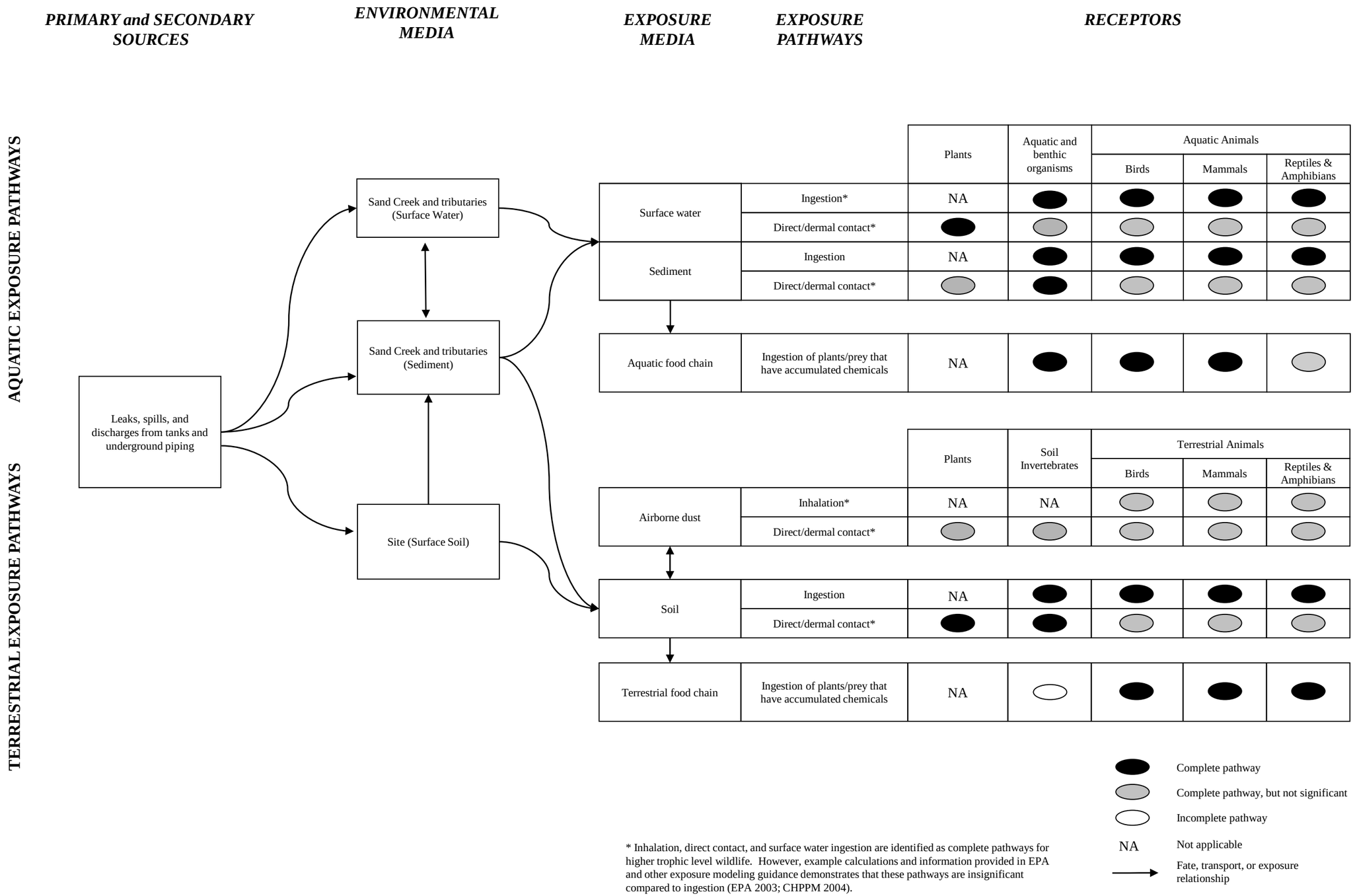
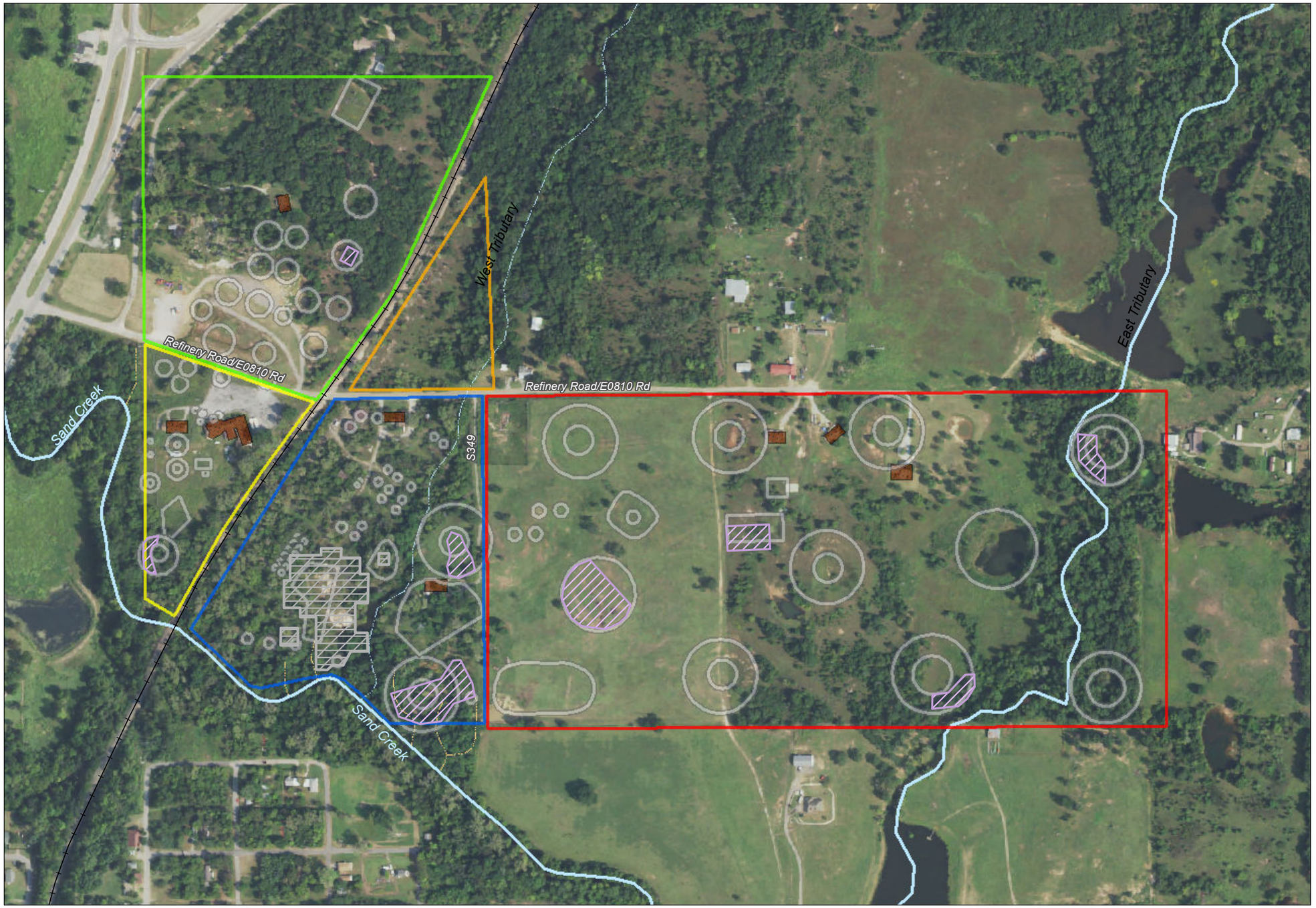


Figure 2-5. Ecological Conceptual Site Model



0 200 400 800 Feet

1 inch = 400 feet

Legend

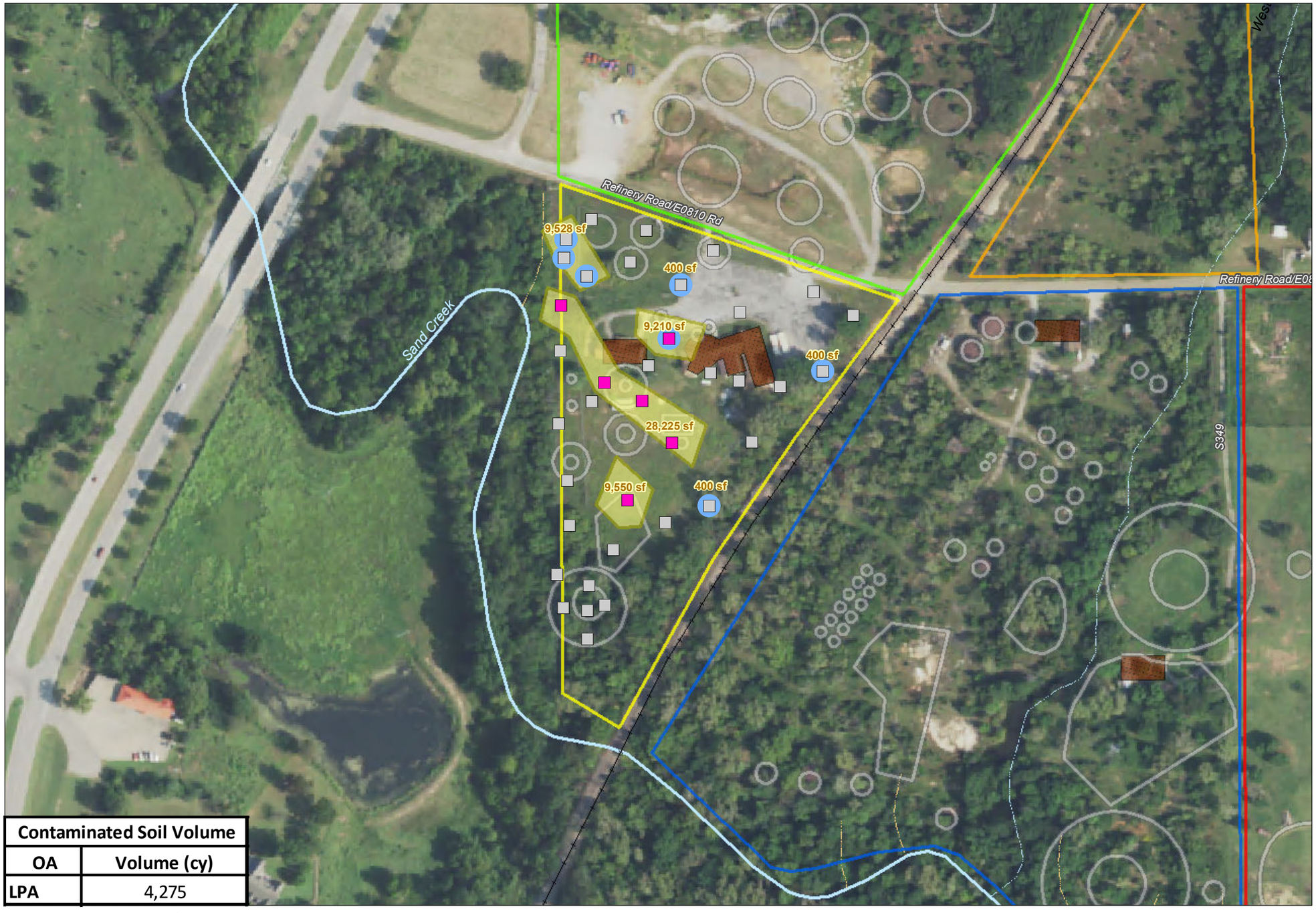
- Excavation Area Covered Under the Source Control Record of Decision
- Proposed Lead Excavation Area
- Railroad
- East Tank Farm
- Loading Dock Area
- Lorraine Process Area
- North Tank Farm
- Wilcox Process Area
- Historical Feature
- Onsite Building
- Drainage
- Stream, Intermittent
- Stream, Perennial

Image Source: National Agriculture Imagery Program 2015.

2021-05-18 M:\Federal\EPA\RAC II\0128-Wilcox Oil RI-FS\GIS\MXDs\FS\3-2_WII_Soil_PRG.mxd EA-Dallas jschwertz

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Figure 2-6
Areas Addressed under the Source Control Record of Decision



Contaminated Soil Volume	
OA	Volume (cy)
LPA	4,275

0 100 200 400 Feet

1 inch = 200 feet

Legend

- 0-2 ft bgs exceeding lead PRG
- Not exceeding lead PRG
- Exceeding benzo(a)pyrene PRG

Feasibility Study Remediation Areas

Lead exceeding 200 mg/kg

- Residential Areas
- Railroad
- East Tank Farm
- Loading Dock Area
- Lorraine Process Area (LPA)
- North Tank Farm
- Wilcox Process Area
- Historical Feature
- Onsite Building
- Drainage
- Stream, Intermittent
- Stream, Perennial

Notes:

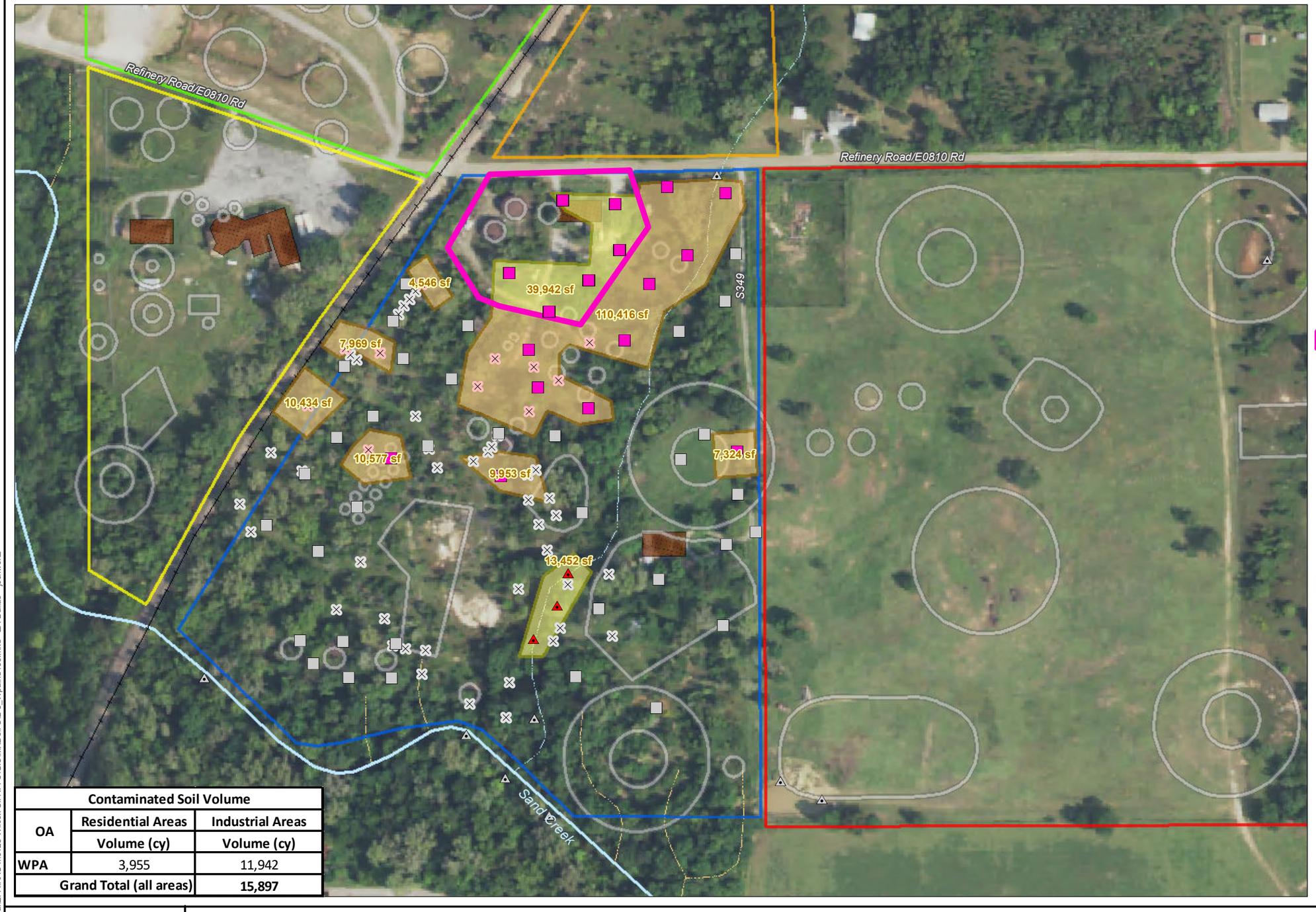
Residential Lead PRG - 200 mg/kg
Benzo(a)pyrene PRG - 0.12 mg/kg
PRG - Preliminary Remediation Goal
cy - cubic yards
ft bgs - feet below ground surface
mg/kg - milligram per kilogram
sf - square feet
OA - Operational Area

Image Source: National Agriculture Imagery Program 2015.

2021-05-06 M:\Federal\EPA\RAC II\0128-Wilcox Oil RI-FS\GIS\MXDs\FS\2-5_LPA-200PRG.mxd EA-Dallas jschwertz

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Figure 2-7
Soil Exceedances above Benzo(a)pyrene and Residential Lead Preliminary Remediation Goals in Lorraine Process Area



Contaminated Soil Volume		
OA	Residential Areas	Industrial Areas
	Volume (cy)	Volume (cy)
WPA	3,955	11,942
Grand Total (all areas)		**15,897**

0 100 200 400 Feet

1 inch = 200 feet

Legend

- 0-2 ft bgs exceeding lead PRG
- Not exceeding lead PRG
- Sediment not exceeding lead PRG
- Sediment exceeding lead PRG

2018 X-ray Fluorescence Location

- Less than lead PRG
- Greater than lead PRG
- Wilcox Process Area Residential Area

Feasibility Study Remediation Areas

- Exceeding residential PRG
- Exceeding commercial/industrial PRG
- Railroad
- East Tank Farm
- Loading Dock Area
- Lorraine Process Area
- North Tank Farm
- Wilcox Process Area (WPA)
- Historical Feature
- Onsite Building
- Drainage
- Stream, Intermittent
- Stream, Perennial

Notes:
Residential Lead PRG - 200 mg/kg
Commercial/Industrial Lead PRG - 400 mg/kg
PRG - Preliminary Remediation Goal
cy - cubic yards
ft bgs - feet below ground surface
mg/kg - milligram per kilogram
OA - Operational Area

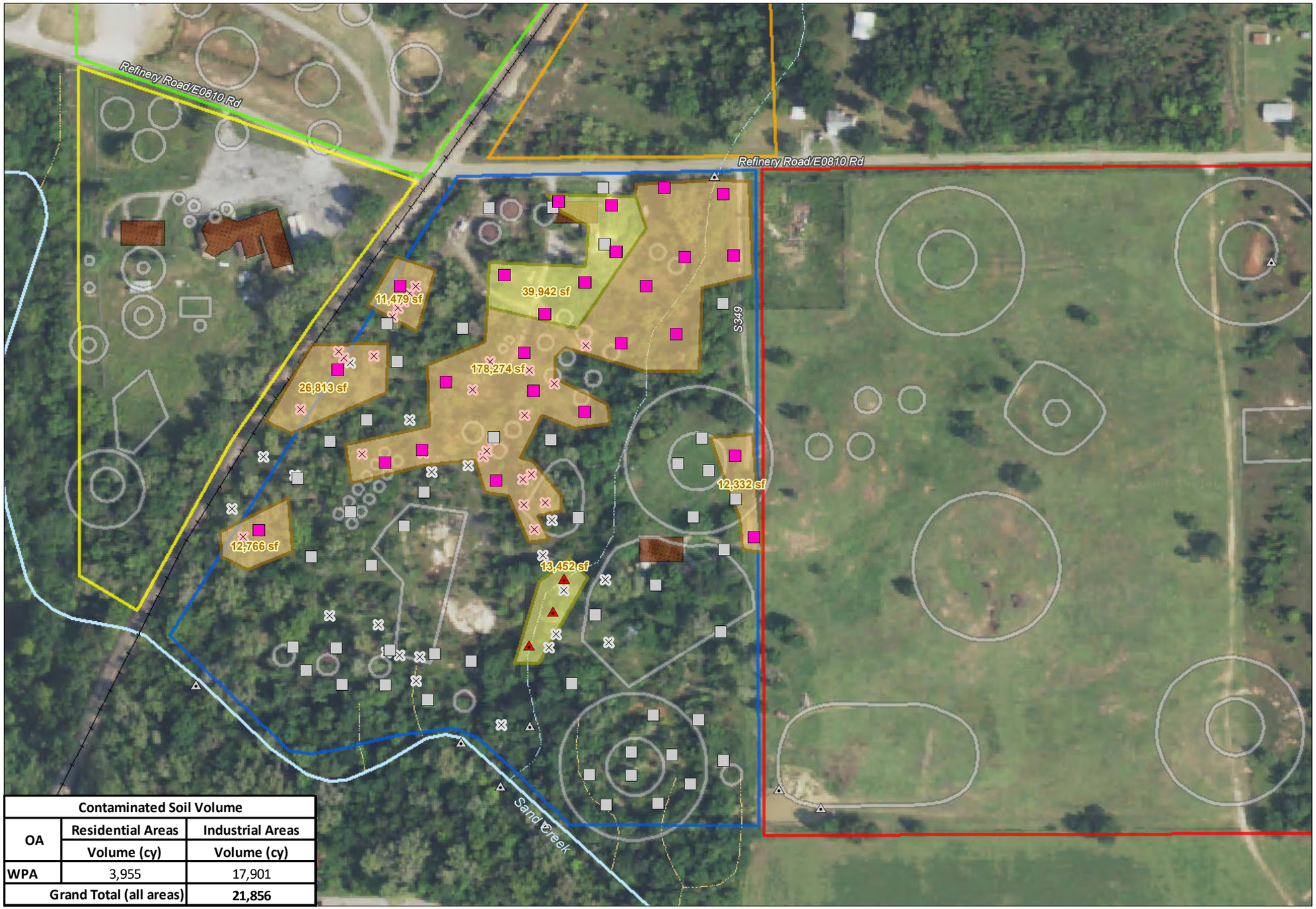
Samples collected in Source Control Areas not shown on this figure.

Image Source: National Agriculture Imagery Program 2015.

2021 -05-19 M:\Federal\EPA\RAC II\0128-Wilcox Oil\ RI-FS\GIS\MXD\sIFS\2-6_Wpaln400.mxd EA-Dallas jschwertz

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Figure 2-8
Soil Exceedances above Residential Lead and Commercial/Industrial Lead Preliminary Remediation Goals in Wilcox Process Area



Contaminated Soil Volume		
OA	Residential Areas	Industrial Areas
	Volume (cy)	Volume (cy)
WPA	3,955	17,901
Grand Total (all areas)		**21,856**

0 100 200 400 Feet

1 inch = 200 feet

Legend

- 0-2 ft bgs exceeding lead PRG
- Not exceeding lead PRG
- Sediment not exceeding lead PRG
- Sediment exceeding lead PRG

2018 X-ray Fluorescence Location

- Less than lead PRG
- Greater than lead PRG

Feasibility Study Remediation Areas

Lead exceeding 200 mg/kg

- Residential Areas
- Industrial Areas
- Railroad
- East Tank Farm
- Loading Dock Area
- Lorraine Process Area
- North Tank Farm
- Wilcox Process Area (WPA)
- Historical Feature
- Onsite Building
- Drainage
- Stream, Intermittent
- Stream, Perennial

Notes:
Residential Lead PRG - 200 mg/kg
Commercial/Industrial Lead PRG - 200 mg/kg
PRG - Preliminary Remediation Goal
cy - cubic yards
ft bgs - feet below ground surface
mg/kg - milligram per kilogram
OA - Operational Area

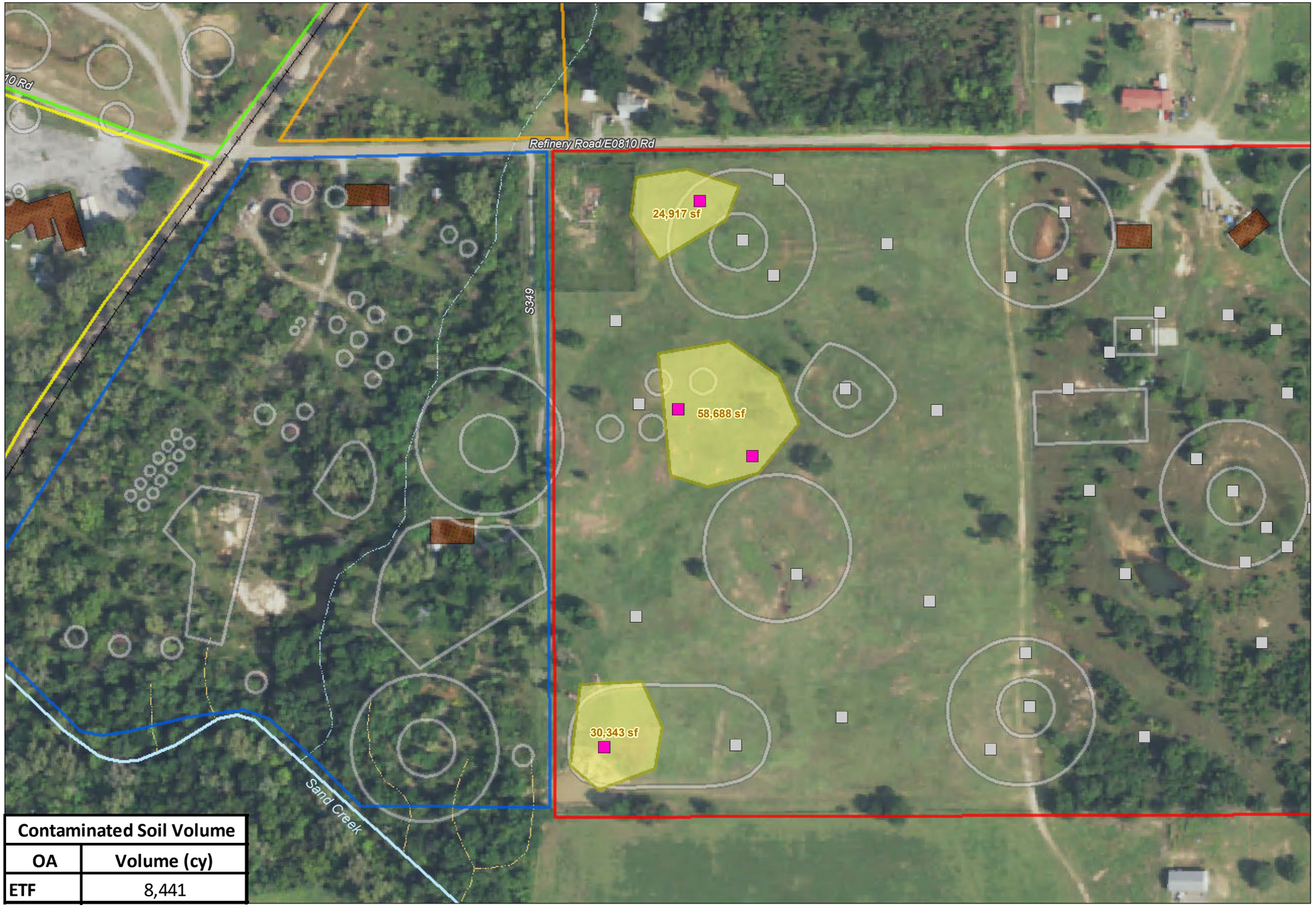
Sediment samples are compared with Residential Lead PRG

Image Source: National Agriculture Imagery Program 2015.

2021-05-19 M:\Federal\EPA\RAC II\0128-Wilcox Oil RI-FS\GIS\MXDs\FS\2-7_WPA200PRG.mxd EA-Dallas jschwertz

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Figure 2-9
Soil Exceedances above Residential Lead Preliminary Remediation Goal in Wilcox Process Area



Contaminated Soil Volume	
OA	Volume (cy)
ETF	8,441

0 100 200 400 Feet

1 inch = 200 feet

Legend

- 0-2 ft bgs exceeding lead PRG
- Not exceeding lead PRG

Feasibility Study Remediation Areas

Lead exceeding 200 mg/kg

- Residential Areas
- Railroad
- East Tank Farm (ETF)
- Loading Dock Area
- Lorraine Process Area
- North Tank Farm
- Wilcox Process Area
- Historical Feature
- Onsite Building
- Drainage
- Stream, Intermittent
- Stream, Perennial

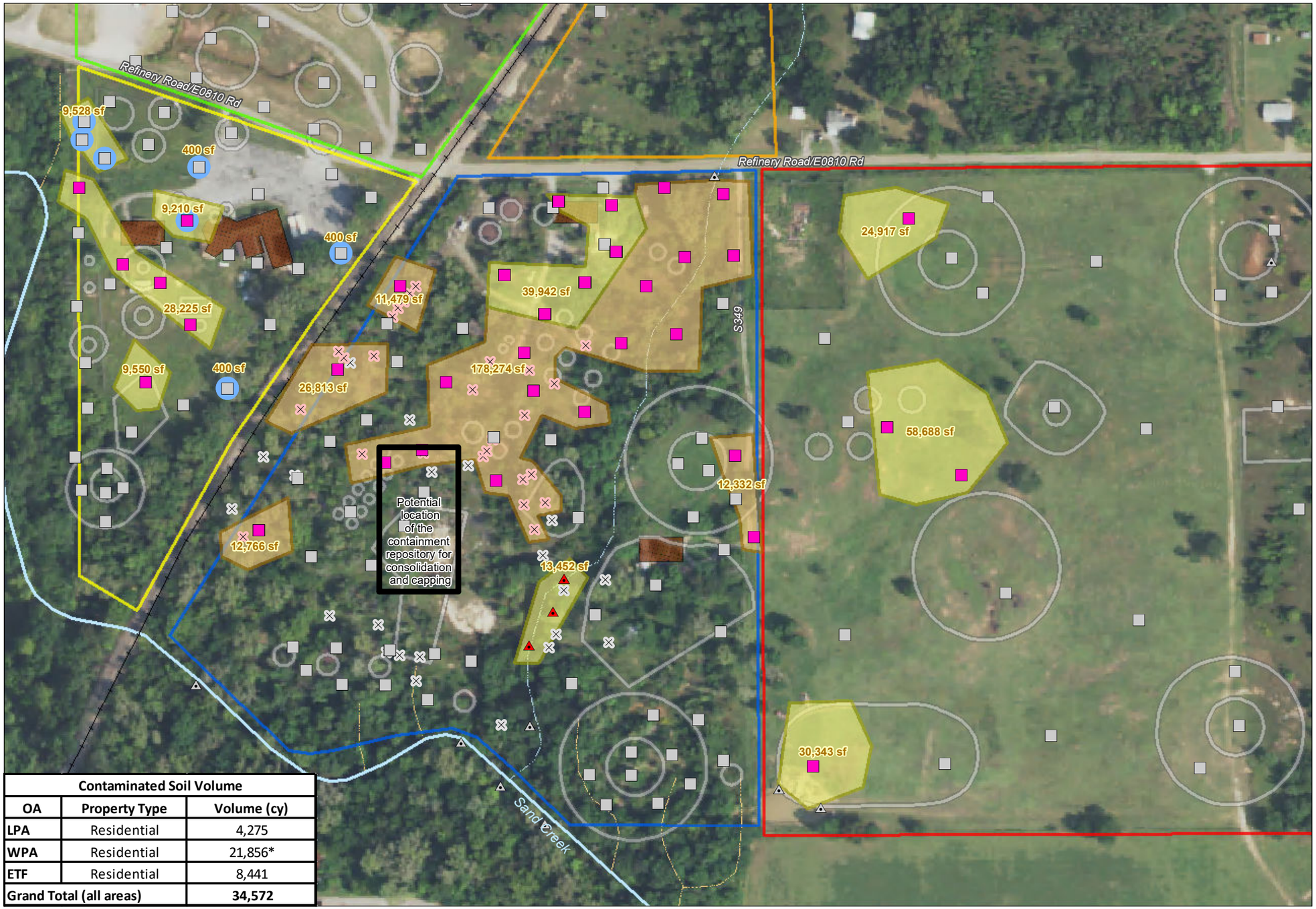
Notes:
Residential Lead PRG - 200 mg/kg
PRG - Preliminary Remediation Goal
cy - cubic yards
ft bgs - feet below ground surface
mg/kg - milligram per kilogram
OA - Operational Area
sf- square feet

Image Source: National Agriculture Imagery Program 2015.

2021-05-06 M:\Federal\EPA\RAC II\0128-Wilcox Oil RI-FS\GIS\MXDs\FS\2-8_ETF-200PRG.mxd EA-Dallas jschwertz

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Figure 2-10
Soil Exceedances above Residential Lead
Preliminary Remediation Goal in East Tank Farm



Contaminated Soil Volume		
OA	**Property Type**	**Volume (cy)**
LPA	Residential	4,275
WPA	Residential	21,856*
ETF	Residential	8,441
Grand Total (all areas)		**34,572**

0 100 200 400 Feet

1 inch = 200 feet

Legend

- 0-2 ft bgs exceeding lead PRG
- Not exceeding lead PRG
- Sediment not exceeding lead PRG
- Sediment exceeding lead PRG
- Exceeding benzo(a)pyrene PRG

2018 X-ray Fluorescence Location

- Less than lead PRG
- Greater than lead PRG

Feasibility Study Remediation Areas

Lead exceeding 200 mg/kg

- Residential Areas
- Industrial Areas
- Railroad
- East Tank Farm (ETF)
- Loading Dock Area
- Lorraine Process Area (LPA)
- North Tank Farm
- Wilcox Process Area (WPA)
- Historical Feature
- Onsite Building
- Drainage
- Stream, Intermittent
- Stream, Perennial

Notes:

Residential Lead PRG - 200 mg/kg
Industrial Lead PRG - 200 mg/kg
Benzo(a) pyrene PRG - 0.12 mg/kg
PRG - Preliminary Remediation Goal
cy - cubic yards
ft bgs - feet below ground surface
mg/kg - milligram per kilogram
OA - Operational Area

* - This value includes industrial and residential areas, which are all being held to residential PRG standards

Sediment samples are compared with Residential Lead PRG

Image Source: National Agriculture Imagery Program 2015.

2021 -05-19 M:\Federal\EPA\RAC II\0128-Wilcox Oil RI-FS\GIS\MXD s\FS\2-9_CombAreas200PRG.mxd EA-Dallas jschwertz

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Figure 2-11
Soil Exceedances in Residential and Industrial Areas above Benzo(a)pyrene and Residential Lead Preliminary Remediation Goal

Tables

Table 4-1. Potentially Applicable or Relevant and Appropriate Requirements

ARARs/TBCs	Citation or Reference	Requirements	Applicability
Chemical-Specific ARARs			
Designation of Hazardous Substances, Determination of Reportable Quantities	40 CFR 302.4 – 302.5	This section provides tables on the following substances: a) Listed hazardous substances. The elements, compounds, and hazardous wastes appearing in Table 302.4 are designated as hazardous substances under Section 102(a) of CERCLA. b) Unlisted hazardous substances. A solid waste, as defined in 40 CFR 261.2, which is not excluded from regulation as a hazardous waste under 40 CFR 261.4(b), is a hazardous substance under Section 101(14) of CERCLA if it exhibits any of the characteristics identified in 40 CFR 261.20 through 261.24.	Applicable because hazardous substances might be in the contaminated soil. Waste encountered during the remediation of the contaminated soil will be characterized to determine whether it is hazardous or nonhazardous.
Identification and Listing of Hazardous Waste	40 CFR 261.10; 261.20 - 24	Identifies those waste subject to regulation as hazardous wastes.	The criteria and limitations used to identify wastes as being hazardous or nonhazardous are applicable to all wastes and are relevant and appropriate to all alternatives at the site.
Oklahoma Air Pollution Control Rules	OAC 252:100-3-4; 100-29; 100-43-2 to 100-43-5	Establishes controls for air pollutants; establishes visible emissions limit, fugitive dust controls, and testing and monitoring requirements for air quality.	Applicable to discharge of fugitive dust during remedial actions (i.e., excavation, and placement of contaminated soil in the containment repository).
Location-Specific ARARs			
Migratory Bird Treaty Act	16 United States Code (USC) 703	Protects almost all species of native birds in the United States from unregulated taking.	Applicable if work is taking place in a migratory flyway.

ARARs/TBCs	Citation or Reference	Requirements	Applicability
Permits and Enforcement	CERCLA 121 (e)	This section of CERCLA states that no "federal, state, or local permit" shall be required for any portion of a CERCLA remedial action that is conducted on the site of the facility being remediated. This includes exemption from the RCRA permitting process. Note that the substantive requirements of the regulations must still be met (e.g., construction stormwater must be managed using BMPs).	Applicable to the remedial action at the site.
The Native American Graves Protection And Repatriation Act	25 USC Section 3002 and its regulations Title 43 CFR Part 10.4	Protects Native American graves from desecration through the removal and trafficking of human remains and cultural items including funerary and sacred objects.	Substantive requirements applicable if Native American burials or cultural items are identified within the area to be disturbed.
National Historic Preservation Act	16 USC 470 et seq; 36 CFR Part 800.4 – 8; 800.10	Provides for the protection of sites with historic places and structures	Substantive requirements applicable if eligible resources are identified within the area to be disturbed.
Archeological Resources Protection Act of 1979	16 USC Sections 470cc (b), (c), ; 43 CFR Part 7.4, and 7.7	Prohibits removal of or damage to archaeological resources unless by permit or exception	Substantive requirements applicable if eligible resources are identified within the area to be disturbed.
American Indian Religious Freedom Act	42 USC Section 1996 et seq.	Protects religious, ceremonial, and burial sites, and the free practice of religions by Native American groups.	Substantive requirements applicable if Native American sacred sites are identified within the area to be disturbed.
Action-Specific ARARs			
RCRA	40 CFR. Part 262 Subpart B, & Part 263 Subparts B and C	Establishes responsibilities for transporters of hazardous waste in handling, transportation, and management of the waste. Sets requirements for manifesting, recordkeeping, packing, labeling, and emergency response action in case of a spill.	Applicable depending on waste classification and if it is transported offsite for disposal.

ARARs/TBCs	Citation or Reference	Requirements	Applicability
RCRA Land Disposal	40 CFR Part 268.32, 34-37, and subpart D,	LDRs: Establishes restrictions on land disposal unless treatment standards are met or a "no migration exemption" is granted. LDRs establish prohibitions, treatment standards, and storage limitations before disposal for certain wastes as set forth in Subparts C and D. Treatment standards are expressed either as concentration-based performance standards or as specific treatment methods. Wastes must be treated according to the appropriate standard before wastes or the treatment residuals of wastes may be disposed in or on the land. The Universal Treatment Standards establish a concentration limit for 300 regulated constituents in soil regardless of waste type.	Applicable for disposal of hazardous wastes, if the site soil is characterized as such.
Transportation	49 CFR. Part 171 Subparts A & B	Hazardous materials that may be transported offsite cannot be transported in interstate and intrastate commerce, except in accordance with the requirements of 49 CFR Part 171, Subpart C.	Applicable as any offsite transportation of hazardous waste will comply with these regulations, which involve packaging, placarding, labeling, and other shipping requirements.
Criteria for Classification of Solid Waste Disposal Facility and Practices	40 CFR 257.3	Sets standards for land disposal facilities for nonhazardous waste.	Applicable to transport and disposal of any nonhazardous waste offsite.
Hazardous Waste Management; Standards Applicable to Generators of Hazardous Waste; and Standards Applicable to Transporters of Hazardous Waste	OAC 252:205 – Oklahoma Hazardous Waste Management Rules Sections 5-5, 9-3 & 9-4	Regulates the generation, transport, storage, treatment, and disposal of hazardous wastes generated in the course of a remedial action. Regulates the construction, design, monitoring, operation, and closure of hazardous waste facilities.	Requirements under these regulations may be relevant and appropriate to transportation and disposal of wastes.
Solid Waste Management	OAC 252:515-5, 515-7-1, 515-9-1, 515-11 – 13, & 515-31	Implements the OSWMA, which provides rules for the transportation, handling, storage, and/or disposal of solid waste regulated by the OSWMA.	The requirements are applicable to the transportation, handling, storage, and/or disposal of any solid wastes generated during remedial action.
Well Driller and Pump Installer Licensing	OAC 785:35	Establishes requirements for well drilling and plugging.	Potentially applicable if installation or plugging and abandonment of groundwater monitoring wells or boreholes takes place.

ARARs/TBCs	Citation or Reference	Requirements	Applicability
Endangered Species Act of 1973	16 USC 1533-; 50 CFR 17.11-12; 17.51-52; 17.61-62; and 17.71-72	Requires remedial agency to consult with Fish and Wildlife Service if action may affect endangered species or critical habitat. Requires action to conserve endangered species within critical habitats upon which endangered species depend; includes consultation with Department of Interior.	No documentation is found to show endangered species are present at the site; however, it is TBC to confirm that determination during the soil remediation.
TBCs			
Floodplain Management	Executive Order 11988	Establishes federal policy and guidance for activities completed in floodplains	TBC since portions of the site are within a 100-year floodplain.
Protection of Wetlands	Executive Order No. 11990	Mandates that Federal agencies and potentially responsible parties avoid, to the extent possible, the adverse impacts associated with the destruction or loss of wetlands and avoid support of new construction in wetlands if a practicable alternative exists.	TBC during remedial actions since portions of the site are within or near wetlands.

Notes:
ARAR = Applicable Relevant and Appropriate Requirement.
BMP = Best Management Practice.
CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act.
CFR = Code of Federal Regulations.
ELV = Estimated Limit Value.
LDR = Land Disposal Restriction.
OAC = Oklahoma Administrative Code.
OSWMA = Oklahoma Solid Waste Management Act.
RCRA = Resource Conservation and Recovery Act.
TBC = To be considered.
TLV = Threshold Limit Values.
USC = U.S. Code.

Table 5-1. Technology Screening for Soil

General Response Action	Remedial Technology Type	Process Option	Description	Effectiveness	Implementability	Cost	Potential for Retain for Further Evaluation
No Further Action	None	None	No further action to address contaminated soil.	Will not address the remedial objectives.	None	None	Yes as baseline for evaluation process
Institutional Controls	Access and Use Restrictions	Land Use Controls	Land use restriction (i.e., deed notice or restrictive covenant) is issued for properties located in the contaminated areas.	Will minimize direct exposure to the contaminants; therefore it will address remedial objectives partially. The current and future land use of the site is residential; residential, industrial, and commercial are potential uses for the Wilcox Process Area.	Implementable	Low	**Yes**
Containment	Consolidation and Capping	Clay Cap, Synthetic Membrane, or Chemical Sealant or Stabilizers	A cap is installed to cover the contaminated area to prevent direct exposure to the contamination. Different materials can be used for the cap and typical materials include clay, synthetic membranes, and chemical sealants or stabilizers. Contaminated soil can be consolidated in one area and capped.	Will prevent direct contact and exposure to the contaminated soil, although it does not remove the source of the contamination. It will address the relevant remedial objectives.	Implementable with commercially available equipment; potential worker and community exposure to dust; institutional controls will be required to protect the cap.	Medium	**Yes**
Removal	Excavation and Disposal	Excavation and Onsite Disposal	Contaminated soil is excavated and placed in a containment repository, which may consist of a bottom liner and a cap. Bottom liner may consist of, from bottom to top a impermeable liner, leachate collection layer, a protection layer overlain by excavated contaminated soil. A cap may consist of an impermeable layer, an infiltration collection layer, and soil cover and vegetation.	Will prevent direct contact and exposure to the contaminated soil by containing the contaminated materials in a repository. It will address the relevant remedial objectives.	Implementable with commercially available equipment. Potential worker and community exposure to dust during the construction, therefore dust controls will be required. Institutional controls are required to control the future land use and protect the integrity of the containment repository.	Medium	**Yes**
		Excavation and Offsite Disposal	Contaminated soil are excavated and transported to a permitted offsite facility for disposal.	Will remove the contaminated soil from the site. It will address the relevant remedial objectives.	Implementable. Potential worker and community exposure to dust during the construction and transportation for offsite disposal, therefore dust controls will be required.	Medium	**Yes**
Treatment	*In Situ* Physical, Chemical Treatment	Stabilization/Solidification	Reagents are mixed with soil to trap, treat, or immobilize contaminants. Treatment would stabilize and prevent contaminants leaching to the groundwater. Reagents may include Portland cement, bentonite, fly ash, organoclay, and activated carbon.	Will stabilize and reduce contaminants' migration, treated soil will remain onsite; administrative controls and land use restrictions will be required.	Implementable with commercially available equipment; treatability studies are required; and potential worker exposure to contaminants is present during mixing.	High. The contaminated soil is likely not hazardous, therefore the treatment is less cost effective compared to containment technologies.	No, due to high cost and lower benefit of treating the soil compared to containment technologies.
	Biological	Landfarming	Landfarming is used for the biological treatment of contaminated soil. It consists of spreading excavated contaminated soil either directly on the ground or on a membrane with an upper protective layer to prevent contaminants from migrating to the soil underneath and to the groundwater. Mixing or tilling of the contaminated soil is normally required to blend nutrients/amendments, and distribute moisture to promote biodegradation of the contaminants. Periodical watering is also required to provide optimal condition for microbial activities.	Landfarming is typically applicable to nonvolatile and semi-volatile compounds. Biodegradation of PAHs becomes more difficult as the number of aromatic rings increase. Therefore landfarming typically is not considered to be effective for treating PAHs that contain more than four rings, i.e., benzo(a)pyrene. It is not certain if landfarming will be effective for treating lead in soil with data currently available.	Implementable, however it may take a long period of time depending on biodegradation process in the soil.	Low	No due to ineffectiveness with inorganics
		Phytoremediation	Phytoremediation is a process that uses plants to remove, transfer, stabilize, and destroy contaminants in soil and sediment. The mechanisms of phytoremediation include enhanced rhizosphere biodegradation, phyto-extraction (also called phyto-accumulation), phyto-degradation, and phyto-stabilization.	Under controlled experimental settings, a variety of plants have been shown to remediate both lead and benzo(a)pyrene in surface soil. Treatability and pilot studies would be required to determine the effectiveness of phytoremediation at the site.	Technology is potentially implementable with pilot study. However, climate, site soil type, and / or lithology characteristics may not be conducive to needed plant/tree species. Limited species are effective with metals. It may also require a long period of time compared to other technologies depending on season and temperature.	Medium	No due to the concern on implementability

Table 5-1. Technology Screening for Soil

General Response Action	Remedial Technology Type	Process Option	Description	Effectiveness	Implementability	Cost	Potential for Retain for Further Evaluation
Treatment	*Ex situ* Physical, Chemical Treatment	Excavation and Chemical Oxidation	Oxidizing agents (Fenton's reagent, permanganate, and ozone) are added into the excavated soil to promote abiotic destruction of contaminants.	Chemical oxidation will make lead and other metals become soluble, potentially causing mobilization of metals to groundwater.	Implementable	High. Can be cost prohibitive if the soil contains high organic matter.	No, due to the concern for mobilizing lead to groundwater and high cost.
		Excavation and Soil Mixing and Stabilization/Solidification	Reagents are mixed with excavated soil by a mechanical mixing device to trap, treat, or immobilize contaminants. Treated soil may be placed onsite for future applicable land use. Reagents may include Portland cement, bentonite, fly ash, organoclay, and activated carbon.	Will stabilize and reduce contaminants' migration, treated soil will remain onsite; administrative controls and land use restrictions will be required.	Implementable with commercially available equipment; treatability studies are required; and potential worker exposure to contaminants is present during excavation and mixing.	High. The contaminated soil is likely not hazardous, therefore the treatment is less cost effective compared to containment technologies.	No, due to high cost and lower benefit of treating the soil compared to containment technologies.
		Excavation and Soil Washing	Contaminants in soil are desorbed by using a solution of leaching agent, surfactant, pH-adjustment, or chelating agent to help remove the contaminants and fine materials on which the contaminants absorbed.	Will address the remedial objectives by removing the contaminants from the soil .	Complex process and produce a large quantity of process water that requires treatment. Acid reagent may be used to remove lead from soil, which increase the health and safety concern during the implementation.	High	No due to the concern on implementability.
		Excavation and Thermal Treatment	Heat is applied to the excavated soil to increase the volatility of the contaminants. An off-gas treatment will be used to treat the volatilized contaminants. *Ex situ* thermal treatment technologies include hot gas decontamination, incineration, thermal desorption, and vitrification, which use a high temperature to immobilize contaminants and produce non-toxic vitreous stabilized products.	Will destroy or remove and recover the contaminants, so it will address the remedial objectives.	Not readily implementable, treatability studies required; significant materials handling; specialized equipment and operators; extended construction/ treatment period (6-7 months); and viscous nature may require pre-treatment. If treated soil is placed onsite, beneficial use of the treated soil shall be studied for future land use, and institutional controls may be required.	High; not cost effective for the relatively low concentrations of the contaminants at the site.	No, due to complex implementation and cost.

Notes:
PAH = Polycyclic aromatic hydrocarbon

Table 6-1. Summary of Soil Alternatives

Alternative	Remedy Components			Remedial Action Objectives	
	Primary Technologies	Disposal	Institutional Controls	Prevent human exposure to the soils with concentrations of the COCs exceeding the PRGs.	Minimize and prevent migration of soil contaminants into the groundwater, surface water, and other site soils.
S-2	• Excavation • Backfill of excavation • Transportation of the soils offsite	Offsite RCRA Subtitle D Landfill	Land use restriction to industrial and commercial in the south of the Wilcox Process Area, but may be considered for residential	Prevent human exposure to the soils and prevent migration of the soil contaminants by removing the contaminated soil and disposing in a permitted landfill.	
S-3	• Excavation • Backfill of excavation • Construction of an onsite containment repository and placement of the excavated soil in the repository	Onsite containment repository	• Land use restriction to industrial and commercial in the south of the Wilcox Process Area, but may be considered for residential • IC to protect the integrity of the repository	Prevent human exposure to the soils and prevent migration of the soil contaminants by removing the contaminated soil and disposing in an onsite containment repository.	
S-4	• Excavation • Backfill of excavation • Consolidation and capping of the excavated soil onsite	Onsite capping	• Land use restriction to industrial and commercial in the south of the Wilcox Process Area, but may be considered for residential • IC to protect the integrity of the cap	Prevent human exposure to the soils and minimize migration of the soil contaminants by consolidating and capping the contaminated soil onsite.	

Notes:
COC = Chemical of concern
IC = Institutional control
PRG = Preliminary remediation goal
RCRA = Resource Conservation and Recovery Act

TABLE 7-1
EVALUATION OF SOIL REMEDIAL ALTERNATIVES

Evaluation Criteria	S-1 - No Further Action	S-2 - Soil Excavation and Offsite Disposal	S-3 - Soil Excavation and Onsite Containment Repository	S-4 - Soil Excavation, Onsite Consolidation, and Capping
1. Overall Protection of Human Health and the Environment				
How Alternative Provides Human Health and Environmental Protection	This alternative would not be protective of human health or the environment.	This alternative would protect human health and the environment by removing the contaminated soil from the site and transporting and disposing of it in an offsite permitted facility.	This alternative would protect human health and the environment by containing the contaminated soil in a containment repository constructed onsite.	This alternative would protect human health and the environment by consolidation and capping of the contaminated soil.
2. Compliance with ARARs				
Compliance with ARARs	No Action, so no rules apply.	Yes	Yes	Yes
3. Long Term Effectiveness and Permanence				
a. Magnitude of Residual Risk	Not applicable.	This alternative would permanently eliminate the risks and exposure to the soil contaminants from the site.	Once remediation is complete, because the contaminated soil still remains onsite, although contained, institutional controls and monitoring will be implemented to protect the remedy. Therefore, the residual risk would be low.	Similar to Alternative S-3, because the contaminated soil still remains onsite, although capped, institutional controls and monitoring will be implemented to protect the remedy. Therefore the residual risk would be low. Groundwater monitoring will confirm the capped contaminated soil does not leach to the groundwater.
b. Adequacy and Reliability of Controls	Not applicable.	Removal of COC-impacted soil would be a permanent solution with long-term effectiveness.	Containment of COC-impacted soil with monitoring and institutional controls of the containment would be reliable to ensure long-term effectiveness of the remedy.	Consolidating and capping COC-impacted soil with monitoring and institutional controls of the cap would be reliable to ensure long-term effectiveness of the remedy.
4. Reduction of Toxicity Mobility, and Volume Through Treatment				
a. Treatment Process Used and Materials Treated	Not applicable.	This alternative involves no treatment processes.	This alternative involves no treatment processes.	This alternative involves no treatment processes.
b. Amount of Hazardous Materials Destroyed or Treated	Not applicable.	The COCs will not be destroyed or treated.	The COCs will not be destroyed or treated.	The COCs will not be destroyed or treated.
c. Degree of Expected Reductions in Toxicity, Mobility, and Volume	Not applicable.	This alternative will reduce toxicity, mobility, and volume of the COCs with respect to onsite conditions because the contamination will be physically removed from the site, not treated.	This alternative will reduce mobility of the COCs with respect to onsite conditions because the contamination will be physically removed and placed in a containment/capped area. The toxicity and volume remain unchanged.	This alternative will reduce mobility of the COCs with respect to onsite conditions because the contamination will be physically removed and placed in a containment/capped area. The toxicity and volume remain unchanged.
d. Degree to Which Treatment is irreversible	Not applicable.	No treatment processes are used under this alternative.	No treatment processes are used under this alternative.	No treatment processes are used under this alternative.
e. Type of Residuals Remaining After Treatment	Not applicable.	No treatment processes are used under this alternative.	COC-impacted soil will remain onsite after remedial action.	COC-impacted soil will remain onsite after remedial action.

Evaluation Criteria	S-1 - No Further Action	S-2 - Soil Excavation and Offsite Disposal	S-3 - Soil Excavation and Onsite Containment Repository	S-4 - Soil Excavation, Onsite Consolidation, and Capping
5. Short Term Effectiveness				
a. Protection of Community During Remedial Actions	Not applicable.	There would be some short term risk to the community during excavation and transportation of contaminated soil (i.e., dust generation and trucks transporting waste from the site).	There would be some short term risk to the community during excavation and transportation of contaminated soil (i.e., dust generation and trucks transporting waste from the site).	There would be some short term risk to the community during excavation and transportation of contaminated soil (i.e., dust generation and trucks transporting waste from the site).
b. Protection of Workers During Remedial Actions	Not applicable.	Implementation of this alternative would pose a minimal risk to remedial workers or the environment as long as proper health and safety procedures are followed.	Implementation of this alternative would pose a minimal risk to remedial workers or the environment as long as proper health and safety procedures are followed.	Implementation of this alternative would pose a minimal risk to remedial workers or the environment as long as proper health and safety procedures are followed.
c. Environmental Impacts	Not applicable.	Engineering and administrative controls during excavation and removal activities would minimize impacts to the environment. Stormwater pollution prevention procedures will be established to prevent the surface water from being impacted.	Engineering and administrative controls during excavation and removal activities would minimize impacts to the environment. Stormwater pollution prevention procedures will be established to prevent the surface water from being impacted.	Engineering and administrative controls during excavation and removal activities would minimize impacts to the environment. Stormwater pollution prevention procedures will be established to prevent the surface water from being impacted.
d. Time Until Remedial Action Objectives are Achieved	No RAOs achieved.	Excavation and offsite disposal can be achieved in a very short time frame, typically 6 months to a year.	Excavation and onsite containment repository can be achieved in a relatively short time frame, typically 6 months to a year.	Excavation and onsite capping can be achieved in a relatively short time frame, typically 6 months to a year.
6. Implementablility				
a. Ability to Construct and Operate the Technology	Not applicable.	Removal of soil is easily implemented with conventional construction equipment, and no specialized work force is required.	Removal of soil and containment is easily implemented with conventional construction equipment, and no specialized work force is required.	Removal of soil and capping is easily implemented with conventional construction equipment, and no specialized work force is required.
b. Reliability of the Technology	Not applicable.	Excavation under this alternative is a widely proven technology that is reliable at removing COCs.	The technologies used in this alternative, excavation and capping, are reliable; and quality control and quality assurance for containment construction shall be followed to protect the remedy reliability.	The technologies used in this alternative, excavation and capping, are reliable; and quality control and quality assurance for containment construction shall be followed to protect the remedy reliability.
c. Ease of Undertaking Additional Remedial actions, if Necessary	Not applicable.	Additional remedial actions would be easily implemented if needed under this alternative (i.e., additional excavation).	Additional remedial actions would be easily implemented if needed under this alternative (i.e., additional excavation), and revised design may be required.	Additional remedial actions would be easily implemented if needed under this alternative (i.e., additional excavation).
d. Ability to Monitor Effectiveness of Remedy	Not applicable.	Confirmation samples will be easy to collect to ensure complete removal of the contaminated soil.	The effectiveness of soil excavation and containment will be easily monitored. Activities include confirmation sampling during the excavation and groundwater monitoring and periodical inspection of the repository.	The effectiveness of soil excavation and capping will be easily monitored. Activities include confirmation sampling during the excavation and groundwater monitoring and periodical inspection of the cap.
e. Ability to Obtain Approvals from Other Agencies	Not applicable.	Approvals from other agencies would likely be obtained.	Approvals from other agencies would likely be obtained.	Approvals from other agencies would likely be obtained.
f. Availability of Offsite Treatment, Storage, and Disposal Services and Capacity	Not applicable.	Offsite disposal is readily available for soil disposal.	Not required.	Not required.
g. Availability of Necessary Equipment and Specialists	Not applicable.	Equipment necessary to implement this remedy is readily available; no specialized equipment is required.	Equipment necessary to implement this remedy is readily available; no specialized equipment is required.	Equipment necessary to implement this remedy is readily available; no specialized equipment is required.
h. Availability of Prospective Technologies	Not applicable.	The technology is readily available.	The technology is readily available.	The technology is readily available.
7. Cost				
A. Total Present Worth Value	**$0**	**$3,484,412.49**	**$6,592,303.22**	**$4,809,892.62**

Notes:
ARAR = Applicable or relevant and appropriate requirement.
COC = Contaminant of concern.
RAO = Remedial Action Objective.
O&M = Operation and maintenance.

TABLE 7-2
COMPARATIVE ANALYSIS OF SOIL REMEDIAL ALTERNATIVES

Criteria	Alternative S-1	Alternative S-2	Alternative S-3	Alternative S-4
	No Further Action	**Soil Excavation and Offsite Disposal**	**Soil Excavation and Onsite Containment Repository**	**Soil Excavation, Onsite Consolidation and Capping**
Overall Protection of Human Health and the Environment	▼	▲	▲	▲
Compliance with ARARs	Not applicable	▲	▲	▲
Long-Term Effectiveness and Permanence	▼	▲	▼	▼
Reduction of Toxicity, Mobility, or Volume through Treatment	▼	▼	▼	▼
Short-Term Effectiveness	▲	▼	▼	▼
Implementability	▲	▲	▲	▲
Total Cost (30-Year Present Worth)	**$0**	**$3,356,649.95**	**$6,596,518.00**	**$4,814,108.00**

Notes:
ARAR = Applicable or Relevant and Appropriate Requirements.
▲ = In comparison with other alternatives, complies well with criteria.
▼ = In comparison with other alternatives, does not comply as well with criteria.

Appendix A

Responses to Comments on FS Report, Revision 02

EA Engineering, Science, and Technology, Inc., PBC

405 S. Highway 121 (Bypass)
Building C, Suite 100
Lewisville, TX 75067
Telephone: 972-315-3922
Fax: 972-315-5181
www.eaest.com

21 May 2021

Ms. Katrina Higgins-Coltrain
Task Order Monitor
U.S. Environmental Protection Agency (EPA)
1201 Elm Street, Suite 500, SEDRL
Dallas, Texas 75270-2102

RE: Responses to Comments on the Soil Feasibility Study Report, Revision 02
Wilcox Oil Company Superfund Site
Remedial Investigation/Feasibility Study
Remedial Action Contract 2
Contract: EP-W-06-004
Task Order: 0128-RICO-06GG

Dear Ms. Higgins-Coltrain:

EA Engineering, Science, and Technology, Inc., PBC (EA) has prepared the following responses to comments on the Soil Feasibility Study Report, Revision 02. Comments from EPA were received on 18 May 2021.

EPA Comments Received via Email on 18 May 2021

1. *2.7.2 Data Grouping and COPC Identification: It is stated that the California EPA risk-Based Screening levels were used. The EPA human Health regional screening levels (generic) were used. Please remove 'California'.*

   EA Response: The text has been revised to state that the EPA Human Health Regional Screening levels were used. The appropriate reference was also included.

2. *Figure 2-6: please revise to include all ROD areas or just use the figure from the Source ROD.*

   EA Response: Figure 2-6 has been revised to include all ROD areas.

3. *4.3, last paragraph: volume difference between residential and commercial/industrial is listed as 4,275 while section 4.5.2 lists the difference as 4,646. Please revise to the correct amount. Additionally, this may not be correct depending on the change made related to figures 2-8/2-9 and the volumes reported in 4.5.2.*

   EA Response: The volume numbers have been revised according to the changes to Figures 2-8, 2-9, and 2-11. More information about these changes can be seen in Comment #5.

4. *4.5.2: The table shows one of the industrial/commercial areas to be 110,441 and Figure 2-8 shows this to be 110,416. Please revise to the correct volume, which will also impact the rest of the table values and values listed in the text. OR, this will only cause the figure to be revised.*

   EA Response: The volume numbers have been revised according to the changes to Figures 2-8. More information about these changes can be seen in Comment #5.

5. *Figures 2-8 and 2-9*

   - *The areas along the RR-tracks appear to show the same sample exceedances, so why are the calculated volumes different?*

     EA Response: The exceedances near the railroad tracks in Figure 2-8 and 2-9 have been rechecked. After confirming the exceedances, the shapes and values of those areas were updated in Figures 2-8, 2-9, and 2-11.

   - *2-9: there appears to be an X exceeding the PRG but not included within the excavation volume boundary.*

     EA Response: Figure 2-9 has been edited to include the exceedance.

   - *2-9: change the title from 'industrial areas' to 'residential area'. This figure shows all of wilcox as residential.*

     EA Response: The title was not edited to avoid any further confusion. The industrial and residential areas are properly delineated. The use of residential or industrial PRG criteria are also properly referenced. These distinctions help explain the current use of the areas and the reason behind the PRG criteria that were applied.

6. *Figure 2-11*

   - *change the title from 'industrial areas' to 'residential area'. This figure shows all of wilcox as residential.*

     EA Response: The title was not edited to avoid any further confusion. The industrial and residential areas are properly delineated. The use of residential or industrial PRG criteria are also properly referenced. These distinctions help explain the current use of the areas and the reason behind the PRG criteria that were applied.

   - *Revise the text box to match the text in section 4.5.4.*

     EA Response: The text box has been revised to appear similar to the one in section 4.5.4.

7. *Table 7-1 is missing.*

   EA Response: Table 7-1 had been included.

8. *Cost Summary: Is this Table 7-1?*

   - *ICs and 5-yr reviews should not be included for S-2.*

   EA Response: Institutional Controls (ICs) and five-year reviews have been removed from Alternative S-2. Table 7-1 has also been attached.

9. *HH PRG Memo: If the memo was updated then it should be dated appropriately and the FS scoping meeting footer should be removed. Please update the memo with the updated date and document revision number*

   EA Response: The dates and document revision numbers have been revised in the PRG Memo.

10. *General: be mindful that any alterations of the volumes will require text edits throughout Section 6 and the cost estimates. Edits to cost estimate then affect text in same section.*

    EA Response: The volume numbers have been revised and have been changed to reflect the new volumes resulting from changes to Figures 2-8, 2-9, and 2-11. The cost estimate has also been edited to reflect these changes.

Appendix B

Technical Memorandum on Data Gap Investigation

Technical Memorandum on Data Gap Investigation
Remedial Investigation
Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma
EPA Identification No. OK0001010917

Contract: EP-W-06-004
Task Order: 0128-RICO-06GG

Prepared for
U.S. Environmental Protection Agency
Region 6
1201 Elm Street, Suite 500
Dallas, Texas 75270-2102

Prepared by
EA Engineering, Science, and Technology, Inc., PBC
405 S. Highway 121
Building C, Suite 100
Lewisville, Texas 75067
(972) 315-3922

December 2020
Revision: 02
EA Project No. 14342.128

CONTENTS

Page

LIST OF TABLES ii

LIST OF FIGURES ii

LIST OF ACRYNOMS AND ABBREVIATIONS iii

1. INTRODUCTION 1
   1.1 PURPOSE 1
   1.2 PREPARATION ACTIVITIES 1
   1.3 CHRONOLOGY OF FIELD ACTIVITIES 1

2. FIELD ACTIVITIES 2
   2.1 SAND CREEK SURVEY 2
   2.2 AQUIFER TESTING 2
   2.3 GROUNDWATER SAMPLING OF EXISTING WELLS 3
   2.4 GROUNDWATER SAMPLING VIA HYDRO-PUNCH AND TEMPORARY WELLS 3
      2.4.1 Evaluation of Hydrocarbons in Temporary Wells 4
   2.5 SURFICIAL WASTE VISUAL LOCATION AND SAMPLING 5

3. RESULTS 5
   3.1 SAND CREEK SURVEY 5
   3.2 SLUG TEST RESULTS 6
   3.3 GROUNDWATER CONTAMINATION 7
   3.4 GROUNDWATER MNA 8
   3.5 SURFICIAL WASTE CONTAMINATION 9

4. SUMMARY 9

5. REFERENCES 11

ATTACHMENT 1: SLUG TEST ANALYSES AND PLOTS
ATTACHMENT 2: FIELD NOTES
ATTACHMENT 3: TEMPORARY WELL LOGS
ATTACHMENT 4: ANALYTICAL LABORATORY REPORTS
ATTACHMENT 5: TRANSDUCER DATA (On SharePoint separately)

LIST OF TABLES

Number	Title
1	Well Construction Details and Hydraulic Head Data
2	Soil Boring Summary
3	Summary of Slug Test Results
4	Groundwater Analytical Results with Comparison to Screening Levels
5	Field Parameters, General Chemistry, Anions, and Dissolved Gases Groundwater Analytical Results
6	Surface Waste Analytical Results with Comparison to Screening Levels
7	Test Pit and Waste Characterization Summary Table

LIST OF FIGURES

Number	Title
1	Site Location Map
2	Sample Location Map August 2020
3	Groundwater and Creek Elevations August 2020
4	Distribution of NAPL
5	MCL Exceedances for Groundwater Samples
6	Tapwater RSL Exceedances for Groundwater Samples
7	MNA Indicators in Groundwater
8	Dissolved Oxygen Measurements in Groundwater
9	Total Iron Concentrations in Groundwater
10	Total Manganese Concentrations in Groundwater
11	Nitrate Concentrations in Groundwater
12	Sulfate Concentrations in Groundwater

13 Distribution of Waste Materials associated with the Lorraine and Wilcox Process Areas

14 Residential RSL Exceedances for Surface Waste Samples

LIST OF ACRYNOMS AND ABBREVATIONS

µg/L	Microgram(s) per liter
bgs	Below ground surface
DPT	Direct push technology
EA	EA Engineering, Science, and Technology, Inc., PBC
EPA	U.S. Environmental Protection Agency
ETF	East Tank Farm
ft	Foot(feet)
ft/day	Foot(feet) per day
gal	Gallon(s)
GNSS	Global Navigation Satellite System
HHRA	Human Health Risk Assessment
LDA	Loading Dock Area
LNAPL	Light non-aqueous phase liquid
LPA	Lorraine Process Area
MCL	Maximum contaminant level(s)
mg/kg	Milligram(s) per kilogram
MNA	Monitored natural attenuation
NAPL	Non-aqueous phase liquid
NTF	North Tank Farm
ODEQ	Oklahoma Department of Environmental Quality
PAH	Polycyclic aromatic hydrocarbons
PVC	Polyvinyl chloride
RSL	Regional screening level(s)
Site	Wilcox Oil Company Superfund
SVOC	Semi volatile organic compounds
TAL	Target Analyte List
VOC	Volatile organic compounds

WPA Wilcox Process Area

1. INTRODUCTION

This Technical Memorandum presents the procedures, analyses, and results for the groundwater sampling, surface waste sampling, surveying, and aquifer testing conducted by EA Engineering, Science, and Technology, Inc., PBC (EA) at the Wilcox Oil Company Superfund Site (site) (Figure 1) during the period of 10 August 2020 through 20 August 2020. This work was conducted for the U.S. Environmental Protection Agency (EPA) under Remedial Action Contract No. EP-W-06-004 (Task Order No. 0128-RICO-06GG).

1.1 PURPOSE

Groundwater sampling was conducted at existing wells and at new, temporary, locations to further delineate possible contaminant plumes at the Wilcox Process Area (WPA) and the Lorraine Process Area (LPA) (Figure 2). Surface waste samples were collected from known locations of contamination to determine toxicity and ecologic threat (Figure 2). Aquifer tests were performed at existing monitoring wells to determine site-specific hydraulic parameters necessary for developing groundwater models to evaluate remedial options for aquifer restoration. Groundwater levels in existing monitoring wells were gauged and a survey of Sand Creek was conducted to establish static water level and investigate possible communication between the groundwater and creek. This document will be used to supplement the Remedial Investigation and Feasibility Study reports.

1.2 PREPARATION ACTIVITIES

In preparation for and prior to conducting field activities, the necessary clearance of vegetation around existing monitoring wells and temporary groundwater sampling locations was performed.

1.3 CHRONOLOGY OF FIELD ACTIVITIES

The following field activities were conducted from 10 August 2020 through 20 August 2020:

Day	Date	Activities
Monday	10 August 2020	Mobilize to the site. Clear vegetation in order to access monitoring wells and hydro-punch sample locations.
Tuesday	11 August 2020	Hydro-Punch and sample WPA-GW-02. Sample MW-04 and MW-01.
Wednesday	12 August 2020	Perform survey of Sand Creek. Install all temporary wells. Sample MW-03 and MW-05.
Thursday	13 August 2020	Sample temporary wells. Sample MW-02 and MW-06.
Friday	14 August 2020	Sample temporary wells.
Monday	17 August 2020	Slug test MW-04 and MW-05.
Tuesday	18 August 2020	Sample GW-13-119. Slug test MW-01 and MW-06. Bail down test MW-03. Collect surface waste samples.

Wednesday	19 August 2020	Bail down/pump down test MW-02. Collect surface waste samples.
Thursday	20 August 2020	Sample GW-13-195. Collect surface waste samples. Demobilize.

2. FIELD ACTIVITIES

2.1 SAND CREEK SURVEY

Surface water elevations were recorded at five locations in Sand Creek along the southern edge of the LPA and the WPA (Figure 3). Surface elevations were recorded using a Global Navigation Satellite System (GNSS) receiver. The location and frequency of the points collected was limited due to poor satellite reception, as tree coverage impeded the devices ability to continuously record data. To investigate possible communication between the site groundwater and Sand Creek, groundwater elevations in the six existing monitoring wells (MW-01 through MW-06) were measured by electronic sounder prior to conducting groundwater sampling (Table 1).

2.2 AQUIFER TESTING

Single-well slug tests were conducted on two-inch monitoring wells MW-01, MW-04, MW-05 and MW-06. The "slug" utilized for these tests was a weighted polyvinyl chloride (PVC) rod with a volume of 0.22 gallons (gal). During each test, water-level rise during the "slug in" and water level recovery after the "slug out" was monitored using data-logging pressure transducers (automated) and, when possible, using a water level indicator (manually) as back up. The transducers were placed in each well prior to the start of each test, being set and securely supported near the bottom of the well. The transducers were capable of measuring water levels to within an accuracy of 0.01 foot (ft).

Bail down tests were conducted on wells MW-02 and MW-03 due to insufficient amount of water necessary to conduct a slug test. The wells were manually bailed dry and then allowed to recover with an automated data-logging transducer recording the resulting water level rise. The transducers were placed in each well prior to the start of each test, being set and securely supported near the bottom of the well. The transducers were capable of measuring water levels to within an accuracy of 0.01 ft.

The transducers were calibrated against the water level as measured from the top of casing with the electric sounder, and the data logger was set to record water level measurements at an interval appropriate for analysis. The slug was placed approximately three feet below the static water level and water levels were recorded manually and with the transducers. The slug was not pulled out of the well until the water level had recovered sufficiently (98% of the static water level or greater) from the "slug in" aspect of the test.

Data recorded during the tests included clock time, elapsed time since placement/removal of the slug, depth to water, and the maximum displacement that occurred during each test. As determined using transducer data, displacement was utilized in the 95% recovery determination during each test. Data was downloaded from the transducer at the end of both the placement and removal of the slugs using WinSitu® Software, version 5.6.25.0. Attachment 1 presents the slug test analyses and plots.

2.3 GROUNDWATER SAMPLING OF EXISTING WELLS

Groundwater samples were collected from six existing monitoring wells (MW-01 through MW-06) along with both the upper and lower screen intervals of GW-13 (119 and 195 ft below ground surface [bgs]) (Figure 2). Groundwater samples were collected via the low flow sampling technique. The wells were sampled post stabilization of water quality parameters for the analysis of volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs), polycyclic aromatic hydrocarbons (PAHs), total and dissolved target analyte list (TAL) metals (including mercury), and monitored natural attenuation (MNA) parameters.

Prior to purging and sampling, groundwater levels were measured with a water level indicator or interface probe (Table 1). In well MW-04, an interface probe was used to measure approximately 0.15 feet of light non-aqueous phase liquid (LNAPL). A hydrocarbon odor was noted at MW-02 and MW-03; however, no LNAPL was detected with an interface probe. Field documentation for parameter stabilization and sampling of well locations is presented in Attachment 2.

2.4 GROUNDWATER SAMPLING VIA HYDRO-PUNCH AND TEMPORARY WELLS

Initially, hydro-punch technology (using a four-foot stainless steel screen advanced by direct push technology [DPT] to sample groundwater) was to be used at all groundwater collection points outside of existing, cased wells. This method was used to sample groundwater at WPA-GW-02, taking approximately four hours to advance the screen and collect the sample. It was decided that this method of sample collection was inefficient and that temporary monitoring wells would be installed at the remaining pre-determined sample locations. Shallow refusal along with physical inaccessibility issues required the proposed well locations to be adjusted and ultimately prevented the installation of multiple planned sample locations; nine of eleven identified locations were able to have temporary wells successfully installed (Figure 2):

- LPA-GW-01, -02, and -03
- WPA-GW-01, -04, -05, -06, -07, and -09

Wells WPA-GW-03 and WPA-GW-08 were not installed due to refusal during drilling. Well WPA-GW-05 was located approximately 25 feet from well WPA-GW-08 resulting from efforts to establish a temporary well in an area that was continually met with refusal.

Temporary monitoring wells were installed via the DPT drilling method. As drilling advanced, soil core was continuously collected in clear PVC sleeves. The field geologist logged the soil core in accordance with the Unified Soil Classification System. Soil color was determined using a Munsell Color Chart. During logging, the field geologist made olfactory and visual observations, and recorded these data on boring log forms (Attachment 3). The temporary wells were constructed with one-inch diameter Schedule 40 PVC flush thread joint casing, and ten feet of Schedule 40 PVC 0.010-inch machine slotted screen. No filter pack or bentonite seal was placed in the annulus. A one-inch well cap was placed on top. Due to the low permeability of the aquifer, groundwater did not readily enter the well. As a result, the wells could not be developed, however groundwater samples were collected. After the wells were sampled, at the direction of EPA, the temporary wells were left in place.

During installation, hydrocarbon product staining was observed in the sample cores of WPA-GW-05, 06, 07, 09 and LPA-GW-01. Product observed was black to grey with a strong hydrocarbon odor accompanied by a visible sheen and free non-aqueous phase liquid (NAPL). Field boring logs are presented in Attachment 3. Table 2 summarizes all soil borings that have occurred at the site. Table 1 summarizes all monitoring and temporary wells installed at the site.

Groundwater samples were collected from temporary wells using a peristaltic pump and after a single preliminary reading of water quality parameters rather than after low-flow stabilization. This was due to the slow recharge rate and limited hydraulic production of the temporary wells along with the inability to measure the water level within the well due to the small diameter well casing (one-inch) used. Temporary wells WPA GW-01, 04, and 06 had notably slow recharge rates and were sampled over a 24-hour period in order to satisfy sample volume requirements. WPA-GW-05 and LPA-GW-03 were both advanced to refusal with screened casing installed but were insufficiently deep to allow groundwater incursion into the borehole. All samples collected from hydro-punch and temporary wells were submitted for analysis of VOCs, SVOCs, PAHs, total and dissolved TAL metals (including mercury), and MNA parameters. Field documentation for sampling of well locations is presented in Attachment 2.

2.4.1 Evaluation of Hydrocarbons in Temporary Wells

During installation of temporary monitoring wells, soil cores were collected and logged with depth and nature of any visible hydrocarbon contamination noted. The following temporary well locations displayed noticeable evidence of contamination:

> **WPA-GW-05:** Tar sand mixture at 6 to 8 ft bgs. Black product present from 11 to 16 ft bgs. This temporary well did not have groundwater incursion and was not sampled.
>
> **WPA-GW-06:** Tar and petcoke on the surface down to approximately 1 ft bgs. Product was present from 8 to 9 feet with fine stringers product present within the last 3-inches. When groundwater was sampled from this location, visual confirmation of light and heavy hydrocarbons was noted.

WPA-GW-07: Hydrocarbon product detected in clay at 13 to 17 ft bgs. LNAPL (black product) noted at 22 to 24 ft bgs. A very noticeable hydrocarbon odor was noticed during sampling.

WPA-GW-09: Hydrocarbon black product, sheen and odor detected from 9 to 15 ft bgs.

LPA-GW-01: Product observed at 7 to 9 ft bgs and again at 12 to 14 ft bgs.

Figure 4 displays the distribution of hydrocarbon sheen and product identified in these temporary monitoring well soil borings as well as from prior assessments of soil samples and monitoring wells in the WPA and the LPA. Table 2 describes the locations and description of NAPL/product present in each borehole installed at the site.

2.5 SURFICIAL WASTE VISUAL LOCATION AND SAMPLING

Surface waste samples were collected from previously noted areas of the WPA, LPA, East Tank Farm (ETF), North Tank Farm (NTF) and Loading Dock Area (LDA) where there was clear indication of surface staining or apparent solid waste (Figure 2). Samples were collected slightly below the surface to account for physical weathering and ultraviolet degradation that would impede accurate analysis of the material. Samples were analyzed for SVOCs, PAHs, and TAL metals (including mercury). Field forms are provided in Attachment 2 and laboratory analytical results are provided in Attachment 4. In addition to surface waste sample collection, both WPA and LPA were visually assessed for surface waste.

3. RESULTS

3.1 SAND CREEK SURVEY

Based on the survey data, the average surface water elevation along Sand Creek and south of the LPA and the WPA is approximately 767.0 feet above mean sea level (Figure 3). The surface water elevation decreases with the direction of flow, from north to south, at a gradient of approximately 0.002 foot per foot. Groundwater elevations measured in existing monitoring wells show site groundwater flow to be towards Sand Creek. There is an approximately 7 to 8-foot difference in elevation between the groundwater elevation and Sand Creek, and it appears groundwater is moving through soil perched on bedrock, where it discharges as seepage faces on the streambank. This flow is ephemeral in response to precipitation, infiltration, recharge, and groundwater movement. Much of the year the seeps are dry. The elevated iron in groundwater (as discussed in Sections 3.3 and 3.4) is oxidized by iron oxidizing bacteria at these seepage faces creating a visible iron red gelatinous slime. The rate of seepage does not appear to form a significant volumetric discharge of groundwater to surface.

This information combined with sediment and surface water results collected during the Remedial Investigation further confirm the conclusions of the Human Health Risk Assessment (HHRA). Sediment and surface water samples collected during the RI indicate that there has not

been appreciable impact to Sand Creek downstream of the WPA (EA 2020). The HHRA (EA 2020) concluded that there are no potential human health concerns for exposure to surface water and sediment within Sand Creek. Chemicals in sediment and surface water may pose a risk to aquatic and benthic organisms in Sandy Creek (total PAHs and manganese) (EA 2020).

A discussion of hydraulic conductivity, movement of groundwater, and potential discharge to Sand Creek is provided below.

3.2 SLUG TEST RESULTS

Data from the slug tests were analyzed using the software program AQTESOLV. Table 3 summarizes the slug test results. The Bouwer-Rice (1976) method was used for the analysis. The Bouwer-Rice method is applied to the recovery period of a well after the rapid removal of a slug of water, making it the appropriate method for the tests performed in the shallow unconfined aquifer conditions present. Note that only "slug out" data was analyzed, as the rapid removal of a slug and the subsequent recovery of the well is more appropriate for analyses in wells screened in shallow aquifers.

MW-01, displayed a hydraulic conductivity of 0.24 feet per day (ft/day) along with a transmissivity of 21.6 gal per ft/day. MW-01 has a 10-foot screen section installed from 7 to 17 ft bgs, in sandy clay above the site's predominant sandstone unit. The hydraulic conductivity and transmissivity of this well are as expected considering the height of the water column and lithology of the well.

MW-02, did not have a sufficient volume of water to perform an accurate slug test.

MW-03, did not have a sufficient volume of water to perform an accurate slug test.

MW-04, displayed a hydraulic conductivity of 0.07 ft/day along with a transmissivity of 15.1 gal per ft/day. MW-04 has a 20-foot screen section installed from 18 to 38 ft bgs, in clay and sandy clay. The hydraulic conductivity and transmissivity of this well are as expected considering the height of the water column and lithology of the well.

MW-05, displayed a hydraulic conductivity of 0.64 ft/day along with a transmissivity of 134.1 gal per ft/day. MW-05 has a 20-foot screen section installed from 17 to 37 ft bgs, in sandy clay. The hydraulic conductivity and transmissivity of this well are higher than expected when compared to MW-04, which is characteristically similar in lithology and water column height.

MW-06, displayed a hydraulic conductivity of 0.29 ft/day along with a transmissivity of 43.7 gal per ft/day. MW-06 has a 20-foot screen section installed from 30 to 50 ft bgs, in sandy clay. The hydraulic conductivity and transmissivity of this well are as expected considering the height of the water column and the lithology of the well.

The geometric hydraulic conductivity using MW-01, MW-05 and MW-06, which are considered representative of zones that transmit groundwater at the site, is 0.35 ft/day. For the measured hydraulic gradient of 0.002 ft/ft, and an assumed effective porosity of 0.2, the calculated seepage

velocity is 0.0035 ft/day, or 1.3 feet per year. If a retardation factor for benzene of 2 to 3 is assumed, benzene seepage velocity is 0.4 to 0.7 feet per year.

This minimal flux of groundwater at the site is supported by anoxic conditions which are observed in the MNA parameters, including elevated manganese and iron in groundwater which are in turn oxidized at the point of discharge on the stream banks. The Darcy velocity is only 0.007 ft/day, 0.26 ft/year. For an assumed aquifer thickness of 10 feet, the discharge at sand creek would be 260 cubic feet per year per 100 linear feet of stream bank, or 0.0037 gallons per minute (0.01 L/min). This low discharge is what is observed in seeps, and accounts for the lack of significant impacts to sediment and surface water. Petroleum constituents and metals would be oxidized at these seepage faces.

3.3 GROUNDWATER CONTAMINATION

Groundwater analytical results for VOCs, SVOCS, PAHs, and TAL metals at all sampled wells are presented in Table 4. Concentrations are shown in comparison to the EPA National Primary Drinking Water Regulation Maximum Contaminant Levels (MCLs) and Resident Tapwater Regional Screening Levels (RSLs). Figure 5 displays the analytes exceeding their respective MCL and Figure 6 displays the analytes exceeding their respective Tapwater RSL. Laboratory analytical reports are located in Attachment 4.

Benzene is the predominant VOC exceeding its MCL, with a partially defined benzene plume containing wells MW-04, WPA-GW-02, and WPA-GW-07 (Figure 5). In comparison to the MCL of 5 micrograms per liter (µg/L), the benzene concentrations for MW-04, WPA-GW-02, and WPA-GW-07 are 2,800, 1,500, and 140 µg/L, respectively. The benzene plume is not a defined upgradient of well MW-04. Other VOCs exceeding their MCLs include 1,1,2-trichloroethane, 1,2-dibromo-3-chloropropane, ethylbenzene, tetrachloroethene, and toluene; exceedances of each analyte occurred only once. Exceedances of the Tapwater RSLs occur for an additional four VOC analytes (Figure 6).

Benzo[a]pyrene exceeds its MCL in well WPA-GW-02, with a benzo[a]pyrene concentration of 0.62 µg/L in comparison to the MCL of 0.2 µg/L. No other SVOCs or PAHs exceed their MCLs. In comparison to the Tapwater RSLs, exceedances of naphthalene are prevalent (Figure 6).

For metals, total arsenic and lead concentrations commonly exceed their MCLs. Two lead plumes can be partially defined, with one containing wells LPA-GW-01 and LPA-GW-02 and the other containing wells WPA-GW-02, WPA-GW-06, WPA-GW-07, WPA-GW-09, and GW-13 (Figure 5). The greatest lead concentration of 147 µg/L was identified in well WPA-GW-06 (MCL=15 µg/L). Arsenic above the MCL is widespread and is not defined (Figure 5). An additional six metals, including iron and manganese, exceed the Tapwater RSLs (Figure 6).

3.4 GROUNDWATER MNA

To assess if NA is occurring at the site, groundwater parameters (i.e., dissolved oxygen, oxidation reduction potential) and the following groundwater analytes were analyzed: ferrous iron, total iron, total manganese, nitrate, sulfate, carbon dioxide, and methane, tables 4 and 5 present these data. Additionally, Figure 7 displays these data and Figures 8 through 12 display contoured concentrations of dissolved oxygen, total iron, total manganese, nitrate, and sulfate, respectively. It should be noted that field parameter readings from the temporary wells were collected from the first purge due to slow recharge, which was found to be turbid. Groundwater samples were field filtered only for the dissolved metals analysis. As a result, the temporary wells were not used to assess MNA.

In order to implement MNA at the site, the Oklahoma Department of Environmental Quality (ODEQ) in its MNA Guidance (ODEQ 2019) requires *"Full delineation of the contaminant plume, including sentinel wells that are below the maximum contaminant level (MCL), is needed. It must be demonstrated that conditions conductive to natural attenuation exist and attenuation is occurring. A steady or decreasing plume front must be established."* It is further recommended that *"An approved monitoring well network would normally be sampled quarterly for at least two years to establish baseline trends."* Based on this guidance, additional plume delineation, establishment of a permanent monitoring network, and additional groundwater monitoring are required.

Based on the low dissolved oxygen, low oxidation reduction potential, and the elevated manganese and iron concentrations present, particularly in wells MW-01, MW-04, and MW-05, anoxic or anerobic conditions are present within the aquifer. At MW-04, sulfate has been totally depleted indicating virtually no assimilative capacity for continued sulfate reduction; however, the presence of methane indicates that methanogenesis is ongoing. Conditions at the site are highly reducing. The carbon dioxide observed may be from methane oxidation taking place at the phreatic surface via soil gas transfer and limited infiltration of oxygenated rainfall. It is not thought that significant aerobic degradation of fuel hydrocarbons is ongoing.

To determine whether NA of benzene in groundwater is occurring at sufficient rates, additional monitoring will be required to 1) verify plume stability, 2) continue to evaluate MNA parameters and possible destruction pathways, and 3) evaluate first order decay rate of benzene. Because MW-4 contains NAPL, the decay rate may prove insufficient to result in cleanup in a timely manner. Moreover, per ODEQ MNA Guidance (ODEQ 2019), *"DEQ rarely approves MNA as a sole remedy. Source identification and removal, including free-product removal, should be parts of an overall remedy and may accelerate natural attenuation."*

Hot spot treatment of NAPL and residual NAPL (e.g., source removal) with oxidant in the MW-4 area may be required to eliminate persistent source. Then, MNA may proceed at sufficient rate to achieve to remedial action objectives for groundwater. The use of oxidant would prevent continued mobilization of reduced metals, including arsenic.

Furthermore, the groundwater results show sulfate and nitrate concentrations have been reduced which indicates overall groundwater condition is slightly reducing to moderately reducing. The reducing condition may cause metals to become dissolved and as a result, both iron and manganese have elevated concentrations.

3.5 SURFICIAL WASTE CONTAMINATION

The WPA and the LPA were assessed visually for waste present on the surface. One narrow area of surface waste was identified on the eastern side of the LPA and two areas of waste were identified within the central area of the WPA. Figure 13 shows the locations of the observed waste.

Surface waste analytical results for SVOCs, PAHs, and TAL metals at all sampled locations are presented in Table 6. Concentrations are shown in comparison to the EPA RSLs for the Resident Soil and Industrial Soil scenarios, as well as an ecological soil screening level defined as the lower value from either the Risk Assessment Information System database or the EPA Ecological Soil Screening Level. Figure 14 displays the analytes exceeding their respective Resident Soil RSL. Laboratory analytical reports are located in Attachment 4. Table 7 summarizes field observations and laboratory results from the surface waste samples collected during this event, along with test pit and waste characterization activities from prior events.

Benzo[a]pyrene exceeds its Residential Soil RSL of 0.11 milligrams per kilogram (mg/kg) in all four samples collected from the WPA, as well as one sample from the LPA and one sample from the ETF (Figure 14). The sample from WPA-SA-04 has the greatest benzo[a]pyrene concentration (390 mg/kg) and the adjacent sample WPA-SA-03 has the second greatest concentration (40 mg/kg). In the samples where the benzo[a]pyrene Residential Soil RSL is exceeded, additional PAHs (including: benzo[a]anthracene, benzo[b]fluoranthene, benzo [k]fluoranthene, chrysene, dibenz[a,h]anthracene, dibenzofuran, fluoranthene, indeno[1,2,3-c,d]pyrene, naphthalene, and pyrene) may also exceed their respective Residential Soil RSLs. No SVOCs exceed their respective Residential Soil RSLs.

Arsenic exceeds its Residential Soil RSL of 0.68 mg/kg at every sample location (Figure 14). The greatest arsenic concentration identified was 22.3 mg/kg at sample location ETF-SA-08. Lead exceeds its Residential Soil RSL of 400 mg/kg at sample location WPA-SA-04 with a concentration of 945 mg/kg.

4. SUMMARY

The following summarizes the activities and results of the August 2020 field events:

- The Sand Creek survey indicates that Sand Creek is 7 to 8 feet below the groundwater elevation, with the groundwater flow direction toward Sand Creek. Groundwater is moving through soil perched on bedrock and discharging as seepage faces on the streambank.

- The slug tests indicate that the hydraulic conductivity in the wells tested ranges from 0.07 ft/day to 0.64 ft/day and the transmissivity ranges from 15.1 gal/ft/day to 134.1 gal/ft/day.

- Benzene contamination is present in groundwater above the MCL in wells MW-04, WPA-GW-02, and WPA-GW-07. The benzene plume is not a defined upgradient.

- Arsenic is present in all wells sampled and is above the MCL, except for MW-02, MW-03, GW-13, WPA-GW-02, WPA-GW-04, WPA-GW-09. The arsenic groundwater plume is not defined.

- Lead contamination in groundwater above the MCL is present in two wells at LPA and five wells at WPA and is not defined.

- To determine whether NA is occurring in groundwater additional data is required to 1) verify plume stability, 2) continue to evaluate MNA parameters and possible destruction pathways, and 3) evaluate first order decay rate of benzene.

- Based on visual observation, there is one area of waste present at the LPA and two areas of waste at the WPA. This is in addition to the areas of waste identified during the Remedial Investigation.

- Benzo[a]pyrene is present above the Residential Soil RSL in all four surface waste samples collected from the WPA, one surface waste sample collected from the LPA, and one surface waste sample collected from the ETF. Additional PAHs are present above their Residential Soil RSLs at these locations.

- Arsenic is present above the Residential Soil RSL in all surface waste samples and lead is present above the Residential Soil RSL at WPA-SA-04.

5. REFERENCES

Bouwer, H. and R.C. Rice. 1976. *A Slug Test Method for Determining Hydraulic Conductivity of Unconfined Aquifers with Completely or Partially Penetrating Wells*. Water Resources Research. 12(3): 423-428.

EA Engineering, Science, and Technology, Inc., PBC (EA). 2020. *Remedial Investigation Report Wilcox Oil Company Superfund Site, Bristow, Creek County, Oklahoma*. October.

Oklahoma Department of Environmental Quality (ODEQ). 2019. *Monitored Natural Attenuation. https://www.deq.ok.gov/wp-content/uploads/deqmainresources/ MonitoredGroundWater_11-2019.pdf.* November 20.

TABLES

Table 1 Well Construction Details and Hydraulic Head Data

Well ID Number	Installation Date	Well Coordinates		Well Construction				Screened Interval (ft bgs)		Filter Pack Interval (ft bgs)		Elevation Data	Ground Water Measurements								
		Northing	Easting	Diameter (inches)	Riser Height (ft)	Well Screen Length (ft)	Total Depth (TOC; ft)	Top	Bottom	Top	Bottom	TOC Elevation (ft msl)	Date Measured	Depth to Water (ft btoc)	Depth to Water August 2020 (ft btoc)	Depth to LNAPL (ft bgs)	Depth to LNAPL (ft btoc)	LNAPL Elevation (ft msl)	LNAPL Thickness (ft)	Groundwater Elevation December 2020 (ft msl)	Groundwater Elevation August 2020 (ft msl)
Monitoring Wells																					
MW-01	11/26/2018	310757.5977	2446564.914	2	3.00	10.00	17.00	7.00	17.00	5.00	17.00	797.44	12/18/2018	4.84	7.51	----	----	----	----	792.60	789.93
MW-02	11/26/2018	310229.587	2446659.569	2	3.00	10.00	16.00	6.00	16.00	4.00	16.00	796.05	12/18/2018	15.97	15.38	----	----	----	----	780.08	780.67
MW-03	11/29/2018	310426.7162	2446709.951	2	3.00	5.00	12.50	7.50	12.50	5.50	12.50	802.56	12/18/2018	7.56	11.23	----	----	----	----	795.00	791.33
MW-04	11/27/208	310351.120	2447484.243	2	3.00	20.00	38.00	18.00	38.00	16.00	38.00	796.75	12/18/2018	14.19	12.78	NA	12.63	----	0.15	782.56	783.97
MW-05	11/28/2018	309911.667	2447009.597	2	3.00	20.00	37.00	17.00	37.00	15.00	37.00	789.90	12/18/2018	12.49	11.40	----	----	----	----	777.41	778.50
MW-06	11/28/2018	309703.723	2447147.112	2	3.00	20.00	50.00	30.00	50.00	28.00	50.00	786.03	12/17/2018	12.73	10.23	----	----	----	----	773.30	775.80
Temporary Wells[2,3]																					
LPA-GW-01	8/12/2020	310433.003	2446591.664	1	3.00	10.00	14.00	4.00	14.00	----	----	----	----	----	----	----	----	----	----	----	----
LPA-GW-02	8/12/2020	310418.462	2446695.167	1	3.00	10.00	15.00	5.00	15.00	----	----	----	----	----	----	----	----	----	----	----	----
LPA-GW-03	8/12/2020	310436.636	2446820.494	1	3.00	10.00	15.00	5.00	15.00	----	----	----	----	----	----	----	----	----	----	----	----
WPA-GW-01	8/12/2020	309774.510	2446945.677	1	3.00	10.00	25.00	15.00	25.00	----	----	----	----	----	----	----	----	----	----	----	----
WPA-GW-04	8/12/2020	310227.154	2447665.658	1	3.00	10.00	12.00	2.00	12.00	----	----	----	----	----	----	----	----	----	----	----	----
WPA-GW-05	8/12/2020	310387.701	2447574.548	1	3.00	10.00	22.00	12.00	22.00	----	----	----	----	----	----	----	----	----	----	----	----
WPA-GW-06	8/12/2020	310230.578	2447364.175	1	3.00	10.00	9.00	0.00	9.00	----	----	----	----	----	----	----	----	----	----	----	----
WPA-GW-07	8/12/2020	310365.899	2447788.960	1	3.00	10.00	24.00	14.00	24.00	----	----	----	----	----	----	----	----	----	----	----	----
WPA-GW-09	8/12/2020	310572.018	2447804.954	1	3.00	10.00	15.00	5.00	15.00	----	----	----	----	----	----	----	----	----	----	----	----
Private Supply Wells																					
GW-03	3/28/2014	310697.0359	2449186.735	5	3.00	20.00	122.00	102.00	122.00	21.00	122.00	NA	----	NA	----	----	----	----	----	NA	NA
GW-04	NA	310549.7245	2449448.692	NA	NA	NA	NA	NA	NA	NA	NA	NA	----	NA	----	----	----	----	----	NA	NA
GW-06	NA	311036.7706	2449074.225	NA	NA	NA	NA	NA	NA	NA	NA	NA	----	NA	----	----	----	----	----	NA	NA
GW-07	NA	311053.4372	2449148.176	NA	NA	NA	NA	NA	NA	NA	NA	NA	----	NA	----	----	----	----	----	NA	NA
GW-08	NA	309156.2957	2449119.086	NA	NA	NA	NA	NA	NA	NA	NA	NA	----	NA	----	----	----	----	----	NA	NA
GW-09	NA	308250.5617	2449960.056	NA	NA	NA	NA	NA	NA	NA	NA	NA	----	NA	----	----	----	----	----	NA	NA
GW-10 [1]	NA	310526.3426	2446629.331	4	NA	75.00	92.00	15.00	90.00	NA	NA	NA	9/22/2016	28.79	----	NA	28.65	NA	0.14	NA	NA
GW-12	NA	312138.3407	2447546.445	NA	NA	NA	NA	NA	NA	NA	NA	NA	----	NA	----	----	----	----	----	NA	NA
GW-13-119	NA	310119.6544	2447814.324	4	NA	10.00	205.00	114.00	124.00	NA	NA	NA	9/22/2016	17.60	16.68	----	----	----	----	NA	NA
		310119.6544	2447814.324							NA	NA		12/19/2018	20.04	----	----	----	----	----	NA	NA
GW-13-195	NA	310119.6544	2447814.324	4	NA	NA	205.00	NA	205.00	NA	NA	NA	12/19/208	20.04	----	----	----	----	----	NA	NA
GW-14	2/4/2013	310596.0665	2448775.293	5	3.00	19.00	110.00	91.00	110.00	20.00	110.00	NA	9/22/2016	22.64	----	----	----	----	----	NA	NA
													12/19/2018	18.41	----	----	----	----	----	NA	NA
GW-17	NA	308194.3698	2450007.792	NA	NA	NA	NA	NA	NA	NA	NA	NA	----	NA	----	----	----	----	----	NA	NA

NOTE:
[1]GW-10 was determined to contain LNAPL during geophysical logging and groundwater sampling activities conducted in September 2016. This well was plugged and abandoned in April 2017.
[2]Northing and Eastings were recorded using a Global Naviagtion Satelitte System reciever.
[3]Hydro-punch technology was used to sample groundwater at WPA-GW-02, thus no well was installed. Shallow refusal prevented the installation of wells WPA-GW-03 and WPA-GW-08.
btoc = Below top of casing.
bgs = Below ground surface.
ft = Feet.
LNAPL = Light non-aqueous phase liquid.
msl = Mean sea level.
NA = Not available.
TOC = Top of casing.

Table 2 Soil Boring Summary

Sample Location	Total Depth (ft)	Depth of Refusal (if applicable)	Lithology Encountered at Boring Termination	Groundwater Encountered?	Top of Moisture Zone (ft bgs)	Bottom of Moisture Zone (ft bgs)	Was Waste Material Encountered?	Top of Waste Material (ft bgs)	Bottom of Waste Material (ft bgs)	Description of Waste Material	Deepest Exceedance of Benzo(a)pyrene (ft bgs)	Concentration (mg/kg)	Deepest Exceedance of Lead (ft bgs)	Concentration (mg/kg)
LORRAINE PROCESS AREA SOIL BORING SOIL SAMPLES														
LPA-SB-01	3	3	Sand	Moist to wet	2	3	No	--	--	--	No Exceedance	--	No Exceedance	--
LPA-SB-02	18	18	Dry Clay with Sandstone Fragments	Wet	10	15	Yes	10	15	Hydrocarbon odor and visible sheen in interval.	No Exceedance	--	No Exceedance	--
LPA-SB-03	18	18	Clay	Moist to Wet	8	13.25	No	--	--	--	No Exceedance	--	No Exceedance	--
LPA-SB-04	15	15	Silty Clay	Moist to Saturated	5	13.8	Yes	0	13.8	0-5 ft - sheen with strong odor; 5-10 ft - some odor; 10-13.8 ft. stong odor with strong sheen at 10-12 ft.	No Exceedance	--	No Exceedance	--
LPA-SB-05	7.5	7.5	Silty Clay	No	--	--	No	--	--	Noticeable order at bottom of boring.	No Exceedance	--	No Exceedance	--
LPA-SB-06	5.5	5.5	Sand	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
LPA-SB-07	12	12	Cemented Siltstone/Silty Shale	No	--	--	No	--	--	--	0.5	0.16	No Exceedance	--
LPA-SB-08	17.5	17.5	Silty Sandstone with Clay	Yes	8	15	Yes	8	15	8 ft. slight sheen ; 12-15 ft. free product (black liquid).	2.00	0.36	No Exceedance	--
LPA-SB-09	15	--	Silt/Sand with Clay	Moist to wet	4.5	11	Yes	4.5	11	4.5-5 ft. slight sheen and odor; 7-11 ft. odor strengthens with depth.	12.00	0.14	No Exceedance	--
LPA-SB-10	9	9	Sand	Yes	7.5	9	Yes	7.5	9	7.5-8 ft. discolored sand with odor; at 9 ft. discolored sand with strong odor.	No Exceedance	--	6.0	972
LPA-SB-11	2	2	Sandstone	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
LPA-SB-12	12.5	12.5	Sand	Moist	5	11.5	Yes	5	12.5	5-11.5 ft. slight odor; 11.5-12.5 ft. some odor and sheen.	0.5	0.58	No Exceedance	--
LPA-SB-13	14	14	Clay	Yes	13.5	13.5	Yes	6	12.5	6 ft. odor; 8-9 ft. visible product in liner; 12.5 ft. black discoloration.	No Exceedance	--	No Exceedance	--
LPA-SB-14	14	14	Sand	Yes	11.75	11.75	No	--	--	--	0.5	1.8	No Exceedance	--
LPA-SB-15	18	18	Sand	Yes	13	18	Yes	13	18	13 ft. strong odor; 15-18 ft. very strong odor.	No Exceedance	--	No Exceedance	--
LPA-SB-16	10.5	10.5	Sand	Yes	1	10.5	Yes	4	5	4-5 ft. wet with odor and sheen.	No Exceedance	--	No Exceedance	--
LPA-SB-17	8	8	Sand	Yes	6	8	Yes	5	7	5-6 ft. sheen and gasoline odor; 6-7 ft. odor and some discoloration.	No Exceedance	--	2.0	1,760
LPA-SB-18	17	17	Sand	Moist	14	17	Yes	15	17	15-17 ft. some odor.	No Exceedance	--	No Exceedance	--
LPA-SB-19	12.5	12.5	Clay	Yes	0.5	8	Yes	5	12.5	5-8 ft. odor; 10-12.5 ft. some odor.	No Exceedance	--	No Exceedance	--
LPA-SB-20	6	6	Sandstone	No	--	--	No	--	--	--	No Exceedance	--	0.5	20,800
LPA-SB-21	8.5	8.5	Sandy Clay	Moist to wet	3	8	No	--	--	--	6.0	0.22	No Exceedance	--
LPA-SB-22	18	18	Sand	Yes	0	18	No	--	--	--	No Exceedance	--	No Exceedance	--
LPA-SB-23	28.5	28.5	Sandy Clay	Yes	15	28.5	No	--	--	--	No Exceedance	--	No Exceedance	--
LPA-SB-24	20	20	Sand	Moist to Wet	13	20	No	--	--	--	No Exceedance	--	No Exceedance	--
LPA-SB-25	15	15	Sand	Yes	10	15	Yes	3	5	3-5 ft. some black streaks.	No Exceedance	--	No Exceedance	--
LPA-SB-26	17.5	17.5	Sandstone	Yes	13.5	17.5	No	--	--	--	No Exceedance	--	No Exceedance	--
LPA-SB-27	16	16	Silt/Sand and Clay	Yes	4.5	14.5	No	--	--	--	No Exceedance	--	0.5	1190
LPA-SB-28	6.25	6.25	Sandy Clay	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
LPA-SB-29	16.5	16.5	Silty Sand	Yes	1.5	16.5	No	--	--	--	No Exceedance	--	No Exceedance	--
LPA-SB-30	17	17	Sand	Yes	6	17	No	--	--	--	No Exceedance	--	No Exceedance	--

Table 2 Soil Boring Summary

Sample Location	Total Depth (ft)	Depth of Refusal (if applicable)	Lithology Encountered at Boring Termination	Groundwater Encountered?	Top of Moisture Zone (ft bgs)	Bottom of Moisture Zone (ft bgs)	Was Waste Material Encountered?	Top of Waste Material (ft bgs)	Bottom of Waste Material (ft bgs)	Description of Waste Material	Deepest Exceedance of Benzo(a)pyrene (ft bgs)	Concentration (mg/kg)	Deepest Exceedance of Lead (ft bgs)	Concentration (mg/kg)
LPA-SB-41	25	--	Sand with Clay	Medium moist to moist	0.5	25	Yes	15	25	15-17.5 ft. slight odor; 22-25 ft. odor present.	No Exceedance	--	No Exceedance	--
LPA-SB-42	14	--	Sandy Clay	Medium moist	0.5	14	Yes	5	14	5-14 ft. odor present.	No Exceedance	--	No Exceedance	--
LPA-SB-43	13	--	Clay	Medium moist to wet	0.5	13	Yes	6	13	6-13 ft. slight odor present.	No Exceedance	--	No Exceedance	--
LORRAINE PROCESS AREA MONITORING WELL SOIL SAMPLES														
MW-01	17	--	Sandstone	Mediium moist to wet	0.5	16	Yes	5	15	5-10 ft. odor present; 10-12.5 ft. sheen at top of interval; 12.5-15 ft. sheen at 14 ft.	No Exceedance	--	No Exceedance	--
MW-02	16	--	Siltstone/Sandstone	Moist to wet	15	16	No	--	--	--	No Exceedance	--	No Exceedance	--
MW-03	12.5	--	Sandstone	Moist to wet	0.5	12.5	Yes	7	10	7-10 ft. slight odor to odor with black layers (product) present.	No Exceedance	--	No Exceedance	--
LORRAINE PROCESS AREA TEMPORARY WELLS (NOT SAMPLED)														
LPA-GW-01	14	14	Clay	Yes	7	14	Yes	4	14	4-14 ft. black product present, sheen.	Not Sampled	Not Sampled	Not Sampled	Not Sampled
LPA-GW-02	15	15	Clay	Yes	12	15	No	--	--	--	Not Sampled	Not Sampled	Not Sampled	Not Sampled
LPA-GW-03	15	15	Clay	No	--	--	--	--	--	--	Not Sampled	Not Sampled	Not Sampled	Not Sampled
WILCOX PROCESS AREA SOIL BORING SOIL SAMPLES														
WPA-SB-01	2	2	Brick Fragments	Moist to wet	0	2	Yes	0	2	At 0.75 ft. strong odor.	2.0	0.47	No Exceedance	--
WPA-SB-02	12	12	Sandy Clay	Yes	1	12	Yes	4.75	10.25	At 4.75 ft. strong odor (old oil smell); at 10.25 ft. black discolored sand and clay.	2.0	0.18	No Exceedance	--
WPA-SB-03	9.5	9.5	Clay	Moist to wet	0.5	9.5	Yes	7.25	7.5	7.25-7.5 ft. odor and sheen present.	0.5	0.14	No Exceedance	--
WPA-SB-04	17	17	Sandstone	Yes	9.5	17	No	--	--	--	No Exceedance	--	0.5	401
WPA-SB-05	30	--	Clayey Sand	Yes	0.5	30	No	--	--	--	No Exceedance	--	0.5	1470
WPA-SB-06	8	8	Sand	Moist to slightly wet	3	8	No	--	--	--	6.0	0.13	No Exceedance	--
WPA-SB-07	9	--	Sandy Clay	Yes	6.25	9	Yes	6.25	8	6.25-8 ft. odor present.	2.0	0.34	No Exceedance	--
WPA-SB-08	5.5	5.5	Sandy Clay	No	--	--	Yes	5	5.5	5-5.5 ft. very strong odor (gasoline) and discoloration.	0.5	0.19	No Exceedance	--
WPA-SB-09	14.5	14.5	Clay	Yes	2	14.5	Yes	1	14.5	1-3 ft. thick product, strong odor and stain/sheen present; 5-12.5 ft. strong odor, product and stain/sheen present; 12.5-14.5 ft. some odor and slight sheen/discoloration.	6.00	2.4	0.5	1570
WPA-SB-10	15.25	15.25	Clayey Sand	Yes	4.5	14.75	Yes	7	7.5	7-7.5 ft. strong odor present.	No Exceedance	--	2.0	2110
WPA-SB-11	30	--	Clayey Sand	Yes	0.5	30	Yes	11	30	11-15 ft. strong odor present; 15-30 ft. strong odor and slight sheen present.	0.5	0.29	No Exceedance	--
WPA-SB-12	30	--	Sand	Yes	13	30	No	--	--	--	No Exceedance	--	No Exceedance	--
WPA-SB-13	15	15	Clayey Sand	Moist	3.25	15	Yes	3.25	5	3.25-4 ft. discoloring near top of interval; 4-5 ft. strong odor present.	2.0	0.15	0.5	2110

Table 2 Soil Boring Summary

Sample Location	Total Depth (ft)	Depth of Refusal (if applicable)	Lithology Encountered at Boring Termination	Groundwater Encountered?	Top of Moisture Zone (ft bgs)	Bottom of Moisture Zone (ft bgs)	Was Waste Material Encountered?	Top of Waste Material (ft bgs)	Bottom of Waste Material (ft bgs)	Description of Waste Material	Deepest Exceedance of Benzo(a)pyrene (ft bgs)	Concentration (mg/kg)	Deepest Exceedance of Lead (ft bgs)	Concentration (mg/kg)
WPA-SB-14	10	10	Sandstone	Moist	3	9	Yes	5	10	5-6.3 ft. odor and sheen near top of interval; 6.3-6.8 ft. trace free product and very strong odor; 9-10 ft. strong odors (pesticide/chemical).	2.0	0.51	2.0	1570
WPA-SB-15	20.2	20.2	Sandy Clay	Yes	5	20.2	Yes	5	20.2	5-8 ft. odor near top of interval and discoloration throughout; 18.25-20.2 ft. odor present.	0.5	0.3	6.0	921
WPA-SB-16	2	2	Sand	Moist to wet	0	2	No	--	--	--	No Exceedance	--	No Exceedance	--
WPA-SB-17	11	11	Clayey Sand	Moist to wet	1	10.5	Yes	1	6.5	1 ft. odor present; 2-5 ft. trace product strong sheen near top with strong odor/slight sheen throughout.	2.0	0.4	0.5	503
WPA-SB-18	13	13	Sand	Yes	7.75	13	Yes	6.5	13	6.5 ft. little to no odor; 7.75-10 ft. very strong odor (gasoline); 12 ft. product, sheen and strong odor (gasoline) present.	13.0	5	2.0	512
WPA-SB-19	6	6	Clayey Sand	Moist to wet	0	5.5	No	--	--	--	No Exceedance	--	No Exceedance	--
WPA-SB-20	28	28	Clayey Sand	Yes	5	27.5	Yes	1.75	22.75	1.75 ft. odor present; 14-20 ft. odor present; 22.75 black discoloration present.	10.0	0.2	No Exceedance	--
WPA-SB-21	9	9	Clayey Sand	No	--	--	Yes	0.5	1.5	0.5 ft. discolored sand; 1-1.5 ft. some odor present.	2.0	3.7	No Exceedance	--
WPA-SB-22	8	8	Clayey Sand	Yes	5	8	Yes	4.75	8	4.75-5 ft. trace product; 5-8 ft. odor and staining/trace free product present.	8.0	1.5	No Exceedance	--
WPA-SB-24	10	10	Silty sand	Moist to wet	0	10	Yes	7.5	10	7.5-10 ft. odor and slight sheen present.	2.0	0.34	No Exceedance	--
WPA-SB-25	3	3	Sandstone	No	--	--	No	--	--	--	0.5	0.69	No Exceedance	--
WPA-SB-26	7.5	7.5	Clay	No	--	--	No	--	--	--	6.0	0.12	No Exceedance	--
WPA-SB-27	2	2	Sandstone	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
WPA-SB-28	10	10	Clay	Moist to wet	0	2	No	--	--	--	No Exceedance	--	0.5	502
WPA-SB-29	7.5	7.5	Clay	Moist	0	6	No	--	--	--	0.5	1	0.5	1190
WPA-SB-30	9	9	Clay	No	--	--	No	--	--	--	No Exceedance	--	0.5	770
WPA-SB-31	11.5	11.5	Sandstone	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
WPA-SB-32	11	11	Clayey Sand	Moist	5	11	Yes	8	10	8 ft.odor present.	2.0	0.52	No Exceedance	--
WPA-SB-33	5	--	Sandy Clay	No	--	--	No	--	--	--	2.0	0.19	No Exceedance	--
WPA-SB-34	8.5	8.5	Clayey Sand	Yes	2.25	8.5	Yes	7	8.5	7-8.5 ft. odor present.	0.5	0.12	No Exceedance	--
WPA-SB-35	2	2	Clayey Silt	No	--	--	No	--	--	--	No Exceedance	--	2.0	584

Table 2 Soil Boring Summary

Sample Location	Total Depth (ft)	Depth of Refusal (if applicable)	Lithology Encountered at Boring Termination	Groundwater Encountered?	Top of Moisture Zone (ft bgs)	Bottom of Moisture Zone (ft bgs)	Was Waste Material Encountered?	Top of Waste Material (ft bgs)	Bottom of Waste Material (ft bgs)	Description of Waste Material	Deepest Exceedance of Benzo(a)pyrene (ft bgs)	Concentration (mg/kg)	Deepest Exceedance of Lead (ft bgs)	Concentration (mg/kg)
WPA-SB-37	30	--	Sandstone	Yes	1.5	29.5	Yes	14	29.5	14 ft. gasoline odor present; 15-20 ft. strong odor (gasoline), slight sheen; 20-29.5 ft. strong odor, trace product and sheen present.	No Exceedance	--	No Exceedance	--
WPA-SB-38	50	50	Clayey Sand	Yes	12	50	Yes	30	45	30-35 ft. very slight odor present; 42-45 ft. slight odor present.	2.0	0.16	No Exceedance	--
WPA-SB-39	50	50	Clayey Sand	Yes	18.5	37.5	No	--	--	--	2.0	0.2	No Exceedance	--
WPA-SB-40	15	--	Sandstone	Yes	2	15	Yes	9	10	9-10 ft. odor (gasoline) present.	No Exceedance	--	No Exceedance	--
WPA-SB-41	8	8	Clayey Silt/Sand	No	--	--	No	--	--	--	8.0	0.15	0.5	454
WPA-SB-42	30	30	Sand/No Recovery	Yes	2	25	Yes	2	10	2-10 ft. odor (gasoline) present.	2.0	0.16	No Exceedance	--
WPA-SB-43	17	17	Clay	Yes	0	17	No	--	--	--	No Exceedance	--	No Exceedance	--
WPA-SB-44	27	27	Sandstone	Moist to wet	7.5	27	No	--	--	--	No Exceedance	--	No Exceedance	--
WPA-SB-45	3	3	Sand	Moist to wet	0	2.75	No	--	--	--	No Exceedance	--	No Exceedance	--
WPA-SB-46	30	30	Clay	Wet	13	14	No	--	--	--	No Exceedance	--	No Exceedance	--
WPA-SB-47	30	30	Clayey Sand	Yes	7.5	30	No	--	--	--	No Exceedance	--	No Exceedance	--
WPA-SB-48	20	--	Clay	Moist	10	20	No	--	--	--	No Exceedance	--	No Exceedance	--
WPA-SB-49	15	--	Clay	Yes	2	15	Yes	10	15	10-15 ft. slight odor (fertilizer) present.	No Exceedance	--	2.0	1140
WPA-SB-50	20	--	Clay	Yes	2	20	No	--	--	--	No Exceedance	--	0.5	1080
WPA-SB-51	30	--	Clay	Yes	1.5	15	Yes	10	30	10-15 ft. odor (gasoline) present and trace sheen near bottom; 20-30 ft. trace odor (gasoline) present.	No Exceedance	--	No Exceedance	--
WPA-SB-52	30	--	Clay	Moist to wet	0	10	No	--	--	--	No Exceedance	--	No Exceedance	--
WPA-SB-53	20	--	Clayey Sand	Moist to wet	0	2.5	No	--	--	--	No Exceedance	--	No Exceedance	--
WPA-SB-54	30	--	Clay	Moist to slightly wet	20	30	No	--	--	--	No Exceedance	--	No Exceedance	--
WPA-SB-56	9.5	9.5	Sandstone	Moist	0	9.5	No	--	--	--	No Exceedance	--	No Exceedance	--
WPA-SB-57	14.5	14.5	Sand	Yes	10	14.5	No	--	--	--	2.0	0.12	No Exceedance	--
WPA-SB-58	17.5	17.5	Cemented Sand	Yes	10	17	Yes	7	17	7-10 ft. slight odor present; 12.5-17 slight odor present.	No Exceedance	--	No Exceedance	--
WPA-SB-59	17	17	Clay	Yes	8	17	No	--	--	--	2.0	0.26	0.5	828
WPA-SB-60	23	23	Clay	Yes	5	22.5	Yes	5	20	5-10 ft. some odor present; 10-20 ft. odor and slight sheen present.	6.0	0.25	No Exceedance	--
WPA-SB-61	17	17	Sandstone	Yes	8	17	Yes	8	11	8-11 ft. odor present and staining present at 9 ft.	0.5	1.2	No Exceedance	--
WPA-SB-62	17	17	Sand	Yes	7.5	17	Yes	12.5	17	12.5-17 ft. slight odor present.	2.00	0.27	No Exceedance	--
WPA-SB-63	18	18	Sand	Yes	12.5	18	No	--	--	--	No Exceedance	--	0.5	552
WPA-SB-64	11	11	Silty Sand	No	--	--	No	--	--	--	0.5	0.73	No Exceedance	--
WPA-SB-65	13	13	Sand	Yes	8	13	No	--	--	--	No Exceedance	--	No Exceedance	--
WPA-SB-71	10	--	Clay	Medium moist to moist	0	6	No	--	--	--	No Exceedance	--	No Exceedance	--

Table 2 Soil Boring Summary

Sample Location	Total Depth (ft)	Depth of Refusal (if applicable)	Lithology Encountered at Boring Termination	Groundwater Encountered?	Top of Moisture Zone (ft bgs)	Bottom of Moisture Zone (ft bgs)	Was Waste Material Encountered?	Top of Waste Material (ft bgs)	Bottom of Waste Material (ft bgs)	Description of Waste Material	Deepest Exceedance of Benzo(a)pyrene (ft bgs)	Concentration (mg/kg)	Deepest Exceedance of Lead (ft bgs)	Concentration (mg/kg)
WPA-SB-72	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5	0.27	No Exceedance	--
WPA-SB-73	7	--	Clay and Siltstone	Moist to medium moist	0	6	Yes	0	0.5	0-0.5 ft. black layer with odor present.	0.5	0.64	0.5	937
WPA-SB-73	7	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
WPA-SB-74	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
WPA-SB-75	10.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
WPA-SB-76	10.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
WPA-SB-77	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
WPA-SB-78	12.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
WILCOX PROCESS AREA MONITORING WELL SOIL SAMPLES														
MW-04	38	--	Clay	Medium moist to wet	3	38	Yes	3	38	3-38 ft. slight odor to strong odor present throughout interval with staining near the top and sheen at 30 ft.	No Exceedance	--	No Exceedance	--
MW-05	37	--	Sandy Clay	Moist to wet	15	37	Yes	5	17	5-15 ft. odor present and black layers (product) present at 14 ft.; 15-17 ft. slight odor and black layers (product) present.	No Exceedance	--	No Exceedance	--
MW-06	50	--	Sandy Clay	Moist to wet	15	50	No	--	--	--	No Exceedance	--	No Exceedance	--
WILCOX PROCESS AREA TEMPORARY WELLS (NOT SAMPLED)														
WPA-GW-01	25	--	Clay	Dry to little moisture	15	25	No	--	--	--	Not Sampled	Not Sampled	Not Sampled	Not Sampled
WPA-GW-02	24	NA	Clay	Dry to little moisture	20	24	No	--	--	--	Not Sampled	Not Sampled	Not Sampled	Not Sampled
WPA-GW-03	2'	2'	Clay	NA	NA	NA	NA	NA	NA	--	Not Sampled	Not Sampled	Not Sampled	Not Sampled
WPA-GW-04	12	12	Clay	Yes	9	10	No	--	--	--	Not Sampled	Not Sampled	Not Sampled	Not Sampled
WPA-GW-05	22	22	Sand	Yes	10	22	Yes	6	16	Tar and sand mixture at 6-8 ft. Black product at 11-16 ft., sheen.	Not Sampled	Not Sampled	Not Sampled	Not Sampled
WPA-GW-06	9	9	Sand	Yes	8	9	Yes	4	9	Tar on surface to 1 ft. Black product from 4-9 ft., sheen.	Not Sampled	Not Sampled	Not Sampled	Not Sampled
WPA-GW-07	24	24	Sand	Yes	17	24	Yes	13	24	13-17 ft. black product present, sheen, 22-24 ft. black product present, sheen.	Not Sampled	Not Sampled	Not Sampled	Not Sampled
WPA-GW-08	2'	2'	Sandstone	NA	NA	NA	NA	NA	NA	--	Not Sampled	Not Sampled	Not Sampled	Not Sampled
WPA-GW-09	15	15	Sandy Clay	Yes	5	14	Yes	9	15	9-15 ft. black product present, odor, sheen.	Not Sampled	Not Sampled	Not Sampled	Not Sampled
EAST TANK FARM SOIL BORING SOIL SAMPLES														
ETF-SB-01	5.5	5.5	Siltstone/Sandstone	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
ETF-SB01-13	10	--	Clayey Sand	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
ETF-SB01-14	10	--	Clayey Sand	Yes	8	10	No	--	--	--	No Exceedance	--	No Exceedance	--
ETF-SB01-16	10	10	Sandy Clay	Yes	1.5	10	No	--	--	--	0.5	0.32	No Exceedance	--
ETF-SB-02	6	6	Siltstone/Sandstone	No	--	--	No	--	--	--	2.0	0.32	No Exceedance	--
ETF-SB-03	12.5	12.5	Clay	Yes	2	7.5	Yes	1.5	4	1.5-4 ft. odor to strong odor present with trace product.	2.0	0.16	No Exceedance	--
ETF-SB-04	6.5	6.5	Clay	Moist	3	6.5	No	--	--	--	No Exceedance	--	No Exceedance	--
ETF-SB04-18	10	--	Silt and Sand	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
ETF-SB04-19	4.5	4.5	Shale and Clay	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
ETF-SB04-21	10	--	Sand	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
ETF-SB-05	9	9	Clay	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
ETF-SB-06	2	2	Silt and Sand	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--

Table 2 Soil Boring Summary

Sample Location	Total Depth (ft)	Depth of Refusal (if applicable)	Lithology Encountered at Boring Termination	Groundwater Encountered?	Top of Moisture Zone (ft bgs)	Bottom of Moisture Zone (ft bgs)	Was Waste Material Encountered?	Top of Waste Material (ft bgs)	Bottom of Waste Material (ft bgs)	Description of Waste Material	Deepest Exceedance of Benzo(a)pyrene (ft bgs)	Concentration (mg/kg)	Deepest Exceedance of Lead (ft bgs)	Concentration (mg/kg)
ETF-SB06-113	6.5	6.5	Clayey Sand	Yes	2	6.5	No	--	--	--	No Exceedance	--	No Exceedance	--
ETF-SB06-114	5.5	--	Clay	Yes	0	2.5	No	--	--	--	No Exceedance	--	No Exceedance	--
ETF-SB06-115	3	3	Clay	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
ETF-SB-07	19	19	Sandy Clay	Yes	8	19	No	--	--	--	No Exceedance	--	No Exceedance	--
ETF-SB07-116	1	1	Sand	Moist	0	1	No	--	--	--	No Exceedance	--	No Exceedance	--
ETF-SB07-119	10	--	Sand and Clay	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
ETF-SB-08	30	30	Clayey sand	Yes	10	20	No	--	--	--	No Exceedance	--	No Exceedance	--
ETF-SB08-121	10	--	Clay	Moist	1	10	No	--	--	--	No Exceedance	--	No Exceedance	--
ETF-SB08-122	5	5	Sandy Clay	Moist to very moist	0	3	No	--	--	--	0.5	0.14	No Exceedance	--
ETF-SB08-123	10	--	Clay	Yes	2	2.25	No	--	--	--	6.0	0.42	No Exceedance	--
ETF-SB-09	26	26	Sandy clay	Yes	18	26	Yes	5	18	PID	No Exceedance	--	No Exceedance	--
ETF-SB09-127	3	3	Sandstone	No	--	--	No	--	--	--	3.0	0.19	No Exceedance	--
ETF-SB09-128	7	7	Clayey Sand	Yes	1.5	7	Yes	1.75	2.25	1.75-2.25 ft. product/waste present, shiny/rubbery.	2.0	0.14	No Exceedance	--
ETF-SB09-129	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5	0.15	No Exceedance	--
ETF-SB-10	2	2	Silty Sand	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
ETF-SB-11	22	22	Clayey sand	Yes	12.5	22	No	--	--	--	No Exceedance	--	No Exceedance	--
ETF-SB13-120	4	4	Sand	No	--	--	Yes	1.5	4	1.5-4 ft. black discolring present.	No Exceedance	--	No Exceedance	--
ETF-SB-124	6	6	Clay	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
ETF-SB-125	6.5	6.5	Clay	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
ETF-SB-125	6.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
ETF-SB-126	5	5	Clay	Moist	0	1.5	No	--	--	--	No Exceedance	--	No Exceedance	--
ETF-SB-130	7	7	Clay	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
ETF-SB-131	7.5	7,5	Clay	Yes	1.5	2.5	No	--	--	--	No Exceedance	--	2.0	687
ETF-SB-136	10	--	Sandy Clay	Yes	0	10	No	--	--	--	No Exceedance	--	2.0	2730
ETF-SB-137	10	--	Sandy Clay	Yes	2	10	Yes	2	2	2 ft. black discoloring present.	No Exceedance	--	No Exceedance	--
ETF-SB-141	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
ETF-SB-142	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	2.0	729
ETF-SB-143	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
ETF-SB-144	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
ETF-SB-145	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
ETF-SB-146	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
ETF-SB-147	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
ETF-SB-148	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
ETF-SB-149	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
ETF-SB-150	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
ETF-SB-151	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
ETF-SB-152	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
ETF-SB-153	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
ETF-SB-154	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
ETF-SB-155	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
ETF-SB-156	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
ETF-SB-157	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
ETF-SB-158	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
ETF-SB-159	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
ETF-SB-160	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
ETF-SB-161	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
ETF-SB-162	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
ETF-SB-163	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--

Table 2 Soil Boring Summary

Sample Location	Total Depth (ft)	Depth of Refusal (if applicable)	Lithology Encountered at Boring Termination	Groundwater Encountered?	Top of Moisture Zone (ft bgs)	Bottom of Moisture Zone (ft bgs)	Was Waste Material Encountered?	Top of Waste Material (ft bgs)	Bottom of Waste Material (ft bgs)	Description of Waste Material	Deepest Exceedance of Benzo(a)pyrene (ft bgs)	Concentration (mg/kg)	Deepest Exceedance of Lead (ft bgs)	Concentration (mg/kg)
NORTH TANK FARM SOIL BORING SOIL SAMPLES														
NTF-SB56-01	2	2	Sand	Moist to slightly wet	0	2	No	--	--	--	0.5	2.02	No Exceedance	--
NTF-SB57-01	2	2	Sandstone	Moist	0	2	Yes	0	1	0-1 ft. trace black slag present.	No Exceedance	--	No Exceedance	--
NTF-SB58-01	3	3	Sand	Moist to wet	0	3	Yes	0	0.3	0-1 ft. black slag and discolored sand present.	No Exceedance	--	No Exceedance	--
NTF-SB67-03	2.5	2.5	Sand	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
NTF-SB68-04	2.5	2.5	Clay	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
NTF-SB69-07	2.5	2.5	Sand	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
NTF-SB70-101	2	2	Sand	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
NTF-SB70-102	3.5	3.5	Sand	No	--	--	Yes	1.5	1.75	1.5-1.75 ft. black product present.	No Exceedance	--	No Exceedance	--
NTF-SB70-103	5	5	Clayey Sand	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
NTF-SB-104	4	4	Clayey Sand	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
NTF-SB-105	3	3	Clay	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
NTF-SB-106	10	--	Clay	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
NTF-SB-107	6	6	Sandy Clay	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
NTF-SB-108	2.5	2.5	Clay	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
NTF-SB-132	4	4	Sand	No	--	--	No	--	--	--	No Exceedance	--	No Exceedance	--
NTF-SB-133	2	2	Clay	No	--	--	No	--	--	--	0.5	0.42	No Exceedance	--
NTF-SB-135	8	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
NTF-SB-136	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
NTF-SB-137	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
NTF-SB-138	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
NTF-SB-139	6.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
NTF-SB-140	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.0	0.97	No Exceedance	--
NTF-SB-141	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
NTF-SB-142	6.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
NTF-SB-143	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
NTF-SB-144	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
NTF-SB-145	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
NTF-SB-150	4.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
NTF-SB-151	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
NTF-SB-152	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
NTF-SB-153	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
NTF-SB-154	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
LOADING DOCK AREA SOIL BORING SOIL SAMPLES														
LDA-SB-109	4.5	4.5	Sand	No	--	--	Yes	0	4.5	0-0.5 ft. strong odor present; 0.5-4.5 ft. odor present.	0.5	0.77	No Exceedance	--
LDA-SB-110	2	2	Sand	Moist	0	2	Yes	0	2	0-2 ft. strong odor (gasoline) and slight sheen present.	0.5	0.22	No Exceedance	--
LDA-SB-111	3	3	Sand	Moist	0.5	3	Yes	0	3	0-0.5 ft discolored black sand present; 1-3 ft. very strong odor present.	No Exceedance	--	No Exceedance	--

Table 2 Soil Boring Summary

Sample Location	Total Depth (ft)	Depth of Refusal (if applicable)	Lithology Encountered at Boring Termination	Groundwater Encountered?	Top of Moisture Zone (ft bgs)	Bottom of Moisture Zone (ft bgs)	Was Waste Material Encountered?	Top of Waste Material (ft bgs)	Bottom of Waste Material (ft bgs)	Description of Waste Material	Deepest Exceedance of Benzo(a)pyrene (ft bgs)	Concentration (mg/kg)	Deepest Exceedance of Lead (ft bgs)	Concentration (mg/kg)
LDA-SB-112	4.5	4.5	Clay	Moist	0	3.5	No	--	--	--	No Exceedance	--	No Exceedance	--
LDA-SB-134	2	2	Sand	Moist	0	2	No	--	--	--	No Exceedance	--	No Exceedance	--
LDA-SB-135	3	3	Sand	Moist	0	3	Yes	0	3	0-0.5 ft. discolored black sand; 1.75-3 ft. odor present.	No Exceedance	--	No Exceedance	--
LDA-SB-141	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5	0.46	No Exceedance	--
LDA-SB-142	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5	0.42	No Exceedance	--
LDA-SB-143	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
LDA-SB-144	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
RESIDENTIAL AREAS SOIL BORING SOIL SAMPLES														
R101-001	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
R101-002	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
R101-003	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
R101-004	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
R101-005	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
R101-006	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	12.0	0.14	No Exceedance	--
R102-001	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
R102-002	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
R102-003	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
R102-004	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
R102-005	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
R102-006	24	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
BACKGROUND SOIL BORING SOIL SAMPLES														
BKG-01	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
BKG-02	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
BKG-03	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
BKG-04	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
BKG-05	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
BKG-06	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
BKG-07	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
BKG-08	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
BKG-09	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--
BKG-10	0.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	No Exceedance	--	No Exceedance	--

NOTE:
Highlighted cells contain data from the Data Gap Investigation
-- = Not appliable
bgs = Below ground surface
ft = Foot/feet
mg/kg = Milligram(s) per kilogram
NA = Not available

EA Engineering, Science, and Technology, Inc., PBC

TABLE 3. SUMMARY OF SLUG TEST RESULTS

Well	Method of Analysis	Transmissivity (T)			Aquifer Thickness (b) (ft)	Hydraulic Conductivity (K)		
		gal/ft/day	ft^2/min	ft^2/day		cm/s	ft/min	ft/day
Slug Tests								
MW-01	Bouwer and Rice	21.6	2.01E-03	2.89E+00	12.14	8.41E-05	1.65E-04	0.24
MW-02	Insufficient data							
MW-03	Insufficient data							
MW-04	Bouwer and Rice	15.1	1.40E-03	2.02E+00	28.17	2.60E-05	5.12E-05	0.07
MW-05	Bouwer and Rice	134.1	1.25E-02	1.79E+01	28.08	2.25E-04	4.43E-04	0.64
MW-06	Bouwer and Rice	43.7	4.06E-03	5.85E+00	20.00	1.03E-04	2.03E-04	0.29

NOTES:
All data reported is from the visual interpretation of the data contained in Aqtesolv.
cm/s = centimeters per second
ft^2/day = square feet per day
ft^2/min = square feet per minute
ft = foot|feet
gal/ft/day = gallon(s) per foot per day
min = minute

Table 4 Groundwater Analytical Results with Comparison to Screening Levels

Analyte	Units	MW-01, 8/11/2020	MW-02, 8/13/2020	MW-03, 8/12/2020	MW-04, 8/11/2020	MW-05, 8/12/2020	MW-06, 8/13/2020	LPA-GW-01, 8/13/2020	LPA-GW-02, 8/14/2020	WPA-GW-01, 8/13/2020	WPA-GW-01-D, 8/13/2020	WPA-GW-02, 8/11/2020	WPA-GW-04, 8/13/2020	WPA-GW-06, 8/13/2020	WPA-GW-07, 8/13/2020	WPA-GW-09, 8/13/2020	WPA-GW-09-D, 8/13/2020	GW-13-119, 8/18/2020	GW-13-195, 8/20/2020	MCL[1]	Tapwater RSL[1]
VOLATILE ORGANIC COMPOUNDS																					
1,1,1-Trichloroethane	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	200	800
1,1,2,2-Tetrachloroethane	µg/L	--	--	--	--	--	--	0.63 J	--	--	--	--	--	--	--	--	--	--	--	--	0.076
1,1,2-Trichloroethane	µg/L	--	--	--	--	--	--	9.8	--	--	--	--	--	--	--	--	--	--	--	5.00	0.28
1,1-Dichloroethane	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.80
1,1-Dichloroethene	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.00	28
1,2-Dibromo-3-chloropropane	µg/L	--	--	--	3.4 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.20	0.00033
1,2-Dibromoethane	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.05	0.0075
1,2-Dichloroethane	µg/L	--	--	--	--	--	0.46 J	--	--	--	--	--	--	--	--	--	--	--	--	5.00	0.17
1,2-Dichloropropane	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.33 J	0.33 J	--	--	5.00	0.82
2-Butanone	µg/L	--	--			--	--	1.0 J	--	4.4 J	--	8.4 J	--	2.2 J	--	--	--	--	--	--	560
2-Hexanone	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.71 J	0.59 J	--	--	--	3.80
4-Methyl-2-pentanone	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.2 J	--	--	--	630
Acetone	µg/L	2.1 J	--	1.1 J	34 J	--	--	11 J	--	19 J	--	43 J	--	14 J	10 J	--	0.87 J	--	--	--	14,000
Benzene	µg/L	--	--	--	2,800	--	--	--	--	--	--	1,500	--	0.75 J	140	0.38 J	0.31 J	--	--	5.00	0.46
Bromodichloromethane	µg/L	--	--	--	2.9 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	80	0.13
Bromoform	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	80	3.30
Bromomethane	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.50
Carbon disulfide	µg/L	--	--	--	--	--	--	--	0.65 J	0.21 J	0.32 J	--	--	--	--	--	--	--	--	--	81
Carbon tetrachloride	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.00	0.46
Chlorobenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	100	7.80
Chloroethane	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2,100
Chloroform	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	80	0.22
Chloromethane	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	19
cis-1,2-Dichloroethene	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	70	3.60
cis-1,3-Dichloropropene	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.47
Cyclohexane	µg/L	150	--	--	430	--	--	8.2	78	1.5 J	--	130	--	25	510	12	13	--	--	--	13,000
Dibromochloromethane	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	80	0.87
Dichlorodifluoromethane	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	20
Ethylbenzene	µg/L	0.79 J	--	--	1,300	--	--	--	0.44 J	--	--	150	0.79 J	0.67 J	360	4.7	3.9	--	--	700	1.50
Isopropylbenzene	µg/L	70	--	--	46	--	--	19	42	17	19	17 J	--	5.3	44	2.9 J	2.2 J	--	--	--	450
Methyl acetate	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	20,000
Methyl tert-butyl ether	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	14
Methylcyclohexane	µg/L	160	--	0.54 J	190	--	--	20	210	150	170	78	0.65 J	24	480	13	12	--	--	--	1,300
Methylene chloride	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.00	11
Styrene	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	100	120
Tetrachloroethene	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	10	10	5.00	11
Toluene	µg/L	0.34 J	--	--	1,200	--	--	--	--	5.3	7.6	95	--	0.75 J	120	0.37 J	0.30 J	--	--	1000	1,100
trans-1,2-Dichloroethene	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	100	36
trans-1,3-Dichloropropene	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.47
Trichloroethene	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.00	0.28
Trichlorofluoromethane	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	520
Vinyl chloride	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.00	0.019
Xylenes, total	µg/L	--	--	--	2,600	--	--	--	--	--	--	200	--	1.6 J	130	1.8 J	1.5 J	--	--	10,000	10,000

Table 4 Groundwater Analytical Results with Comparison to Screening Levels

Analyte	Units	MW-01, 8/11/2020	MW-02, 8/13/2020	MW-03, 8/12/2020	MW-04, 8/11/2020	MW-05, 8/12/2020	MW-06, 8/13/2020	LPA-GW-01, 8/13/2020	LPA-GW-02, 8/14/2020	WPA-GW-01, 8/13/2020	WPA-GW-01-D, 8/13/2020	WPA-GW-02, 8/11/2020	WPA-GW-04, 8/13/2020	WPA-GW-06, 8/13/2020	WPA-GW-07, 8/13/2020	WPA-GW-09, 8/13/2020	WPA-GW-09-D, 8/13/2020	GW-13-119, 8/18/2020	GW-13-195, 8/20/2020	MCL[1]	Tapwater RSL[1]
SEMIVOLATILE ORGANIC COMPOUNDS																					
1,1-Biphenyl	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.083
1,2,4-Trichlorobenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	70	0.40
1,2-Dichlorobenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	600	30
1,3-Dichlorobenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	600	30
1,4-dichlorobenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	75	0.48
2,2-oxybis(1-Chloropropane)	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	71
2,4,5-Trichlorophenol	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	120
2,4,6-Trichlorophenol	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.20
2,4-Dichlorophenol	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.60
2,4-Dimethylphenol	µg/L	--	--	--	6.6 J-	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	360
2,4-Dinitrophenol	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.90
2,4-Dinitrotoluene	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.24
2,6-Dinitrotoluene	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.049
2-Chloronaphthalene	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	75
2-Chlorophenol	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.10
2-Methylphenol	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	93
2-Nitroaniline	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	19
2-Nitrophenol	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.31
3,3-Dichlorobenzidine	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.13
3-Nitroaniline	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.17
4,6-Dinitro-2-methylphenol	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.15
4-Bromophenyl phenyl ether	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	140
4-Chloroaniline	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.37
4-Chlorophenyl phenyl ether	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	µg/L	--	--	--	1.1 J	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	190
4-Nitroaniline	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.80
4-Nitrophenol	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.30
Acetophenone	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	190
Atrazine	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.00	0.30
Benzaldehyde	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	19
Benzyl butyl phthalate	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	16
Bis(2-chloroethoxy) methane	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.90
Bis(2-chloroethyl) ether	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.014
Bis(2-ethylhexyl) phthalate	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.00	5.60
Caprolactam	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	990
Carbazole	µg/L	--	--	--	1.6 J	--	--	--	--	--	--	7.1	--	--	--	--	--	--	--	--	--
Diethyl phthalate	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	15,000
Dimethyl phthalate	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Di-n-butyl phthalate	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	90
Di-n-octyl phthalate	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	20
Hexachlorobenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.00	0.0098
Hexachlorobutadiene	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.14
Hexachlorocyclopentadiene	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	50	0.041
Hexachloroethane	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.33
Isophorone	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	78
Nitrobenzene	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.14
N-nitrosodi-n-propylamine	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.011
N-nitrosodiphenylamine	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	12
Pentachlorophenol	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.00	0.041
Phenol	µg/L	--	--	--	--	--	--	--	--	--	--	2.4	--	--	--	--	--	--	--	--	5,800

Table 4 Groundwater Analytical Results with Comparison to Screening Levels

Analyte	Units	MW-01, 8/11/2020	MW-02, 8/13/2020	MW-03, 8/12/2020	MW-04, 8/11/2020	MW-05, 8/12/2020	MW-06, 8/13/2020	LPA-GW-01, 8/13/2020	LPA-GW-02, 8/14/2020	WPA-GW-01, 8/13/2020	WPA-GW-01-D, 8/13/2020	WPA-GW-02, 8/11/2020	WPA-GW-04, 8/13/2020	WPA-GW-06, 8/13/2020	WPA-GW-07, 8/13/2020	WPA-GW-09, 8/13/2020	WPA-GW-09-D, 8/13/2020	GW-13-119, 8/18/2020	GW-13-195, 8/20/2020	MCL[1]	Tapwater RSL[1]
POLYCYCLIC AROMATIC HYDROCARBONS																					
2-Methylnaphthalene	µg/L	23 J-	--	--	41	0.36 J	--	14	88	4.7 J-	4.7	17	0.15 J	280	34 J-	0.24 J	0.17 J	--	0.69	--	36
Acenaphthene	µg/L	--	--	--	--	--	--	--	--	--	--		--	6.3	--	--	--	--	0.50 J	--	530
Acenaphthylene	µg/L	--	--	--	--	--	--	--	--	--	--		--	--	--	--	--	--	--	--	53
Anthracene	µg/L	--	--	--	--	--	--	--	--	--	--	0.50 J-	--	3.7	--	--	--	--	--	--	1,800
Benzo[a]anthracene	µg/L	--	--	--	0.68 J-	0.50 J-	--	--	--	--	--	0.95 J-	--	--	--	--	--	--	--	--	0.03
Benzo[a]pyrene	µg/L	--	--	--	0.47 J-	--	--	--	--	--	--	0.62 J-	--	--	--	--	--	--	--	0.20	0.025
Benzo[b]fluoranthene	µg/L	--	--	--	--	--	--	--	--	--	--	0.53 J-	--	--	--	--	--	--	--	--	0.25
Benzo[g,h,i]perylene	µg/L	--	--	--	--	--	--	--	--	--	--	0.53 J-	--	--	--	--	--	--	--	--	--
Benzo[k]fluoranthene	µg/L	--	--	--	--	--	--	--	--	--	--		--	--	--	--	--	--	--	--	2.50
Chrysene	µg/L	--	--	--	0.46 J	--	--	--	--	--	--	1.1	--	--	--	--	--	--	--	--	25
Dibenz[a,h]anthracene	µg/L	--	--	--	--	--	--	--	--	--	--		--	--	--	--	--	--	--	--	0.025
Dibenzofuran	µg/L	--	--	--	--	--	--	--	2.3	--	--		--	3.0 J	--	--	--	--	--	--	7.90
Fluoranthene	µg/L	--	--	--	0.19 J	--	--	--	--	--	--	0.47 J	--	1.6 J	--	--	--	--	0.91	--	800
Fluorene	µg/L	0.42 J-	--	0.15 J	1.1	--	--	2.0 J	2.2	--	--	1.3	--	9.7	--	--	--	--	0.42 J	--	290
Indeno[1,2,3-c,d]pyrene	µg/L	--	--	--	--	--	--	--	--	--	--		--	--	--	--	--	--	--	--	0.25
Naphthalene	µg/L	39 J-	--	--	190	0.25 J	--	9.8	24	--	--	41	0.27 J	100	100 J-	1.1	0.96	--	3.1	--	0.12
Phenanthrene	µg/L	--	--	--	3.1 J-	0.13 J-	--	3.0	3.3	0.44 J-	--	9.7 J-	--	23	0.58 J-	--	--	--	1.4	--	--
Pyrene	µg/L	--	--	--	0.64 J-	0.10 J-	--	--	--	--	--	1.6 J-	--	13	0.33 J-	--	--	--	0.54	--	120
METALS																					
Aluminum	µg/L	147	328	1,980	1,810	23,500	325	11,900	39,800	2,190	9,330	18,000	21,300	37,500	18,600	16,600	13,400	4,390	673	--	20,000
Antimony	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.00	7.80
Arsenic	µg/L	35.3	7.51	1.27 J	16.7	19.8	15.3	12.9	11.9	38.5	32.1	8.5	2.62	28.5	38.2	9.35	7.82	2.23	--	10	0.052
Barium	µg/L	360	72.2	104	212	481	432	277	349	536	546	578	155	514	649	257	232	87.1	53.7	2,000	3,800
Beryllium	µg/L	--	--	0.167 J	0.122 J	1.02	--	0.543	3.51	--	0.432 J	1.02	0.867	2.67	0.878	0.999	0.786	0.261 J	--	4.00	25
Cadmium	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	0.249 J	--	--	--	--	--	5.00	0.92
Calcium	µg/L	30,500	42,300	30,200	51,400	103,000	82,400	30,600	27,700	67,800	64,700	64,700	11,200	54,600	70,800	37,100	34,800	66,700	72,900	--	--
Chromium	µg/L	3.42	4.31	5.79	4.91	31.3	3.71	12	74	5.77 J	14.0 J	41.8	26.7	58.7	22.6	34.5	29.5	14.7	7.13	100	22,000
Cobalt	µg/L	9.87	1.90	0.969	5.63	13.4	0.701	10.4	16.1	2.08 J	4.93 J	21.8	6.43	34.2	15.5	9.14	7.81	1.87	0.466 J	--	6.00
Copper	µg/L	0.378 J	2.29	1.13	1.56	13.0	--	5.04	40.7	1.05 J	4.48 J	33.0	12.8	33.9	14.7	20.4	15.7	2.62	5.79	1,300	800
Iron	µg/L	48,800	1,440	13,600	27,100	39,100	9,090	34,400	267,000	24,500	30,600	35,000	16,300	107,000	82,900	38,700	27,200	4,070	738	--	14,000
Lead	µg/L	0.122 J	0.535	2.13	3.42	8.77	0.154 J	57.7	28.5	0.912 J	3.55 J	38.5	5.64	147	23.0	22.6	16.4	20.9	4.16	15	15
Magnesium	µg/L	14,100	12,300	24,400	27,100	41,800	35,600	18,500	29,100	30,100	29,900	35,600	6,400	19,300	38,300	13,800	12,300	25,800	27,700	--	--
Manganese	µg/L	794	574	210	2,870	4,310	1,250	1,760	552	6,930	6,480	6,340	275	3,200	2,180 B	1,050	975	97.3	15.0	--	430
Mercury	µg/L	--	0.0873 J	--	--	0.103 J	--	--	0.158 J	0.0906 J	0.121 J	0.0957 J	0.135 J	--	0.121 J	0.0854 J	0.0898 J	--	--	2.00	0.033
Nickel	µg/L	2.59	18.2	2.81	4.03	20.3	0.952 J	8.42	35.7	2.96 J	8.81 J	30.6	14.7	34.3	17.1	15.2	11.9	5.89	1.82	--	390
Potassium	µg/L	1,690	2,960	1,810	846	5,410	1,730	4,400	15,800	1450 J	2940 J	5,050	5,060	13,300	3,560	6,770	5,350	3,390	1,920	--	--
Selenium	µg/L	--	0.287 J	--	0.661 J	--	--	0.464 J	--	--	--	0.726 J	--	0.594 J	0.553 J	0.337 J	--	0.745 J	0.501 J	50	100
Silver	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	94
Sodium	µg/L	5,300	5,640	21,000	55,900	20,100	52,900	71,500	33,500	18,100	17,200	27,300	20,600	7,550	78,900	5,020	4,950	25,900	30,500	--	--
Thallium	µg/L	--	--	--	--	0.248 J	--	--	--	--	--	0.228 J	0.237 J	0.450 J	--	0.209 J	0.171 J	--	--	2.00	0.20
Vanadium	µg/L	0.409 J	3.84 J	4.56 J	3.71	51.4	0.847	20.0	247	4.93 J	20.5	43.2	40.7	85.7	37.5	59.9	41.9	8.16 J	5.06 J	--	86
Zinc	µg/L	--	--	--	--	36	--	18.7	106	--	15.2	225	19.0	87.2	46.5	27.5	24.2	65.1	--	--	6,000

Table 4 Groundwater Analytical Results with Comparison to Screening Levels

Analyte	Units	MW-01, 8/11/2020	MW-02, 8/13/2020	MW-03, 8/12/2020	MW-04, 8/11/2020	MW-05, 8/12/2020	MW-06, 8/13/2020	LPA-GW-01, 8/13/2020	LPA-GW-02, 8/14/2020	WPA-GW-01, 8/13/2020	WPA-GW-01-D, 8/13/2020	WPA-GW-02, 8/11/2020	WPA-GW-04, 8/13/2020	WPA-GW-06, 8/13/2020	WPA-GW-07, 8/13/2020	WPA-GW-09, 8/13/2020	WPA-GW-09-D, 8/13/2020	GW-13-119, 8/18/2020	GW-13-195, 8/20/2020	MCL[1]	Tapwater RSL[1]
DISSOLVED METALS																					
Aluminum	µg/L	--	--	30.5	191	125	--	308	1,290	28.2	39.8	--	289	593	158	38.6	--	192	--	--	20,000
Antimony	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.00	7.80
Arsenic	µg/L	36.4	6.05	--	20.4	5.65	14.5	7.53	5.61	25.1 J	10.1 J	2.76	--	17.4	17.1	--	--	--	--	10	0.052
Barium	µg/L	357	68.4	92.8	272	337	422	218	114	443	381	371	69.8	239	505	112	113	60.3	55.1	2,000	3,800
Beryllium	µg/L	--	--	--	--	--	--	--	0.241 J	--	--	--	--	--	--	--	--	--	--	4.00	25
Cadmium	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.244 J	--	--	--	5.00	0.92
Calcium	µg/L	33,500	40,800	32,400	56,200	101,000	80,100	30,800	23,800	62,700	54,900	65,800	8,930	46,900	68,900	29,600	29,900	68,900	70,800	--	--
Chromium	µg/L	2.98	2.79	3.26	3.18	2.64	2.55	--	6.03	2.93	2.87	3.29	0.816 J	4.12	--	3.20	2.65	4.31	4.35	100	22,000
Cobalt	µg/L	10.7	1.86	--	6.81	4.48	0.552	6.48	1.12	1.35	1.86	7.52	2.39	5.03	9.08	2.21	2.16	0.269 J	--	--	6.00
Copper	µg/L	--	1.09	--	0.572 J	--	--	--	4.80	--	--	0.511 J	1.24	0.777 J	--	0.611 J	0.453 J	0.689 J	--	1,300	800
Iron	µg/L	54,700	1,050	10,400	27,600	13,700	8,650	22,100	44,900	17,600 J	6,440 J	1,660	692	44,600	62,400	1,600	1,870	499	--	--	14,000
Lead	µg/L	--	--	0.0999 J	2.50	--	--	2.40	2.82	--	--	0.215 J	0.345 J	3.35	0.382 J	0.303 J	0.210 J	4.23	0.122 J	15	15
Magnesium	µg/L	15,000	11,800	26,000	28,300	38,600	34,500	18,000	19,000	28,000	24,500	35,000	4,600	14,800	36,200	9,150	9,130	26,800	27,600	--	--
Manganese	µg/L	849	583	219	3,640	3,750	1,240	1,570	310	6,340	5,090	5,630	201	2,050	1,700	935	984	20.8	1.87 J	--	430
Mercury	µg/L	--	0.0806 J	--	--	0.0827 J	0.0912 J	0.087 J	0.107 J	0.0974 J	0.0924 J	0.08 J	0.103 J	0.0970 J	--	--	0.0806 J	--	--	2.00	0.033
Nickel	µg/L	2.71	19.2	--	3.42	1.91	1.18	2.55	2.03	1.59	1.16	9.18	4.23	3.33	4.30	1.31	1.35	1.18	--	--	390
Potassium	µg/L	1,440	2,640	1,220	--	417 J	1,570	1,870	493 J	796	936	525	915	2,630	465 J	1,370	1,450	2,550	1,710	--	--
Selenium	µg/L	0.298 J	0.366 J	--	0.940 J	--	--	0.445 J	--	--	0.439 J	0.732 J	--	0.356 J	0.387 J	0.401 J	--	0.542 J	0.607 J	50	100
Silver	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	94
Sodium	µg/L	6,500	5,920	23,800	58,700	19,900	52,000	75,600	31,800	16,300	13,300	26,800	16,300	7,280	75,400	4,990	5,050	27,800	28,200	--	--
Thallium	µg/L	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.143 J	--	--	--	2.00	0.20
Vanadium	µg/L	--	2.81 J	--	--	--	--	0.597	4.90 J	--	--	--	--	2.06	--	--	--	1.99 J	2.21 J	--	86
Zinc	µg/L	--	--	--	--	--	--	--	--	--	--	16.4	--	12.4	--	--	--	16.1	--	--	6,000

NOTES:

[1]EPA Maximum Contaminant Levels (MCLs) and Regional Screening Levels (RSLs) for tapwater use scenario, hazard index = 1.0 for non-carcinogens and a 10^{-6} cancer risk level for carcinogens. The MCLs and RSLs for metals and dissolved metals refer to total metals.

Orange shading indicates exceedance of the associated RSL.

Green shading indicates exceedance of the associated MCL.

Blue shading indicates exceedance of both the associated RSL and MCL.

-- = No detection.

J = estimated

J- =

µg/L = Microgram(s) per liter.

Table 5 Field Parameters, General Chemisty, Anions and Dissolved Gases Groundwater Analytical Results

Well ID Number	Date Measured	Field Parameters					General Chemistry		Anions		Dissolved Gases	
		Temp (°C)	SpC (mS/cm)	DO (mg/L)	pH	ORP (mV)	DO (mg/L)	Ferrous Iron (mg/L)	Nitrate (mg/L)	Sulfate (mg/L)	CO2 (mg/L)	Methane (mg/L)
Monitoring Wells												
MW-01	8/11/2020	20.63	0.428	0.26	6.08	33.5	--	52.7 J	--	--	130	12.0
MW-02	8/13/2020	18.09	0.368	0.27	5.92	-111.2	--	1.24 J	--	38	120	0.04
MW-03	8/12/2020	19.00	0.442	0.21	6.02	-9.6	2.68 J	12.0 J	--	26	130	0.036
MW-04	8/11/2020	19.35	0.721	0.23	6.44	-131.9	--	28.1 J	--	1.5 J	110	18.0
MW-05	8/12/2020	18.27	0.855	0.18	6.47	45.6	--	17.4 J	--	70	120	0.023
MW-06	8/13/2020	19.11	0.935	0.28	6.23	46.0	1.96 J	8.95 J	--	31	52	0.280
Temporary Wells[1]												
LPA-GW-01	8/13/2020	22.23	0.607	3.68	3.08	308.6	--	28.4 J	--	5.1	140	0.610
LPA-GW-02	8/14/2020	19.83	0.542	2.81	4.73	178.3	--	63.6 J	--	11	160	2.2
WPA-GW-01	8/13/2020	19.95	0.755	4.77	6.27	121.2	0.54 J	27.0 J	--	--	130	8.9
WPA-GW-01-D	8/13/2020	19.95	0.755	4.77	6.27	121.2	--	29.9 J	--	--	110	2.6
WPA-GW-02	8/11/2020	26.74	0.674	4.28	4.51	281.1	7.42 J	11.5 J	--	2.4 J	30	2.8
WPA-GW-04	8/13/2020	23.16	0.271	7.08	5.60	197.1	--	0.215 J	--	21	51	0.0052
WPA-GW-06	8/13/2020	NM	NM	NM	NM	NM	--	60.7 J	--	4.3 J	110	6.2
WPA-GW-07	8/13/2020	20.45	0.711	3.27	6.04	150.9	--	76.5 J	--	2.5 J	140	7.8
WPA-GW-09	8/13/2020	22.46	0.314	1.98	6.80	133.5	0.74 J	4.04 J	1.7	18	74	1.3
WPA-GW-09-D	8/13/2020	22.46	0.314	1.98	6.80	133.5	1.55 J	3.72 J	1.6	18	73	1.4
Former Private Supply Well												
GW-13-119	8/18/2020	17.01	0.659	2.68	7.06	-60.8	4.25 J	0.0431 J	1.4	35	11J	--
GW-13-195	8/20/2020	17.11	0.720	3.79	7.38	49.0	4.11 J	0.277 J	1.6	40	9.4 J	--

NOTE:

[1]Due to slow recharge field parameters were collected immediately upon low flow sampling and sample containers will filled thereafter.

-- = Not detected.

°C = Degrees celsius.

CO2 = Carbon dioxide

DO = Dissolved oxygen.

J = Data qualifer indicating the concentration is an estimated value.

mg/L = Milligrams per liter.

mS/cm = Millisiemens per centimeter.

mV = Millivolts.

NM = Not measured.

ORP = Oxidation-reduction potential.

SpC = Specific conductance.

Temp = Temperature.

Table 6 Surface Waste Analytical Results with Comparison to Screening Levels

Analyte	Units	ETF-SA-01, 8/19/2020	ETF-SA-02, 8/19/2020	ETF-SA-03, 8/19/2020	ETF-SA-04, 8/19/2020	ETF-SA-05, 8/19/2020	ETF-SA-06, 8/19/2020	ETF-SA-07 8/19/2020	ETF-SA-08 8/19/2020	LDA-SA-01, 8/19/2020	LDA-SA-02, 8/19/2020	LDA-SA-03, 8/19/2020	LPA-SA-01, 8/18/2020	LPA-SA-02, 8/18/2020	NTF-SA-01, 8/18/2020	NTF-SA-02, 8/18/2020	NTF-SA-03, 8/18/2020	NTF-SA-04, 8/19/2020	NTF-SA-05, 8/18/2020	WPA-SA-01 8/18/2020	WPA-SA-01-D 8/18/2020	WPA-SA-02 8/18/2020	WPA-SA-02-D 8/18/2020	WPA-SA-03 8/20/2020	WPA-SA-03-D 8/20/2020	WPA-SA-04 8/20/2020	Resident Soil RSL[1]	Industrial Soil RSL[1]	Applicable Ecological Soil Screening Value[2]
SEMIVOLATILE ORGANIC COMPOUNDS																													
1,1-Biphenyl	mg/kg	--	--	--	--	--	--	--	0.038 J	--	--	--	--	--	--	--	--	--	--	0.290 J	0.180 J	0.360 J	0.370 J	--	--	--	4.70	20.00	60
2,2-oxybis(1-Chloropropane)	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	310	4,700	19.90
2,4,5-Trichlorophenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6,300	82,000	0.01
2,4,6-Trichlorophenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.30	82.00	0.01
2,4-Dichlorophenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	19	250	0.01
2,4-Dimethylphenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1,300	16,000	0
2,4-Dinitrophenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	13	160	0.0609
2,4-Dinitrotoluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.70	7.40	1.28
2,6-Dinitrotoluene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.36	1.50	0.033
2-Chloronaphthalene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	480	6,000	0.012
2-Chlorophenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	39	580	0.01
2-Methylphenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	320	4,100	0.50
2-Nitroaniline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	63	800	74.10
2-Nitrophenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.20	15.00	1.60
3,3-Dichlorobenzidine	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.20	5.10	0.646
3-Nitroaniline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.63	8.20	3.16
4,6-Dinitro-2-methylphenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.51	6.60	0.144
4-Bromophenyl phenyl ether	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Chloro-3-methylphenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	630	8,200	7.95
4-Chloroaniline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.70	11.00	0.03
4-Chlorophenyl phenyl ether	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4-Methylphenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	630	8,200	0.05
4-Nitroaniline	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	25	110	21.90
4-Nitrophenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	25	140	5.12
Acetophenone	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	780	12,000	300
Atrazine	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.40	10.00	0.0001
Benzaldehyde	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	170	820	--
Benzyl butyl phthalate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	290	1,200	0.10
Bis(2-chloroethoxy) methane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	19	250	0.302
Bis(2-chloroethyl) ether	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.23	1.00	23.70
Bis(2-ethylhexyl) phthalate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	39	160	0.10
Caprolactam	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3,100	40,000	--
Carbazole	mg/kg	--	--	--	--	0.830	--	--	--	--	--	--	--	--	--	--	--	--	--	0.330 J	0.280 J	0.630	0.630	--	--	90.000	--	--	--
Diethyl phthalate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5,100	66,000	0.10
Dimethyl phthalate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.10
Di-n-butyl phthalate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	630	8,200	0.10
Di-n-octyl phthalate	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	63	820	0.10
Hexachlorobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.21	0.96	0.0025
Hexachlorobutadiene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.20	5.30	0.04
Hexachlorocyclopentadiene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.18	0.75	0.755
Hexachloroethane	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.80	8.00	0.596
Isophorone	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	570	2,400	139
Nitrobenzene	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.10	22.00	1.31
N-nitrosodi-n-propylamine	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.078	0.33	0.544
N-nitrosodiphenylamine	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	110	470	0.545
Pentachlorophenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.00	4.00	0.002
Phenol	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	19,000	250,000	250,000
POLYCYCLIC AROMATIC HYDROCARBONS																													
2-Methylnaphthalene	mg/kg	--	--	--	--	--	--	--	0.0075 J	8.400	0.790	0.0069 J	--	0.450	--	--	--	--	--	6.400	4.200	8.300	8.500	140.000	140.000	27.000 J	240	3,000	3.24
Acenaphthene	mg/kg	--	--	--	--	0.330	--	--	--	0.580	0.045 J	--	--	--	--	--	--	--	--	0.210	0.095	0.100	0.120	21.000	24.000	16.000	360	4,500	20
Acenaphthylene	mg/kg	--	--	--	--	0.120 J	0.0028	--	--	--	0.041 J	0.00097 J	0.019	--	--	--	--	--	--	--	--	--	--	--	7.100 J	2.800 J	360	4,500	29
Anthracene	mg/kg	--	--	--	0.00083 J	2.800	0.0032	0.014 J	0.00052 J	0.340	0.090	0.0014 J	0.061 J	0.015 J	--	--	--	--	0.0017	1.200	0.770	1.400	1.500	42.000	49.000	350.000	1,800	23,000	0.10
Benzo[a]anthracene	mg/kg	--	0.0021	--	0.0046	8.300	0.012	0.060	0.0014 J	0.120	0.072 J	0.0056	0.089	0.028	--	0.300	--	0.0077 J	0.012	1.900	1.400	3.400	3.300	42.000	47.000	1,000.000	1.10	21.00	1.10
Benzo[a]pyrene	mg/kg	--	0.0032	--	0.0046	8.400	0.011	0.055	--	0.084	0.064 J	0.0061	0.200 J+	--	--	--	--	--	0.016 J+	1.600 J+	1.100	2.700	2.600	40.000	50.000	390.000	0.11	2.10	0.10
Benzo[b]fluoranthene	mg/kg	--	0.0043	0.0014 J	0.0059	9.800	0.016	0.084	--	0.082	0.077 J	0.0071	0.420 J+	--	--	--	--	--	0.030 J+	1.100 J+	0.850[a]	2.000[a]	1.900[a]	21.000	26.000	380.000	1.10	21.00	1.10
Benzo[g,h,i]perylene	mg/kg	--	0.0011 J	--	0.0037	9.000	0.010	0.042	--	0.057	0.380	0.006	0.088 J+	--	--	--	--	0.026	0.0069 J+	0.970 J+	0.720	1.400	1.400	18.000	17.000	130.000	180	2,300	1.10
Benzo[k]fluoranthene	mg/kg	--	0.00099 J	--	0.0021	3.400	0.0042	0.021	--	0.020	0.036 J	0.0024	0.170 J+	--	--	--	--	--	0.0042 J+	0.230 J+	--[a]	--[a]	--[a]	--	--	62.000	11	210	1.10
Chrysene	mg/kg	0.0084 J	0.0045	0.00071 J	0.0051	8.400	0.016	0.180	0.0022	0.310	0.120	0.0084	0.260	0.160	--	--	--	0.013 J	0.047	3.600	2.300	5.700	5.600	97.000	100.000	1,900.000	110	2,100	1.10
Dibenz[a,h]anthracene	mg/kg	--	--	--	0.00098 J	2.200	0.0031	0.011 J	--	0.015 J	--	0.0015 J	0.021 J+	--	--	--	--	--	0.0029 J+	0.220 J+	0.160	0.360	0.340	--	--	88.000	0.11	2.10	1.10
Dibenzofuran	mg/kg	--	--	--	--	--	--	--	--	0.240 J-	--	--	--	--	--	--	--	--	--	0.260 J	0.180 J	0.350 J	0.340 J	--	--	14.000 J	7.30	100.00	--
Fluoranthene	mg/kg	--	--	--	0.0076	12.000	0.014	0.120	0.0013 J	0.270	0.110	0.005	0.340	0.140	--	--	--	0.0078 J	0.0070	0.870	0.770	1.600	1.700	74.000	87.000	760.000	240	3,000	0.10
Fluorene	mg/kg	--	--		--	0.320	--	--	--	0.640	--	0.0048 J	--	--	--	--	--	--	--	0.140	0.083 J	0.140	0.140	43.000	53.000	110.000	240	3,000	29
Indeno[1,2,3-c,d]pyrene	mg/kg	--	0.00087 J	--	0.0032	6.700	0.0089	0.030	--	0.028	0.055 J	0.0041	0.071 J+	--	--	--	--	--	0.0037 J+	0.300 J+	0.230	0.440	0.430	7.000 J	7.100 J	74.000	1.10	21.00	1.10
Naphthalene	mg/kg	--	--	--	--	--	--	--	0.020	2.600	0.240	0.023	--	0.240	--	--	--	--	--	2.200	1.400	3.300	3.400	35.000	30.000	5.800 J	3.80	17.00	0.10
Phenanthrene	mg/kg	--	0.0054 J	--	0.0032	5.800	0.0094	0.064	0.0055	1.400	0.250	0.0068	0.200	0.440	0.0094 J	--	--	0.015 J	0.024	8.500	5.500	12.000	12.000	360.000	460.000	3,000.000	--	--	0.10
Pyrene	mg/kg	--	0.0053 J	--	0.007	12.000	0.016	0.110	0.0023	0.740	0.190	0.0084	0.600	0.250	--	--	--	0.014 J	0.032	5.600	3.500	8.000	8.200	530.000	630.000	2,100.000	1,800	23,000	0.10

Table 6 Surface Waste Analytical Results with Comparison to Screening Levels

Analyte	Units	ETF-SA-01, 8/19/2020	ETF-SA-02, 8/19/2020	ETF-SA-03, 8/19/2020	ETF-SA-04, 8/19/2020	ETF-SA-05, 8/19/2020	ETF-SA-06, 8/19/2020	ETF-SA-07 8/19/2020	ETF-SA-08 8/19/2020	LDA-SA-01, 8/19/2020	LDA-SA-02, 8/19/2020	LDA-SA-03, 8/19/2020	LPA-SA-01, 8/18/2020	LPA-SA-02, 8/18/2020	NTF-SA-01, 8/18/2020	NTF-SA-02, 8/18/2020	NTF-SA-03, 8/18/2020	NTF-SA-04, 8/19/2020	NTF-SA-05, 8/18/2020	WPA-SA-01 8/18/2020	WPA-SA-01-D 8/18/2020	WPA-SA-02 8/18/2020	WPA-SA-02-D 8/18/2020	WPA-SA-03 8/20/2020	WPA-SA-03-D 8/20/2020	WPA-SA-04 8/20/2020	Resident Soil RSL[1]	Industrial Soil RSL[1]	Applicable Ecological Soil Screening Value[2]
METALS																													
Aluminum	mg/kg	9,460	7,890 J+	2,980	9,180	6,700	4,840	3,600	11,800	3,880	3,560	3,320	8,890	2,940	3,750	4,410	3,170	6,620	3,960	3,220	3,020	2,540	3,370	521	391	1,210 J	77,000	1,100,000	50
Antimony	mg/kg	--	--	--	--	--	--	--	--	--	0.866	--	--	0.445	--	--	--	--	--	--	--	--	--	--	--	0.291 J	31	470	0.14
Arsenic	mg/kg	2.98 J	1.88 J	1.61	4.13	3	2.6	2.9	22.3	1.22	4.53	1.32	1.95	14.9	1.87	1.19	0.719 J	1.83	1.06	1.34	1.43	5.66 J	2.16 J	0.92	0.867	3.38 J	0.68	3.00	5.70
Barium	mg/kg	53	40.5	17.4	40.5	52.8	30.9	33	63.7	23	28.6	25.2	62.5	28.7	32	24.6	19.1	61	43.4	23.8	22.2	25.4	28.3	7.45	6.95	31.6 J	15,000	220,000	1.00
Beryllium	mg/kg	0.431 J	0.309 J	0.149 J	0.577 J	0.308 J	0.259 J	0.23 J	0.796 J	0.184 J	0.324 J	0.18 J	0.343 J	0.0742 J	0.201 J	0.18 J	0.14 J	0.212 J	0.205 J	0.157 J	0.156 J	0.127 J	0.16 J	--	--	0.0518 J	160	2,300	1.10
Cadmium	mg/kg	--	--	--	--	--	--	--	--	0.205	2.43	--	0.154 J	--	--	--	--	--	--	0.998 J	0.527 J	2.38 J	0.52 J	--	--	0.307 J	71	980	0.0022
Calcium	mg/kg	532	781	96.3	502	345	257	238	807	1,810	1,150	244	998	374	323	213	163	28,900	288	1,740 J	996 J	39,500 J	14,700 J	717	696	6,450 J	--	--	--
Chromium	mg/kg	15.9 J	8.98 J	5.57	19.5	10.8	8.84	10.8	23.4	5.75	6.37	6.66	9.92	6.45	5.83	7.11	4.25	9.42	4.57	6.43	5.75	5.6	6.11	7.14	5.96	8.13 J	--	--	0.40
Cobalt	mg/kg	6.65 J	2.92	1.86	4.77	3.17	6.19	4.51	6.28	4.31	3.77	2.43	2.49	2.46	4.64	1.47	1.69	1.72	2.79	1.99	1.91	1.75	1.65	1.08	0.92	1.7	23	350	0.14
Copper	mg/kg	3.49 J	4.15 J	3.56	3.29	4.44	9.57	8.15	2.84	3.4	15.8	6.02	3.95	11.3	4.31	3.4	2.95	6.36	3.56	18.4	15.5	9.12	8.03	40	32.8	23 J	3,100	47,000	5.40
Iron	mg/kg	10,700 J	6,250	7,090	19,300	12,600	8,810	9,800	23,100	6,220	14,300	5,110	7,280	33,200	5,400	4,460	2,790	6,170	3,500	6,070	5,920	12,600 J	6,460 J	6,240	5,520	16,200	55,000	820,000	200
Lead	mg/kg	5.24 J	17.400	3.94	4.87	59.7	15.6	18.3	3.15	12.1	155	4.41	122	17.7	6.04	2.19	2.05	9.86	10.1	121 J	51.2 J	247	179	46.3	43.6	945	400	800	0.054
Magnesium	mg/kg	819	699	241	1,230	643	377	307	1,440	413	387	283	818	351	304	378	262	2,130	387	506	398	18,200 J	4,330 J	130	141	3,120 J	--	--	--
Manganese	mg/kg	366	163	31.1	77.1	127	239	291	81.4	442	143	171	35.5	113	276	54.4	151	207	225	108	89.7	675 J	232 J	52.2	45.9	245 J	1,800	26,000	100
Mercury	mg/kg	--	--	--	--	0.0446 J	--	--	--	--	0.0268 J	--	--	--	--	--	--	--	--	0.199	0.157	0.155	0.161	--	--	0.581 J	11	46	0.10
Nickel	mg/kg	6.80 J	4.40	2.36	18.4	8.64	5.21	3.95	20.5	3.92	10.7	3.12	6.51	4.84	3.02	3.72	2.75	5.09	2.83	6.55	5.08	7.17	7.02	4.86	4.18	5.90 J	150	2,200	14
Potassium	mg/kg	1,050 J	853 J	417	2,300	1,330	604	465	1,970	642	544	531	1,160	545	479	589	478	608	491	525	491	490	628	132	123	248 J	--	--	--
Selenium	mg/kg	--	--	--	0.486 J	--	--	--	0.462 J	--	0.315 J	--	--	--	--	--	--	--	--	--	--	--	--	0.433 J	0.387 J	0.558 J	39	580	0.028
Silver	mg/kg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.603 J	39	580	2.00
Sodium	mg/kg	--	--	--	67.4 J	--	--	--	84.1 J	--	--	--	47.3 J	--	--	--	--	--	--	--	--	61.5 J	--	1,090	1,360	--	--	--	--
Thallium	mg/kg	0.123 J	0.0818 J	--	0.0814 J	--	--	--	0.105 J	--	--	--	0.0901 J	--	--	--	--	--	--	--	--	--	--	--	--	--	0.78	12.00	0.057
Vanadium	mg/kg	21.9 J	14.6	10	25.6	15.6	13.7	12.6	34.6	9.19	9.69	9.54	16.2	8.45	10.1	9.79	6.17	11.4	8.01	9.66	8.28	15	16	3.34	3	3.78 J	390	5,800	1.60
Zinc	mg/kg	8.73 J	13.4 J	6.37 J	12.1 J	54.2 J	29.7 J	23.9 J	18.9 J	37.5 J	451	8.3 J	57.2 J	21.8 J	10.7 J	6.26 J	9.9 J	25 J	18 J	220 J	136	550	133	14.4 J	15.2 J	33.2 J	23,000	350,000	6.60

NOTES:

[1]EPA Regional Screening Levels (RSLs) for resident soil and industrial soil scenarios, hazard index = 1.0 for non-carcinogens and a 10^{-6} cancer risk level for carcinogens.

[2]Ecological soil screening values are the lower of the Risk Assessment Information System database (https://rais.ornl.gov/tools/eco_search.php) or the EPA Ecological Soil Screening Level (https://www.epa.gov/chemical-research/ecological-soil-screening-level).

[a]Concentrations of benzo[b]fluoranthene and benzo[k]fluoranthene are reported together under benzo[b]fluoranthene. RSL exceedances are not assessed.

Orange shading indicates exceedance of only the associated applicable ecological soil screening value.

Green shading indicates exceedance of the associated resident soil RSL. The associated applicable ecological soil screening value may or may not be exceeded.

Blue shading indicates exceedance of the associated industrial soil RSL. The associated resident soil RSL and applicable ecological soil screening value may or may not be exceeded.

-- = No detection.

J = Estimated concentration.

J- = Estimated concentration biased low.

J+ = Estimated concentration biased high.

mg/kg = Milligram(s) per kilogram.

Table 7 Test Pit and Waste Characterization Summary Table

Test Pit/Waste Characterization Sample Location	Associated Historical Structure(s)	Waste Material Present?	If Present, Material Description	If Present, Material Smell	Was Sample Collected?	Date Collected	Sample ID	Maximum Sample Depth (ft. bgs)	Residential Soil RSL Exceedances	Industrial Soil RSL Exceedances	Estimated Square feet	Estimated Average Depth	Estimated Bank Cubic yards
LORRAINE PROCESS AREA TEST PIT LOCATIONS													
LOR-TP-01	East of Tank 42	Yes	Minor oily staining at 4 ft. bgs	No odor	No	--	--	--	--	--	1371	4	203
LOR-TP-02	East of Tank 42	No	Refusal due to sandstone at 1 ft. bgs	--	No	--	--	--	--	--	--	--	--
LOR-TP-03	East of Tank 42	No	--	--	No	--	--	--	--	--	--	--	--
LOR-TP-04	East of Tank 42	No	Refusal due to sandstone at 0.5 ft. bgs	--	No	--	--	--	--	--	--	--	--
LOR-TP-05	Tank 42	Yes	Surface crust/tar and oily staining to 6 inches bgs, red clay below	No odor noted	No	--	--	--	--	--	4675	2	346
LOR-TP-06	Tank 42	Yes	Surface crust/tar followed by oily staining down to 1.5 ft. bgs	No odor noted	No	--	--	--	--	--			
LOR-TP-07	Tank 42	Yes	Black staining to 2 ft. bgs on southwest corner of pit	No odor noted	Yes	11/8/2017	LOR-TP-07-0.5	0.5	Arsenic	--			
						11/8/2017	LOR-TP-07-2.0	2.00	Arsenic	--			
LOR-WC-01	Tanks 42; co-located with LOR-TP-07	Yes	Black staining to 2 ft. bgs on southwest corner of pit	No odor noted	Yes	11/8/2017	LOR-WC-01	0.0	Arsenic, >C12 - C28 Hydrocarbons, >C28 - C35 Hydrocarbons	>C12 - C28 Hydrocarbons			
LOR-TP-16	Tanks 40-41	No	--	--	No	--	--	--	--	--	--	--	--
LOR-TP-08	Tanks 51-53	Yes	Staining/crust at surface; 4 inch layer of staining at 1.75 to 2 ft. bgs.	No odor noted	No	--	--	--	--	--	4442	3	494
LOR-TP-09	Tanks 51-53	Yes	Black staining from 2 to 4 inches bgs, sandstone layer encountred at 4 inches bgs, odor starting at 6 inches bgs becoming stronger with depth in loose gray sand.	Strong odor noted	Yes	11/8/2017	LOR-TP-09-0.5	0.5	Benzo(b)fluoranthene, Benzo(a)pyrene, Benzo(a)anthracene, Indeno(1,2,3-cd)pyrene, Dibenz(a,h)anthracene, Naphthalene, Arsenic	Benzo(a)pyrene, Benzo(a)anthracene, Dibenz(a,h)anthracene, Benzo(b)fluoranthene			
						11/8/2017	LOR-TP-09-2.0	2.0	Benzo(a)pyrene, Dibenz(a,h)anthracene, Benzo(a)anthracene, Arsenic	--			
						11/8/2017	LOR-TP-09-5.0	5.0	Arsenic	--			
LOR-TP-17	Tanks 51-53	Yes	Heavy staining to 0.5 ft bgs; lighter staining to 4 ft. bgs; hydrocarbon odor noted from 1.75 to 4 ft bgs; water with sheen seeping into pit at 2.5 to 3 ft. bgs	Hydrocarbon odor	No	--	--	--	--	--			
LOR-TP-21	Tanks 51-53	Yes	some staining noted 1 to 2 feet bgs, increasing westward	No odor noted	No	--	--	--	--	--			
LOR-TP-10	Tanks 51-53	No	--	--	No	--	--	--	--	--	--	--	--
LOR-TP-18	Tanks 51-53	Yes	Surface crust with minor staining below the crust, staining deepens and becomes more intense to the west.	No odor noted	No	--	--	--	--	--	1856	1	69
LOR-TP-19	Tanks 51-53	No	--	--	No	--	--	--	--	--	--	--	--
LOR-TP-11	--	No	NA - pit visually clean, Surface crust noted 2 feet south and east of pit/	No odor noted	No	--	--	--	--	--	--	--	--
LOR-TP-12	Tank 39	Yes	Crust and approximately six inches of surface staining; strong odor from 3 to 4 ft. bgs, yielded small ammount of oily water before backfilling.	Strong odor noted	Yes	11/8/2017	LOR-TP-12-0.5	0.5	Arsenic	--	4391	1	163
						11/8/2017	LOR-TP-12-2.0	2.00	Arsenic	--			
						11/8/2017	LOR-TP-12-5.0	5.00	Arsenic	--			
LOR-TP-13	Tank 38	Yes	North end of pit has stained soil to 2 ft. bgs., and strong odor from 1.75 to 2 ft. bgs; south end of pit has no staining or odor	Strong odor noted in north end of pit	No	--	--	--	--	--	Removal Action Covered Under the Source Control Record of Decision		
LOR-WC-02	Tank 38; co-located with LOR-TP-13	Yes	North end of pit has stained soil to 2 ft. bgs., and strong odor from 1.75 to 2 ft. bgs; south end of pit has no staining or odor	Strong odor noted in north end of pit	Yes	11/8/2017	LOR-WC-02	0.0	Benzo(a)anthracene, Benzo(b)fluoranthene, Arsenic, >C12 - C28 Hydrocarbons, >C28 - C35 Hydrocarbons, C6 - C12 Hydrocarbons	Arsenic, >C12 - C28 Hydrocarbons, >C28 - C35 Hydrocarbons			
LOR-TP-14	Tank 38	Yes	Staining and odor to depth of 4 ft. bgs	Odor noted as increasing with depth	Yes	11/8/2017	LOR-TP-14-0.5	0.5	Arsenic	--			
						11/8/2017	LOR-TP-14-2.0	2.0	Arsenic	--			
						11/8/2017	LOR-TP-14-6.0	6.0	Arsenic	--			
						11/8/2017	LOR-TP-14-10	10.0	Arsenic	--			
LOR-TP-15	Tank 38	Yes	Slight staining from 0 to 1 ft, bgs	No odor noted	No	--	--	--	--	--	1699	1	63
LOR-TP-20	Tanks 51-53	No	--	--	No	--	--	--	--	--	--	--	--
LPA-SA-01	House/Trees	Yes	1.5" of solid petroleum waste on surface/stained soil	No odor noted	Yes	8/18/2020	LPA-SA-01	1.00	Benzo[a]pyrene, Arsenic	--	--	--	--
LPA-SA-02	Church & Railroad tracks	Yes	2" of solid petroleum waste on surface/stained soil	No odor noted	Yes	8/18/2020	LPA-SA-02	1.00	Arsenic	Arsenic	--	--	--
WILCOX PROCESS AREA WASTE CHARACTERIZATION SAMPLE LOCATIONS													
WPA-WC-01	Lead Additive Area	Yes	Lead-impacted soil	No odor noted	Yes	4/25/2017	WPA-WC-01	0.0	TCLP Lead	TCLP Lead	Removal Action Covered Under the Source Control Record of Decision		
WPA-WC-02	Lead Additive Area	Yes	Lead-impacted soil	No odor noted	Yes	4/25/2017	WPA-WC-02	0.0	TCLP Lead	TCLP Lead			
WPA-WC-03	Lead Additive Area	Yes	Lead-impacted soil	No odor noted	Yes	3/6/2018	WPA-WC-03	0.0	Arsenic, Lead	Lead			
WPA-WC-04	Lead Additive Area	Yes	Lead-impacted soil	No odor noted	Yes	3/6/2018	WPA-WC-04	0.0	Arsenic, Lead, >C12 - C28 Hydrocarbons, Benzo(a)pyrene, Dibenz(a,h)anthracene	Lead			
WPA-WC-05	Lead Additive Area	Yes	Lead-impacted soil	No odor noted	Yes	3/6/2018	WPA-WC-05	0.0	Lead, >C12 - C28 Hydrocarbons, Benzo(a)pyrene	Lead			

Table 7 Test Pit and Waste Characterization Summary Table

Test Pit/Waste Characterization Sample Location	Associated Historical Structure(s)	Waste Material Present?	If Present, Material Description	If Present, Material Smell	Was Sample Collected?	Date Collected	Sample ID	Maximum Sample Depth (ft. bgs)	Residential Soil RSL Exceedances	Industrial Soil RSL Exceedances	Estimated Square feet	Estimated Average Depth	Estimated Bank Cubic yards
WPA-SA-01	Former Loading Tower	No Visual Material	N/A	No odor noted	Yes	8/18/2020	WPA-SA-01	1.00	Benzo[a]anthracene, Benzo[a]pyrene, Dibenz[a,h]anthracene, Arsenic	--	--	--	--
WPA-SA-02	Roadway	Yes	3" of solid petroleum waste on surface/stained soil	No odor noted	Yes	8/18/2020	WPA-SA-02	1.00	Benzo[a]anthracene, Benzo[a]pyrene, Dibenz[a,h]anthracene, Arsenic	Benzo[a]pyrene, Arsenic	--	--	--
WPA-SA-03	None	Yes	2" of solid petroleum waste on surface/stained soil	No odor noted	Yes	8/20/2020	WPA-SA-03	1.00	Benzo[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Indeno[1,2,3-c,d]pyrene, Naphthalene, Arsenic	Benzo[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Naphthalene	--	--	--
WPA-SA-04	None	Yes	2" of solid petroleum waste on surface/stained soil	No odor noted	Yes	8/20/2020	WPA-SA-04	1.00	Benzo[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[k]fluoranthene, Crysene, Dibenz[a,h]anthracene, Dibenzofuran, Fluoranthene, Indeno[1,2,3-c,d]pyrene, Naphthalene, Pyrene, Arsenic, Lead	'Benzo[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Dibenz[a,h]anthracene, Indeno[1,2,3-c,d]pyrene, Arsenic, Lead	--	--	--
EAST TANK FARM PROCESS AREA TEST PIT LOCATIONS													
ETF-TP-01	Tank 8	Yes	Stained soil; tarry material at 1 ft bgs	No odor	Yes	11/8/2017	ETF-TP-01	0.5	Arsenic	Arsenic	4847	1	180
						11/8/2017	ETF-TP-01-0-2	2	Arsenic	--			
ETF-WC-02	Tank 8; co-located with ETF-TP-01	Yes	Stained soil; tarry material at 1 ft bgs	No odor	Yes	11/8/2017	ETF-WC-02	0.0	Arsenic, >C12 - C28 Hydrocarbons, C6 - C12 Hydrocarbons, >C28 - C35 Hydrocarbons	>C12 - C28 Hydrocarbons,			
ETF-TP-05	Tank 8	Yes	Oily stained soil to approximately 10 inches bgs	Hydrocarbon odor	No	--	--	--	--	--			
ETF-TP-07	Tank 8	No	NA; Uncovered large wooden board, black	No odor	No	--	--	--	--	--	--	--	--
ETF-TP-02	Tank 8	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-03	Tank 8	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-04	Tank 8	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-06	Tank 8	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-08	Tank 8	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-09	Tank 8	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-10	Tank 8	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-11	Tank 8	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-12	Tank 8	No	Dark gray sand	No odor	No	--	--	--	--	--	--	--	--
ETF-TP-13	Tank 8	No	Dark gray sand	No odor	No	--	--	--	--	--	--	--	--
ETF-TP-14	Tank 8	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-15	Tank 8	Yes	Black slag to ten inches, then visually clean	No odor noted	No	--	--	--	--	--	2085	1	77
ETF-TP-16	Tank 9	No	--	--	No	--	--	--	--	--	--	--	
ETF-TP-17	Tank 9	Yes	Stained and oily soil; cemented sandstone at 2 feet	No odor noted	No	--	--	--	--	--	2857	2	212
ETF-TP-18	Tank 9	Yes	Stained soil; soil slightly oily at 2 ft. bgs	No odor noted	No	--	--	--	--	--			
ETF-TP-19	Tank 9	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-20	Tank 9	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-21	Tank 9	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-22	Tank 9	Yes	Tar-like material encountered; still somewhat pliable	No odor noted	No	--	--	--	--	--	14742	2	1092
ETF-TP-23	Tank 9	Yes	Stained soil, tar at 2 ft. bgs	No odor noted	No	--	--	--	--	--			
ETF-TP-24	Tank 9	Yes	Soil staining at 2 ft bgs	No odor noted	No	--	--	--	--	--			
ETF-TP-34	Tank 9	Yes	Three to four inches of black staining approximately 2 ft. bgs	No odor noted	No	--	--	--	--	--			
ETF-TP-35	Tank 9	Yes	Black stained sandstone at approximately 18 inches bgs.	Burnt rubber odor	No	--	--	--	--	--			
ETF-TP-36	Tank 9	Yes	Visual staining from 6 to 18 inches bgs	No odor noted	No	--	--	--	--	--			
ETF-TP-25	Tank 9	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-26	Tank 9	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-27	Tank 9	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-33	Tank 9	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-28	Former Wood Tank and Oil Pump House	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-29	Former Wood Tank and Oil Pump House	Yes	Surficial asphalt-like material	No odor noted	No	--	--	--	--	--	1704	1	63
ETF-TP-30	Former Wood Tank and Oil Pump House	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-31	Former Wood Tank and Oil Pump House	Yes	Surficial crust to 6 inches bgs	No odor noted	No	--	--	--	--	--	2510	1	93
ETF-TP-32	Former Wood Tank and Oil Pump House	No	Six inch steel pipe at location	--	Yes	11/2/2017	ETF-TP-32-0.5	0.5	Arsenic	--	--	--	--
					Yes	11/2/2017	ETF-TP-32-2.0	2	Arsenic	Arsenic	--	--	--

Table 7 Test Pit and Waste Characterization Summary Table

Test Pit/Waste Characterization Sample Location	Associated Historical Structure(s)	Waste Material Present?	If Present, Material Description	If Present, Material Smell	Was Sample Collected?	Date Collected	Sample ID	Maximum Sample Depth (ft. bgs)	Residential Soil RSL Exceedances	Industrial Soil RSL Exceedances	Estimated Square feet	Estimated Average Depth	Estimated Bank Cubic yards
ETF-TP-37	Tank 7	Yes	Black staining from 1 to 2 ft. bgs	No odor noted	No	--	--	--	--	--	4097	2	303
ETF-TP-38	Tank 7	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-39	Tank 7	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-40	Tank 7	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-41	Tank 7	Yes	Some pieces of tar at 6 to 8 inches bgs	No odor noted	No	--	--	--	--	--			
ETF-TP-42	Tank 7	Yes	Approximately 0.5 to 1 ft. of tar noted at 2 to 3 ft. bgs	No odor noted	No	--	--	--	--	--	8013	3	890
ETF-TP-45	Tank 7	Yes	Black tar layer at 3 ft. bgs	No odor noted	No	--	--	--	--	--			
ETF-TP-43	Tank 7	No	NA; noted that approximately 0.5 to 1 ft. of water accumulation after excavating	--	No	--	--	--	--	--	--	--	--
ETF-TP-44	Tank 7	Yes	Minor staining at 0.5 ft. bgs; staining also present on top of sandstone bedrock	No odor noted	No	--	--	--	--	--	4097	0.5	76
ETF-TP-46	Tanks 14-17	No	NA; noted that at approximately 1 ft. bgs, pit was saturated with groundwater.	No odor noted	No	--	--	--	--	--	--	--	--
ETF-TP-47	Tanks 14-17	Yes	Minor staining 1 to 2 inches thick at bottom of pit; refusal at 2 ft. bgs	No odor noted	No	--	--	--	--	--	4688	2	347
ETF-TP-48	Former Produced Water/Evaporation Ponds	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-49	Former Produced Water/Evaporation Ponds	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-50	Tank 13	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-51	Tank 4	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-52	Tank 4	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-53	Tank 4	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-54	Tank 4	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-55	Tank 4	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-56	Tank 4	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-57	Tank 4	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-58	Tank 4	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-59	Tank 4	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-60	Tank 4	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-61	Tank 4	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-62	Tank 4	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-63	Tank 4	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-64	Tank 4	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-65	Tank 4	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-66	Tank 4	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-67	Tank 4	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-68	Tank 4	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-69	Tank 4	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-70	Tank 1	No	--	--	No	--	--	--	--	--	--	--	--
ETF-TP-71	Tank 1	Yes	Crust on Surface	None noted	No	--	--	--	--	--	Removal Action Covered Under the		
ETF-SA-01	Field/Pasture	No	--	No odor noted	Yes	8/18/2020	ETF-SA-01	1.00	Arsenic	--		1	
ETF-SA-02	Field/Pasture	No	--	No odor noted	Yes	8/19/2020	ETF-SA-02	1.00	Arsenic	--		1	
ETF-SA-03	Field behind house east of log cabin	Yes	1.5" of solid petroleum waste on surface/stained soil	No odor noted	Yes	8/19/2020	ETF-SA-03	1.00	Arsenic	--		1	
ETF-SA-04	Behind Log Cabin	Yes	1.5" of solid petroleum waste on surface/stained soil	No odor noted	Yes	8/19/2020	ETF-SA-04	1.00	Arsenic	Arsenic		1	
ETF-SA-05	Behind Log Cabin	Yes	2" of solid petroleum waste on surface/stained soil	No odor noted	Yes	8/19/2020	ETF-SA-05	1.00	'Benzo[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Dibenz[a,h]anthracene, Indeno[1,2,3-c,d]pyrene, Arsenic	Benzo[a]pyrene, Dibenz[a,h]anthracene, Arsenic		1	
ETF-SA-06	Field behind house east of log cabin	Yes	1.5" of solid petroleum waste on surface/stained soil	No odor noted	Yes	8/19/2020	ETF-SA-06	1.00	Arsenic	--		1	
ETF-SA-07	Behind Log Cabin	Yes	1.5" of solid petroleum waste on surface/stained soil	No odor noted	Yes	8/19/2020	ETF-SA-07	1.00	Arsenic	--		1	
ETF-SA-08	Behind Log Cabin	Yes	1.5" of solid petroleum waste on surface/stained soil	No odor noted	Yes	8/19/2020	ETF-SA-08	1.00	Arsenic	Arsenic		1	
EAST TANK FARM WASTE CHARACTERIZATION SAMPLE LOCATIONS													
ETF-WC-01	East of Tank 3	Yes	NA	NA	Yes	4/25/2017	ETF-WC-01	0.0	>C12 - C28 Hydrocarbons, C6 - C12 Hydrocarbons, >C28 - C35 Hydrocarbons	>C12 - C28 Hydrocarbons, C6 - C12 Hydrocarbons, >C28 - C35 Hydrocarbons	Removal Action Covered Under the Source Control Record of Decision		
NORTH TANK FARM PROCESS AREA TEST PIT LOCATIONS													
NTF-TP-01	Near Railroad Tracks, southeast of Tank 70	Yes	Hard crust on surface only	None	No	--	--	--	--	--			
NTF-TP-02	Southeast of Tank 70, near Railroad Tracks	Yes	Hard crust on surface only	None	Yes		NTF-WC-04		Benzo(a)pyrene, >C12 - C28 Hydrocarbons, >C28 - C35 Hydrocarbons, C6 - C12 Hydrocarbons	>C12 - C28 Hydrocarbons, >C28 - C35 Hydrocarbons	6964	1	258
NTF-TP-03	Near Tank 70	No	--	--	No	--	--	--	--	--	---	---	---
NTF-TP-07	Former Separator Pond	No	--	--	No	--	--	--	--	--	---	---	---
NTF-TP-08	Former Separator Pond	No	--	--	No	--	--	--	--	--	---	---	---
NTF-TP-09	Former Separator Pond	No	--	--	No	--	--	--	--	--	---	---	---
NTF-TP-10	South of Former Separator Pond	No	--	--	No	--	--	--	--	--	---	---	---

Table 7 Test Pit and Waste Characterization Summary Table

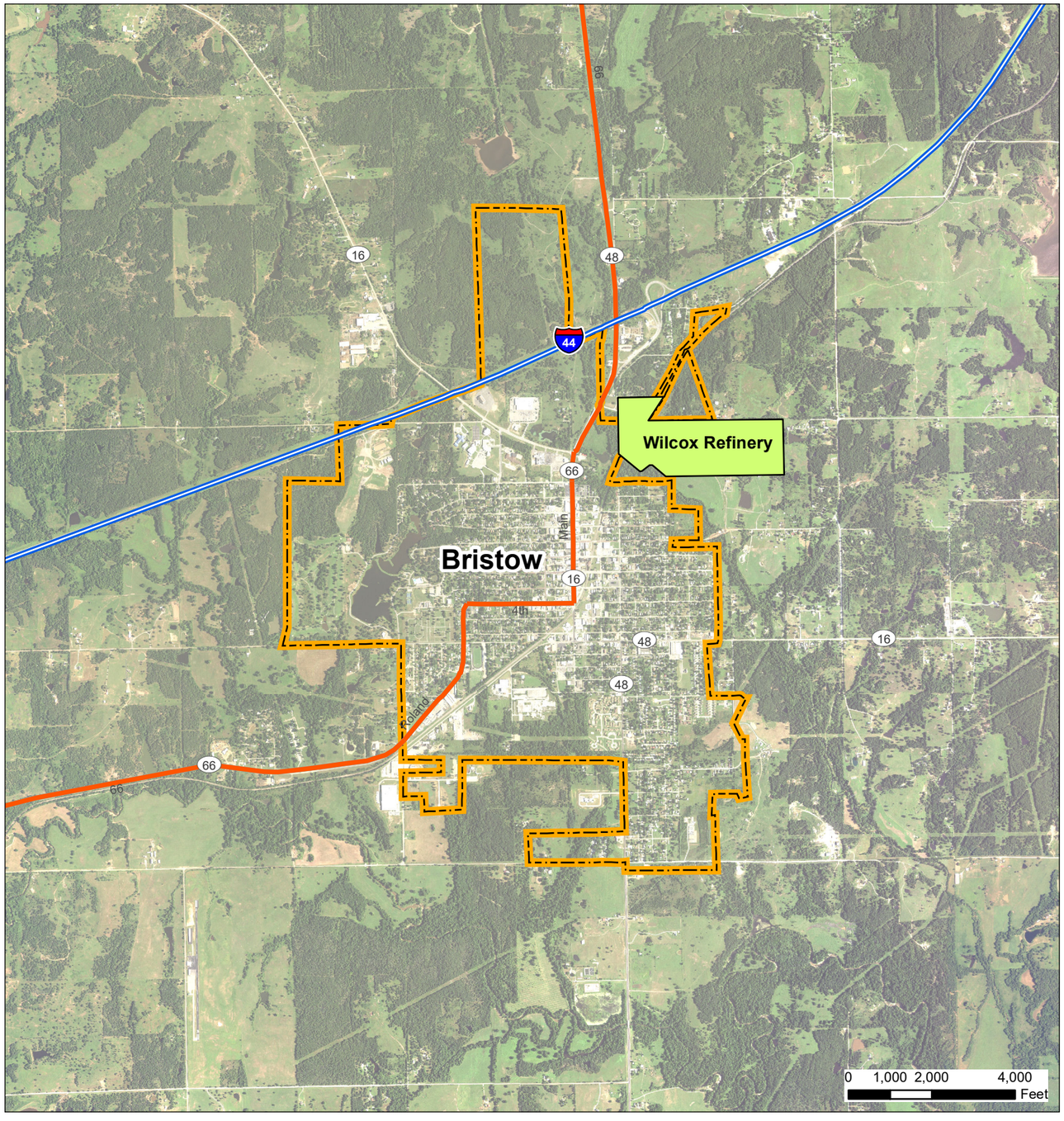
Test Pit/Waste Characterization Sample Location	Associated Historical Structure(s)	Waste Material Present?	If Present, Material Description	If Present, Material Smell	Was Sample Collected?	Date Collected	Sample ID	Maximum Sample Depth (ft. bgs)	Residential Soil RSL Exceedances	Industrial Soil RSL Exceedances	Estimated Square feet	Estimated Average Depth	Estimated Bank Cubic yards
NTF-TP-11	South of Former Separator Pond	Yes	Tar on surface to 8"	slight petroleum odor	Yes	11/8/2017	NTF-WC-02	0.0	Benzo(a)anthracene, Arsenic, >C12 - C28 Hydrocarbons, >C28 - C35 Hydrocarbons, C6 - C12 Hydrocarbons	>C12 - C28 Hydrocarbons, >C28 - C35 Hydrocarbons	2642	1	98
NTF-TP-12	South of Former Separator Pond	No	--	--	No	--	--	--	--	--	---	---	---
NTF-TP-13	Southeast of Former Separator Pond	No	--	--	No	--	--	--	--	--	---	---	---
NTF-TP-14	Southeast of Former Separator Pond	Yes	Hard crust on surface only	No odor noted	No	--	--	--	--	--			
NTF-TP-16	Southeast of Former Separator Pond	Yes	Hard crust on surface only	No odor noted	Yes	11/8/2017	NTF-WC-03	0.0	Arsenic, >C12 - C28 Hydrocarbons, >C28 - C35 Hydrocarbons, C6 - C12 Hydrocarbons	>C12 - C28 Hydrocarbons	11850	1	439
NTF-TP-15	Southeast of Former Separator Pond	No	--	--	No	--	--	--	--	--	---	---	---
NTF-TP-04	Tank 70	No	--	--	No	--	--	--	--	--	---	---	---
NTF-TP-06	Northeast of Tank 70	No	--	--	No	--	--	--	--	--	---	---	---
NTF-TP-05	Near Tank 70	Yes	Hard Crust on surfce only	None noted	No	--	--	--	--	--			
NTF-TP-17	Tank 70	Yes	Hard crust on surface only	None noted	No	--	--	--	--	--	5102	1	189
NTF-TP-18	Tank 70	Yes	Hard crust on surface only	None noted	No	--	--	--	--	--			
NTF-TP-19	Tank 70	No	--	--	No	--	--	--	--	--	---	---	---
NTF-TP-20	Tank 70	No	--	--	No	--	--	--	--	--	---	---	---
NTF-TP-21	Tank 70	No	--	--	No	--	--	--	--	--	---	---	---
NTF-TP-22	Tank 69	No	--	--	No	--	--	--	--	--	Removal Action Covered Under the Source Control Record of Decision		
NTF-TP-23	Tank 69	No	--	--	No	--	--	--	--	--			
NTF-TP-24	Tank 69	Yes	Tar and product noted	Petroleum odor	Yes	11/8/2017	NTF-WC-01	0.0	Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene, Naphthalene, >C12 - C28 Hydrocarbons, >C28 - C35 Hydrocarbons, C6 - C12 Hydrocarbons	Benzo(a)pyrene, >C12 - C28 Hydrocarbons			
NTF-TP-25	Tank 69	Yes	Tar	None	No	--	--	--	--	--			
NTF-TP-26	Tank 69	Yes	Tar	None	No	--	--	--	--	--			
NTF-TP-27	Tank 69	Yes	Tar	None	No	--	--	--	--	--			
NTF-TP-28	Between Tanks 68 and 69	Yes	Crust on surface only	None noted	No	--	--	--	--	--	5995	1	222
NTF-TP-29	Tank 68	No	--	--	No	--	--	--	--	--	---	---	---
NTF-TP-30	Tank 67	Yes	Thin crust at 6"bgs only.	None noted	No	--	--	--	--	--	6227	1	231
NTF-SA-01	House	Yes	2" of solid petroleum waste on surface/stained soil	No odor noted	Yes	8/18/2020	NTF-SA-01	1.00	Arsenic	--		1	
NTF-SA-02	Roadway	Yes	2" of solid petroleum waste on surface/stained soil	No odor noted	Yes	8/18/2020	NTF-SA-02	1.00	Arsenic	--		1	
NTF-SA-03	House & Railroad tracks	Yes	2" of solid petroleum waste on surface/stained soil	No odor noted	Yes	8/18/2020	NTF-SA-03	1.00	Arsenic	--		1	
NTF-SA-04	Landfill	Yes	2" of solid petroleum waste on surface/stained soil	No odor noted	Yes	8/19/2020	NTF-SA-04	1.00	Arsenic	--		1	
NTF-SA-05	Landfill & Roadway	Yes	2" of solid petroleum waste on surface/stained soil	No odor noted	Yes	8/18/2020	NTF-SA-05	1.00	Arsenic	--		1	
LOADING DOCK AREA TEST PIT LOCATIONS													
LDA-TP-01	Along Railroad Tracks	Yes	Crusted surface; stained oily soil	Odor noted	Yes	11/8/2017	LDA-WC-01	0.0	Benzo(a)pyrene, Naphthalene, Arsenic, >C12 - C28 Hydrocarbons, >C28 - C35 Hydrocarbons, C6 - C12 Hydrocarbons	Arsenic, >C12 - C28 Hydrocarbons, C6 - C12 Hydrocarbons	10411	1	386
LDA-TP-02	Along Railroad Tracks	Yes	Stained oily soil	Odor noted	Yes	11/8/2017	LDA-TP-02-0.5	0.5	Benzo(a)pyrene, Arsenic	--			
						11/8/2017	LDA-TP-02-2.0	2.0	Benzo(b)fluoranthene, Benzo(a)pyrene, Dibenz(a,h)anthracene, Benzo(a)anthracene, Arsenic				
						11/8/2017	LDA-TP-02-5.0	5.0	Arsenic	--			
LDA-TP-03	Along Railroad Tracks	Yes	Crusted surface; stained oily soil	Odor noted	No	--	--	--	--	--			
LDA-TP-04	Along Railroad Tracks	Yes	Crusted surface and stained soil	No odor noted	No	--	--	--	--	--			
LDA-TP-05	Along Railroad Tracks	Yes	Staining to depth	Slight odor noted	No	--	--	--	--	--			
LDA-TP-06	Along Railroad Tracks	Yes	Crusted soil and staining	No odor noted	No	--	--	--	--	--			
LDA-TP-08	Along Railroad Tracks	Yes	Crusted surface; stained oily soil	No odor noted	No	--	--	--	--	--			
LDA-TP-15	Along Railroad Tracks	Yes	Crusted surface; stained oily soil	Slight odor noted	Yes	11/8/2017	LDA-WC-03	0.0	Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene, Naphthalene, >C12 - C28 Hydrocarbons, >C28 - C35 Hydrocarbons, C6 - C12 Hydrocarbons	Benzo(a)pyrene, Dibenz(a,h)anthracene, >C12 - C28 Hydrocarbons			
LDA-TP-07	Along Railroad Tracks	No	--	--	No	--	--	--	--	--			
LDA-TP-09	Along Railroad Tracks	No	--	--	No	--	--	--	--	--	--	--	--
LDA-TP-10	Along Railroad Tracks	No	--	--	No	--	--	--	--	--	--	--	--
LDA-TP-11	Along Railroad Tracks	No	--	--	No	--	--	--	--	--	--	--	--
LDA-TP-12	Along Railroad Tracks	No	--	--	No	--	--	--	--	--	--	--	--

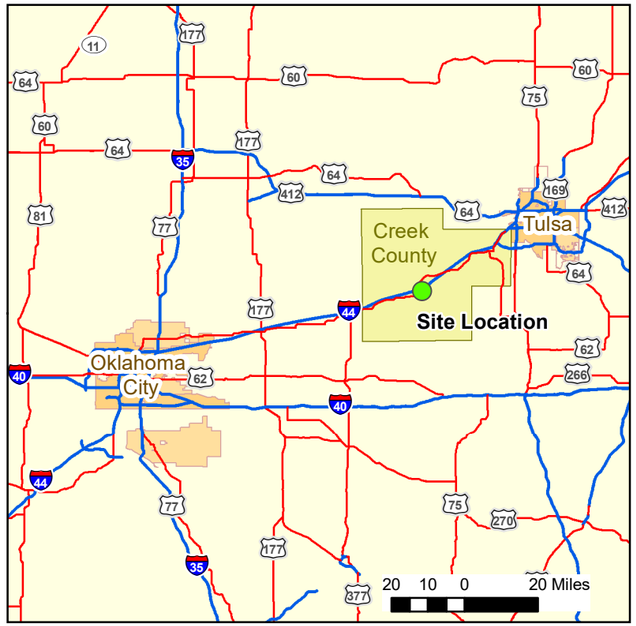
Table 7 Test Pit and Waste Characterization Summary Table

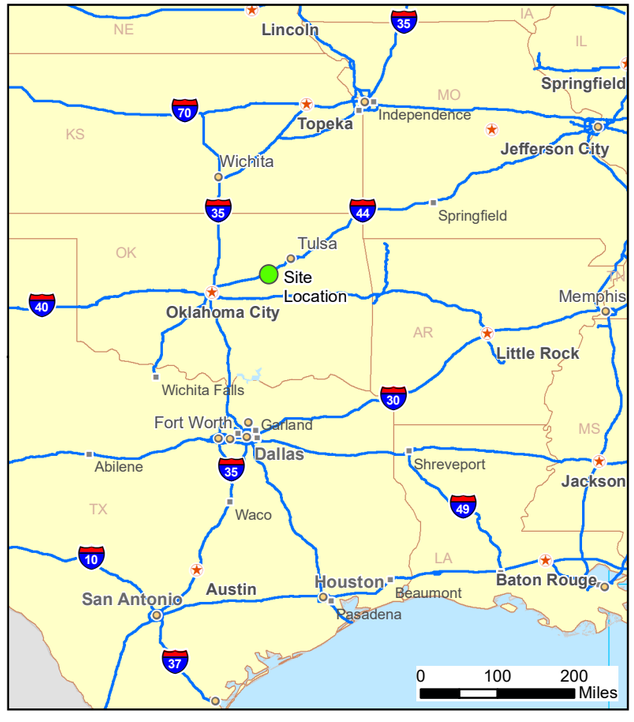
Test Pit/Waste Characterization Sample Location	Associated Historical Structure(s)	Waste Material Present?	If Present, Material Description	If Present, Material Smell	Was Sample Collected?	Date Collected	Sample ID	Maximum Sample Depth (ft. bgs)	Residential Soil RSL Exceedances	Industrial Soil RSL Exceedances	Estimated Square feet	Estimated Average Depth	Estimated Bank Cubic yards
LDA-TP-13	Along Railroad Tracks	No	--	--	No	--	--	--	--	--	--	--	--
LDA-TP-14	Along Railroad Tracks	Yes	Crusted surface; stained oily soil	No odor noted	Yes	11/8/2017	LDA-WC-02	0.0	Benzo(a)pyrene, Arsenic, >C12 - C28 Hydrocarbons, >C28 - C35 Hydrocarbons, C6 - C12 Hydrocarbons	Arsenic, >C12 - C28 Hydrocarbons,	4447	1	165
LDA-TP-15	Along Railroad Tracks	No	--	--	No	--	--	--	--	--	--	--	--
LDA-TP-16	Along Railroad Tracks	No	--	--	No	--	--	--	--	--	--	--	--
LDA-TP-17	Along Railroad Tracks	No	--	--	No	--	--	--	--	--	--	--	--
LDA-TP-18	Along Railroad Tracks	No	--	--	No	--	--	--	--	--	--	--	--
LDA-TP-19	Along Railroad Tracks	No	--	--	No	--	--	--	--	--	--	--	--
LDA-TP-20	Along Railroad Tracks	No	--	--	No	--	--	--	--	--	--	--	--
LDA-TP-21	Along Railroad Tracks	No	--	--	No	--	--	--	--	--	--	--	--
LDA-TP-22	Along Railroad Tracks	No	--	--	No	--	--	--	--	--	--	--	--

FIGURES

M:\Federal\EPA\RAC II\0128-Wilcox Oil RI-FS\GIS\MXDs\RI\1-Wilcox Location Map.mxd 11/15/2019 EA-Dallas jschwertz







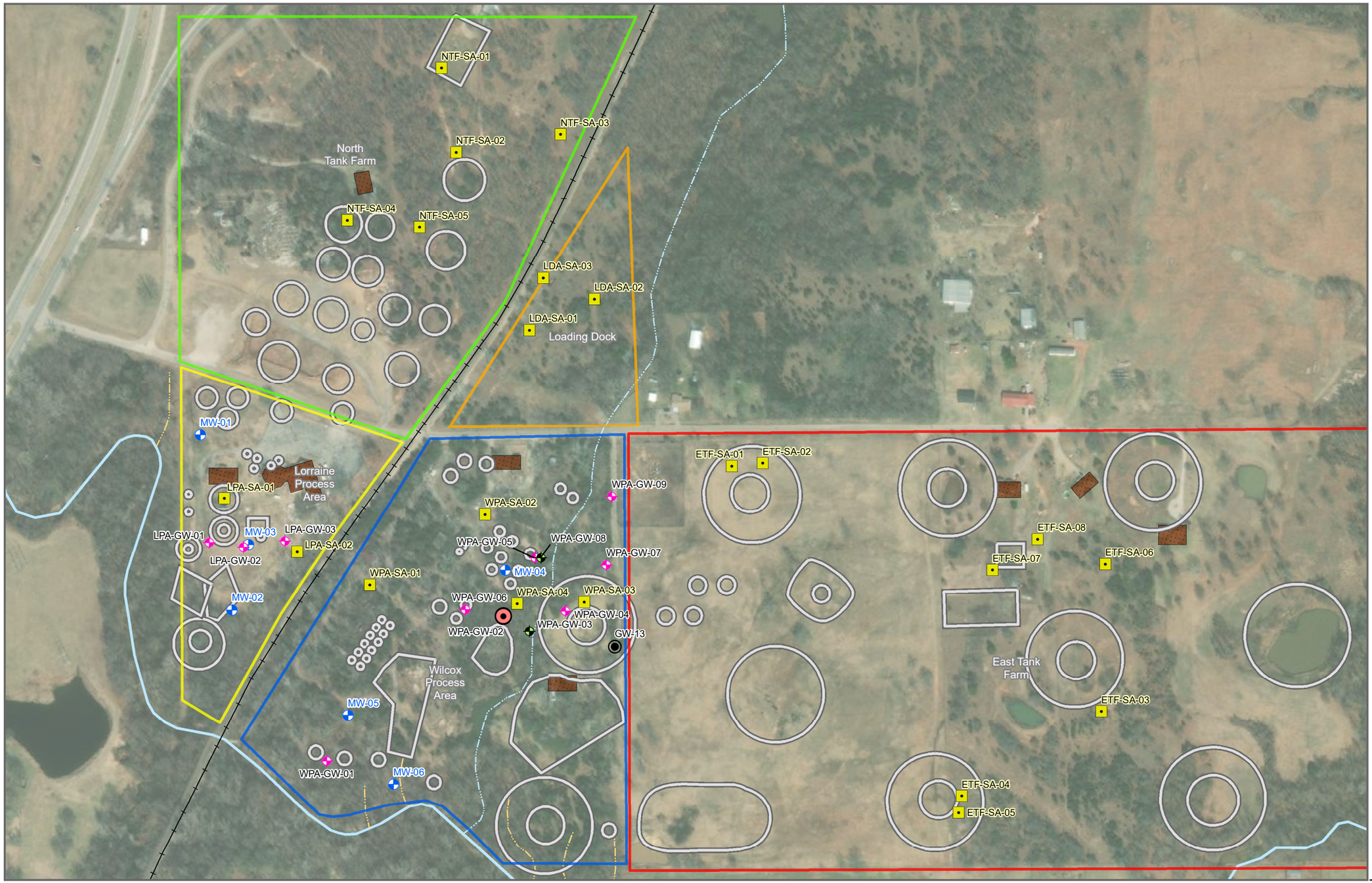
Legend

- Interstate
- Highway
- Bristow City Boundary

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Image Source: National Agriculture Imagery Program 2015

Figure 1
Site Location Map



Legend

- Temporary Well Location
- Hydropunch Location
- Monitoring Well Location
- Temporary Well Not Completed Refusal
- Surface Waste Sample Location
- Private Well

Source Area

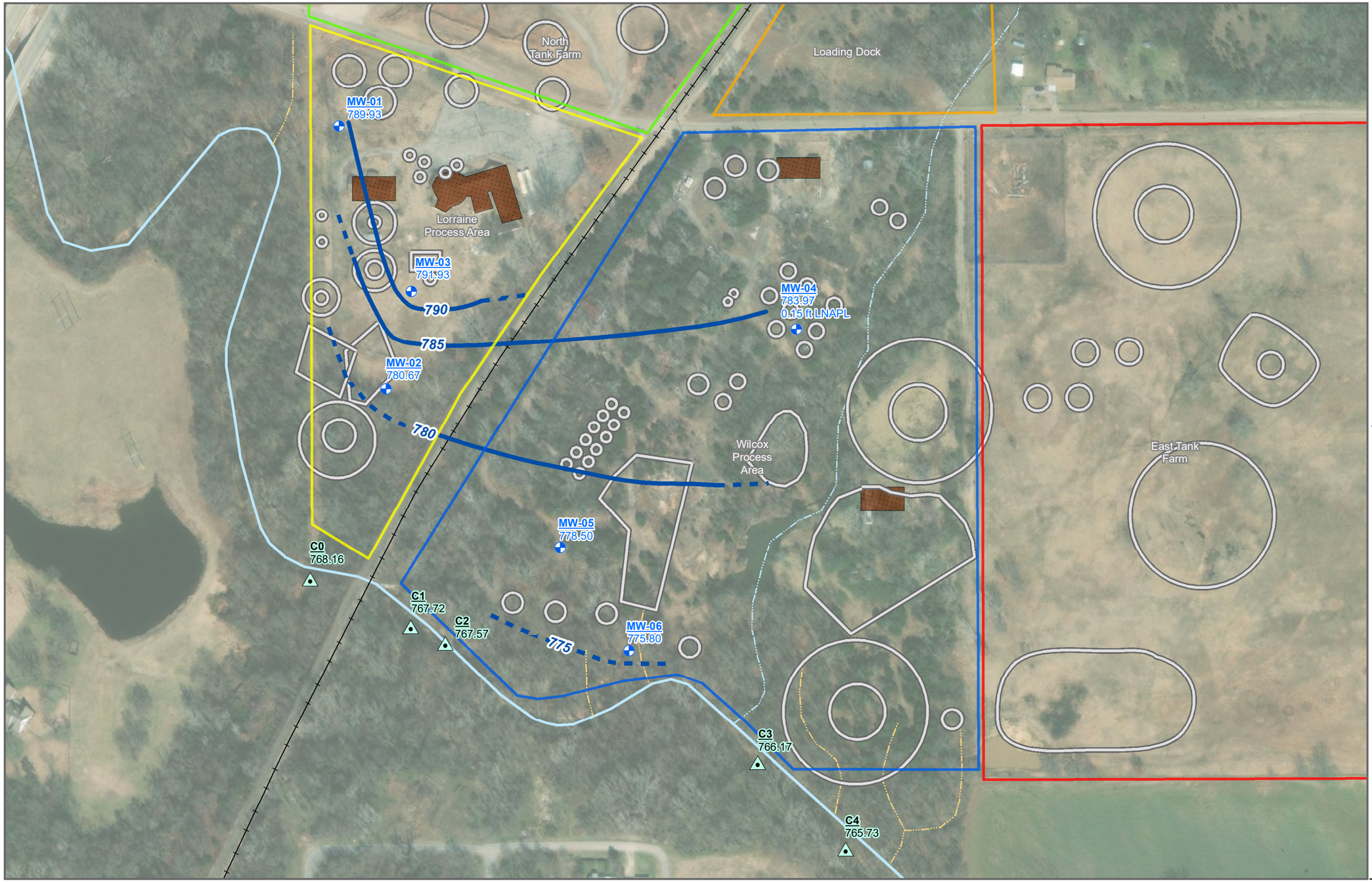
- East Tank Farm
- Loading Dock Area
- Lorraine Process Area
- North Tank Farm
- Wilcox Process Area
- Railroad
- Historical Feature
- On-site Building
- Drainage
- Stream, Intermittent
- Stream, Perennial

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Wilcox Oil Company
Bristow, Creek County, Oklahoma

Figure 2
Sample Locations
August 2020

C:\Users\eoarnpio\Desktop\WORKING PROJECT FILES\WILCOX\GEODATABASE_J_SCHWERTZ\MXDs\TM_20200908\Fig2_SampleLocs20200908.mxd 12/2/2020 EA eoarnpio



N

0 100 200
Feet

Legend

- Groundwater Elevations (ft AMSL)
- Creek Elevations (ft AMSL)

Source Area

- East Tank Farm
- Loading Dock Area
- Lorraine Process Area
- North Tank Farm
- Wilcox Process Area
- Potentiometric Surface (ft AMSL)
- Estimated Potentiometric Surface (ft AMSL)
- Railroad
- Historical Feature
- On-site Building
- Drainage
- Stream, Intermittent
- Stream, Perennial

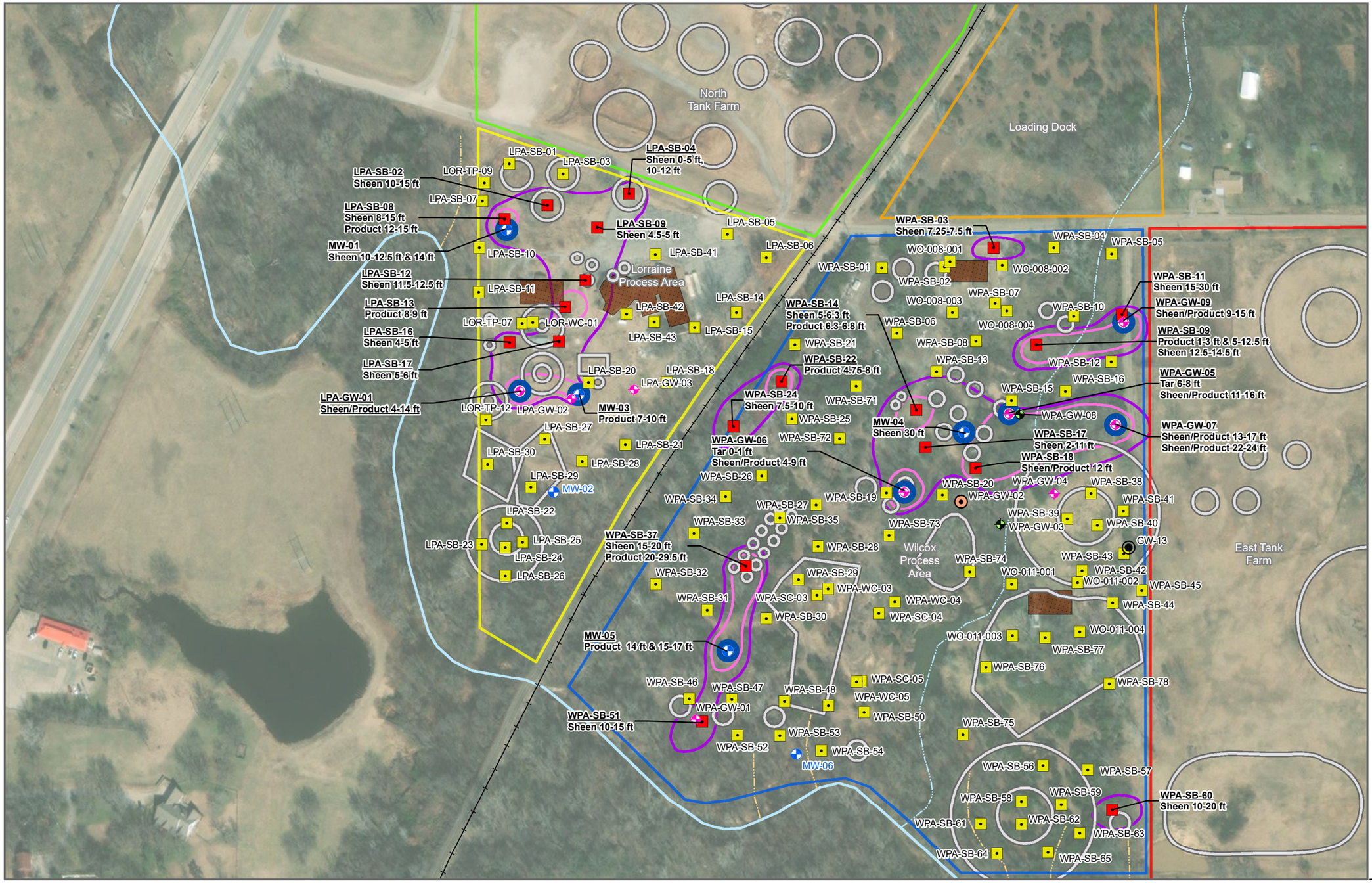
Notes:
ft AMSL = feet above mean sea level
LNAPL = light non-aqueous phase liquid

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

C:\Users\cempie\Desktop\WORKING PROJECT FILES\WILCOX\GEODATABASE_1_SCHWERTZ\MXD\aTM_20200812\Fig3_GW_202008.mxd 12/2/2020 EA cempie

Wilcox Oil Company
Bristow, Creek County, Oklahoma

Figure 3
Groundwater and Creek Elevations
August 2020



Legend

- Hydropunch Location
- Temporary Well Location
- Temporary Well Not Completed Refusal
- Private Well
- Soil Sample Location with Product/Sheen
- Soil Sample Location
- Monitoring Well Location
- Monitoring and Temporary Well Location with Product/Sheen

Source Area

- East Tank Farm
- Loading Dock Area
- Lorraine Process Area
- North Tank Farm
- Wilcox Process Area
- Railroad
- Historical Feature
- On-site Building
- Drainage
- Stream, Intermittent
- Stream, Perennial
- Estimated Extent of Product
- Estimated Extent of Sheen

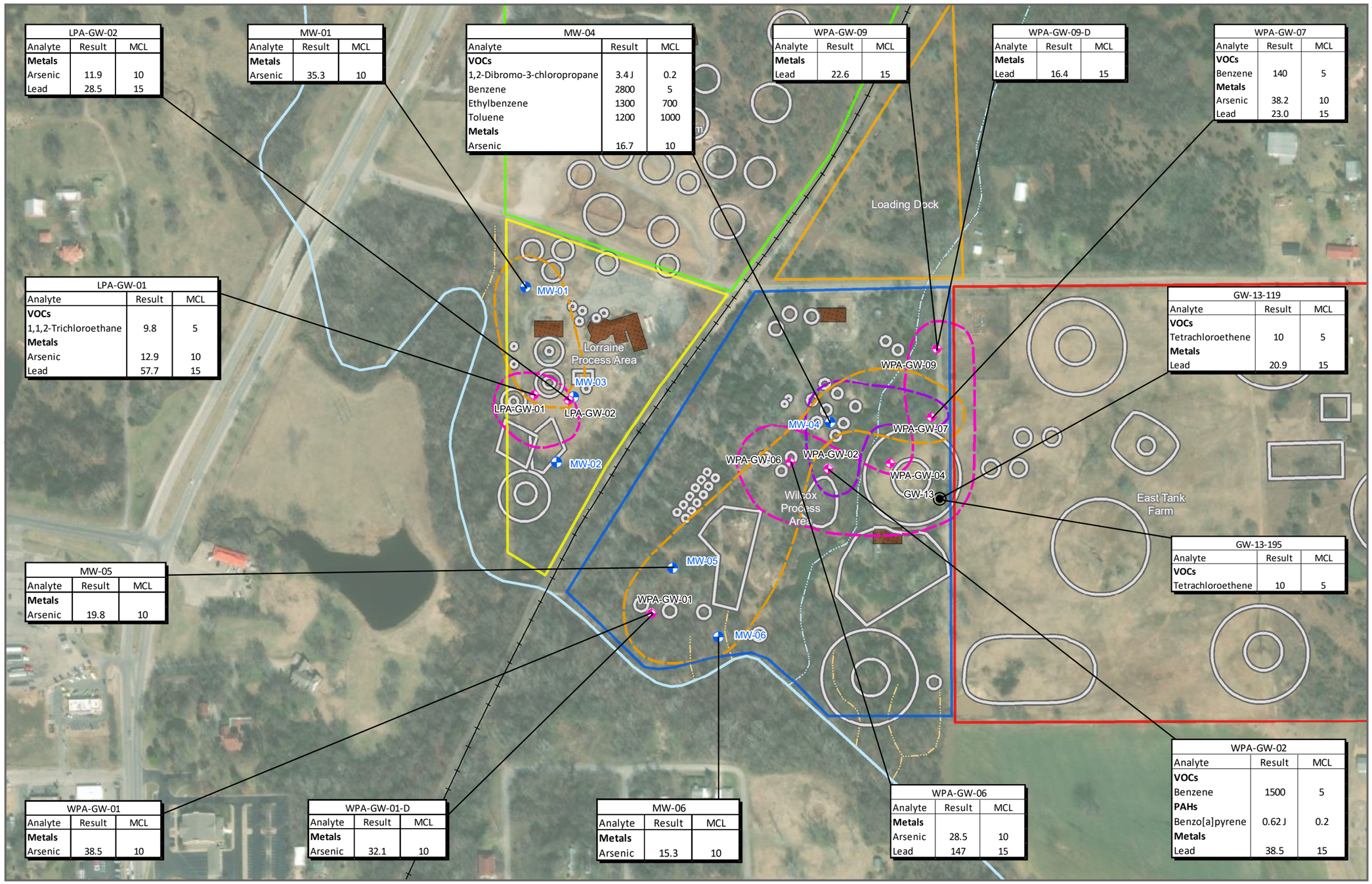
Notes:
Refer to Table 2 for NAPL depths and description.
ft = foot/feet
Borings with only discoloration or odor where not included as having product or sheen.

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

C:\Users\escampio\Desktop\WORKING PROJECT FILES\WILCOX\GEODATABASE_J_SCHWERTNER\MXD\TM_20200915\Fig4_SB_NAPL_20200915.mxd 12/3/2020 EA escampio

Wilcox Oil Company
Bristow, Creek County, Oklahoma

Figure 4
Distribution of Product/Sheen
August 2020



Notes:
All units are micrograms per liter.
J = Estimated concentration
MCL = Maximum Contaminant Level
PAH = Polycyclic aromatic hydrocarbon
VOC = Volatile organic compound

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Wilcox Oil Company
Bristow, Creek County, Oklahoma

Figure 5
MCL Exceedances for Groundwater Samples
August 2020

C:\Users\eanpin\Desktop\WORKING PROJECT FILES\WILCOX\GEODATABASE_J_SCHWERTNER\MXD\aTM_20200818\Fig5_MCL_Exceedance_GW_20200818.mxd 1/22/2020 EA eanpin

LPA-GW-02		
Analyte	Result	RSL
PAHs		
2-Methylnaphthalene	88	36
Naphthalene	24	0.12
Metals		
Aluminum	39800	20000
Cobalt	16.1	6
Manganese	552	430

MW-01		
Analyte	Result	RSL
PAHs		
Naphthalene	39 J-	0.12
Metals		
Iron	48,800	14,000
Cobalt	9.87	6
Manganese	794	430

MW-04		
Analyte	Result	RSL
PAHs		
2-Methylnaphthalene	41	36
Benzo[a]anthracene	0.68 J-	0.68
Metals		
Iron	27,100	14,000
Manganese	2870	430

WPA-GW-09		
Analyte	Result	RSL
PAHs		
Naphthalene	1.1	0.12
Metals		
Cobalt	9.14	6
Iron	38,700	14,000
Manganese	1050	430

WPA-GW-09-D		
Analyte	Result	RSL
PAHs		
Naphthalene	0.96	0.12
Metals		
Iron	27,200	14,000
Cobalt	7.81	6
Manganese	975	430

WPA-GW-07		
Analyte	Result	RSL
PAHs		
Naphthalene	100 J	0.12
Metals		
Cobalt	15.5	6
Iron	82,900	14,000
Manganese	2180	430

LPA-GW-01		
Analyte	Result	RSL
PAHs		
Naphthalene	9.8	0.12
Metals		
Cobalt	10.4	6
Iron	34,400	14,000
Manganese	1760	430

WPA-GW-04		
Analyte	Result	RSL
PAHs		
Naphthalene	0.27 J	0.12
Metals		
Aluminum	21300	20000
Iron	16,300	14,000
Cobalt	6.43	6

MW-02		
Analyte	Result	RSL
Metals		
Manganese	574	430

MW-05		
Analyte	Result	RSL
PAHs		
Benzo[a]anthracene	0.50 J-	0.68
Naphthalene	0.25 J	0.12
Metals		
Aluminum	23500	20000
Cobalt	13.4	6
Iron	39100	14000
Manganese	4310	430

GW-13-195		
Analyte	Result	RSL
PAHs		
Naphthalene	3.1	0.12

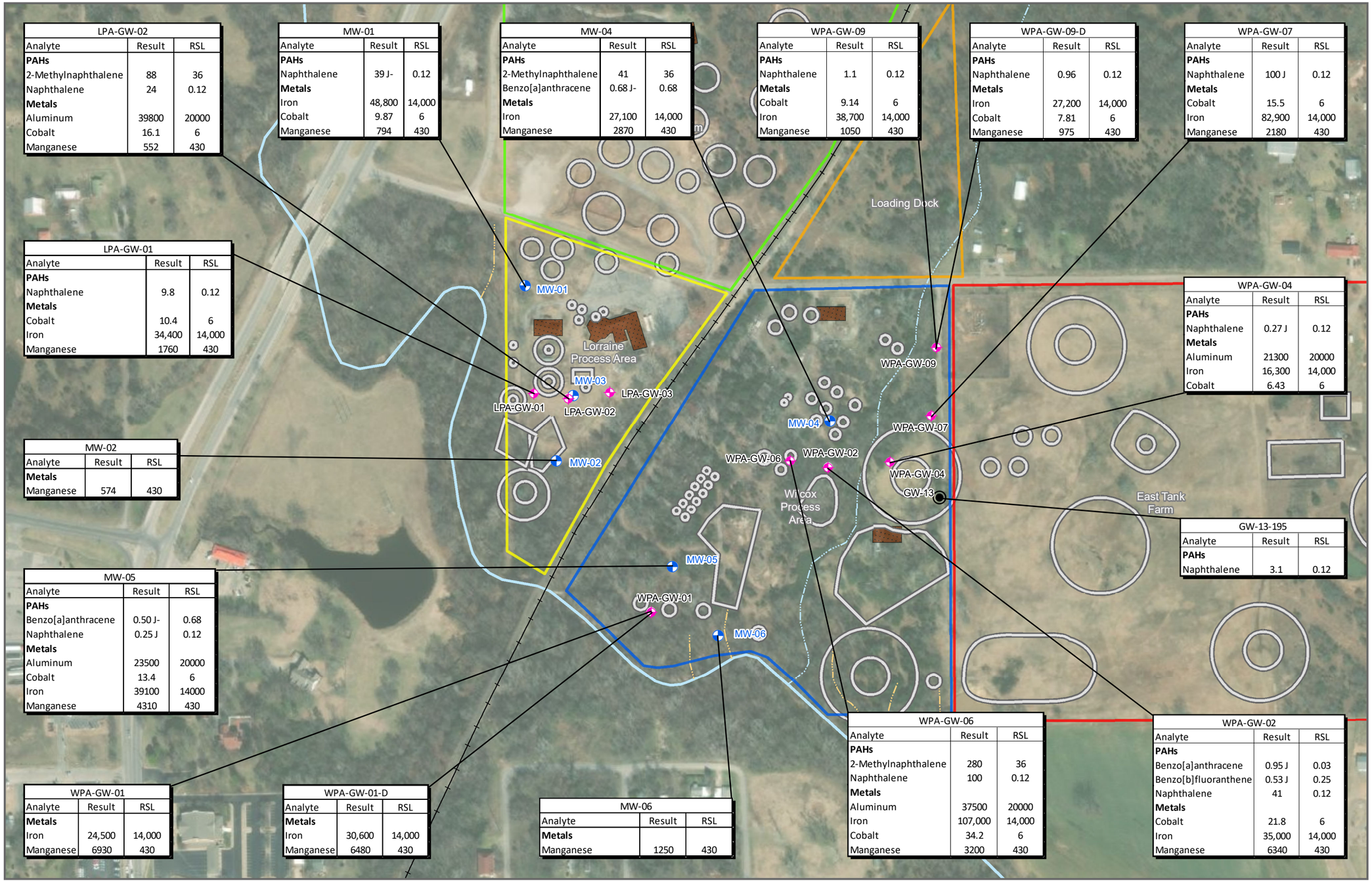
WPA-GW-01		
Analyte	Result	RSL
Metals		
Iron	24,500	14,000
Manganese	6930	430

WPA-GW-01-D		
Analyte	Result	RSL
Metals		
Iron	30,600	14,000
Manganese	6480	430

MW-06		
Analyte	Result	RSL
Metals		
Manganese	1250	430

WPA-GW-06		
Analyte	Result	RSL
PAHs		
2-Methylnaphthalene	280	36
Naphthalene	100	0.12
Metals		
Aluminum	37500	20000
Iron	107,000	14,000
Cobalt	34.2	6
Manganese	3200	430

WPA-GW-02		
Analyte	Result	RSL
PAHs		
Benzo[a]anthracene	0.95 J	0.03
Benzo[b]fluoranthene	0.53 J	0.25
Naphthalene	41	0.12
Metals		
Cobalt	21.8	6
Iron	35,000	14,000
Manganese	6340	430



N

0 150 300

Feet

Legend

- Temporary Well Sample Location
- Monitoring Well Location
- Private Well

Source Area

- East Tank Farm
- Loading Dock Area
- Lorraine Process Area
- North Tank Farm
- Wilcox Process Area
- Railroad
- Historical Feature
- On-site Building
- Drainage
- Stream, Intermittent
- Stream, Perennial

Notes:
All units are micrograms per liter.
RSL=Regional Screening Levels (RSLs); RSLs are for Tapwater use scenario, hazard index = 1.0 for non-carcinogens and a 10-6 cancer risk level for carcinogens.
J = estimated

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

C:\Users\eosmpio\Desktop\WORKING PROJECT FILES\WILCOX\GEODATABASE_J_SCHWERTZ\MXD\cTM_20200812\Fig5_Tapwater_RSL_Exceedance_GW_20200812.mxd 10/26/2020 EA\eosmpio

Wilcox Oil Company
Bristow, Creek County, Oklahoma

Figure 6
Tapwater RSL Exceedances for Groundwater Samples
August 2020

MW-01	
Analyte	Result
DO	0.26/ND
ORP	33.5
Nitrate	ND
Sulfate	ND
CO_2	130
Methane	12
Ferrous Iron	52.75
Iron	48.8
Manganese	0.794

MW-03	
Analyte	Result
DO	0.21/2.68 J
ORP	9.6
Nitrate	ND
Sulfate	26
CO_2	130
Methane	0.036
Ferrous Iron	12.0 J
Iron	13.6
Manganese	0.210

MW-02	
Analyte	Result
DO	0.27/ND
ORP	111.2
Nitrate	ND
Sulfate	38
CO_2	120
Methane	0.04
Ferrous Iron	1.24 J
Iron	1.44
Manganese	0.574

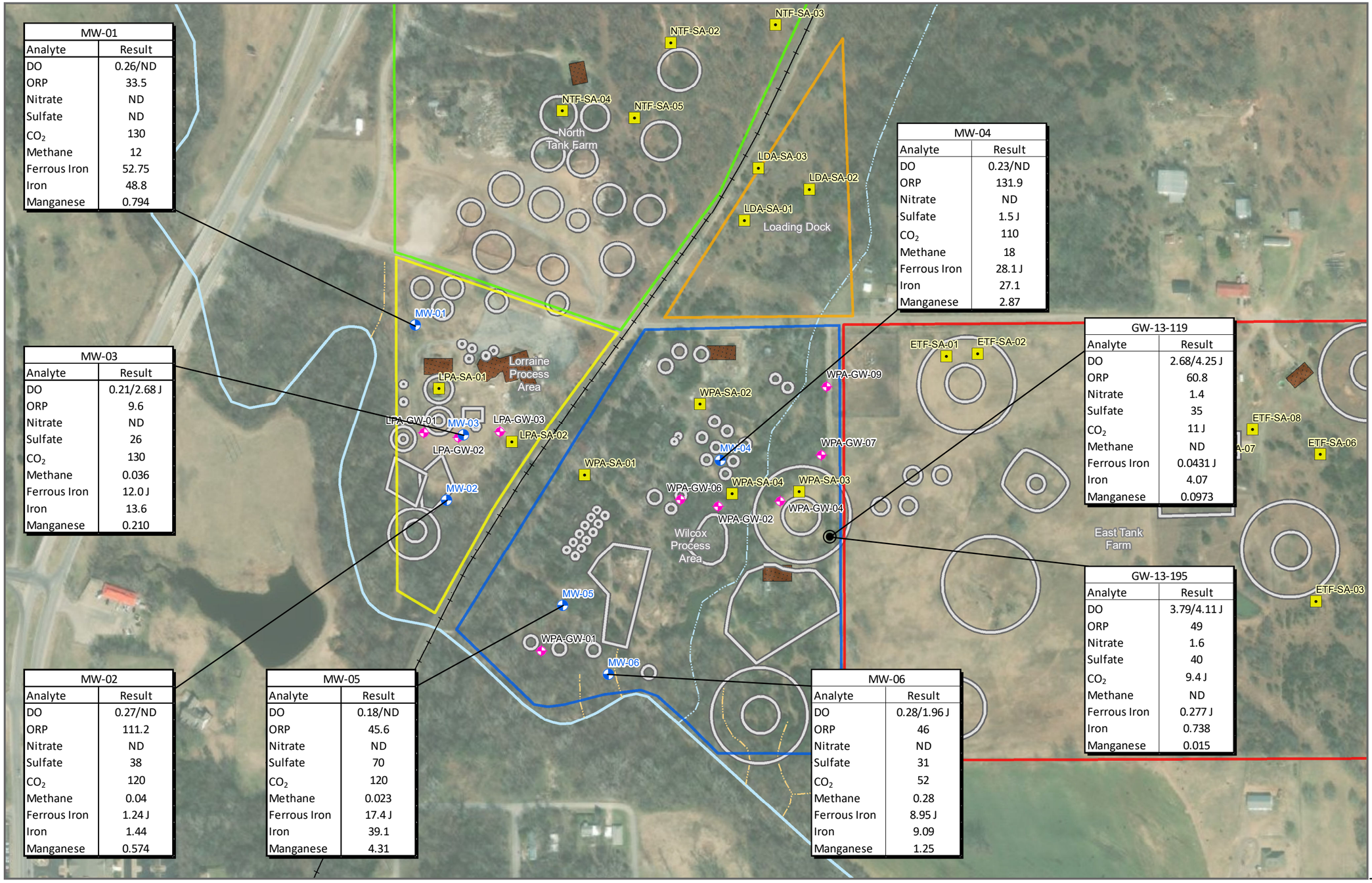
MW-05	
Analyte	Result
DO	0.18/ND
ORP	45.6
Nitrate	ND
Sulfate	70
CO_2	120
Methane	0.023
Ferrous Iron	17.4 J
Iron	39.1
Manganese	4.31

MW-04	
Analyte	Result
DO	0.23/ND
ORP	131.9
Nitrate	ND
Sulfate	1.5 J
CO_2	110
Methane	18
Ferrous Iron	28.1 J
Iron	27.1
Manganese	2.87

MW-06	
Analyte	Result
DO	0.28/1.96 J
ORP	46
Nitrate	ND
Sulfate	31
CO_2	52
Methane	0.28
Ferrous Iron	8.95 J
Iron	9.09
Manganese	1.25

GW-13-119	
Analyte	Result
DO	2.68/4.25 J
ORP	60.8
Nitrate	1.4
Sulfate	35
CO_2	11 J
Methane	ND
Ferrous Iron	0.0431 J
Iron	4.07
Manganese	0.0973

GW-13-195	
Analyte	Result
DO	3.79/4.11 J
ORP	49
Nitrate	1.6
Sulfate	40
CO_2	9.4 J
Methane	ND
Ferrous Iron	0.277 J
Iron	0.738
Manganese	0.015



N

0 150 300
Feet

Legend

- Monitoring Well Location
- Temporary Well Sample Location
- Soil Sample Location
- Private Well

Source Area

- East Tank Farm
- Loading Dock Area
- Lorraine Process Area
- North Tank Farm
- Wilcox Process Area
- Railroad
- Historical Feature
- On-site Building
- Drainage
- Stream, Intermittent
- Stream, Perennial

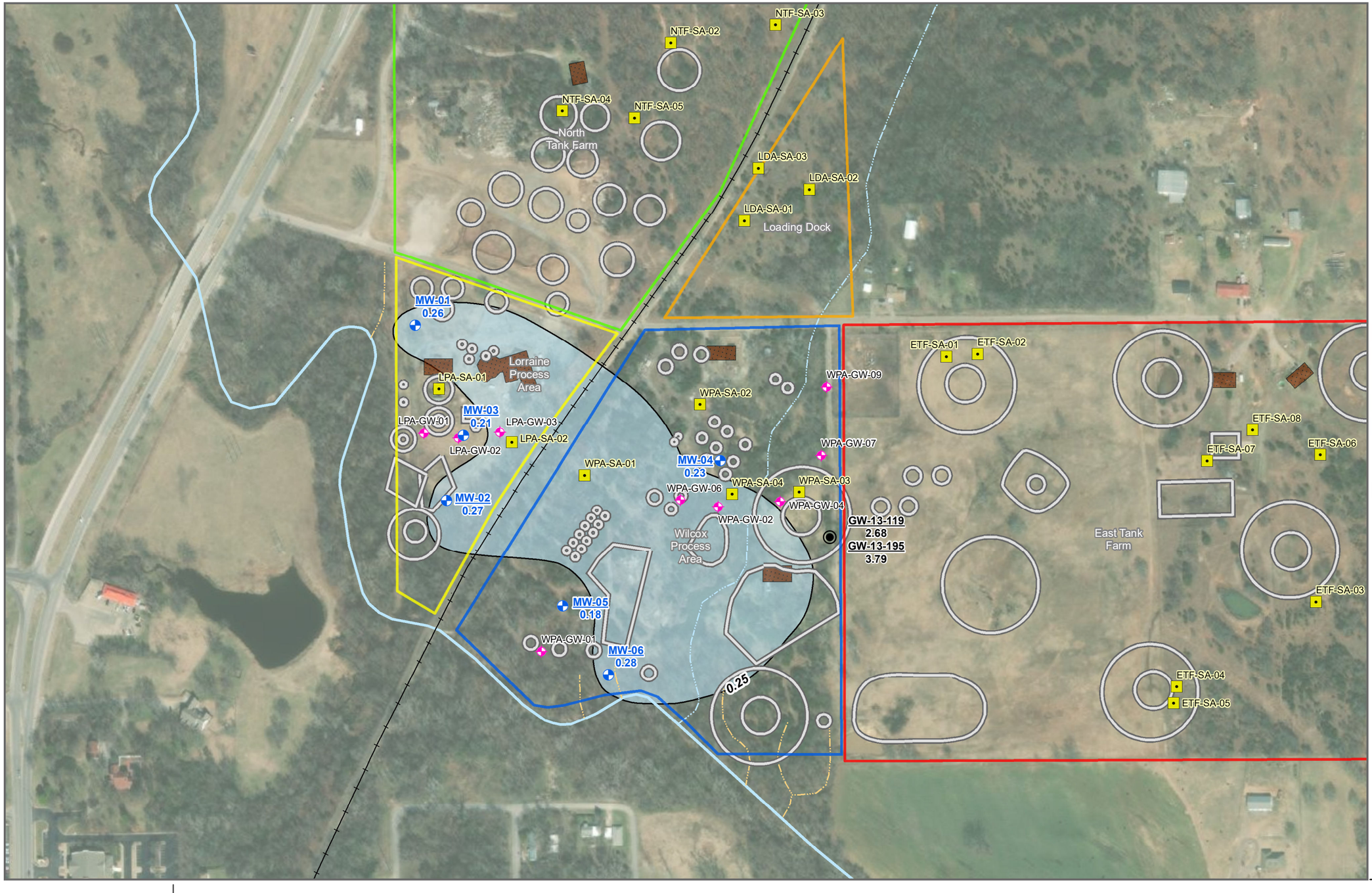
Notes:
All concentrations are in milligrams per liter except ORP, which is measured in millivolts.
DO = Dissolved oxygen (field measurement/laboratory measurement)
ORP = Oxidation reduction potential
CO_2 = Carbon dioxide
J = Estimated concentration
ND = not detected

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

C:\Users\cerpio\Desktop\WORKING PROJECT FILES\WILCOX\GEODATABASE_I_SCHWERTZ\MXDs\TM_20200818\Fig6_MNA_Indicators_GW_20200818.mxd 10/26/2020 EA cerpio

Wilcox Oil Company
Bristow, Creek County, Oklahoma

Figure 7
MNA Indicators in Groundwater
August 2020



N

0 150 300
Feet

Legend

- Monitoring Well Location
- Temporary Well Sample Location
- Soil Sample Location
- Private Well

Source Area

- East Tank Farm
- Loading Dock Area
- Lorraine Process Area
- North Tank Farm
- Wilcox Process Area
- Railroad
- Historical Feature
- On-site Building
- Drainage
- Stream, Intermittent
- Stream, Perennial

Dissolved Oxygen - field measurement

- 0.25

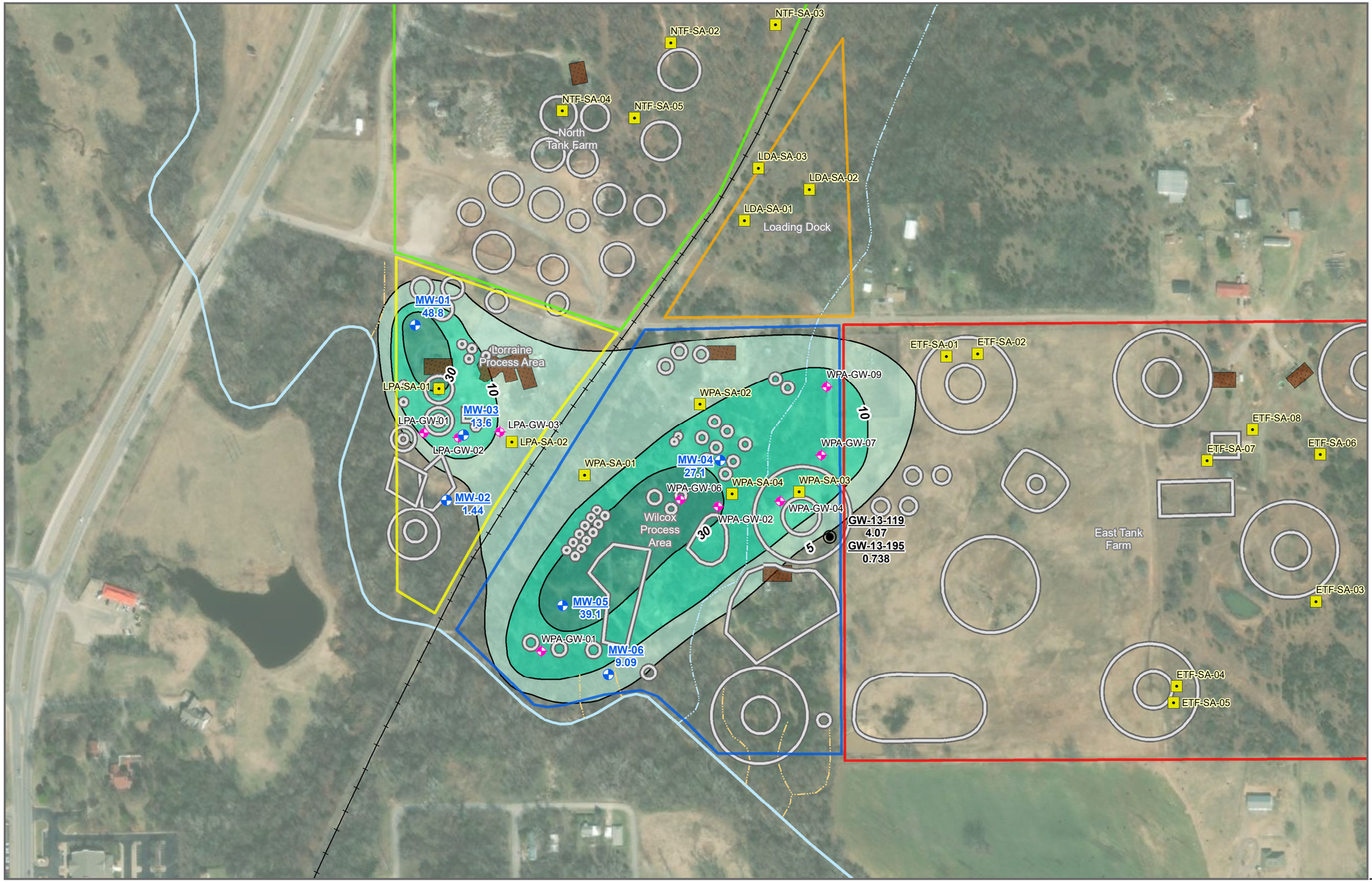
Notes:
All concentrations are in milligrams per liter (mg/L)
GW-13 not used in contouring because it is screened deeper

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

C:\Users\kcampbell\Desktop\WORKING PROJECT FILES\WILCOX\GEODATABASE_J_SCHWERTZ\MXDs\TM_20200805\Fig8_DO_GW_20200805.mxd 12/3/2020 EA example

Wilcox Oil Company
Bristow, Creek County, Oklahoma

Figure 8
Dissolved Oxygen Measurements in Groundwater
August 2020



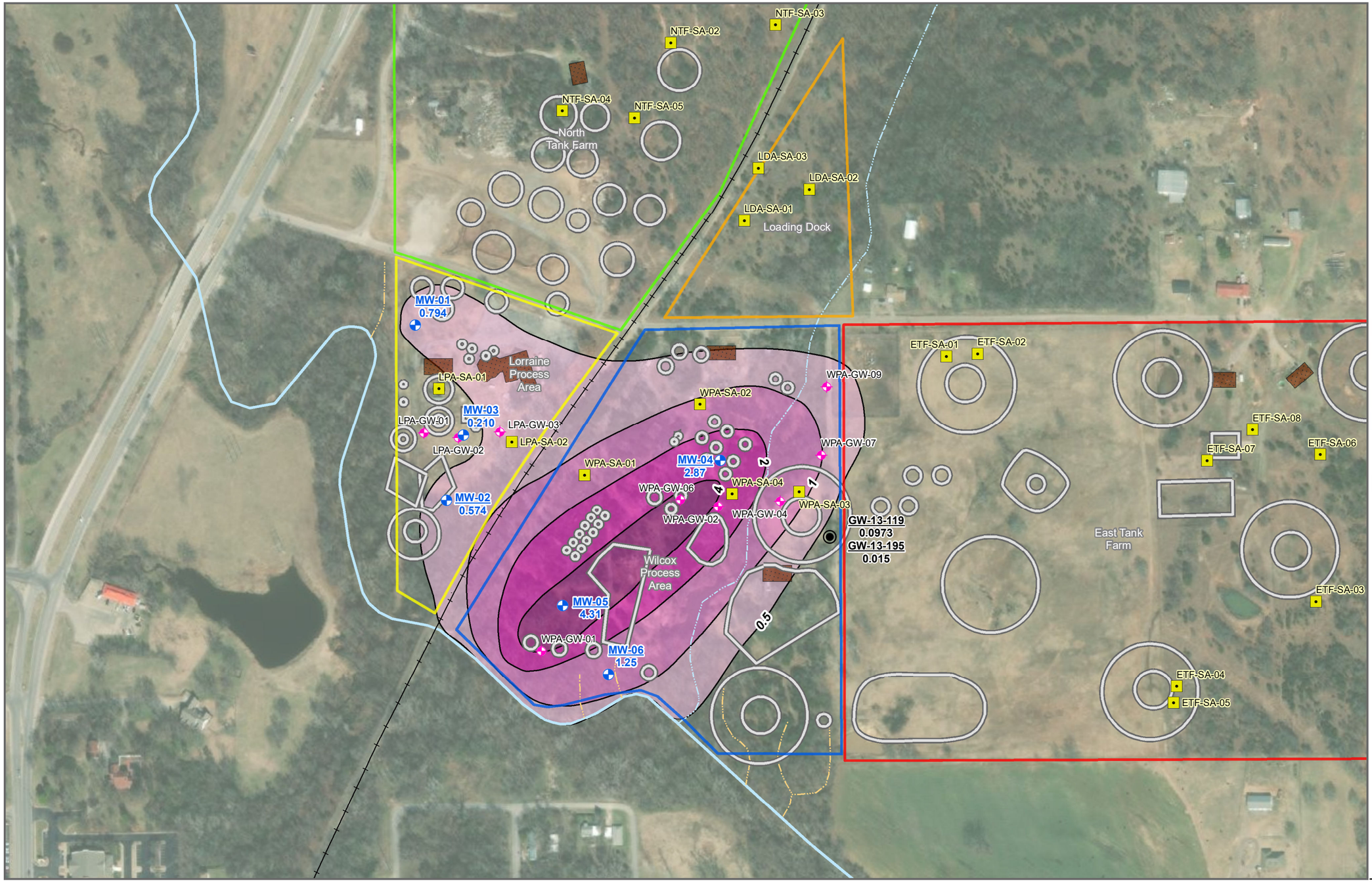
Notes:
All concentrations are in milligrams per liter (mg/L)
GW-13 not used in contouring because it is screened deeper

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Wilcox Oil Company
Bristow, Creek County, Oklahoma

Figure 9
Total Iron Concentrations in Groundwater
August 2020

C:\Users\eanapiol\Desktop\WORKING PROJECT FILES\WILCOX\GEODATABASE_J_SCHWERTZ\MXDs\TM_20200908\Fig9_Iron_Total_GW_20200908.mxd 12/3/2020 EA eanapio



Legend

- Monitoring Well Location
- Temporary Well Sample Location
- Soil Sample Location
- Private Well

Source Area

- East Tank Farm
- Loading Dock Area
- Lorraine Process Area
- North Tank Farm
- Wilcox Process Area
- Railroad
- Historical Feature
- On-site Building
- Drainage
- Stream, Intermittent
- Stream, Perennial

Manganese, Total

- 0.5
- 1
- 2
- 4

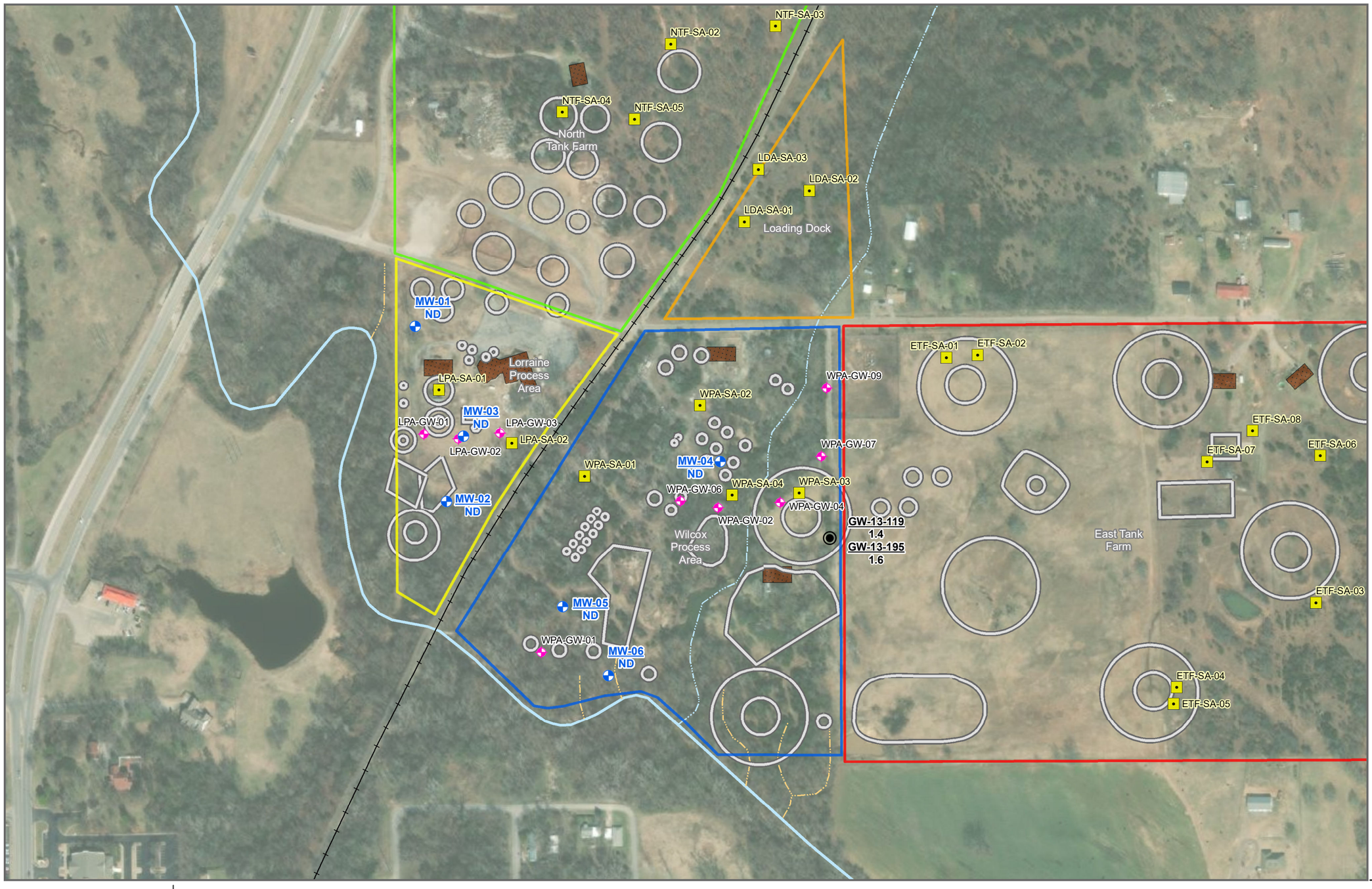
Notes:
All concentrations are in milligrams per liter (mg/L)
GW-13 not used in contouring because it is screened deeper

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

C:\Users\eosmiol\Desktop\WORKING PROJECT FILES\WILCOX\GEODATABASE_J_SCHWERTZ\MXDs\TM_20200908\Fig10_Manganese_Total_GW_20200908.mxd 12/3/2020 EA eosmio

Wilcox Oil Company
Bristow, Creek County, Oklahoma

Figure 10
Total Manganese Concentrations in Groundwater
August 2020



N

0 150 300
Feet

Legend

- Monitoring Well Location
- Temporary Well Sample Location
- Soil Sample Location
- Private Well

Source Area

- East Tank Farm
- Loading Dock Area
- Lorraine Process Area
- North Tank Farm
- Wilcox Process Area
- Railroad
- Historical Feature
- On-site Building
- Drainage
- Stream, Intermittent
- Stream, Perennial

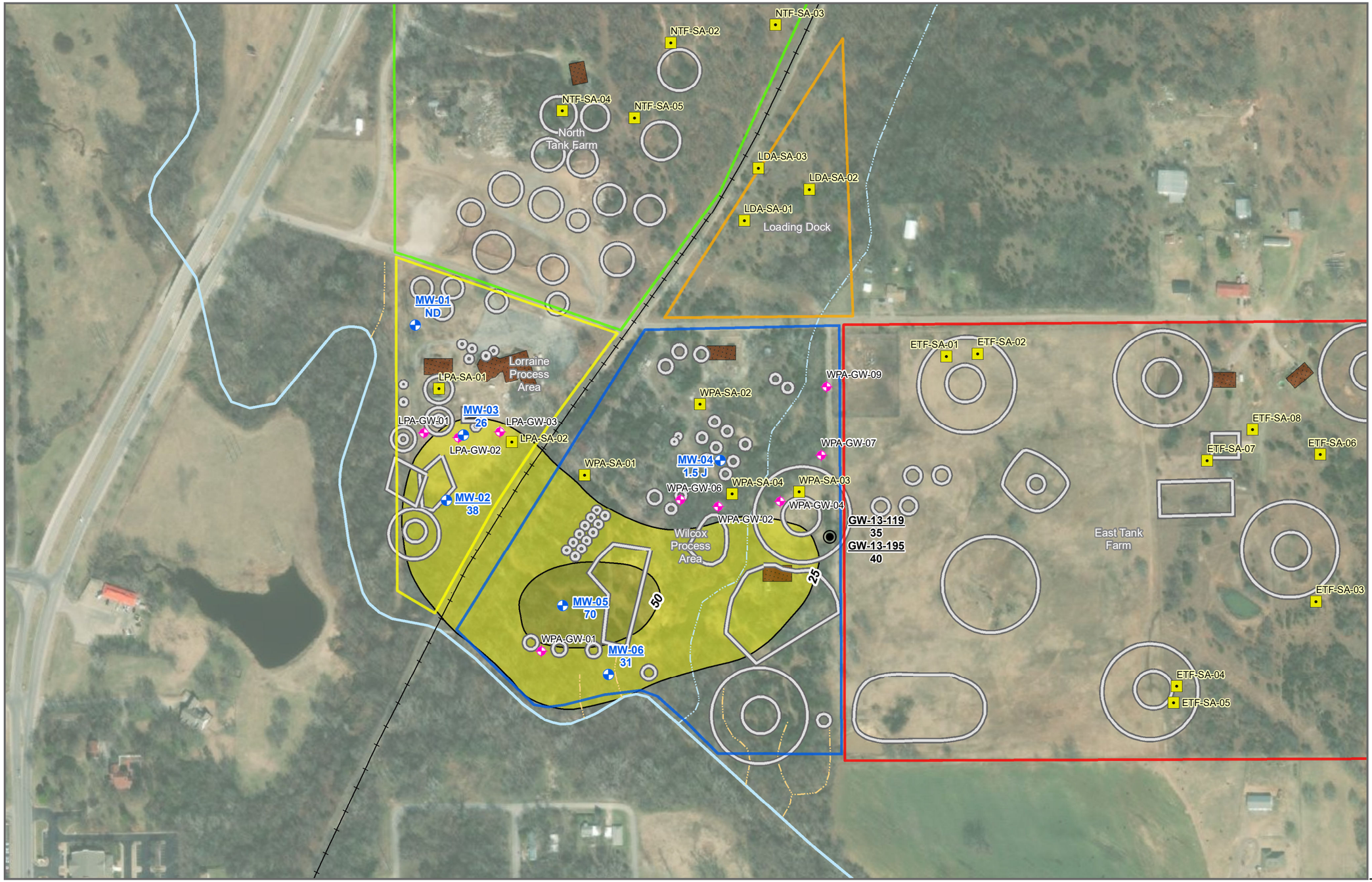
Notes:
All concentrations are in milligrams per liter (mg/L)
GW-13 not used in contouring because it is screened deeper

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

C:\Users\escarpio\Desktop\WORKING PROJECT FILES\WILCOX\GEODATABASE_J_SCHWERTZ\MXDs\TM_20200812\Fig11_Nitrate_GW_20200812.mxd 12/3/2020 EA escarpio

Wilcox Oil Company
Bristow, Creek County, Oklahoma

Figure 11
Nitrate Concentrations in Groundwater
August 2020



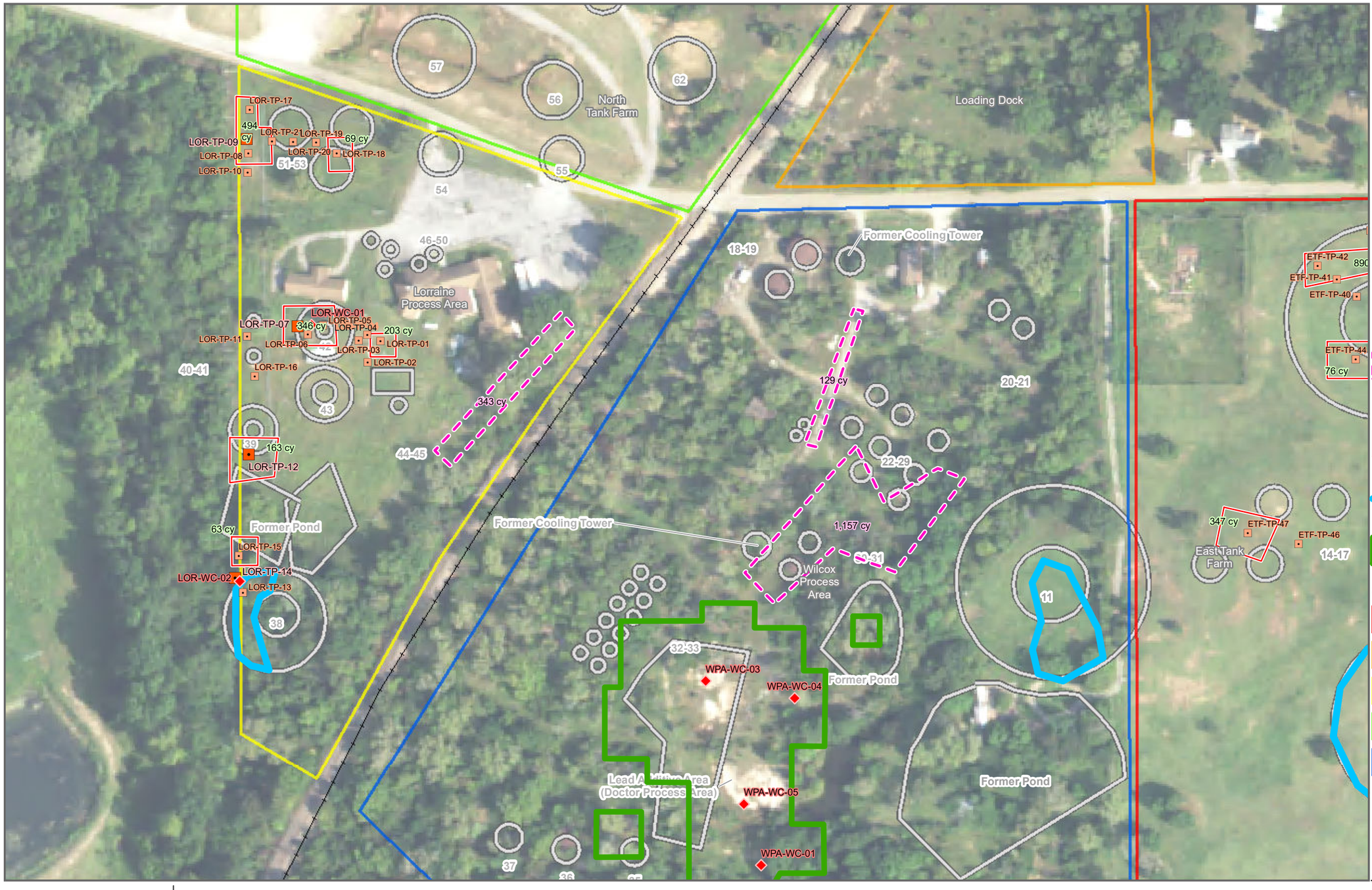
Notes:
All concentrations are in milligrams per liter (mg/L)
GW-13 not used in contouring because it is screened deeper

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Wilcox Oil Company
Bristow, Creek County, Oklahoma

Figure 12
Sulfate Concentrations in Groundwater
August 2020

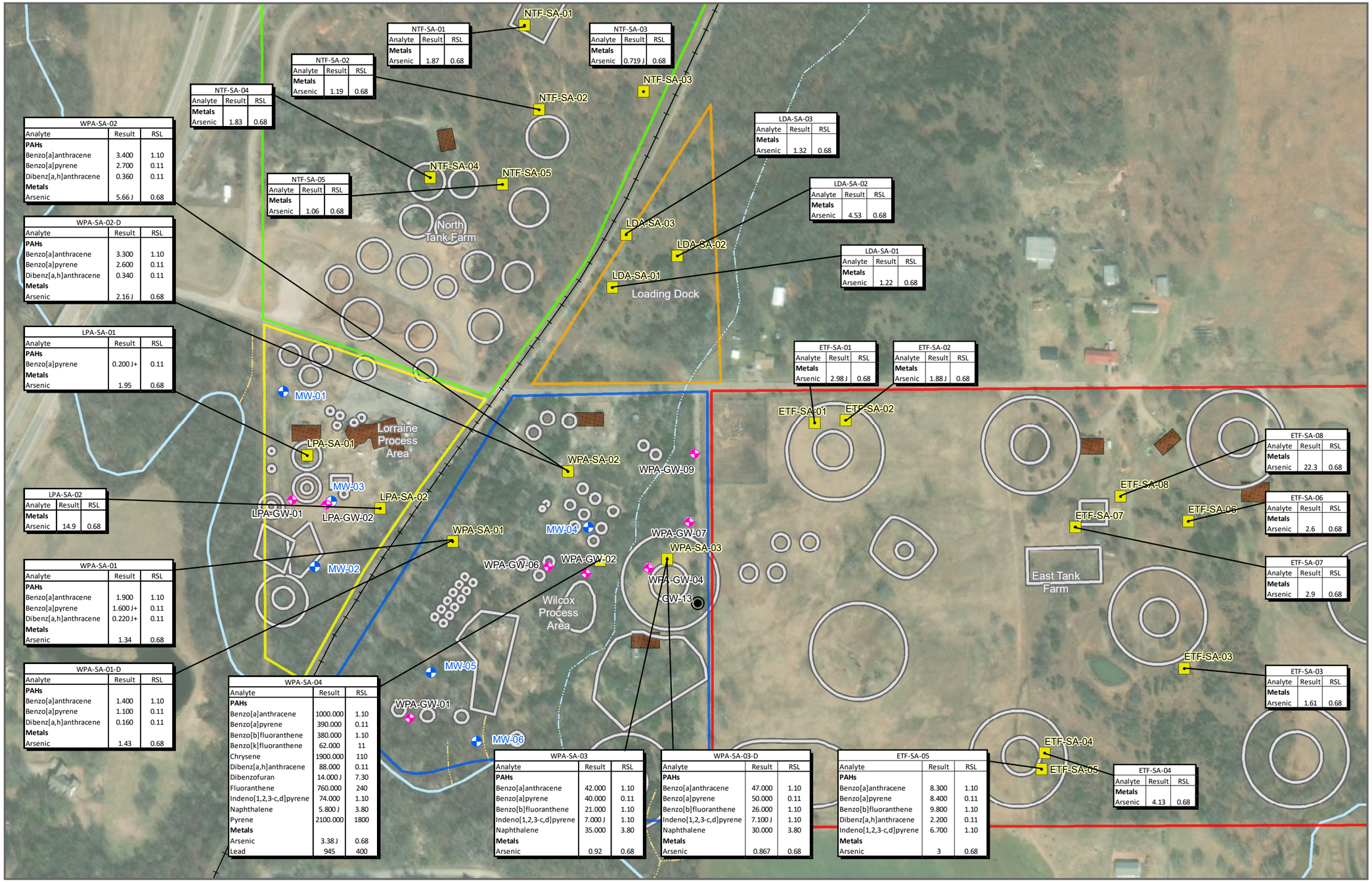
C:\Users\ecampio\Desktop\WORKING PROJECT FILES\WILCOX\GEODATABASE_1_SCHWERTZ\MXD\aTM_20200812\Fig12_Sulfate_GW_20200812.mxd 12/3/2020 EA ecampio



Wilcox Oil Company
Bristow, Creek County, Oklahoma

Figure 13
Distribution of Waste Materials associated with the Lorraine and Wilcox Process Areas

M:\Federal\EPA\RAC III\0128-Wilcox Oil RI-FS\GIS\MXDs\RIFTechMemo\Figxx_SampleLocsWC_LPA.mxd 10/5/2020 EA tschwartz



NTF-SA-01		
Analyte	Result	RSL
Metals		
Arsenic	1.87	0.68

NTF-SA-03		
Analyte	Result	RSL
Metals		
Arsenic	0.719 J	0.68

NTF-SA-02		
Analyte	Result	RSL
Metals		
Arsenic	1.19	0.68

NTF-SA-04		
Analyte	Result	RSL
Metals		
Arsenic	1.83	0.68

NTF-SA-05		
Analyte	Result	RSL
Metals		
Arsenic	1.06	0.68

LDA-SA-03		
Analyte	Result	RSL
Metals		
Arsenic	1.32	0.68

LDA-SA-02		
Analyte	Result	RSL
Metals		
Arsenic	4.53	0.68

LDA-SA-01		
Analyte	Result	RSL
Metals		
Arsenic	1.22	0.68

WPA-SA-02		
Analyte	Result	RSL
PAHs		
Benzo[a]anthracene	3.400	1.10
Benzo[a]pyrene	2.700	0.11
Dibenz[a,h]anthracene	0.360	0.11
Metals		
Arsenic	5.66 J	0.68

WPA-SA-02-D		
Analyte	Result	RSL
PAHs		
Benzo[a]anthracene	3.300	1.10
Benzo[a]pyrene	2.600	0.11
Dibenz[a,h]anthracene	0.340	0.11
Metals		
Arsenic	2.16 J	0.68

LPA-SA-01		
Analyte	Result	RSL
PAHs		
Benzo[a]pyrene	0.200 J+	0.11
Metals		
Arsenic	1.95	0.68

ETF-SA-01		
Analyte	Result	RSL
Metals		
Arsenic	2.98 J	0.68

ETF-SA-02		
Analyte	Result	RSL
Metals		
Arsenic	1.88 J	0.68

ETF-SA-08		
Analyte	Result	RSL
Metals		
Arsenic	22.3	0.68

ETF-SA-06		
Analyte	Result	RSL
Metals		
Arsenic	2.6	0.68

ETF-SA-07		
Analyte	Result	RSL
Metals		
Arsenic	2.9	0.68

ETF-SA-03		
Analyte	Result	RSL
Metals		
Arsenic	1.61	0.68

LPA-SA-02		
Analyte	Result	RSL
Metals		
Arsenic	14.9	0.68

WPA-SA-01		
Analyte	Result	RSL
PAHs		
Benzo[a]anthracene	1.900	1.10
Benzo[a]pyrene	1.600 J+	0.11
Dibenz[a,h]anthracene	0.220 J+	0.11
Metals		
Arsenic	1.34	0.68

WPA-SA-01-D		
Analyte	Result	RSL
PAHs		
Benzo[a]anthracene	1.400	1.10
Benzo[a]pyrene	1.100	0.11
Dibenz[a,h]anthracene	0.160	0.11
Metals		
Arsenic	1.43	0.68

WPA-SA-04		
Analyte	Result	RSL
PAHs		
Benzo[a]anthracene	1000.000	1.10
Benzo[a]pyrene	390.000	0.11
Benzo[b]fluoranthene	380.000	1.10
Benzo[k]fluoranthene	62.000	11
Chrysene	1900.000	110
Dibenz[a,h]anthracene	88.000	0.11
Dibenzofuran	14.000 J	7.30
Fluoranthene	760.000	240
Indeno[1,2,3-c,d]pyrene	74.000	1.10
Naphthalene	5.800 J	3.80
Pyrene	2100.000	1800
Metals		
Arsenic	3.38 J	0.68
Lead	945	400

WPA-SA-03		
Analyte	Result	RSL
PAHs		
Benzo[a]anthracene	42.000	1.10
Benzo[a]pyrene	40.000	0.11
Benzo[b]fluoranthene	21.000	1.10
Indeno[1,2,3-c,d]pyrene	7.000 J	1.10
Naphthalene	35.000	3.80
Metals		
Arsenic	0.92	0.68

WPA-SA-03-D		
Analyte	Result	RSL
PAHs		
Benzo[a]anthracene	47.000	1.10
Benzo[a]pyrene	50.000	0.11
Benzo[b]fluoranthene	26.000	1.10
Indeno[1,2,3-c,d]pyrene	7.100 J	1.10
Naphthalene	30.000	3.80
Metals		
Arsenic	0.867	0.68

ETF-SA-05		
Analyte	Result	RSL
PAHs		
Benzo[a]anthracene	8.300	1.10
Benzo[a]pyrene	8.400	0.11
Benzo[b]fluoranthene	9.800	1.10
Dibenz[a,h]anthracene	2.200	0.11
Indeno[1,2,3-c,d]pyrene	6.700	1.10
Metals		
Arsenic	3	0.68

ETF-SA-04		
Analyte	Result	RSL
Metals		
Arsenic	4.13	0.68

N

0 150 300
Feet

Legend

- Surface Waste Sample Location
- Temporary Well Sample Location
- Monitoring Well Location
- Private Well

Source Area

- East Tank Farm
- Loading Dock Area
- Lorraine Process Area
- North Tank Farm
- Wilcox Process Area
- Railroad
- Historical Feature
- On-site Building
- Drainage
- Stream, Intermittent
- Stream, Perennial

Notes:
All units are milligrams per kilogram.
RSL=Regional Screening Levels (RSLs); RSLs are for Resident Soil use scenario, hazard index = 1.0 for non-carcinogens and a 10-6 cancer risk level for carcinogens.
J = estimated concentration
J+ = estimated concentration biased high

Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

C:\Users\ecarpio\Desktop\WORKING PROJECT FILES\WILCOX\GEODATABASE_J_SCHWERTZ\MXD\sTM_20200918\Fig8_Surface_Waste_RSL_Exceedances_Soil_20200918.mxd 10/21/2020 EA ecarpio

Wilcox Oil Company
Bristow, Creek County, Oklahoma

Figure 14
Resident Soil RSL Exceedances for Surface Waste Samples
August 2020

ATTACHMENT 1

SLUG TEST ANALYSES AND PLOTS

Data Set: \\dallas\Projects\Federal\EPA\RAC II\0128-Wilcox Oil RI-FS\Field\14_Data_Gap_GW_Investigation_2\Slug Test\Results\Aqtesolv File
Title: MW-01 Slug out
Date: 10/16/20
Time: 15:41:21

PROJECT INFORMATION

Company: EA Engineering
Client: U.S. EPA Region 6
Project: 14342128
Location: Creek County, Oklahoma
Test Date: 8/19/2020
Test Well: MW-01 Slug out

AQUIFER DATA

Saturated Thickness: 12.14 ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW-01 Slug out

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 1.771 ft
Static Water Column Height: 9.14 ft
Casing Radius: 0.0833 ft
Well Radius: 0.0833 ft
Well Skin Radius: 0.25 ft
Screen Length: 10. ft
Total Well Penetration Depth: 12.14 ft

No. of Observations: 58

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	1.771	409.8	0.603
6.	1.582	439.8	0.563
12.23	1.534	471.6	0.537
18.	1.503	505.2	0.502
24.6	1.471	541.2	0.467
31.8	1.439	577.2	0.426
39.6	1.402	619.7	0.391
47.4	1.375	661.2	0.362
55.8	1.343	703.2	0.33
64.8	1.311	751.2	0.283
74.4	1.279	805.2	0.261
84.	1.246	853.2	0.232
94.8	1.229	913.2	0.205
106.2	1.193	973.2	0.178
118.2	1.157	1033.2	0.158
130.8	1.122	1093.2	0.138
144.	1.089	1153.2	0.127
158.4	1.049	1213.2	0.111
173.4	1.014	1273.2	0.098
189.	0.975	1333.2	0.087
205.8	0.933	1393.2	0.074
223.8	0.89	1453.2	0.066
242.4	0.854	1513.2	0.059
262.8	0.818	1573.2	0.048
283.8	0.782	1633.2	0.037
306.	0.75	1693.2	0.034
330.	0.712	1753.2	0.024
355.2	0.676	1813.2	0.031
381.6	0.64	1873.2	0.03

SOLUTION

Slug Test
Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
ln(Re/rw): 3.818

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.2381	ft/day
y0	1.445	ft

K = 8.401E-5 cm/sec
T = K*b = 2.891 ft²/day (0.03108 sq. cm/sec)

AUTOMATIC ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	Std. Error	Approx. C.I.	t-Ratio	
K	0.2672	0.004389	+/- 0.008791	60.88	ft/day
y0	1.557	0.01102	+/- 0.02207	141.3	ft

C.I. is approximate 95% confidence interval for parameter
t-ratio = estimate/std. error
No estimation window

K = 9.426E-5 cm/sec
T = K*b = 3.244 ft²/day (0.03488 sq. cm/sec)

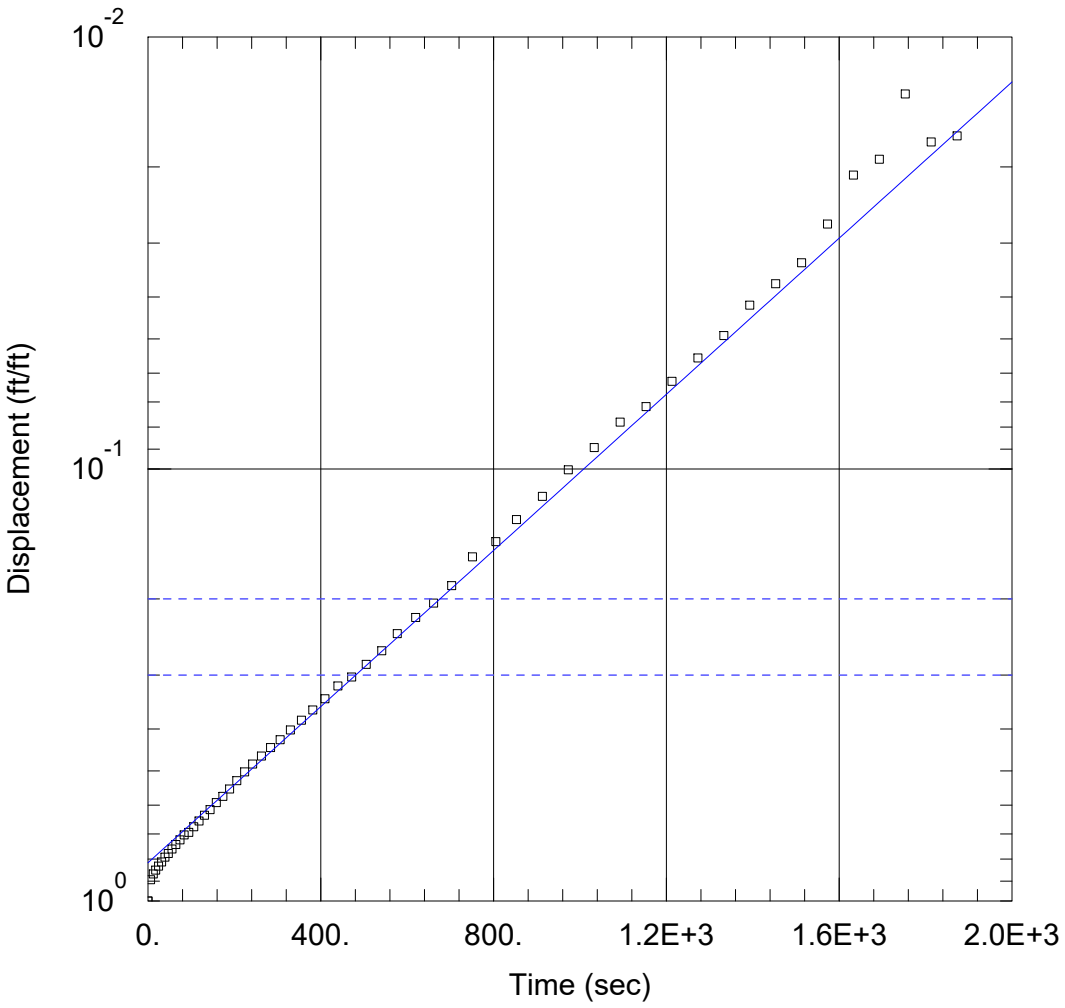
Parameter Correlations

	K	y0
K	1.00	0.64
y0	0.64	1.00

Residual Statistics

for weighted residuals

Sum of Squares . . . . . 0.07062 ft^2
Variance. . . . . 0.001261 ft^2
Std. Deviation . . . . . 0.03551 ft
Mean . . . . . 0.004292 ft
No. of Residuals. 58
No. of Estimates. 2



MW-01 SLUG OUT

Data Set: \...\MW-01 Slug Out_visual_16oct2020.aqt
Date: 10/16/20 Time: 15:55:14

PROJECT INFORMATION

Company: EA Engineering
Client: U.S. EPA Region 6
Project: 14342128
Location: Creek County, Oklahoma
Test Well: MW-01 Slug out
Test Date: 8/19/2020

AQUIFER DATA

Saturated Thickness: 12.14 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-01 Slug out)

Initial Displacement: 1.771 ft
Total Well Penetration Depth: 12.14 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 9.14 ft
Screen Length: 10. ft
Well Radius: 0.0833 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.2381 ft/day
y0 = 1.445 ft

Data Set: \\dallas\Projects\Federal\EPA\RAC II\0128-Wilcox Oil RI-FS\Field\14_Data_Gap_GW_Investigation_2\Slug Test\Results\Aqtesolv File
Title: MW-04 Slug out
Date: 10/16/20
Time: 16:10:43

PROJECT INFORMATION

Company: EA Engineering
Client: U.S. EPA Region 6
Project: 14342128
Location: Creek County, Oklahoma
Test Date: 8/17/2020
Test Well: MW-04 Slug out

AQUIFER DATA

Saturated Thickness: 27.45 ft
Anisotropy Ratio (Kz/Kr): 0.001

SLUG TEST WELL DATA

Test Well: MW-04 Slug Out

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 2.047 ft
Static Water Column Height: 28.17 ft
Casing Radius: 0.0833 ft
Well Radius: 0.0833 ft
Well Skin Radius: 0.25 ft
Screen Length: 20. ft
Total Well Penetration Depth: 27.45 ft

No. of Observations: 113

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	2.047	433.1	0.6587
0.96	1.369	459.5	0.6407
2.04	1.544	487.7	0.6247
3.18	1.483	517.7	0.6057
4.38	1.463	549.5	0.5927
5.64	1.449	583.1	0.5747
6.96	1.439	619.1	0.5557
8.4	1.437	655.1	0.5407
9.9	1.449	697.1	0.5247
11.46	1.427	739.1	0.5137
13.14	1.415	781.1	0.4987
14.94	1.401	829.1	0.4877
16.8	1.392	883.1	0.4737
18.84	1.379	931.1	0.4597
20.94	1.366	991.1	0.4457
23.16	1.351	1051.1	0.4387
25.56	1.338	1111.1	0.4217
28.08	1.321	1171.1	0.4127
30.72	1.307	1231.1	0.4057
33.54	1.291	1291.1	0.3967
36.54	1.282	1351.1	0.3897
39.72	1.267	1411.1	0.3777
43.08	1.248	1471.1	0.3657
46.68	1.236	1531.1	0.3577
50.28	1.218	1591.1	0.3567
54.48	1.203	1651.1	0.3477
58.68	1.191	1711.2	0.3417
62.88	1.178	1771.2	0.3237
67.68	1.162	1831.2	0.3157

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
73.08	1.142	1891.1	0.3187
77.88	1.123	1951.2	0.3067
83.88	1.108	2011.1	0.3137
89.88	1.091	2071.1	0.3057
96.3	1.069	2131.1	0.3067
102.5	1.056	2191.1	0.3017
109.7	1.038	2251.1	0.2927
117.5	1.018	2311.1	0.2877
125.3	0.9977	2371.1	0.2797
133.7	0.9777	2431.1	0.2797
142.7	0.9597	2491.1	0.2797
152.3	0.9417	2551.1	0.2757
161.9	0.9227	2611.1	0.2747
172.7	0.9087	2671.1	0.2747
184.1	0.8947	2731.1	0.2777
196.3	0.8697	2791.1	0.2727
208.7	0.8537	2851.1	0.2667
221.9	0.8367	2911.1	0.2647
236.3	0.8187	2971.1	0.2547
251.3	0.7997	3031.1	0.2587
267.3	0.7807	3091.1	0.2617
283.7	0.7657	3151.1	0.2607
301.7	0.7477	3211.1	0.2627
320.3	0.7337	3271.1	0.2647
340.7	0.7137	3331.1	0.2617
361.7	0.7007	3391.1	0.2557
383.9	0.6837	3451.1	0.2537
407.9	0.6787		

SOLUTION

Slug Test
Aquifer Model: Confined
Solution Method: Bouwer-Rice
ln(Re/rw): 8.235

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.07367	ft/day
y0	0.8325	ft

K = 2.599E-5 cm/sec
T = K*b = 2.022 ft²/day (0.02174 sq. cm/sec)

AUTOMATIC ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	Std. Error	Approx. C.I.	t-Ratio	
K	0.2929	0.02256	+/- 0.04471	12.98	ft/day
y0	1.471	0.02191	+/- 0.04343	67.14	ft

C.I. is approximate 95% confidence interval for parameter
t-ratio = estimate/std. error
No estimation window

K = 0.0001033 cm/sec
T = K*b = 8.04 ft²/day (0.08645 sq. cm/sec)

Parameter Correlations

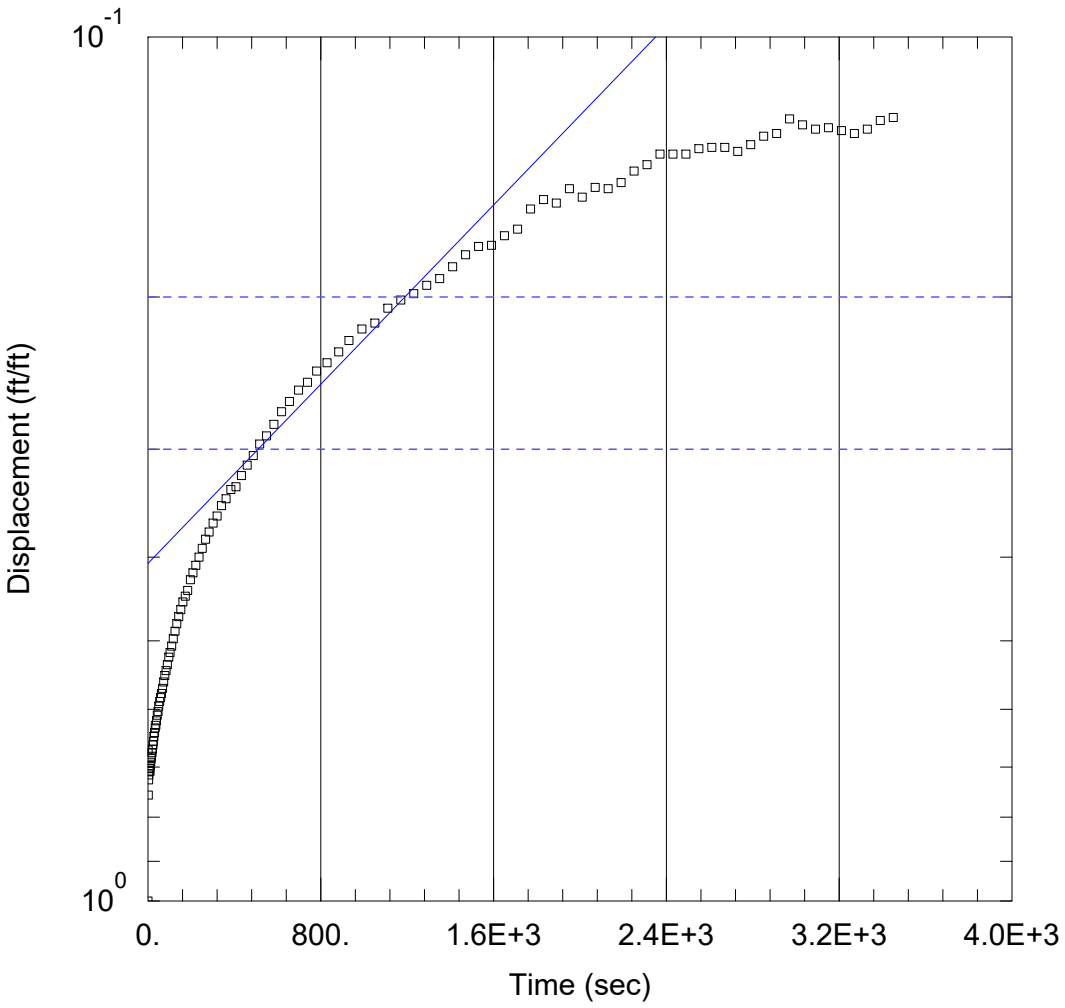
	K	y0
K	1.00	0.55

y0	0.55	1.00

Residual Statistics

for weighted residuals

Sum of Squares	2.289 ft^2
Variance	0.02062 ft^2
Std. Deviation	0.1436 ft
Mean	0.03641 ft
No. of Residuals	113
No. of Estimates	2



MW-04 SLUG OUT

Data Set: \...\MW-04 Slug Out GD_visual_16oct2020.aqt
Date: 10/16/20 Time: 15:54:00

PROJECT INFORMATION

Company: EA Engineering
Client: U.S. EPA Region 6
Project: 14342128
Location: Creek County, Oklahoma
Test Well: MW-04 Slug out
Test Date: 8/17/2020

AQUIFER DATA

Saturated Thickness: 27.45 ft
Anisotropy Ratio (Kz/Kr): 0.001

WELL DATA (MW-04 Slug Out)

Initial Displacement: 2.047 ft
Total Well Penetration Depth: 27.45 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 28.17 ft
Screen Length: 20. ft
Well Radius: 0.0833 ft

SOLUTION

Aquifer Model: Confined
Solution Method: Bouwer-Rice
K = 0.07367 ft/day
y0 = 0.8325 ft

Data Set: \\dallas\Projects\Federal\EPA\RAC II\0128-Wilcox Oil RI-FS\Field\14_Data_Gap_GW_Investigation_2\Slug Test\Results\Aqtesolv File
Title: MW-05 Slug out
Date: 10/16/20
Time: 15:58:09

PROJECT INFORMATION

Company: EA Engineering
Client: U.S. EPA Region 6
Project: 14342128
Location: Creek County, Oklahoma
Test Date: 8/17/2020
Test Well: MW-05 Slug out

AQUIFER DATA

Saturated Thickness: 28.08 ft
Anisotropy Ratio (Kz/Kr): 0.001035

SLUG TEST WELL DATA

Test Well: MW-05 Slug Out

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 1.626 ft
Static Water Column Height: 28.08 ft
Casing Radius: 0.0833 ft
Well Radius: 0.0833 ft
Well Skin Radius: 0.25 ft
Screen Length: 20. ft
Total Well Penetration Depth: 28.08 ft
Corrected Casing Radius (Bouwer-Rice Method): 0.0833 ft
Gravel Pack Porosity: 0.

No. of Observations: 82

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	1.249	272.2	0.256
1.681	1.626	290.2	0.23
3.48	1.554	308.8	0.217
5.341	1.493	329.2	0.193
7.38	1.442	350.2	0.178
9.48	1.404	372.4	0.174
11.7	1.36	396.4	0.154
14.1	1.327	421.6	0.132
16.62	1.274	448.	0.132
19.26	1.244	476.2	0.126
22.08	1.205	506.2	0.112
25.08	1.175	538.	0.095
28.26	1.131	571.6	0.087
31.62	1.1	607.6	0.077
35.22	1.058	643.6	0.071
38.82	1.025	685.6	0.067
43.02	0.991	727.6	0.067
47.22	0.955	769.6	0.051
51.42	0.923	817.6	0.051
56.22	0.887	871.6	0.051
61.62	0.845	919.6	0.042
66.42	0.816	979.6	0.043
72.42	0.775	1039.6	0.043
78.42	0.747	1099.6	0.039
84.42	0.711	1159.6	0.035
91.02	0.675	1219.6	0.035
98.22	0.652	1279.6	0.035

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
106.	0.548	1339.6	0.027
113.8	0.583	1399.6	0.025
122.2	0.555	1459.6	0.021
131.2	0.527	1519.6	0.021
140.8	0.5	1579.6	0.028
150.4	0.468	1639.6	0.028
161.2	0.445	1699.6	0.031
172.6	0.406	1759.6	0.026
184.6	0.39	1819.6	0.03
197.2	0.363	1879.6	0.024
210.4	0.343	1939.6	0.028
224.8	0.319	1999.6	0.022
239.8	0.29	2059.6	0.025
255.4	0.273	2119.6	0.02

SOLUTION

Slug Test
Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
ln(Re/rw): 8.239

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.6384	ft/day
y0	1.025	ft

K = 0.0002252 cm/sec
T = K*b = 17.93 ft²/day (0.1928 sq. cm/sec)

AUTOMATIC ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	Std. Error	Approx. C.I.	t-Ratio	
K	0.9228	0.02876	+/- 0.05723	32.09	ft/day
y0	1.438	0.019	+/- 0.0378	75.69	ft

C.I. is approximate 95% confidence interval for parameter
t-ratio = estimate/std. error
No estimation window

K = 0.0003255 cm/sec
T = K*b = 25.91 ft²/day (0.2786 sq. cm/sec)

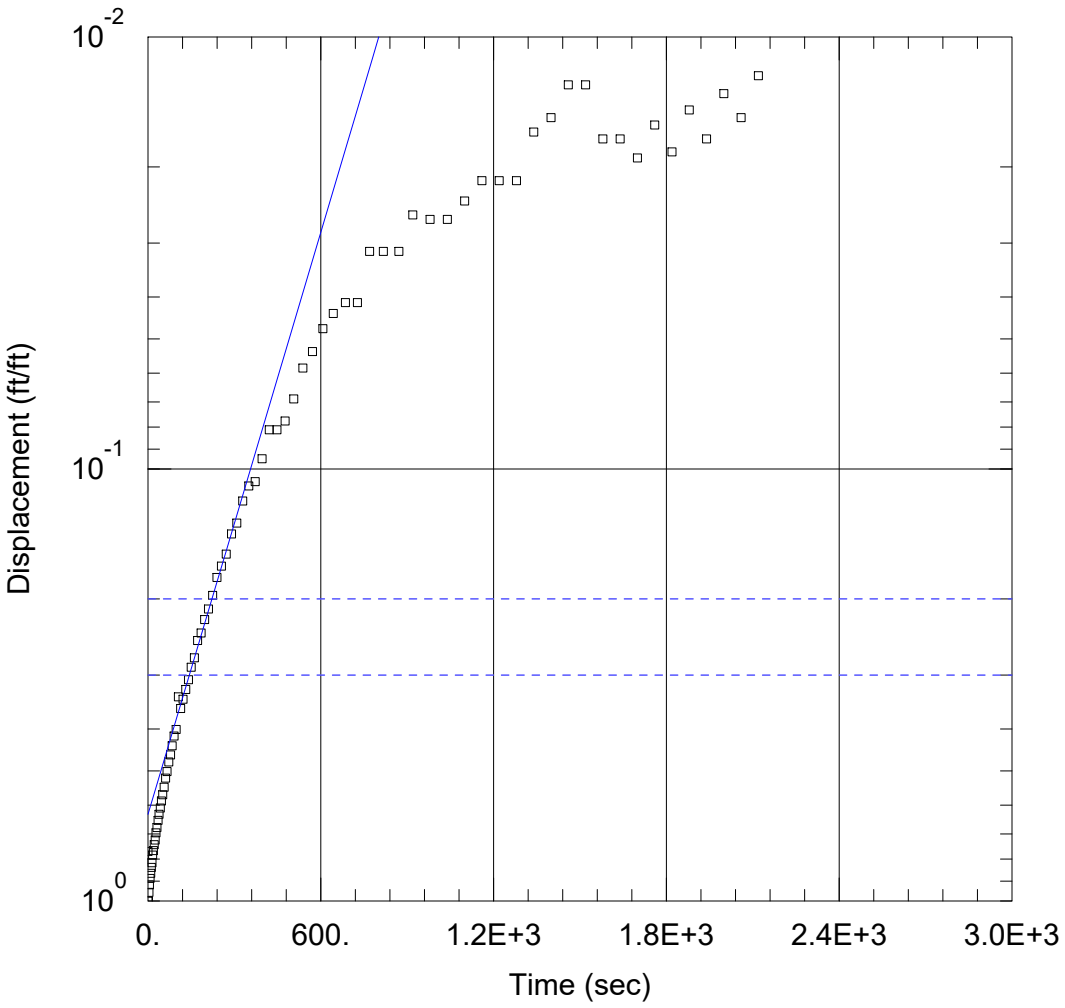
Parameter Correlations

	K	y0
K	1.00	0.64
y0	0.64	1.00

Residual Statistics

for weighted residuals

Sum of Squares . . . . . 0.3073 ft^2
Variance. . . . . 0.003842 ft^2
Std. Deviation . . . . . 0.06198 ft
Mean . . . . . 0.02199 ft
No. of Residuals. 82
No. of Estimates. 2



MW-05 SLUG OUT

Data Set: \...\MW-05 Slug Out_visual_16oct2020.aqt
Date: 10/16/20 Time: 15:57:55

PROJECT INFORMATION

Company: EA Engineering
Client: U.S. EPA Region 6
Project: 14342128
Location: Creek County, Oklahoma
Test Well: MW-05 Slug out
Test Date: 8/17/2020

AQUIFER DATA

Saturated Thickness: 28.08 ft
Anisotropy Ratio (Kz/Kr): 0.001035

WELL DATA (MW-05 Slug Out)

Initial Displacement: 1.626 ft
Total Well Penetration Depth: 28.08 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 28.08 ft
Screen Length: 20. ft
Well Radius: 0.0833 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.6384 ft/day
y0 = 1.025 ft

Data Set: \\dallas\Projects\Federal\EPA\RAC II\0128-Wilcox Oil RI-FS\Field\14_Data_Gap_GW_Investigation_2\Slug Test\Results\Aqtesolv File
Title: MW-06 Slug out
Date: 10/20/20
Time: 14:23:12

PROJECT INFORMATION

Company: EA Engineering
Client: U.S. EPA Region 6
Project: 14342128
Location: Creek County, Oklahoma
Test Date: 8/17/2020
Test Well: MW-06 Slug out

AQUIFER DATA

Saturated Thickness: 20. ft
Anisotropy Ratio (Kz/Kr): 1.

SLUG TEST WELL DATA

Test Well: MW-06 Slug Out

X Location: 0. ft
Y Location: 0. ft

Initial Displacement: 1.795 ft
Static Water Column Height: 41.06 ft
Casing Radius: 0.0833 ft
Well Radius: 0.0833 ft
Well Skin Radius: 0.25 ft
Screen Length: 20. ft
Total Well Penetration Depth: 41.06 ft

No. of Observations: 48

Observation Data

Time (sec)	Displacement (ft)	Time (sec)	Displacement (ft)
0.	1.795	267.6	0.413
4.8	1.675	288.6	0.392
10.8	1.569	310.8	0.367
16.8	1.469	334.8	0.334
22.8	1.4	360.	0.318
29.4	1.324	386.4	0.3
36.6	1.248	414.6	0.281
44.4	1.174	444.6	0.263
52.2	1.114	476.4	0.242
60.6	1.052	510.	0.221
69.6	0.994	546.	0.219
79.2	0.937	582.	0.194
88.8	0.883	624.	0.178
99.6	0.84	666.	0.166
111.	0.78	708.	0.155
123.	0.734	756.	0.148
135.6	0.692	810.	0.141
148.8	0.653	858.	0.138
163.2	0.609	918.	0.122
178.2	0.572	978.	0.125
193.8	0.533	1038.	0.111
210.6	0.505	1098.	0.104
228.6	0.473	1158.	0.108
247.2	0.438	1218.	0.104

SOLUTION

Slug Test
Aquifer Model: Unconfined

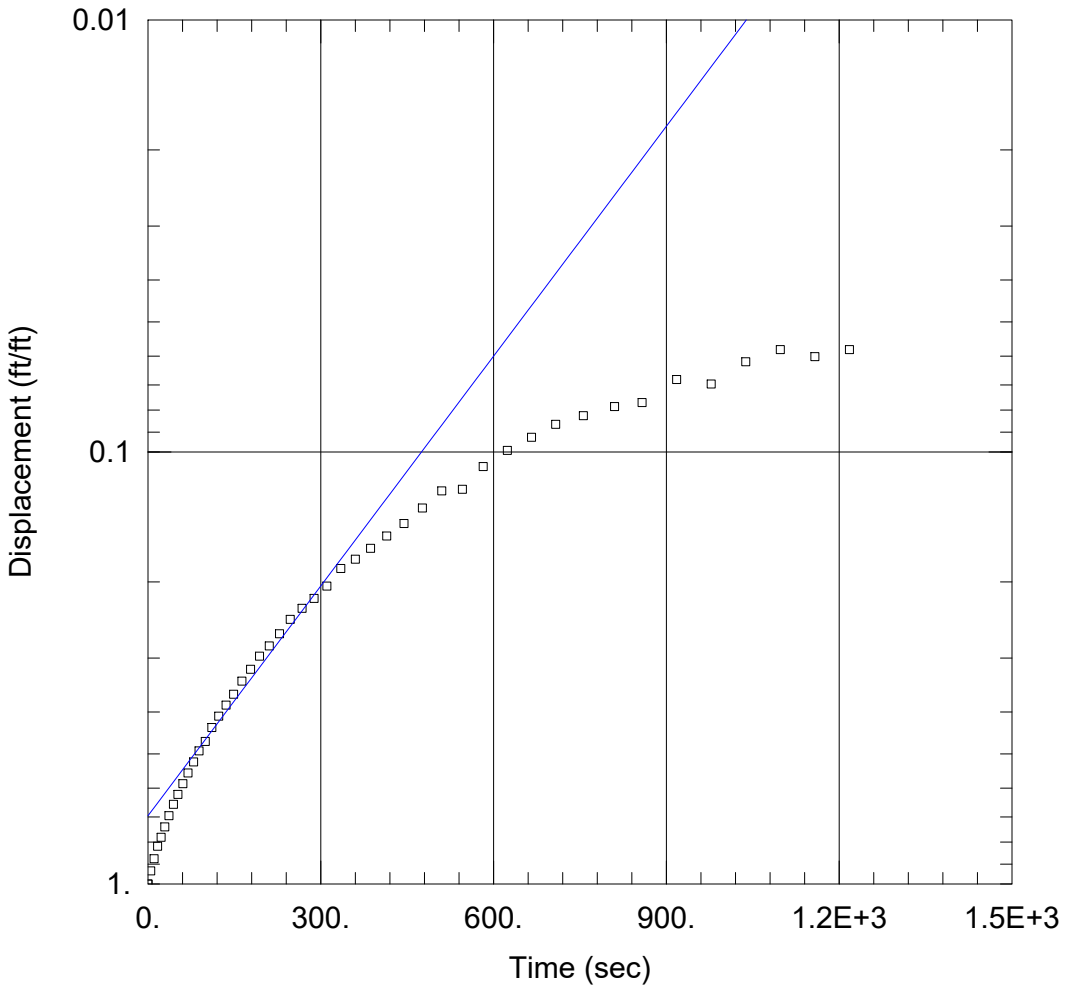
Solution Method: Bouwer-Rice
ln(Re/rw): 0.

VISUAL ESTIMATION RESULTS

Estimated Parameters

Parameter	Estimate	
K	0.2923	ft/day
y0	1.248	ft

K = 0.0001031 cm/sec
T = K*b = 5.846 ft²/day (0.06286 sq. cm/sec)



MW-06 SLUG OUT

Data Set: \...\MW-06 Slug Out_20oct2020_b to 20 ft_gd.aqt
Date: 10/20/20 Time: 14:24:21

PROJECT INFORMATION

Company: EA Engineering
Client: U.S. EPA Region 6
Project: 14342128
Location: Creek County, Oklahoma
Test Well: MW-06 Slug out
Test Date: 8/17/2020

AQUIFER DATA

Saturated Thickness: 20. ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-06 Slug Out)

Initial Displacement: 1.795 ft
Total Well Penetration Depth: 41.06 ft
Casing Radius: 0.0833 ft
Static Water Column Height: 41.06 ft
Screen Length: 20. ft
Well Radius: 0.0833 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.2923 ft/day
y0 = 1.248 ft

FIELD DATA
SLUG TEST
WILCOX OIL SUPERFUND SITE, BRISTOW, OKLAHOMA
Page _____ of _____
DATE: 8/18/20

Test Well: MW-01					Comments
Clock Time	Elapsed Time	ODtw: 7.86	DTW (ft)		0.2 gal disp.
STATIC WL:					**TIME SLUG REMOVED:**
	.05	/	30	7.93	1545
	.10	/	35		
15.45.15	.15	~~9.36~~ /			
	.20	9.36			
	.25	9.33			
	.30	9.31			
	.35	9.30			
	.40	9.28			
	.45	9.25			
	.50	9.23			
	.55	9.21			
	1.0	9.19			
	1.10	9.15			
	1.30	9.10			
	1.45	9.06			
	2.0	9.02			
	2.3	8.94			
	3.0	8.87			
	3.3	8.80			
	4.0	8.75			
	4.3	8.69			
	5.0	8.63			
	6.0	8.55			
	7.0	8.48			
	8.0	8.40			
	9.0	8.34			
	10.0	8.29			
	15.0	8.12			
	20.	8.02			
	25	7.96			

FIELD DATA
SLUG TEST
WILCOX OIL SUPERFUND SITE, BRISTOW, OKLAHOMA

Page _____ of _____

~~Slug In~~ Slug Out DATE: 8/17/20

Test Well: MW-04 05					Comments
Clock Time	Elapsed Time		DTW (ft)		0.2gal 0.3p
STATIC WL:					**TIME SLUG REMOVED:**
5:09	.05		15		5.04
5:14	.10	13.2	20		
5:19	.15		25		
5:24	.20	13.07	30.0	11.94	
5:29	.25	13.00	35.0	11.94	
5:34	.30	12.95			
5:39	.35	12.88			
5:44	.40				
5:49	.45	12.82			
5:54	.50	12.79			
5:59	.55	12.74			
6:04	1.00	12.71			
6:19	1.15	12.64			
6:34	1.30	12.58			
6:49	1.45	12.51			
	2.0	12.45			
	2.3	12.36			
	3.0	12.30			
	3.3	12.24			
	4.0	12.19			
	4.3	12.16			
	5.0	12.13			
	6.0	12.09			
	7.0	12.07			
	8.0	12.04			
	9.0	12.03			
	10.0	12.02			
	15.0	11.97			
	20.0	11.97			
	25.0	11.95			

FIELD DATA
SLUG TEST
WILCOX OIL SUPERFUND SITE, BRISTOW, OKLAHOMA
Page _____ of _____
DATE: 8/18/20

Test Well: MW-06					Comments
Clock Time	Elapsed Time		DTW (ft)		0.2 gal dtw
STATIC WL:					**TIME SLUG REMOVED:**
	0.5		30		1728
	0.10		35		
	0.15				
17.28.20	.20	13.30			
	.25	13.21			
	.30	13.14			
	.35	13.09			
	.40	13.05			
	.45	12.98			
	.50	12.94			
	.55	12.92			
	1.00	12.88			
	1.15	12.79			
	1.30	12.71			
	1.45	12.65			
	2.0	12.59			
	2.3	12.49			
	3.0	12.41			
	3.3	12.34			
	4.0	12.30			
	4.3	12.25			
	5.0	12.21			
	6	12.16			
	7	12.10			
	8	12.08			
	9	12.06			
	10	12.03			
	15	11.97			
	20	11.95			
	25				

ATTACHMENT 2

FIELD NOTES

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: 1 of 1
Date: 8/18/2020

Ground Water Collection Field Form

Well ID: GW-13-119 Sample ID: GW-13-119 Sample Time: 0900

Casing diameter/type: 4" PVC
Well location: Wilcox Oil Superfund Site Weather: Partly Cloudy 68°
Screened interval(s): 195' 119' midpoints
Sampling personnel: AS
Total depth:
Sampling method: ~~MP~~ Low-Flow
Initial depth to water (w/o pump): 16.64
Water level indicator: Heron
Final depth to water (w/o pump): 17.65
Water quality meter: YSI 556 MPS
Measuring point: **North side of casing**
Pump depth setting: 119'
Pump type/model: Monsoon

	Δ < 1° C	Δ < 3%	Δ <10%	Δ <10%	Δ < 0.1 pH	Δ < 10 mV	Δ < 0.3 ft	< 1L/min	Δ < 10 NTU		Parameter Stabilization Limits (3 consecutive readings)
Time	**Temp (°C)**	**Conductivity (mS/cm) or (µS/cm)**	**DO (%)**	**DO (mg/L)**	**pH**	**ORP (mV)**	**Water Level (feet btoc)**	**Flow Rate (L/min) or (mL/min)**	**Turbidity (NTU)**	**Purge Volume (L) or (mL)**	**Additional Comments**
0823	16.84	0.686	36.2	3.50	7.09	-47.4	18.03	600	14.7		
0826	16.96	0.649	34.2	3.01	7.10	-46.2	18.59	500	15.0		
0829	16.93	0.687	25.6	2.76	7.10	-47.8	18.65	500	22.0		
0832	16.95	0.661	28.5	2.75	7.09	-58.0	18.78	500	25.1		
0835	16.89	0.659	28.2	2.73	7.09	-45.2	18.90	500	25.0		
0838	17.09	0.642	26.8	2.57	7.07	-36.5	18.75	400	25.2		
0841	17.17	0.641	26.3	2.53	7.07	-54.3	18.62	400	26.6		
0844	16.85	0.646	27.2	2.64	7.06	-58.7	18.62	400	29.6		
0847	16.94	0.651	27.1	2.62	7.06	-57.8	18.62	400	30.8		
0850	17.01	0.659	27.8	2.68	7.06	-60.9	18.63	400	32.7		

Note:
Parameter Stabilization Limits:
(3 consecutive readings) for percent difference type parameters
Percent difference formula =
ABS[((first reading - second reading)/first reading) x 100]
Ex: Readings 12, 16, 15, 13
((12-16)/12)*100 = 33% ((16-15)/16)*100 = 6%
((15-13)/15)*100 = 13% In example, stabilization has not occurred.

Analyses: (circle those collected and indicate the number of containers)

VOCs	Metals	Pesticides
SVOCS	Hexavalent Chromium	Aroclors

Recorded By: AS

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Date: 8/20/2020

Ground Water Collection Field Form

Well ID: GW-13-195 Sample ID: GW-13-195 Sample Time: 1000

Casing diameter/type: 4" PVC
Well location: Wilcox Oil
Weather: Sunny 72°
Screened interval(s): 119 and 195
Sampling personnel: JM, WG, AS
Total depth: 200'
Sampling method: Low-flow
Initial depth to water (w/o pump): 16.84'
Water level indicator: Heron
Final depth to water (w/o pump): 21.44
Water quality meter: YSI 556 MPS
Measuring point: **North side of casing**
Pump depth setting: 190'
Pump type/model: Geosub

	Δ < 1° C	Δ < 3%	Δ <10%	Δ <10%	Δ < 0.1 pH	Δ < 10 mV	Δ < 0.3 ft	< 1L/min	Δ < 10 NTU		Parameter Stabilization Limits (3 consecutive readings)
Time	Temp (°C)	Conductivity (mS/cm) or (µS/cm)	DO (%)	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	Additional Comments
0920	17.16	0.404	28.8	2.81	7.65	49.9	16.73	250	11.8		
0925	17.74	0.582	37.1	3.52	7.43	49.3	17.10	300	7.35		
~~0928~~											Pulled up pump to improve flow
0930	17.41	0.737	29.5	2.68	7.29	43.4	17.24	700	33.1		
0940	17.24	0.745	41.7	4.02	7.55	48.9	20.41	600	39.0		- Water thick/Brown/Black
0943	17.08	0.733	38.7	3.71	7.51	50.2	21.68	1000	37.3		> Possibly Bio-accumulation
0947	17.32	0.724	38.8	3.71	7.40	50.7	24.26	1000	12.4		
0950	17.31	0.722	38.7	3.71	7.38	50.5	25.96	1000	7.23		
0953	17.26	0.721	38.7	3.71	7.37	49.7	26.66	1000	6.34		
0956	17.11	0.720	39.5	3.79	7.38	49.0	26.23	1000	3.04		

Note:
Parameter Stabilization Limits:
(3 consecutive readings) for percent difference type parameters
Percent difference formula =
ABS[((first reading - second reading)/first reading) x 100]
Ex: Readings 12, 16, 15, 13
((12-16)/12)*100 = 33% ((16-15)/16)*100 = 6%
((15-13)/15)*100 = 13% In example, stabilization has not occurred.

Analyses: (circle those collected and indicate the number of containers)

VOCs	Metals	Pesticides
SVOCS	Hexavalent Chromium	Aroclors

Recorded By: JM

CONTENTS

PAGE	REFERENCE	DATE

4

Location Bristow Creek Co OK Date 8/10/20

Project / Client Wilcox / Rey 6
W Gomez

Well	DTW
01	6.53
02	11.23
03 ~~04~~	
04	12.49
05	9.42
06	

Disregard WG

Well #	DTW Pre Sample
01	6.53
02	
03	11.23
04	12.49
05	9.42
06	

8/10/20
WG

Location Bristow, Creek Co OK Date 8/11/20

5

Project / Client Wilcox / Rey 6
W Gomez

0800	Arrive Onsite / H-S meeting
0830	Prep to Hydropunch @ Loraine and do creek walk
0930	@ Lorain Geoprobe hits refusal before Ground water @ all 3 locations, Move to Wilcox. Shut down from Rain + Lightning
1100	7.5ft refusal @ WPA-GW-06,
1400	@ WPA-GW-02, Screen @ 24' Not enough recharge to low flow, take 1 YSI reading and Sample Sample Point continuesly goes dry while trying to Sample
1415	Sample @ WPA-GW-02
1715	Finish filling Containers @ WPA-GW-02
1730	Pack Sample Coolers to Ship

WG
8/11/20

Rite in the Rain

Location Bristow, OK, Wilcox Date 8-12-2020

Project / Client EPA Reg VI

J. Meinerts

0700 - On site

0730 - Prepping each team for events of the day, Drew - low-flow, Will & Jack - creek survey, Jacob - set temporary wells & log.

0800 - HASP w/ Mohawk crew

0845 - Setting up to drill on WPA-GW-06. Refusal at 7' bgs, heavy odor and visible product at 4' bgs. Tried for second hole and hit refusal at 7' bgs again. Plugged holes and moved to next location.

0920 At WPA-GW-01, drilling, slight odor of petroleum from core samples but no visible product

1000 Finish WPA-GW-01, drilled to 25' bgs, screen set from 15' to 25' Riser from surface to 15'

1025 at GW-10, Hit refusal at ~7ft bgs twice, Hit sandstone with product at top of it. Hole was plugged ad abandoned

1045 At WPA-GW-05, drill successful down to 25' bgs; bottom of hole collapsed in, casing was set

Location Bristow, Creek Co, OK Date 8-12-2020

Project / Client Wilcox, EPA Reg VII

J. Meinerts

to ~22' bgs, screen from 12' to 22', risers from surface to 12'

1110 - 20-25 sample sleeve is stuck in spoon, drillers working to free it. GW-05 has product in multiple zones, wherever there is sand, there is also product.

1145 - Drillers couldn't get sleeve out of spoon, will have to pick up another from yard in Tulsa.

1215 - Lunch

1315 - Moving to WPA-GW-08

1325 - Hit refusal at 2' and at 1' on the two attempts, hard pack sandstone at both spots, plugged & abandoned both holes.

1335 - Moved over to GW-06 area to attempt a different spot, drilled down to ~9' bgs, product throughout and had decent moisture. Well was set w/ screen from surface to 9'.

1400 - Moved to WPA-GW-07, drilled to 25', set casing: screen from 14'-24', riser from surface - 14'

Rite in the Rain

Location Bristow, Creek Co., OK Date 8-12-2020

Project / Client Wilcox / EPA Reg VI

J. Meinerts

1445 - Moving to WPA-GW-04, drilled to 12' bgs, screen from 2'-12', where we hit refusal

1500 - at WPA-GW-03, hit refusal at 1' and 2', plugged and abandoned

1515 - at WPA-GW-09, Drilled to 15' bgs, saturated zones throughout, screen from 5'-15'. Odor but no visible.

1535 - Move to Lorraine Processing Area, at LPA-GW-01, Drilled to ~14', screen from 4'-14'

1600 - Moving to LPA-GW-02, drilled to 15' where refusal was hit, set screen from 5'-15'

1625 - At LPA-GW-03, drilled to 15', hit refusal, screen set 5'-15',

1800 - Back at Hotel

8-12-2020

Location Bristow, Creek OK Date 8/13/20

Project / Client Wilcox / Reg 6.

W. Gamler

0715 - At site, meet at camp

0730 - HASP, and load up supplies and equipment

0800 - At GW-02 (WPA) for sampling

0810 - Sample @ WPA-GW-01 + Dupe Take 1 set of parameters then start filling containers, due to low recovery rates

0825 WPA-GW-01 goes dry, will move to next location while waiting for recharge

0840 Setup @ WPA-GW-05

0845 WPA-GW-05 is dry after sitting overnight

0900 @ WPA-GW-06

0910 Sample @ WPA-GW-06 Can't take parameters, to high turbidity and too much free product to improvement while trying to purge.

0915 WPA-GW-06 goes dry, will return later to continue sample collection

Rite in the Rain

Location Bristow, Creek, OK Date 8/13/20

Project / Client Wilcox O.U. / Key 6
W. Center

0935	@ WPA-Gw-09, very turbid try to purge into better condition in order to sample
0940	Sample @ WPA-Gw-09 + Dupe
1015	All containers collected @ WPA-Gw-09
1025	Setup @ WPA-Gw-07 Purge out solids, turbidity still high, strong hydrocarbon odor
1040	Sample @ WPA-Gw-07
1100	Fill all containers @ WPA-Gw-07
1230	Go Back to WPA-Gw-01, get a few more containers, let recharge will come back
1315	Complete Sample Collection @ WPA-Gw-06
1325	Setup @ WPA-Gw-04
1335	Sample @ WPA-Gw-04
1340	WPA-Gw-04 goes dry, will let recharge and return later
1355	@ LPA-Gw-01
1400	Sample @ LPA-Gw-01
1420	Collect all containers @ LPA-Gw-01

Location Bristow, Creek Co Date 8/13/20

Project / Client Wilcox O.U. / Key 6
W. Center

1500	Pack sample cooler
1600	Clear Gw-13 to sample tomorrow
1800	Go back to WPA-Gw-01, still not enough water to fill all containers, will continue tomorrow.

8/13/20
WE

Rite in the Rain

Location Bristow Creek OK Date 8/14/20

Project / Client Wilcox O.L / Key 6
W. Comfort

0800 Arrive Onsite / H-S meeting
0815 Setup @ LEA-Gw-02 start Purging
0820 Sample @ LEA-Gw-02
0840 Collect all containers @ LEA-Gw-02
0845 Setup and purge @ LEA-Gw-03
0850 LEA-Gw-03 is Dry

8/14/20

WC

Location Bristow, Creek, OK Date 8/17/20

Project / Client Wilcox O.L / Key 6
W Comfort

1100 Arrive Onsite / H-S meeting
1300 @ Mw-04
Slug Vol. 0.2 gal / 1 gall Act
Dtp - 13.52 WC: 26.14 37.99 wg
Dty - 13.55 Troll depth ~~38.66~~ / 25.14
Td 39.66 Slug depth @ 17'

1340 Deploy Troll and Slug. Record WL change on rugged reader, Cam/ get probe down hole for manual gauging.
1408 Stop logging @ 13.42, data looks good on rugged reader.
Trying to manual gauge Mw-04 hindered by LNAPL, probe misreads
1430 Mw-04 returns to pre-slug WL 13.56 prepare to remove slug - will come back
1445 @ Mw-05

WL 12.01 WC: 25.16
Td 37.17 Probe @ 24.16 / 36.17
Slug @ 16ft bgs ↳ Act 24.09
1455 Install slug - WL w/ trayn = 11.92
1525 Mw-05 returns to 95% original WL. Let sit, slug out later

Rite in the Rain

Location Wilcox Oil Creek Co, OK Date 6/17/20

Project / Client Reg 6 / W Gamter

1350	Prepare for slug out @ MW-04
	WL: 12.83 (within 95% original)
	Wh Target Recovery 25.16
1650	Complete slugout test @ MW-04
1655	@ MW-05
	Dtw-11.92
	Trol set @ 24.09
1704	Pull slug / Gauge manually and datalog
1740	End slugout @ MW-05

6/17/20 WG

Location Bristow, Creek, OK Date 6/18/20

Project / Client Wilcox / Reg 6
W. Gamter

0700	Arrive Onsite / H-S meeting
0800	Setup @ GW-13-119
0900	Setup slug test @ MW-02
	Dtw: 15.54
	Td: 18.32
	Set Troll: 17.32
	Not Enough water to slug test
0825	@ MW-01
	Dtw 7.93 Troll @ 19.19 (11.26)
	Td: 20.19
	Wc: 12.26
0840	Start log and install slug
	95% recharge = 7.53 dtw
0857	Stop slug out log dtw: 7.95
0915	@ MW-03
	Dtw 11.37
	Td 15.17
	Wc 3.8
	Not enough water - bottom of well is too soft to Place troll @ Td. Too much dirt

Rite in the Rain

16

Location Bristow, Creek, OK Date 8/18/20

Project / Client W. Cox / Leg 6
W. Ganter

1030	Talk to Pat, perform Baildown test w/ Troll @ Mw-02/03
1115	Start Baildown @ Mw-03
1130	Bail ~ 5gal from Mw-03
1207	Stop Log WL @ 11.47 - within 95% Recov.
1330	Setup to Baildown test Mw-02
1335	Start Baildown Mw-02
1400	End Baildown test @ Mw-02 - Data resolution poor, can't remove enough water with Bailer. Will try pumpdown instead
1535	@ Mw01 for Slugout DTW 7.86
1545	Pull slug
1615	Stop test wh returns to 7.87
1630	Setup @ Mw-06 DTW 11.94 TD 53.53 WC 41.59 C (40.59 troll) Trolle 52.53 → Act 52.15/51.85 @ 1744
1700	Start slugin test
1728	Pull slug for slugout test
1750	Finish slug out Mw-06

8/18/20
WC

17

Location Bristow, Creek, OK Date 8/19/20

Project / Client W. Cox / Leg 6
W. Ganter

0800	Arrive Onsite / H-S meeting
0810	Take ATV tire into Bristow for repair
0845	Set up for pumpdown test @ Mw-02 DTW 15.55 Place transducer above pump - Pump can't fit around transducer wire.
0900	Start Mw-02 pumpdown
0920	Pump can't lift water in well, to much mud/dirt/animal carcass will try another Baildown test with transducer placed after baildown.
0945	Bail well dry, insert troll as quickly as possible
1025	Stop Mw-02 Buildown log Final DTW 15.75 C (95%)

8/19/20
WC

Rite in the Rain

Location Bristow Creek, OK Date 8/20/20

Project / Client W.Cox / Rey 6
W. Canter

0800 Arrive Onsite / H-S. meet
1030 Collect WPA-SA-03 near trailer House + DUP
35.84134436, -96.3830721
1040 Collect WPA-SA-04 + Msmsd
~~1050 Collection~~
35.8413377, -96.383754

8/20/20

WG

Location Date

Project / Client

Rite in the Rain

CONTENTS

PAGE	REFERENCE	DATE

Location Bristow, OK Date 8/11/2020

Project / Client Willox Oil

0800 at site
0820 Gather supplies, prep for sampling
- Will Gaster, Jacob McAndrews, Jacks on site.
Weather: Partly Cloudy / Rain 80°
0830 H&S meeting conducted - Mohawk Drilling, present: Tanner and Sam
0843 arrive at LPA-GW-01 - Geoprobe 6610 DT - start drilling
0915 LPA-GW-01 - refusal at 16' bgs., screen at 14', no water in well when pumped
0926 Move over 5' and redrill to try and get water
0937 no water at second location
0940 Tell drillers to stand down due to thunder
0945 at base camp
1030 Thunder continues, stand down
1130 Leave for lunch
1230 Back at the site

Rite in the Rain

4

Location Bristow, OK Date 8/11/2020

Project / Client Wilcox Oil

1235 setup at MW-04
1304 Start taking readings at MW-04 - see data sheet for low-flow information
- 0.2' of product in well, very strong odor in well
1340 sample MW-04
1423 Head to base camp
1450 setup at MW-01 -
1545 sample MW-01 - see data sheets for low flow info
1630 Pickup at MW-01, head to basecamp
1645 at GW-02 with Will & Jacob M, collecting sample
1715 Pack up at GW-02
1735 Pack down at base camp
1806 Leave site
1845 at hotel

AS 8/11/2020

5

Location Bristow, OK Date 8/12/2020

Project / Client Wilcox Oil

0700 Leave hotel
0800 at site begin safety getting setup.
- weather Partly cloudy, 84°
0820 conduct MTS meeting
0837 Leave basecamp to MW-03
0845 setup at MW-03
0940 Sample MW-03 - MS/MSD collected, see data sheet for low flow details
1045 Pack up at MW-03, ~~Head~~ to base camp AS
1114 Head to base camp
1145 Leave for lunch
1210 Back at basecamp
1235 Leave for MW-02
1242 at MW-02, too overgrown will do tomorrow, need to flatten out grass w/ truck & atv
1305 Head to MW-05
1310 Setup at MW-05
1354 Start taking parameters, see data sheet for more details

Rite in the Rain

6

Location Bristow, OK Date 8/12/2020

Project / Client Wilcox Oil

AS

1430 Sample MW-05
1450 Pack up at MW-05
1500 Back at base camp
1530 Leave site to get ice w/ Jacks
1545 Return from store w/ ice
1600 Start packing coolers
1630 Jack S leaves w/ sample coolers to FedEx
1635 Will G + [redacted] go and put tubing down the temp wells that are done being installed
1700 at basecamp
1715 Leave site
1745 at motel

AS 8/12/2020

7

Location Bristow, OK Date 8/13/2020

Project / Client Wilcox Oil

AS

0730 arrive on site - Partly cloudy 72°
0800 H+S meeting w/ Will G, Jacob M, ~~[redacted]~~ Jack S, left site for dallas
0805 head to MW-02
0812 Setup at MW-12
0830 Start parameters, see data sheet for low flow details
0855 Sample MW-02
0930 Pack up at MW-02
0932 Leave to basecamp
0950 Leave basecamp to MW-06
1015 Looking for MW-06 in brush
1040 Start clearing around MW-06
1130 Finish clearing
1215 Back from lunch
1238 Setup at MW-06
1305 Start parameters, see data sheet for details
1340 Sample MW-06
1415 Leave MW-06 for base camp

Rite in the Rain

8

Location Bristow, OK Date 8/13/2020

Project / Client Wilcox Oil Superfund Site

AS

1435 unpack at base camp
1445 Leave site to get ice
1500 Return w/ ice, start packing coolers
1545 Leave site to drop off coolers
1645 at FedEx
1700 Back at hotel

8/13/2020

AS

9

Location Bristow, Creek Co, OK Date 8-14-2020

Project / Client Wilcox / EPA Reg VI

J. Meinerts

0700- Onsite
0730- HASP and prep for sampling
0745- Go to tractor supply for air chuck to refill ATV tire
0820- Back at WPA-GW-01 to continue filling sample bottles.
0850- Finish sampling at WPA-GW-01
0855- At WPA-GW-04, to continue sampling from previous day.
0910- WPA-GW-04 went dry, will have to give time for recharge
0945- Back at WPA-GW-04, filled up all remaining samples less the filtered metals container before well went dry. Went to clean and pack up camp while well recharges
1035- Back at WPA-GW-04, filled half of filtered metals, now waiting for recharge
1115 Finish sampling @ WPA-GW-04
~~0900 Sample GW-13 (119' interval)~~

Rite in the Rain

Location Wilcox Oil Bristow, OK Date 8/18/2020

Project / Client

0730 - Onsite - HASP
0900 - Sample at GW-13
1030 - Sample at WPA-SA-01 and DUP
1055 - Sample at WPA-SA-02 & dup
1110 - Sample at LPA-SA-01
1125 - Sample at LPA-SA-02
1200 - Sample at NTF-SA-02
1210 - Sample at NTF-SA-01
1335 - Sample at NTF-SA-05
1405 - Sample at NTF-SA-03

AS 8/18/2020

Location Bristow, OK Date 8/19/2020

Project / Client Wilcox Oil

0810 Sample NTF-SA-04
0830 Sample at LDA-SA-01
0835 Sample at LDA-SA-02
0840 Sample at LDA-SA-03
0945 Sample at ETF-SA-02 + MS/MSD
1000 Sample at ETF-SA-01 + MS/MSD
1030 Sample at ETF-SA-07
1040 Sample at ETF-SA-08
1105 Sample at ETF-SA-06
1115 Sample at ETF-SA-03
1130 Sample at ETF-SA-04
1140 Sample at ETF-SA-05

AS
8/19/2020

Rite in the Rain

Location Bristow, OK Date 8/20/2020

Project / Client Wilcox Oil Superfund

~~1000~~ 0930 Setup at GW-13

1000 Sample GW-13 (deep screen interval)

~~1015 Sample at~~

1100 Finish sampling GW-13

1200 Leave site

8/20/20

Location Date

Project / Client

Rite in the Rain

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: 1 of 1
Date: 8/11/2020

Ground Water Collection Field Form

Well ID: MW-01 Sample ID: MW-01 Sample Time: 1545

Casing diameter/type: 2" PVC
Well location: Wilcox
Weather: Partly Cloudy 83°
Screened interval(s):
Sampling personnel: AS, JS
Total depth:
Sampling method: Low-flow
Initial depth to water (w/o pump): 7.51'
Water level indicator: Horiba
Final depth to water (w/o pump): 8.79'
Water quality meter: YSI 556 MPS
Measuring point: **North side of casing**
Pump depth setting:
Pump type/model: Pegasus Altais

	Δ < 1° C	Δ < 3%	Δ <10%	Δ <10%	Δ < 0.1 pH	Δ < 10 mV	Δ < 0.3 ft	< 1L/min	Δ < 10 NTU		Parameter Stabilization Limits (3 consecutive readings)
Time	**Temp (°C)**	**Conductivity (~~mS/cm~~) or (µS/cm)**	**DO (%)**	**DO (mg/L)**	**pH**	**ORP (mV)**	**Water Level (feet btoc)**	**Flow Rate (L/min) or (~~mL/min~~)**	**Turbidity (NTU)**	**Purge Volume (L) or (mL)**	**Additional Comments**
1507	21.88	0.446	18.4	1.54	6.49	-47.7	8.26	300	43.3		
1510	21.34	0.434	7.7	0.68	6.21	25.9	8.67	300	34.7		
1513	21.14	0.428	6.6	0.58	6.19	25.5	9.09	300	36.9		
1516	20.97	0.425	5.4	0.48	6.18	26.8	9.28	250	40.0		
1519	20.87	0.427	4.9	0.43	6.17	28.3	9.48	250	39.1		
1522	21.12	0.428	4.2	0.38	6.16	30.0	9.59	250	35.30		
1525	20.96	0.429	3.8	0.34	6.12	34.5	9.70	250	29.0		
1528	20.69	0.428	3.4	0.30	6.08	33.8	9.81	250	22.3		
1531	20.81	0.429	3.1	0.28	6.08	34.8	9.59	250	24.5		
1534	20.56	0.429	3.0	0.27	6.08	33.3	10.0	300	19.3		
1537	20.63	0.428	2.9	0.26	6.08	33.5	10.02	275	19.1		
DUP											

Note:

Parameter Stabilization Limits:
(3 consecutive readings) for percent difference type parameters
Percent difference formula =
ABS[((first reading - second reading)/first reading) x 100]
Ex: Readings 12, 16, 15, 13
((12-16)/12)*100 = 33% ((16-15)/16)*100 = 6%
((15-13)/15)*100 = 13% In example, stabilization has not occurred.

KS

Analyses: (circle those collected and indicate the number of containers)

VOCs	Metals	Pesticides
SVOCS	Hexavalent Chromium	Aroclors

Recorded By: _____

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Date: 8/13/2020

Ground Water Collection Field Form

Well ID: MW-02 Sample ID: MW-02 Sample Time: 0855

Casing diameter/type: 2" PVC
Well location: Wilcox Oil Superfund Site
Weather: Partly Cloudy 75
Screened interval(s):
Sampling personnel: AS
Total depth:
Sampling method: Low-flow
Initial depth to water (w/o pump): 15.38'
Water level indicator: Heron
Final depth to water (w/o pump): 15.42'
Water quality meter: YSI 556 MPS
Measuring point: **North side of casing**
Pump depth setting:
Pump type/model: Peristaltic

	Δ < 1° C	Δ < 3%	Δ <10%	Δ <10%	Δ < 0.1 pH	Δ < 10 mV	Δ < 0.3 ft	< 1L/min	Δ < 10 NTU		Parameter Stabilization Limits (3 consecutive readings)
Time	**Temp (°C)**	**Conductivity (mS/cm) or (µS/cm)**	**DO (%)**	**DO (mg/L)**	**pH**	**ORP (mV)**	**Water Level (feet btoc)**	**Flow Rate (L/min) or (mL/min)**	**Turbidity (NTU)**	**Purge Volume (L) or (mL)**	**Additional Comments**
0830	18.37	0.374	9.0	0.43	6.22	-146.3	15.60	150	17.4		
0833	18.22	0.380	4.3	0.40	6.05	-134.8	15.68	150	17.7		
0836	18.16	0.388	3.8	0.36	6.02	-134.7	15.74	150	15.5		
0839	18.18	0.390	3.3	0.31	5.99	-127.5	15.83	150	16.6		
0842	18.02	0.380	3.2	0.30	5.97	-121.6	15.90	150	14.1		
0845	18.00	0.375	3.1	0.30	5.96	-113.7	15.97	150	14.2		
0848	18.09	0.365	2.9	0.27	5.93	-111.3	16.02	150	13.9		
0851	18.09	0.368	2.9	0.27	5.92	-111.2	16.05	150	14.0		
											* odor present *

Note:

Parameter Stabilization Limits:
(3 consecutive readings) for percent difference type parameters
Percent difference formula =
ABS[(first reading - second reading)/first reading) x 100]
Ex: Readings 12, 16, 15, 13
((12-16)/12)*100 = 33% ((16-15)/16)*100 = 6%
((15-13)/15)*100 = 13% In example, stabilization has not occurred.

Analyses: (circle those collected and indicate the number of containers)

VOCs	Metals	Pesticides
SVOCS	Hexavalent Chromium	Aroclors

Recorded By: AS

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Date: 8/12/2020

Ground Water Collection Field Form

Well ID: MW-03 Sample ID: MW-03 Sample Time: 0940

Casing diameter/type: 2" PVC
Well location: Wilcox Superfund Site
Weather: Cloudy 83°
Screened interval(s):
Sampling personnel: AS
Total depth:
Sampling method: Low-flow
Initial depth to water (w/o pump): 11.23'
Water level indicator: Heron
Final depth to water (w/o pump): 11.68'
Water quality meter: YSI 556 MPS
Measuring point: **North side of casing**
Pump depth setting:
Pump type/model: Pegasus Atlas

	Δ < 1° C	Δ < 3%	Δ <10%	Δ <10%	Δ < 0.1 pH	Δ < 10 mV	Δ < 0.3 ft	< 1L/min	Δ < 10 NTU		Parameter Stabilization Limits (3 consecutive readings)
Time	**Temp (°C)**	**Conductivity (mS/cm) or (µS/cm)**	**DO (%)**	**DO (mg/L)**	**pH**	**ORP (mV)**	**Water Level (feet btoc)**	**Flow Rate (L/min) or (mL/min)**	**Turbidity (NTU)**	**Purge Volume (L) or (mL)**	**Additional Comments**
0903	19.80	0.329	15.6	1.38	6.15	20.4	11.44	200	1641 AV		
0906	19.27	0.344	5.5	0.50	5.96	12.0	11.58	200	1340 AV		
0909	19.18	0.359	4.1	0.38	5.95	10.3	11.65	200	1216 AV		
0912	19.24	0.368	3.6	0.33	5.95	8.2	11.71	200	1161 AV		
0915	19.13	0.386	3.0	0.28	5.95	3.4	11.78	200	713 AV		
0918	19.13	0.396	2.9	0.26	5.96	2.4	11.80	225	163		
0921	19.05	0.408	2.8	0.25	5.98	-2.4	11.84	225	647 AV		
0924	19.09	0.420	2.6	0.24	6.00	-6.9	11.87	225	78		* slight odor
0927	18.93	0.430	2.7	0.25	6.01	-6.7	11.92	225	83.7		
0930	19.02	0.435	2.5	0.23	6.02	-6.5	11.93	225	58.5		
0933	19.00	0.442	2.2	0.21	6.02	-9.0	11.95	225	55.6		* MS/MSD COLLECTED

Note:
Parameter Stabilization Limits:
(3 consecutive readings) for percent difference type parameters
Percent difference formula =
ABS[((first reading - second reading)/first reading) x 100]
Ex: Readings 12, 16, 15, 13
((12-16)/12)*100 = 33% ((16-15)/16)*100 = 6%
((15-13)/15)*100 = 13% In example, stabilization has not occurred.

Analyses: (circle those collected and indicate the number of containers)

VOCs	Metals	Pesticides
SVOCS	Hexavalent Chromium	Aroclors

Recorded By: AS

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Date: 8/11/2020

Ground Water Collection Field Form

Well ID: MW-4 Sample ID: MW-4 Sample Time: 1340

Casing diameter/type: 2" PVC
Screened interval(s):
Total depth:
Initial depth to water (w/o pump): 12.78
Final depth to water (w/o pump): 14.11
Measuring point: **North side of casing**

Well location: wilcox
Sampling personnel: AS, JS
Sampling method: Low Flow
Water level indicator: Heron
Water quality meter: YSI 556 MPS
Pump depth setting:

Weather: Partly Cloudy 83
Pump type/model: Pegasus Alexis

	Δ < 1° C	Δ < 3%	Δ <10%	Δ <10%	Δ < 0.1 pH	Δ < 10 mV	Δ < 0.3 ft	< 1L/min	Δ < 10 NTU		Parameter Stabilization Limits (3 consecutive readings)
Time	Temp (°C)	Conductivity (mS/cm) or (µS/cm)	DO (%)	DO (mg/L)	pH	ORP (mV)	Water Level (feet btoc)	Flow Rate (L/min) or (mL/min)	Turbidity (NTU)	Purge Volume (L) or (mL)	12.62 / 12.78 Additional Comments
1304	20.45	0.726	22.5	2.04	6.74	~~+8.8~~	13.16	250	64.2		
1307	18.99	0.723	6.4	0.59	6.59	~~+1.4~~	13.36	225	52.0		12.62 ~~DTP~~ Product ≈3" product
1310	18.87	0.723	5.1	0.47	6.49	~~-1.4~~	13.67	225	37.0		12.78 DTW
1313	19.41	0.721	4.0	0.37	6.48	~~-6.1~~	13.76	225	28.5		
1316	19.45	0.719	3.6	0.32	6.46	-126.7	13.85	225	26.7		- Strong odor present
1319	19.31	0.723	3.1	0.29	6.46	-131.0	13.93	225	26.3		
1322	19.38	0.720	2.9	0.27	6.45	-131.1	14.02	225	26.6		
1325	19.36	0.720	2.8	0.25	6.45	-131.9	14.09	225	26.5		
1328	19.53	0.720	~~2.6~~ 2.6	0.23	6.45	-132.0	14.12	225	26.2		
1331	19.33	0.721	2.5	0.23	6.44	-131.9	14.22	225	26.2		

Note:
Parameter Stabilization Limits:
(3 consecutive readings) for percent difference type parameters
Percent difference formula =
ABS[((first reading - second reading)/first reading) x 100]
Ex: Readings 12, 16, 15, 13
((12-16)/12)*100 = 33% ((16-15)/16)*100 = 6%
((15-13)/15)*100 = 13% In example, stabilization has not occurred.

Analyses: (circle those collected and indicate the number of containers)		
VOCs	Metals	Pesticides
SVOCS	Hexavalent Chromium	Aroclors

Recorded By: AS

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Date: 8/12/2020

Ground Water Collection Field Form

Well ID: MW-05 Sample ID: MW-05 Sample Time: 1430

Casing diameter/type: 2" PVC
Well location: Wilcox Superfund Site
Weather: Partly Cloudy 85°
Screened interval(s):
Sampling personnel: AS
Total depth:
Sampling method: low-flow
Initial depth to water (w/o pump): 11.40'
Water level indicator: Heron
Final depth to water (w/o pump): 11.96'
Water quality meter: YSI 556 MPS
Measuring point: **North side of casing**
Pump depth setting:
Pump type/model: Pegasus AL465

	Δ < 1° C	Δ < 3%	Δ <10%	Δ <10%	Δ < 0.1 pH	Δ < 10 mV	Δ < 0.3 ft	< 1L/min	Δ < 10 NTU		Parameter Stabilization Limits (3 consecutive readings)
Time	**Temp (°C)**	**Conductivity (mS/cm) or (µS/cm)**	**DO (%)**	**DO (mg/L)**	**pH**	**ORP (mV)**	**Water Level (feet btoc)**	**Flow Rate (L/min) or (mL/min)**	**Turbidity (NTU)**	**Purge Volume (L) or (mL)**	**Additional Comments**
1354	19.03	0.878	7.0	0.64	6.47	36.9	11.69	250	79		
1357	18.80	0.873	4.0	0.37	6.48	42.7	12.18	250	109.7		
1400	18.62	0.869	3.7	0.34	6.47	42.8	12.26	250	92.2		
1403	18.53	0.867	3.2	0.30	6.47	44.0	12.30	250	98		
1406	18.66	0.864	2.8	0.28	6.48	44.6	12.32	250	124		
1409	18.71	0.862	2.7	0.25	6.48	45.0	12.34	250	621 AV		
1412	18.13	0.861	2.4	0.23	6.49	46.5	12.38	250	708 AV		
1415	18.58	0.859	2.3	0.21	6.48	46.2	12.39	250	791 AV		
1418	18.36	0.860	2.2	~~0.207~~	6.47	44.6	12.40	250	804 AV		
1421	18.31	0.856	2.0	0.19	6.47	46.4	12.34	250	800 AV		
1424	18.27	0.855	1.9	0.18	6.47	45.6	12.39	250	787 AV		

Note:
Parameter Stabilization Limits:
(3 consecutive readings) for percent difference type parameters
Percent difference formula =
ABS[((first reading - second reading)/first reading) x 100]
Ex: Readings 12, 16, 15, 13
((12-16)/12)*100 = 33% ((16-15)/16)*100 = 6%
((15-13)/15)*100 = 13% In example, stabilization has not occurred.

Analyses: (circle those collected and indicate the number of containers)

VOCs	Metals	Pesticides
SVOCS	Hexavalent Chromium	Aroclors

Recorded By: AS

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Date: 8/13/2020

Ground Water Collection Field Form

Well ID: MW-06 Sample ID: MW-06 Sample Time: 1340

Casing diameter/type: 2" PVC
Well location: Wilcox Oil Superfund Site Weather: Sunny 85°
Screened interval(s):
Sampling personnel: AS
Total depth:
Sampling method: Low-flow
Initial depth to water (w/o pump): 10.23'
Water level indicator: Heron
Final depth to water (w/o pump): 12.35
Water quality meter: YSI 556 MPS
Measuring point: **North side of casing**
Pump depth setting:
Pump type/model: Pegasus Auxis

	Δ < 1° C	Δ < 3%	Δ <10%	Δ <10%	Δ < 0.1 pH	Δ < 10 mV	Δ < 0.3 ft	< 1L/min	Δ < 10 NTU		Parameter Stabilization Limits (3 consecutive readings)
Time	**Temp (°C)**	**Conductivity ~~(mS/cm)~~ or (µS/cm)**	**DO (%)**	**DO (mg/L)**	**pH**	**ORP (mV)**	**Water Level (feet btoc)**	**Flow Rate ~~(L/min)~~ or ~~(mL/min)~~**	**Turbidity (NTU)**	**Purge Volume (L) or (mL)**	**Additional Comments**
1305	22.18	0.941	66.2	5.65	6.96	62.0	12.14	200	33.5		
1308	20.14	0.935	9.4	0.84	6.23	38.7	12.31	200	31.6		
1311	19.66	0.936	7.0	0.64	6.30	39.1	12.45	200	23.7		
1314	19.43	0.943	5.9	0.54	6.32	43.3	12.52	200	19.4		
1317	19.49	0.941	5.7	0.52	6.30	43.6	12.59	200	20.1		
1320	19.47	0.935	4.3	0.40	6.27	46.2	12.67	200	18.0		
1323	19.70	0.935	4.3	0.40	6.27	46.8	12.74	200	16.9		
1326	19.64	0.932	3.8	0.34	6.27	47.4	12.79	200	16.0		
1329	19.40	0.930	3.4	0.31	6.19	48.3	12.83	200	13.9		
1332	19.55	0.924	3.1	0.28	6.18	47.6	12.86	200	15.0		
1335	19.11	0.935	3.1	0.28	6.23	46.0	12.90	200	20.3		

Note:
Parameter Stabilization Limits:
(3 consecutive readings) for percent difference type parameters
Percent difference formula =
ABS[((first reading - second reading)/first reading) x 100]
Ex: Readings 12, 16, 15, 13
((12-16)/12)*100 = 33% ((16-15)/16)*100 = 6%
((15-13)/15)*100 = 13% In example, stabilization has not occurred.

Analyses: (circle those collected and indicate the number of containers)

VOCs	Metals	Pesticides
SVOCS	Hexavalent Chromium	Aroclors

Recorded By: AS

BORING/WELL CONSTRUCTION LOG

Project: Wilcox
Drilling Company: Mohawk
Drilling Rig/Bit: Geoprobe
Driller: Tanner
Boring/Well ID: WPA-GW-01

Project Number: 14342128.13.3
Start Time/Date: 0855 - 8-17-2020
Completion Time/Date: 1000 8-17-2020
Final Depth: 25'
Logged By: Jacob Meinerts

Sample Type	Blow Counts/6"	Sample Interval	PID Reading	USCS Soil Type	Depth, ft bgs	Soil Description (Order: soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, other)	Boring and/or Well Details
					0	~~SP-SM-2M~~, CL, 7.5YR 3/3, fairly loose, non plastic, no moisture, v-fine - clay size grains,	
					5		
						CL-CH, 5YR 4/6, tight/dense, plastic, dry, clay-iron - iron oxide, some v-fine sand/silt	
					10		
						CH, 5YR 5/4, malleable, dry, low-med plasticity, clay size grains, little iron oxide, lacks sand	
					15		
						CL-CH, 7.5YR 7/4, low - high plasticity, little to no moisture, little iron oxide, cohesive - primarily highly plastic w/zones of low-med.	
					20		
						CH, 5YR 4/3, fairly dense, cohesive, highly plastic, clay size, no sand, little moisture.	
					25		
						- 10 ft screen - 15 ft riser - NO sand, clay swells	

SS = Split Spoon, ST = Shelby Tube, CUT = Drill Cuttings, or Core

BORING/WELL CONSTRUCTION LOG

Project: Wilcox
Drilling Company: Mohawk
Drilling Rig/Bit: Geoprobe
Driller: Tanner
Boring/Well ID: WPA-GW-05

Project Number: 128.03
Start Time/Date: 1045 - 8-12-2020
Completion Time/Date: 1130 8-12-2020
Final Depth: 22
Logged By: Jacob Meinerts

Sample Type	Blow Counts/6"	Sample Interval	PID Reading	USCS Soil Type	Depth, ft bgs	Soil Description (Order: soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, other)	Boring and/or Well Details
					0	SW-SC, 5YR 5/6, loose, non-plastic, dry fine sized grains, contains iron oxide	
					5	SW-SC, SAA, contains product black, w/in sand	
					10	CH, w/sand, 5YR 4/4, fat, no moisture highly plastic,	
					15	CH, highly plastic, 5YR 4/4, fat, contains some sand, contains iron oxide, contains product SP-SM, contains product - nearly saturated	
					20	SP-SM, SAA CH, 5YR 4/4, malleable/cohesive, highly plastic, some moisture, clay size SP-SM, 2.5YR 3/6, loose, wet-saturated, fine-med sized grains, non-plastic	
					22		

SS = Split Spoon, ST = Shelby Tube, CUT = Drill Cuttings, or Core

BORING/WELL CONSTRUCTION LOG

Project: Wilcox	Project Number: 14342128.B.3
Drilling Company: Mohawk	Start Time/Date: 1325 8-12-2020
Drilling Rig/Bit: Geoprobe	Completion Time/Date: 1345 8-12-2020
Driller: Tanner	Final Depth: 9'
Boring/Well ID: WPA-GW-06	Logged By: Jacob Meinerts

Page 1 of 1

Sample Type	Blow Counts/6"	Sample Interval	PID Reading	USCS Soil Type	Depth, ft bgs	Soil Description (Order: soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, other)	Boring and/or Well Details
					0	- SW-SC - "Tar-like"	
						SW-SC, GLEY 1 2.5/10Y, semi-loose, poorly graded, dry, - fine grained,	
					5	- 5Y 3/1, Product, odor, sheen present	
						- SAA	
					9	- SM-SC, 5Y 6/2, wet, tight, non-plastic, fine - v fine	
						stringers of product throught last 3'	

SS = Split Spoon, ST = Shelby Tube, CUT = Drill Cuttings, or Core

BORING/WELL CONSTRUCTION LOG

Project: Wilcox
Drilling Company: Mohawk
Drilling Rig/Bit: Geoprobe
Driller: Tanner
Boring/Well ID: WPA-GW-07

Project Number: 14342128.B.3
Start Time/Date: 1350 8-12-2020
Completion Time/Date: 1435 8-12-2020
Final Depth: 24
Logged By: Jacob Meinerts

Sample Type	Blow Counts/6"	Sample Interval	PID Reading	USCS Soil Type	Depth, ft bgs	Soil Description (Order: soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, other)	Boring and/or Well Details
					0	SW-SM, 5YR 5/4, loose, friable, non-plastic, dry, fine grained, some iron oxide	
					5	ML-CL, 5YR 5/4, tight, dense, non-plastic, dry	
						CL- SAA, 5YR, 5/6, dense, friable, non-plastic, dry	
						CL-CH, 5YR 5/6, cohesive/malleable - fat, med-plasticity	
					10	SAA	
						-CH, 5YR 6/1 + 5YR 4/6, very malleable, fat, dry, high-plasticity, contains product, clay size grains, iron oxide	
					15	>SAA	
						SW-SC, 2.5YR 4/1, loose, malleable, wet, fine grained, semi-plastic - contains fines,	
					20	CL-CH, 5YR 4/6, malleable, med-plasticity, dry, clay size w/ silt, iron oxide	
						SC, 5YR 4/2, loose, wet, semi-plastic, fine-very fine w/ clay, contains product	
					25		

SS = Split Spoon, ST = Shelby Tube, CUT = Drill Cuttings, or Core

BORING/WELL CONSTRUCTION LOG

Project: Wilcox	Project Number: 128.B.3
Drilling Company: Mohawk	Start Time/Date: 1440 8-12-2020
Drilling Rig/Bit: Geoprobe	Completion Time/Date: 1450 8-12-2020
Driller: Tanner	Final Depth: 12'
Boring/Well ID: WPA-GW-04	Logged By: Jacob Mehrens

Page 1 of 1

Sample Type	Blow Counts/6"	Sample Interval	PID Reading	USCS Soil Type	Depth, ft bgs	Soil Description (Order: soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, other)	Boring and/or Well Details
					0	SW-SC, 7.5YR 4/4, loose, non-plastic, dry, fine -v fine grains	
					5	-SW-SP, 5YR 5/6, loose, non-plastic, dry, fine-med	
						-SAA, wet	
					10	-CL, 7.5YR 5/6, fairly dense, semi-plastic, dry	
						SW-SP, 5YR 5/6, loose, wet, semi-plastic, fine-v fine	
					12	CL, 7.5YR 5/6, cohesive, wet, dry, very plastic	

SS = Split Spoon, ST = Shelby Tube, CUT = Drill Cuttings, or Core

BORING/WELL CONSTRUCTION LOG

Project: Wilcox
Drilling Company: Mohawk
Drilling Rig/Bit: Geoprobe
Driller: Tanner
Boring/Well ID: WPA-GW-09

Project Number: 143421.28.8.3
Start Time/Date: 1515 8-12-2020
Completion Time/Date: 1530 8-12-2020
Final Depth: 15'
Logged By: Jacob Meinerts

Sample Type	Blow Counts/6"	Sample Interval	PID Reading	USCS Soil Type	Depth, ft bgs	Soil Description (Order: soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, other)	Boring and/or Well Details
					0	SP-SC, 5YR 4/3, loose/friable, dry, non-plastic, fine grained, iron oxides	
					5	- Gets wet at bottom ~5' - SAA	
						- SW-SM, 10YR 7/6, loose, non-plastic, saturated, fine grained,	
					10	- SP-SC, 5YR 4/3, semi-loose, dry, non plastic, contains product, fine grained	
						SP-SM, 7.5YR 5/8, loose, saturated, non-plastic, fine-grained, - contains product odor	
					15	- Becomes dry at 15' and clay increases.	

SS = Split Spoon, ST = Shelby Tube, CUT = Drill Cuttings, or Core

BORING/WELL CONSTRUCTION LOG

Project: Wilcox	Project Number:
Drilling Company: Mohawk	Start Time/Date: 1545 8-17-2020
Drilling Rig/Bit: Geoprobe	Completion Time/Date: 1600 8-17-2020
Driller: Tanner	Final Depth: ~14'
Boring/Well ID: LPA-GW-01	Logged By: Jacob Meinerts

Sample Type	Blow Counts/6"	Sample Interval	PID Reading	USCS Soil Type	Depth, ft bgs	Soil Description (Order: soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, other)	Boring and/or Well Details
					0	SP-SC, 5YR 4/3, loose, non-plastic, dry, fine	
					5	CL, 5YR 4/6, malleable, low-med plasticity, some sand, clay-fine size grains, dry, product visible	
						SP-SC, 7.5YR 4/1, loose, non-plastic, wet, fine - contains product	
					10	CL-ML, 2.5YR 5/6, very stiff, low-non-plastic, dry, clay size grains,	
						SP-SC, 2.5YR 5/6, loose/soft, low-non-plastic, semi-wet, v-fine, contains product	
					14	- CL, 2.5YR 5/4, very lean, v-stiff, non-plastic, dry	
					15	clay size	

SS = Split Spoon, ST = Shelby Tube, CUT = Drill Cuttings, or Core

BORING/WELL CONSTRUCTION LOG

Project: Wilcox
Drilling Company: Mohawk
Drilling Rig/Bit: Geoprobe
Driller: Tanner
Boring/Well ID: LPA-GW-02

Project Number: 128.B.3
Start Time/Date: 1605
Completion Time/Date: 1620
Final Depth: 15'
Logged By: Jacob Meinerts

Page 1 of 1

Sample Type	Blow Counts/6"	Sample Interval	PID Reading	USCS Soil Type	Depth, ft bgs	Soil Description (Order: soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, other)	Boring and/or Well Details
						ML-CL, 2.5YR 4/8, dense/stiff, non-plastic, contains sand, dry, v-fine - clay sized grains	
					5	SP-SM, 2.5YR 4/6, fairly loose, non-plastic, dry, v-fine - stringer of loose sand at ~ 8'	
					10	ML - 2.5YR 4/6, stiff, low-none plastic, dry, v-fine to clay size grains SP-SC, 2.5YR 4/1, loose, non-plastic, wet, v-fine, contains lithic fragments/concretions,	
					15	-CL, 2.5YR 5/4, very stiff/dense, non-low plasticity clay size grains	

SS = Split Spoon, ST = Shelby Tube, CUT = Drill Cuttings, or Core

BORING/WELL CONSTRUCTION LOG

Project: Wilcox
Drilling Company: Mohawk
Drilling Rig/Bit: Geoprobe
Driller: Tanner
Boring/Well ID: LPA-GW-03

Project Number: 128.03
Start Time/Date: 1625 8-17-2020
Completion Time/Date: 1640 8-17-2020
Final Depth: 15'
Logged By: Jacob Meinerts

Sample Type	Blow Counts/6"	Sample Interval	PID Reading	USCS Soil Type	Depth, ft bgs	Soil Description (Order: soil type, color, density/consistency, plasticity, moisture, grain size, angularity/minerology, other)	Boring and/or Well Details
					0	SW-SC, 2.5YR 4/3 + 5YR 3/3, loose, non-plastic, dry, v-fine	
					5	CL-ML, 5YR 4/6, v-stiff, non-plastic, dry	
						SAA - CL-CH, 5YR 4/4, cohesive/malleable, ~~med~~ low plasticity, dry, clay w/ silt/sand	
					10	SC-SW, 5YR 4/3, loose, non-plastic, dry - v-fine	
					15	ML-CL, 5YR 4/3, semi dense/malleable but not cohesive, non-plastic, dry, clay w/ silt + sand	

SS = Split Spoon, ST = Shelby Tube, CUT = Drill Cuttings, or Core

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: ____ of ____
Date: 8/13/20

Ground Water Collection Field Form

Well ID: LPA-GW-01 Sample ID: LPA-GW-01 Sample Time: 1400

Casing diameter/type: 1" Well location: LPA Weather: Clear 90

Screened interval(s): 4-14 Sampling personnel: WG, JM

Total depth: 14 Sampling method: Peri.

Initial depth to water (w/o pump): / Water level indicator: /

Final depth to water (w/o pump): / Water quality meter: YSI

Measuring point: **North side of casing** Pump depth setting: 13 Pump type/model:

	Δ < 1° C	Δ < 3%	Δ <10%	Δ <10%	Δ < 0.1 pH	Δ < 10 mV	Δ < 0.3 ft	< 1L/min	Δ < 10 NTU		Parameter Stabilization Limits (3 consecutive readings)
Time	**Temp (°C)**	**Conductivity (mS/cm) or (µS/cm)**	**DO (%)**	**DO (mg/L)**	**pH**	**ORP (mV)**	**Water Level (feet btoc)**	**Flow Rate (L/min) or (mL/min)**	**Turbidity (NTU)**	**Purge Volume (L) or (mL)**	**Additional Comments**
1355	22.23	0.607	47.9	3.68	5.08	308.6	/	/	Ok	/	

Note:
Parameter Stabilization Limits:
(3 consecutive readings) for percent difference type parameters
Percent difference formula =
ABS[((first reading - second reading)/first reading) x 100]
Ex: Readings 12, 16, 15, 13
((12-16)/12)*100 = 33% ((16-15)/16)*100 = 6%
((15-13)/15)*100 = 13% In example, stabilization has not occurred.

Analyses: (circle those collected and indicate the number of containers)		
VOCs	Metals	Pesticides
SVOCS	Hexavalent Chromium	Aroclors

Recorded By: WG

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: ____ of ____
Date: 8/14/20

Ground Water Collection Field Form

Well ID: LPA-Gw-02 Sample ID: LPA-Gw-02 Sample Time: 820

Casing diameter/type: 1" Well location: LPA Weather: 73 Clear
Screened interval(s): 5-15 Sampling personnel: WG DS
Total depth: 15' Sampling method: Peri
Initial depth to water (w/o pump): / Water level indicator: /
Final depth to water (w/o pump): / Water quality meter: YSI
Measuring point: **North side of casing** Pump depth setting: 14 Pump type/model:

	Δ < 1° C	Δ < 3%	Δ <10%	Δ <10%	Δ < 0.1 pH	Δ < 10 mV	Δ < 0.3 ft	< 1L/min	Δ < 10 NTU		Parameter Stabilization Limits (3 consecutive readings)
Time	**Temp (°C)**	**Conductivity (mS/cm) or (µS/cm)**	**DO (%)**	**DO (mg/L)**	**pH**	**ORP (mV)**	**Water Level (feet btoc)**	**Flow Rate (L/min) or (mL/min)**	**Turbidity (NTU)**	**Purge Volume (L) or (mL)**	**Additional Comments**
815	19.83	0.542	33.3	2.81	4.73	178.3	/	/	OR	/	

Note:
Parameter Stabilization Limits:
(3 consecutive readings) for percent difference type parameters
Percent difference formula =
ABS[((first reading - second reading)/first reading) x 100]
Ex: Readings 12, 16, 15, 13
((12-16)/12)*100 = 33% ((16-15)/16)*100 = 6%
((15-13)/15)*100 = 13% In example, stabilization has not occurred.

Analyses: (circle those collected and indicate the number of containers)		
VOCs	Metals	Pesticides
SVOCS	Hexavalent Chromium	Aroclors

Recorded By: WG

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: ____ of ____
Date: 8/13/20

WPA-GW-01 WPA-GW-01 **Ground Water Collection Field Form**

Well ID: ~~GW-01~~ Sample ID: WPA-GW-01-D Sample Time: 810

Casing diameter/type: 1" Well location: WPA Weather: Clear 71°

Screened interval(s): 15-25 Sampling personnel: WG JM

Total depth: 25 Sampling method: Peri

Initial depth to water (w/o pump): 24 Water level indicator: /

Final depth to water (w/o pump): / Water quality meter: YSI

Measuring point: **North side of casing** Pump depth setting: 24 Pump type/model:

	Δ < 1° C	Δ < 3%	Δ <10%	Δ <10%	Δ < 0.1 pH	Δ < 10 mV	Δ < 0.3 ft	< 1L/min	Δ < 10 NTU		Parameter Stabilization Limits (3 consecutive readings)
Time	**Temp (°C)**	**Conductivity (mS/cm) or (µS/cm)**	**DO (%)**	**DO (mg/L)**	**pH**	**ORP (mV)**	**Water Level (feet btoc)**	**Flow Rate (L/min) or (mL/min)**	**Turbidity (NTU)**	**Purge Volume (L) or (mL)**	**Additional Comments**
0805	19.95	0.755	52.7	4.77	6.27	121.2	/	/	103.5		

Note:
Parameter Stabilization Limits:
(3 consecutive readings) for percent difference type parameters
Percent difference formula =
ABS[((first reading - second reading)/first reading) x 100]
Ex: Readings 12, 16, 15, 13
((12-16)/12)*100 = 33% ((16-15)/16)*100 = 6%
((15-13)/15)*100 = 13% In example, stabilization has not occurred.

Analyses: (circle those collected and indicate the number of containers)		
VOCs	Metals	Pesticides
SVOCS	Hexavalent Chromium	Aroclors

Recorded By: WG

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: ____ of ____
Date: 8/11/20

WCA-GW-02 Ground Water Collection Field Form

Well ID: WCA-GW-02 Sample ID: 11 Sample Time: 1415

Casing diameter/type: 1
Screened interval(s): 20-24
Total depth: 24
Initial depth to water (w/o pump): /
Final depth to water (w/o pump): /
Measuring point: **North side of casing**

Well location: WCA
Sampling personnel: WG JM
Sampling method: Hydroprobe / Hydropunch
Water level indicator: /
Water quality meter: YSI
Pump depth setting: 24

Weather: Overc 90°
Pump type/model:

	Δ < 1° C	Δ < 3%	Δ <10%	Δ <10%	Δ < 0.1 pH	Δ < 10 mV	Δ < 0.3 ft	< 1L/min	Δ < 10 NTU		Parameter Stabilization Limits (3 consecutive readings)
Time	**Temp (°C)**	**Conductivity (mS/cm) or (µS/cm)**	**DO (%)**	**DO (mg/L)**	**pH**	**ORP (mV)**	**Water Level (feet btoc)**	**Flow Rate (L/min) or (mL/min)**	**Turbidity (NTU)**	**Purge Volume (L) or (mL)**	**Additional Comments**
1400	26.74	0.674	57.3	4.28	4.51	281.1	/		OR		Cont low-flow
											Not enough Recharge

Note:

Parameter Stabilization Limits:
(3 consecutive readings) for percent difference type parameters
Percent difference formula =
ABS[((first reading - second reading)/first reading) x 100]
Ex: Readings 12, 16, 15, 13
((12-16)/12)*100 = 33% ((16-15)/16)*100 = 6%
((15-13)/15)*100 = 13% In example, stabilization has not occurred.

Analyses: (circle those collected and indicate the number of containers)

VOCs	Metals	Pesticides
SVOCS	Hexavalent Chromium	Aroclors

Recorded By: WC

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: ____ of ____
Date: 8/13/20

Ground Water Collection Field Form

Well ID: WPA-GW-04 Sample ID: WPA-GW-04 Sample Time: 1335

Casing diameter/type: 1" Well location: WPA Weather: Clear - 90°
Screened interval(s): 2-12 Sampling personnel: WG JM
Total depth: 12 Sampling method: Peri
Initial depth to water (w/o pump): / Water level indicator: /
Final depth to water (w/o pump): / Water quality meter: YSI
Measuring point: **North side of casing** Pump depth setting: 11 Pump type/model:

	Δ < 1° C	Δ < 3%	Δ <10%	Δ <10%	Δ < 0.1 pH	Δ < 10 mV	Δ < 0.3 ft	< 1L/min	Δ< 10 NTU		Parameter Stabilization Limits (3 consecutive readings)
Time	**Temp (°C)**	**Conductivity (mS/cm) or (µS/cm)**	**DO (%)**	**DO (mg/L)**	**pH**	**ORP (mV)**	**Water Level (feet btoc)**	**Flow Rate (L/min) or (mL/min)**	**Turbidity (NTU)**	**Purge Volume (L) or (mL)**	**Additional Comments**
1330	23.16	0.271	83.1	7.08	5.60	197.1	/	/	OR		

Note:
Parameter Stabilization Limits:
(3 consecutive readings) for percent difference type parameters
Percent difference formula =
ABS[((first reading - second reading)/first reading) x 100]
Ex: Readings 12, 16, 15, 13
((12-16)/12)*100 = 33% ((16-15)/16)*100 = 6%
((15-13)/15)*100 = 13% In example, stabilization has not occurred.

Analyses: (circle those collected and indicate the number of containers)

VOCs	Metals	Pesticides
SVOCS	Hexavalent Chromium	Aroclors

Recorded By:_____

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: ____ of ____
Date: 8/13/20

Ground Water Collection Field Form

Well ID: WPA-Gw-06 Sample ID: WPA-Gw-06 Sample Time: 0910

Casing diameter/type: 1" | Well location: WPA | Weather: Clear 75°
Screened interval(s): 0-9 | Sampling personnel: WG IM
Total depth: 9 | Sampling method: Peri
Initial depth to water (w/o pump): / | Water level indicator: /
Final depth to water (w/o pump): / | Water quality meter: YSI
Measuring point: **North side of casing** | Pump depth setting: 8.5 | Pump type/model: Pegasus

	Δ < 1° C	Δ < 3%	Δ <10%	Δ <10%	Δ < 0.1 pH	Δ < 10 mV	Δ < 0.3 ft	< 1L/min	Δ < 10 NTU		Parameter Stabilization Limits (3 consecutive readings)
Time	**Temp (°C)**	**Conductivity (mS/cm) or (µS/cm)**	**DO (%)**	**DO (mg/L)**	**pH**	**ORP (mV)**	**Water Level (feet btoc)**	**Flow Rate (L/min) or (mL/min)**	**Turbidity (NTU)**	**Purge Volume (L) or (mL)**	**Additional Comments**
											Can't Get Parameter Too Turbid / To much Free Product

Note:
Parameter Stabilization Limits:
(3 consecutive readings) for percent difference type parameters
Percent difference formula =
ABS[((first reading - second reading)/first reading) x 100]
Ex: Readings 12, 16, 15, 13
((12-16)/12)*100 = 33% ((16-15)/16)*100 = 6%
((15-13)/15)*100 = 13% In example, stabilization has not occurred.

Analyses: (circle those collected and indicate the number of containers)

VOCs	Metals	Pesticides
SVOCS	Hexavalent Chromium	Aroclors

Recorded By: WG

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: ____ of ____
Date: 8/13/20

Ground Water Collection Field Form

Well ID: WPA-Gw-07 Sample ID: WPA-Gw-07 Sample Time: 1040

Casing diameter/type: 1" Well location: WPA Weather: Clear 78°
Screened interval(s): 15-25 Sampling personnel: WG JM
Total depth: 25 Sampling method: Peri
Initial depth to water (w/o pump): / Water level indicator: /
Final depth to water (w/o pump): / Water quality meter: YSI
Measuring point: **North side of casing** Pump depth setting: 24 Pump type/model:

	Δ < 1° C	Δ < 3%	Δ <10%	Δ <10%	Δ < 0.1 pH	Δ < 10 mV	Δ < 0.3 ft	< 1L/min	Δ < 10 NTU		Parameter Stabilization Limits (3 consecutive readings)
Time	**Temp (°C)**	**Conductivity (mS/cm) or (µS/cm)**	**DO (%)**	**DO (mg/L)**	**pH**	**ORP (mV)**	**Water Level (feet btoc)**	**Flow Rate (L/min) or (mL/min)**	**Turbidity (NTU)**	**Purge Volume (L) or (mL)**	**Additional Comments**
1035	20.45	0.711	44.8	3.27	6.04	150.9	/	/	OL		Very strong Hydroc odor

Note:
Parameter Stabilization Limits:
(3 consecutive readings) for percent difference type parameters
Percent difference formula =
ABS[((first reading - second reading)/first reading) x 100]
Ex: Readings 12, 16, 15, 13
((12-16)/12)*100 = 33% ((16-15)/16)*100 = 6%
((15-13)/15)*100 = 13% In example, stabilization has not occurred.

Analyses: (circle those collected and indicate the number of containers)

VOCs	Metals	Pesticides
SVOCS	Hexavalent Chromium	Aroclors

Recorded By: WG

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: ____ of ____
Date: 8/13/20

WPA-Gw-04 Ground Water Collection Field Form

Well ID: WPA Gw-04 Sample ID: WPA-Gw-04-D Sample Time: 0940

Casing diameter/type: 1" Well location: WPA Weather: Clear 75°

Screened interval(s): 5-15 Sampling personnel: WG, JM

Total depth: 15 Sampling method: Peri

Initial depth to water (w/o pump): / Water level indicator: /

Final depth to water (w/o pump): / Water quality meter: YSI

Measuring point: **North side of casing** Pump depth setting: 14 Pump type/model:

	Δ < 1° C	Δ < 3%	Δ <10%	Δ <10%	Δ < 0.1 pH	Δ < 10 mV	Δ < 0.3 ft	< 1L/min	Δ < 10 NTU		Parameter Stabilization Limits (3 consecutive readings)
Time	**Temp (°C)**	**Conductivity (mS/cm) or (µS/cm)**	**DO (%)**	**DO (mg/L)**	**pH**	**ORP (mV)**	**Water Level (feet btoc)**	**Flow Rate (L/min) or (mL/min)**	**Turbidity (NTU)**	**Purge Volume (L) or (mL)**	**Additional Comments**
0935	22.46	0.314	22.8	1.98	6.80	133.5	/	/	OK		

Note:

Parameter Stabilization Limits:
(3 consecutive readings) for percent difference type parameters
Percent difference formula =
ABS[((first reading - second reading)/first reading) x 100]
Ex: Readings 12, 16, 15, 13
((12-16)/12)*100 = 33% ((16-15)/16)*100 = 6%
((15-13)/15)*100 = 13% In example, stabilization has not occurred.

Analyses: (circle those collected and indicate the number of containers)		
VOCs	Metals	Pesticides
SVOCS	Hexavalent Chromium	Aroclors

Recorded By: WG

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: 1 of 1
Date: 8/18/2020

Soil Collection Field Form

Exposure Area: Wilcox Oil

Weather: Sunny 75°

Sampling Location: WPA

GPS Coordinates: **Lat:** N35° 50.491'

Sample ID: WPA - SA - 01

Long: W096° 23.115'

Sampling Personnel: JM, AS

Sample Date/Time: 8/18/2020 10:30

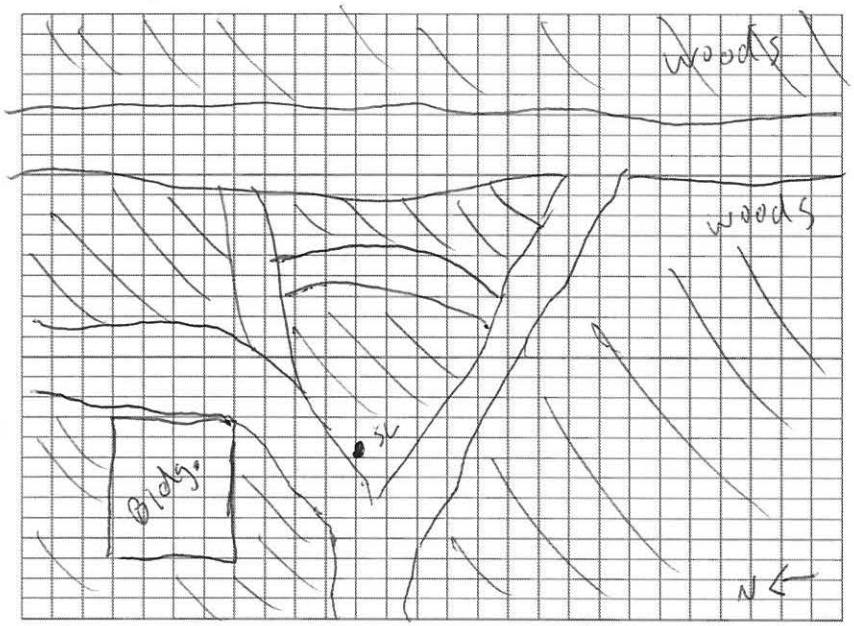
Depth (bgs): 1'

Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/mineralogy, other): petroleum waste

XRF Data:

Interval:				

Location Map:



Sampling Method: (circle)
Geoprobe
Slide Hammer Probe
Scoop
Ponar
Core Sampler
Other

Analyses:
(circle and indicate number of containers)
VOCs
SVOCS
Metals
Hexavalent Chromium
Pesticides
Aroclors

Notes/Comments: Duplicate collected

Recorded By: AS

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: 1 of 7
Date: 8/18/2020

Soil Collection Field Form

Exposure Area: Wilcox Oil

Weather: Sunny 80°

Sampling Location: WPA

GPS Coordinates: **Lat:** N 35° 50.525'

Sample ID: WPA-SA-02

Long: W 096° 23.044'

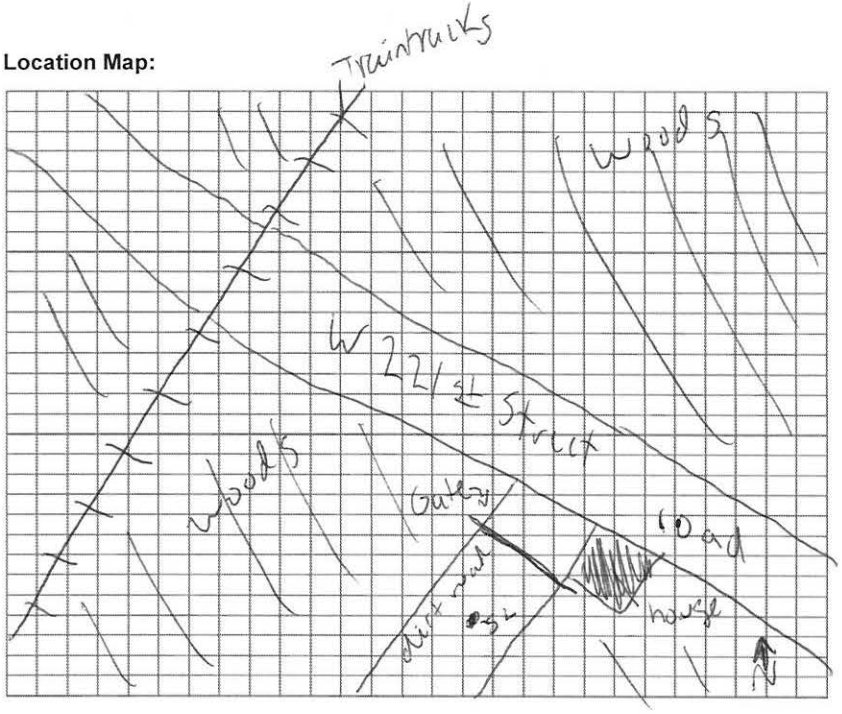
Sampling Personnel: JM, AS

Sample Date/Time: 8/18/2020 1055

Depth (bgs): 1'

Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/mineralogy, other): petroleum waste

Location Map:



XRF Data:

Interval:				

Sampling Method: (circle)
Geoprobe
Slide Hammer Probe
Scoop
Ponar
Core Sampler
Other

Analyses:
(circle and indicate number of containers)
VOCs
SVOCS
Metals
Hexavalent Chromium
Pesticides
Aroclors

Notes/Comments: Duplicate Collected

Recorded By: KS

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: ____ of ____
Date: 8/20/20

Soil Collection Field Form

Exposure Area: W. Wilcox

Weather: Clear 70°

Sampling Location: WPA

GPS Coordinates: Lat: ~~X~~ 35.84134436

Sample ID: WPA-SA-03 + Dupe

Long: -96.3830721

Sampling Personnel: WE

Sample Date/Time: 8/20/20 1030

Depth (bgs):

Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/mineralogy, other): Petrol Waste

XRF Data:

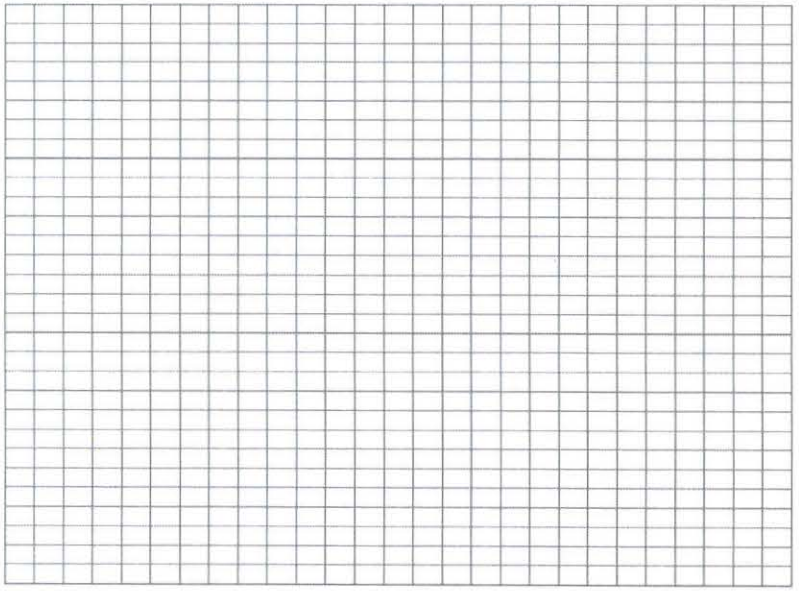
Interval: _____ _____ _____ _____

_____ _____ _____ _____

_____ _____ _____ _____

_____ _____ _____ _____

Location Map:



Sampling Method: (circle)
Geoprobe
Slide Hammer Probe
Scoop
Ponar
Core Sampler
Other

Analyses:
(circle and indicate number of containers)
VOCs
SVOCS
Metals
Hexavalent Chromium
Pesticides
Aroclors

Notes/Comments:

Recorded By: WE

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: ____ of ____
Date: 8/20/20

Soil Collection Field Form

Exposure Area: Wilcox

Weather: Clear 70°

Sampling Location: WPA

GPS Coordinates: Lat: 35.8413377

Sample ID: WPA-SA-04 + MS/MSD

Long: -96.3837754

Sampling Personnel: WE

Sample Date/Time: 8/20/20 1040

Depth (bgs):

Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/mineralogy, other): Petrol Waste

XRF Data:

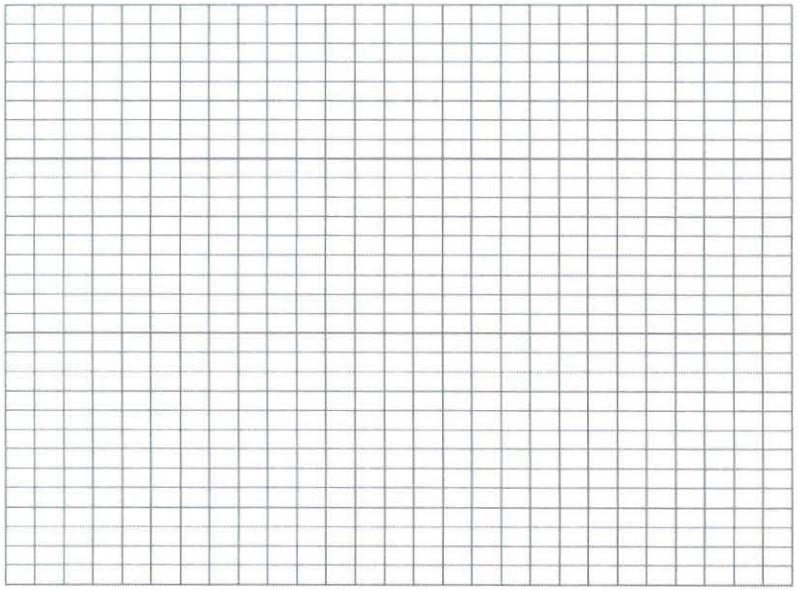
Interval: _____ _____ _____ _____

_____ _____ _____ _____

_____ _____ _____ _____

_____ _____ _____ _____

Location Map:



Sampling Method: (circle)
Geoprobe
Slide Hammer Probe
Scoop
Ponar
Core Sampler
Other

Analyses:
(circle and indicate number of containers)
VOCs
SVOCS
Metals
Hexavalent Chromium
Pesticides
Aroclors

Notes/Comments:

Recorded By: WE

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Date: 8/18/2020

Soil Collection Field Form

Exposure Area: Wilcox Oil

Weather: Sunny 85°

Sampling Location: NTF

GPS Coordinates: **Lat:** N 35° 50.747'

Sample ID: NTF-SA-01

Long: W 096° 23.066'

Sampling Personnel: JM, AS

Sample Date/Time: 8/18/2020 1210

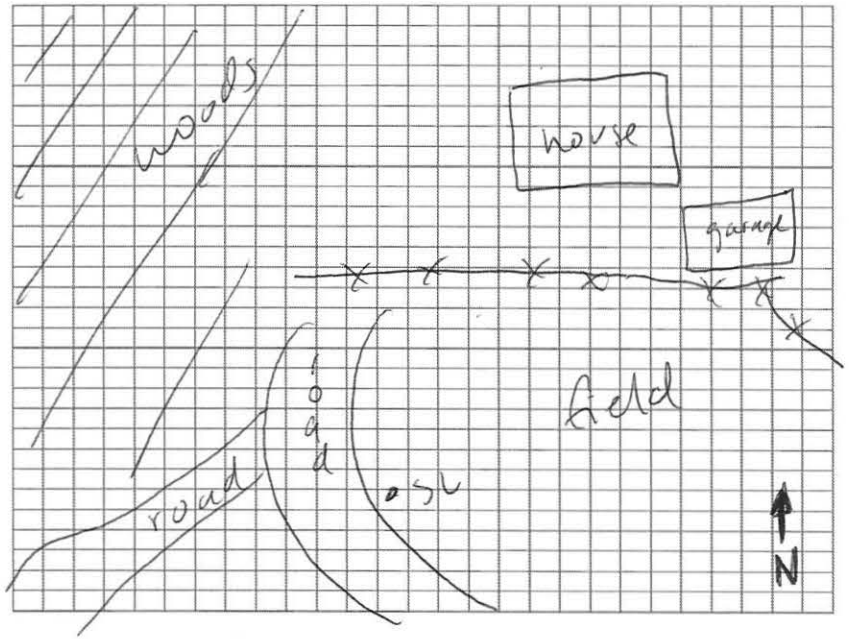
Depth (bgs): 1'

Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/mineralogy, other): petroleum waste

XRF Data:

Interval:				

Location Map:



Sampling Method: (circle)
Geoprobe
Slide Hammer Probe
Scoop
Ponar
Core Sampler
Other

Analyses:
(circle and indicate number of containers)
VOCs
SVOCS
Metals
Hexavalent Chromium
Pesticides
Aroclors

Notes/Comments:

Recorded By: AS

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: 1 of 1
Date: 8/18/2020

Soil Collection Field Form

Exposure Area: Wilcox Oil

Weather: Sunny 83°

Sampling Location: NTF

GPS Coordinates: **Lat:** N 35° 50.703'

Sample ID: NTF-SA-02

Long: W 096° 23.058'

Sampling Personnel: JM, AS

Sample Date/Time: 8/18/2020 1200

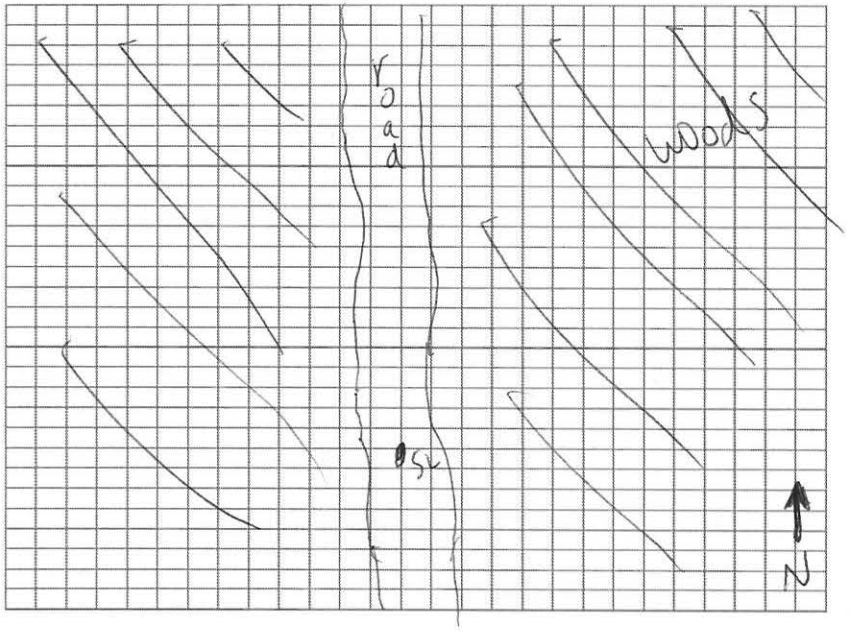
Depth (bgs): 1'

Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/mineralogy, other): Petroleum waste

XRF Data:

Interval:				

Location Map:



Sampling Method: (circle)
Geoprobe
Slide Hammer Probe
Scoop
Ponar
Core Sampler
Other

Analyses:
(circle and indicate number of containers)
VOCs
SVOCS
Metals
Hexavalent Chromium
Pesticides
Aroclors

Notes/Comments:

Recorded By: AS

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: 1 of 1
Date: 8/18/2020

Soil Collection Field Form

Exposure Area: Wilcox Oil

Weather: Sunny 85°

Sampling Location: NTF

GPS Coordinates: **Lat:** N 35° 50.713'

Sample ID: NTF-SA-03

Long: W096° 22.994'

Sampling Personnel: JM, AS

Sample Date/Time: 8/18/2020 1405

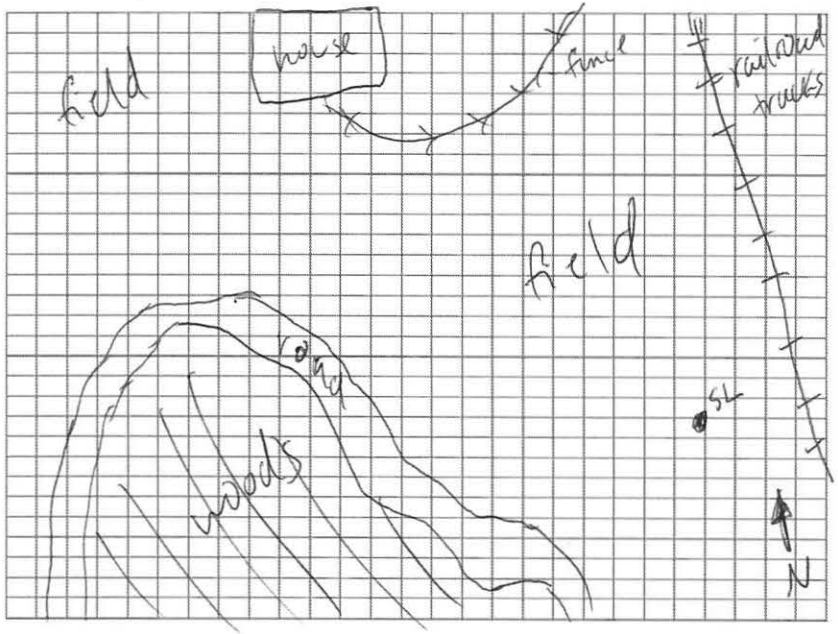
Depth (bgs):

Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/mineralogy, other):

XRF Data:

Interval:				

Location Map:



Sampling Method: (circle)
Geoprobe
Slide Hammer Probe
Scoop
Ponar
Core Sampler
Other

Analyses:
(circle and indicate number of containers)
VOCs
SVOCS
Metals
Hexavalent Chromium
Pesticides
Aroclors

Notes/Comments:

Recorded By: AS

Wilcox Oil Company Superfund Site
Bristol, Creek County, Oklahoma

Date: 8/19/2020

Soil Collection Field Form

Exposure Area: Wilcox Oil

Weather: Sunny 72°

Sampling Location: NTF

GPS Coordinates: **Lat:** N 35° 50.672'

Sample ID: NTF-SA-04

Long: W 096° 23.125'

Sampling Personnel: JM, AS

Sample Date/Time: 8/19/2020 0810

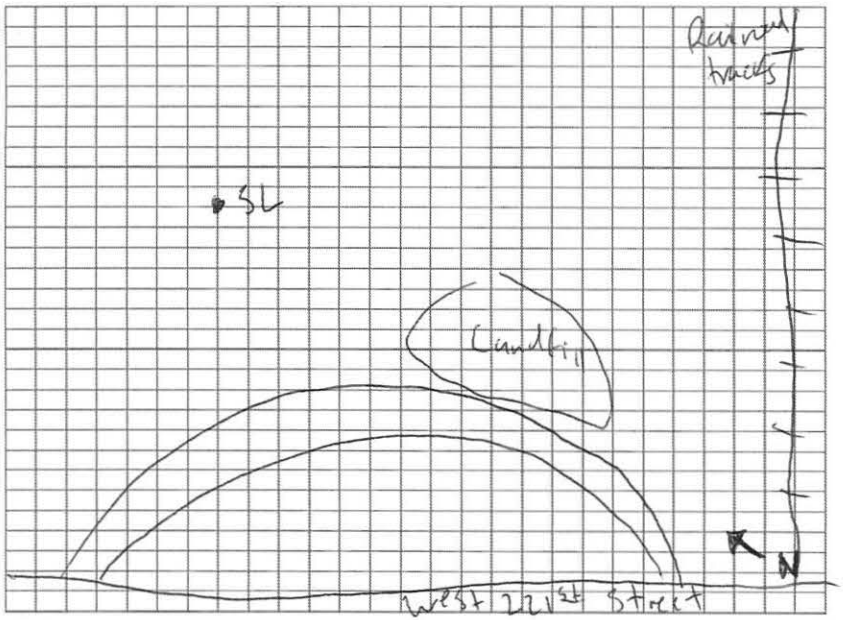
Depth (bgs): 1'

Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/mineralogy, other): petroleum waste

XRF Data:

Interval:				

Location Map:



Sampling Method: (circle)
Geoprobe
Slide Hammer Probe
Scoop
Ponar
Core Sampler
Other

Analyses:
(circle and indicate number of containers)
VOCs
SVOCS
Metals
Hexavalent Chromium
Pesticides
Aroclors

Notes/Comments:

Recorded By: AS

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: 1 of 1
Date: 8/18/2020

Soil Collection Field Form

Exposure Area: Wilcox Oil

Weather: Sunny 85°

Sampling Location: NTF

GPS Coordinates: **Lat:** N 35° 50.668'

Sample ID: NTF-SA-05

Long: W 096° 23.081'

Sampling Personnel: JM, AS

Sample Date/Time: 8/18/2020 1335

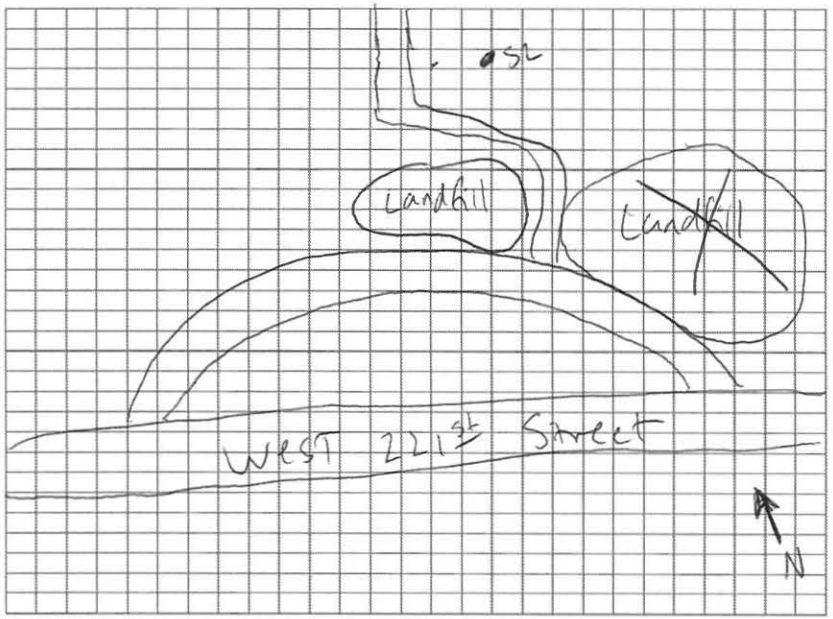
Depth (bgs):

Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/mineralogy, other): petroleum waste

XRF Data:

Interval:				

Location Map:



Sampling Method: (circle)
Geoprobe
Slide Hammer Probe
Scoop
Ponar
Core Sampler
Other

Analyses:
(circle and indicate number of containers)
VOCs
SVOCS
Metals
Hexavalent Chromium
Pesticides
Aroclors

Notes/Comments:

Recorded By: AS

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: 1 of 1
Date: 8/18/2020

Soil Collection Field Form

Exposure Area: Wilcox Oil

Weather: Sunny 80°

Sampling Location: LPA

GPS Coordinates: **Lat:** N 35° 50.535'

Sample ID: LPA-SA-01

Long: W 096° 23.203'

Sampling Personnel: JM, AS

Sample Date/Time: 8/18/2020 1110

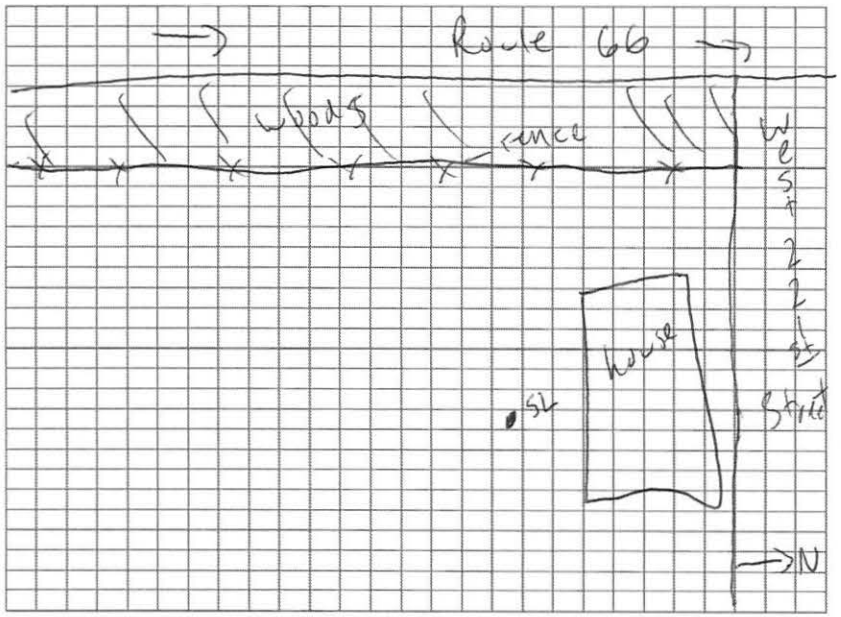
Depth (bgs): 1'

Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/mineralogy, other):

XRF Data:

Interval:				

Location Map:



Sampling Method: (circle)
Geoprobe
Slide Hammer Probe
Scoop
Ponar
Core Sampler
Other

Analyses:
(circle and indicate number of containers)
VOCs
SVOCS
Metals
Hexavalent Chromium
Pesticides
Aroclors

Notes/Comments:

Recorded By: AS

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Date: 8/18/2020

Soil Collection Field Form

Exposure Area: Wilcox Oil

Weather: Sunny 80

Sampling Location: LPA

GPS Coordinates: Lat: N35° 50.508'

Sample ID: LPA-SA-02

Long: W096° 23.159'

Sampling Personnel: JM, AS

Sample Date/Time: 8/18/2020 1125

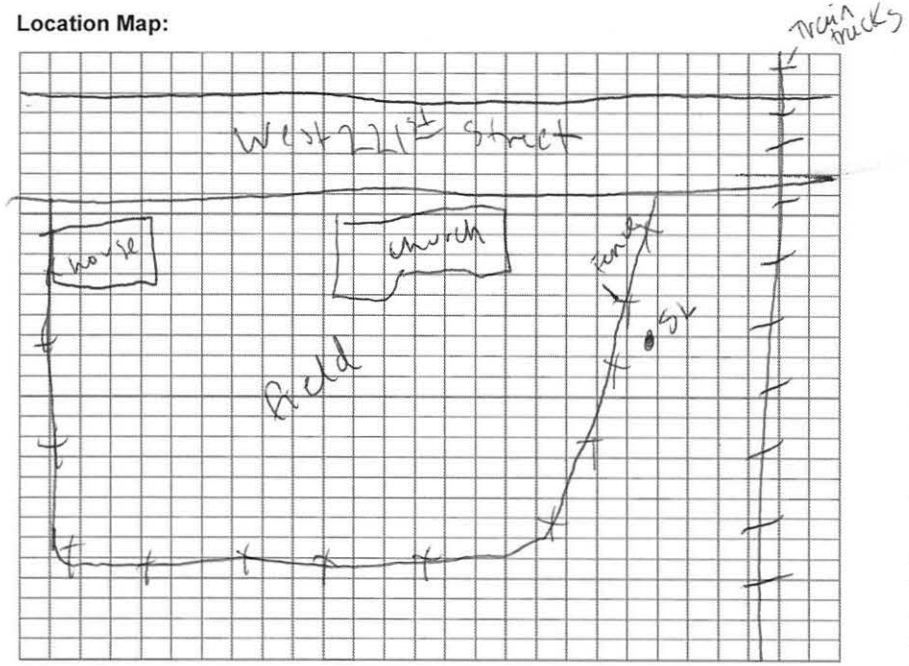
Depth (bgs): 1'

Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/mineralogy, other): petroleum waste

XRF Data:

Interval:				

Location Map:



Sampling Method: (circle)
Geoprobe
Slide Hammer Probe
Scoop
Ponar
Core Sampler
Other

Analyses:
(circle and indicate number of containers)
VOCs
SVOCS
Metals
Hexavalent Chromium
Pesticides
Aroclors

Notes/Comments:

Recorded By: AS

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Date: 8/19/2020

Soil Collection Field Form

Exposure Area: Wilcox Oil

Weather: Sunny 72°

Sampling Location: LDA

GPS Coordinates: **Lat:** N 35° 50.616'

Sample ID: LDA - SA - 01

Long: W 096° 23.015

Sampling Personnel: JM, AS

Sample Date/Time: 8/19/20 0830

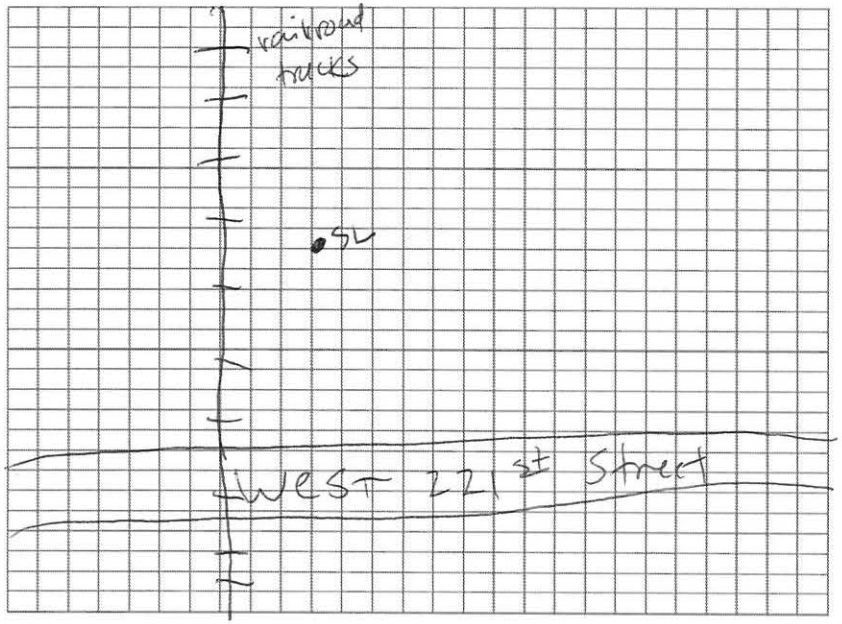
Depth (bgs): 1'

Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/mineralogy, other): petroleum waste strong odor

XRF Data:

Interval:				

Location Map:



Sampling Method: (circle)
Geoprobe
Slide Hammer Probe
Scoop
Ponar
Core Sampler
Other

Analyses:
(circle and indicate number of containers)
VOCs
SVOCS
Metals
Hexavalent Chromium
Pesticides
Aroclors

Notes/Comments:

Recorded By: AS

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Date: 8/19/2020

Soil Collection Field Form

Exposure Area: Wilcox Oil

Weather: Sunny 75°

Sampling Location: LDA

GPS Coordinates: **Lat:** N 35° 50.642'

Sample ID: LDA-SA-02

Long: W 096° 23.006'

Sampling Personnel: JM, AS

Sample Date/Time: 8/18/2020 0835

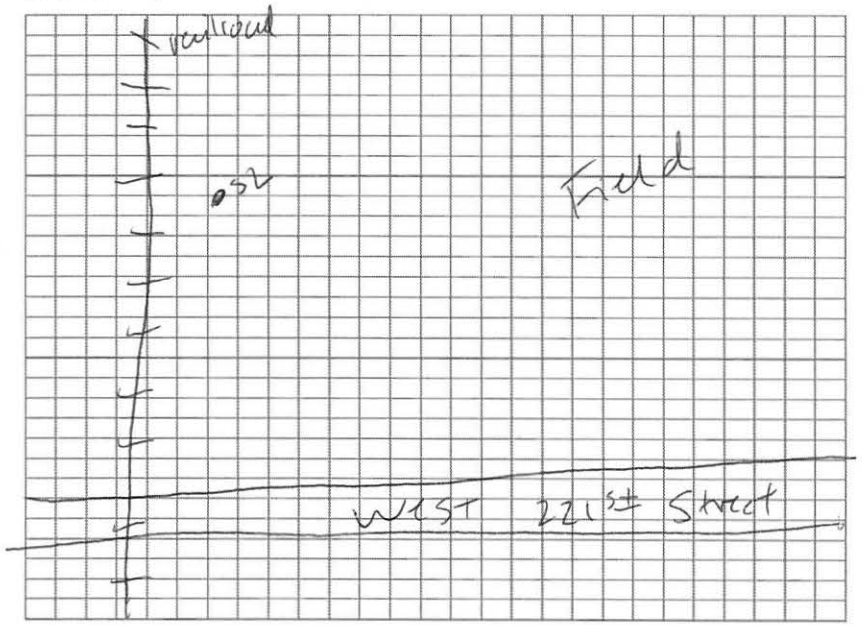
Depth (bgs): 1'

Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/mineralogy, other): petroleum waste

XRF Data:

Interval:				

Location Map:



Sampling Method: (circle)
Geoprobe
Slide Hammer Probe
Scoop
Ponar
Core Sampler
Other

Analyses:
(circle and indicate number of containers)
VOCs
SVOCS
Metals
Hexavalent Chromium
Pesticides
Aroclors

Notes/Comments:

Recorded By: JC

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: 1 of 1
Date: 8/19/2020

Soil Collection Field Form

Exposure Area: Wilcox Oil

Weather: Sunny 75

Sampling Location: LDA

GPS Coordinates: **Lat:** N 35° 50.631'

Sample ID: LDA-SA-03

Long: W 096° 22.975'

Sampling Personnel: JM, AS

Sample Date/Time: 8/19/2020 0840

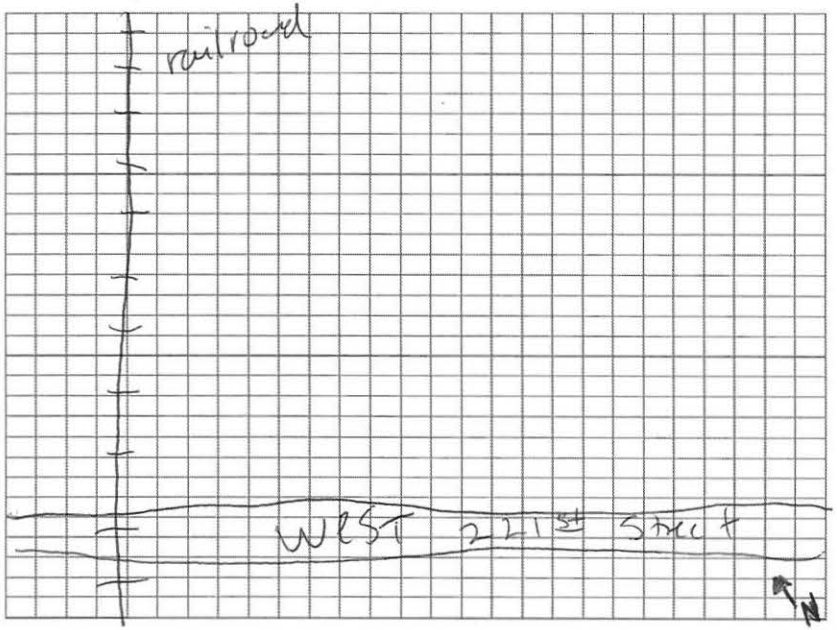
Depth (bgs): 1'

Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/mineralogy, other): petroleum waste

XRF Data:

Interval:				

Location Map:



Sampling Method: (circle)
Geoprobe
Slide Hammer Probe
Scoop
Ponar
Core Sampler
Other

Analyses:
(circle and indicate number of containers)
VOCs
SVOCS
Metals
Hexavalent Chromium
Pesticides
Aroclors

Notes/Comments:

Recorded By: AS

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Date: 8/19/2020

Soil Collection Field Form

Exposure Area: Wilcox Oil

Weather: Sunny 75°

Sampling Location: ETF

GPS Coordinates: Lat: N 35° 50.5471

Sample ID: ETF-SA-01

Long: W 096° 22.8931

Sampling Personnel: JM, AS

Sample Date/Time: 8/18/2020 1000

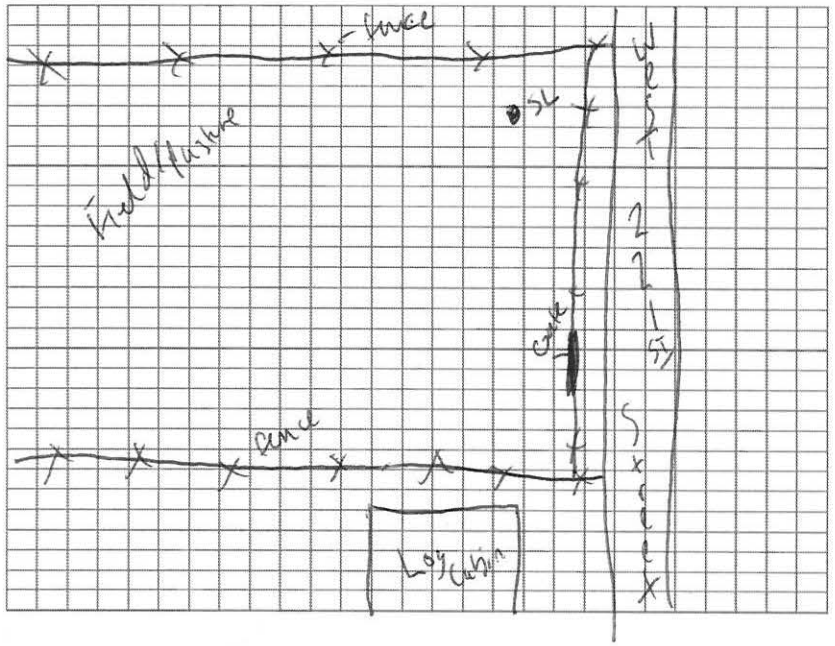
Depth (bgs): 1'

Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/mineralogy, other): petroleum waste

XRF Data:

Interval:				

Location Map:



Sampling Method: (circle)
Geoprobe
Slide Hammer Probe
Scoop
Ponar
Core Sampler
Other

Analyses:
(circle and indicate number of containers)
VOCs
SVOCS
Metals
Hexavalent Chromium
Pesticides
Aroclors

Notes/Comments: *MS/MSD*

Recorded By: AS

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: 1 of 1
Date: 8/19/2020

Soil Collection Field Form

Exposure Area: Wilcox Oil

Weather: Sunny 76°

Sampling Location: ETF

GPS Coordinates: **Lat:** N 35° 50.548'

Sample ID: ETF-SA-02

Long: W 096 22.874'

Sampling Personnel: JM, AS

Sample Date/Time:

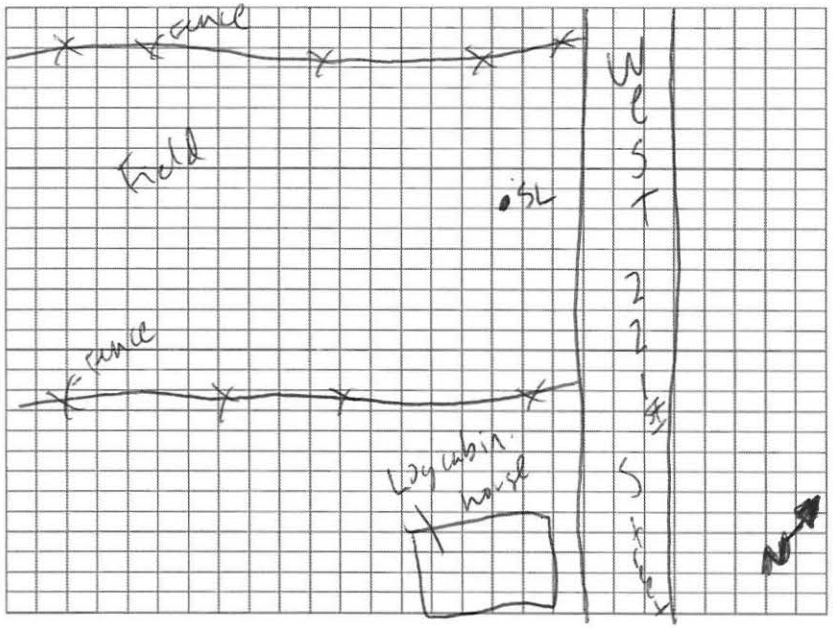
Depth (bgs): 1'

Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/mineralogy, other): Petroleum waste

XRF Data:

Interval:				

Location Map:



Sampling Method: (circle)
Geoprobe
Slide Hammer Probe
Scoop
Ponar
Core Sampler
Other

Analyses:
(circle and indicate number of containers)
VOCs
SVOCS
Metals
Hexavalent Chromium
Pesticides
Aroclors

Notes/Comments: *MS/MSD*

Recorded By: AS

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: ____ of ____
Date: 8/19/20

Soil Collection Field Form

Exposure Area: Wilcox O.U. **Weather:** Clear 80°

Sampling Location: EPF **GPS Coordinates: Lat:** N 35 50.422

Sample ID: EPF-SA-03 **Long:** W 096 32.672

Sampling Personnel: AS JM **Sample Date/Time:** 8/19/20 1115

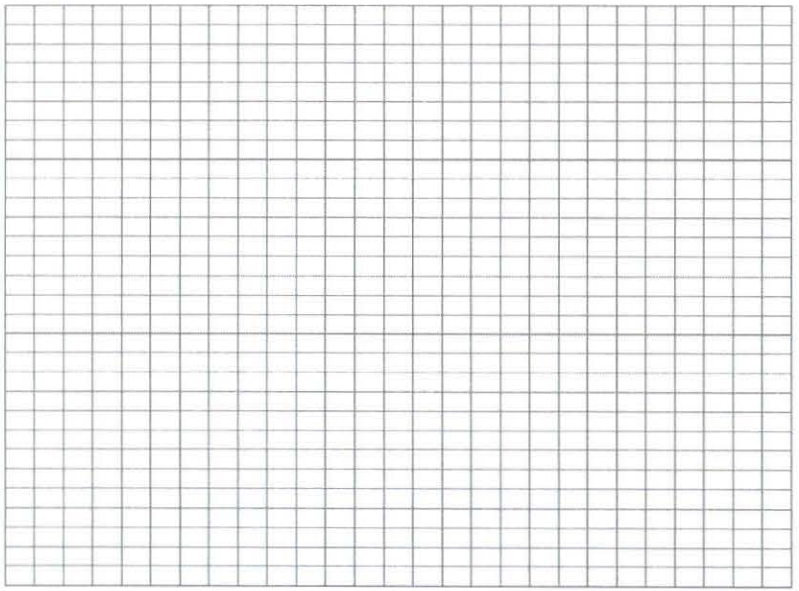
Depth (bgs):

Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/mineralogy, other):

XRF Data:

Interval:				

Location Map:



Sampling Method: (circle)
Geoprobe
Slide Hammer Probe
Scoop
Ponar
Core Sampler
Other

Analyses:
(circle and indicate number of containers)
VOCs
SVOCS
Metals
Hexavalent Chromium
Pesticides
Aroclors

Notes/Comments:

Recorded By: AS

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: ____ of ____
Date: 8/19/20

Soil Collection Field Form

Exposure Area: Wilcox Oil

Weather: Clear 80°

Sampling Location: EQF

GPS Coordinates: Lat: N 35° 50.389

Sample ID: EQF - SA-04

Long: W 096° 22.756

Sampling Personnel: JM AS

Sample Date/Time: 8/19/20 1130

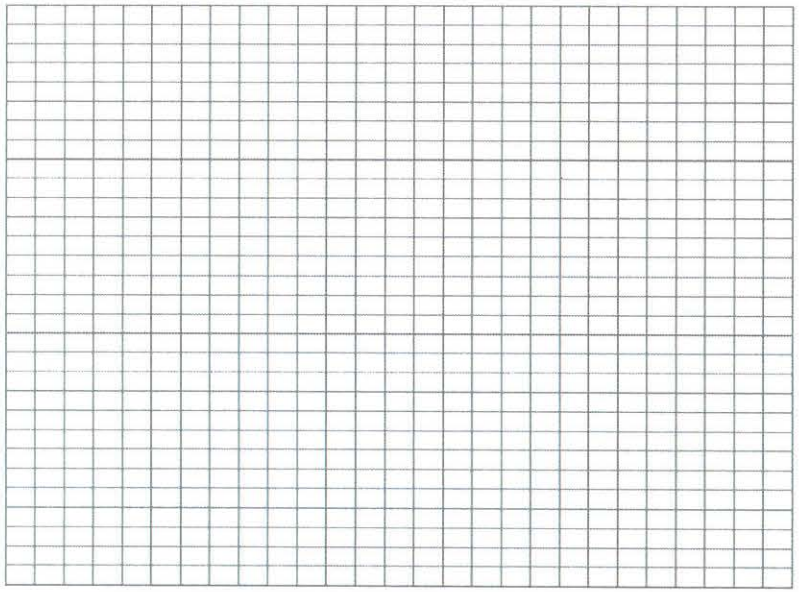
Depth (bgs):

Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/mineralogy, other): Petrol Waste

XRF Data:

Interval:				

Location Map:



Sampling Method: (circle)
Geoprobe
Slide Hammer Probe
Scoop
Ponar
Core Sampler
Other

Analyses:
(circle and indicate number of containers)
VOCs
SVOCS
Metals
Hexavalent Chromium
Pesticides
Aroclors

Notes/Comments:

Recorded By: AS

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: ____ of ____
Date: 8/19/20

Soil Collection Field Form

Exposure Area: Wilcox Oil

Weather: Clear 80°

Sampling Location: EFF

GPS Coordinates: Lat: N 35° 50.373

Sample ID: EFF-SA-05

Long: W. 096° 22.758

Sampling Personnel: JM AS

Sample Date/Time: 8/19/20 1140

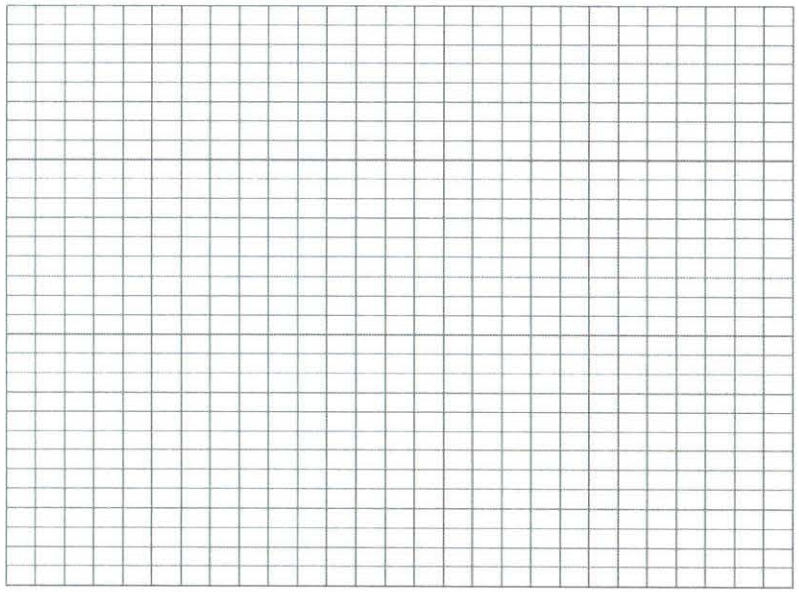
Depth (bgs):

Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/mineralogy, other): Petrol Waste

XRF Data:

Interval:				

Location Map:



Sampling Method: (circle)
Geoprobe
Slide Hammer Probe
Scoop
Ponar
Core Sampler
Other

Analyses:
(circle and indicate number of containers)
VOCs
SVOCS
Metals
Hexavalent Chromium
Pesticides
Aroclors

Notes/Comments:

Recorded By: AS

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: ____ of ____
Date: 8/19/20

Soil Collection Field Form

Exposure Area: Wilcox O.U. **Weather:** Clear 80

Sampling Location: EPF-SS WP **GPS Coordinates: Lat:** N 35° 50.495

Sample ID: EPF-SA-06 **Long:** W096 22.666

Sampling Personnel: AS JM **Sample Date/Time:** 8/19/20 1105

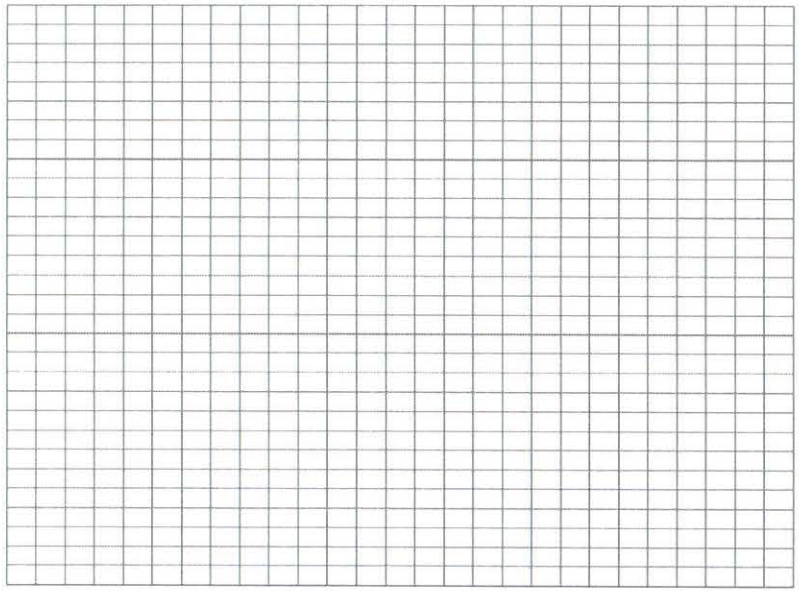
Depth (bgs):

Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/mineralogy, other): Petrol Waste

XRF Data:

Interval:				

Location Map:



Sampling Method: (circle)
Geoprobe
Slide Hammer Probe
Scoop
Ponar
Core Sampler
Other

Analyses:
(circle and indicate number of containers)
VOCs
SVOCS
Metals
Hexavalent Chromium
Pesticides
Aroclors

Notes/Comments:

Recorded By: AS

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: ____ of ____
Date: 8/19/20

Soil Collection Field Form

Exposure Area: Wilcox O.U. Weather: Clear 80°

Sampling Location: EPF GPS Coordinates: Lat: N 35° 50.495

Sample ID: EPF-SA-07 Long: W096° 22.735

Sampling Personnel: AS JM Sample Date/Time: 8/19/20 1030

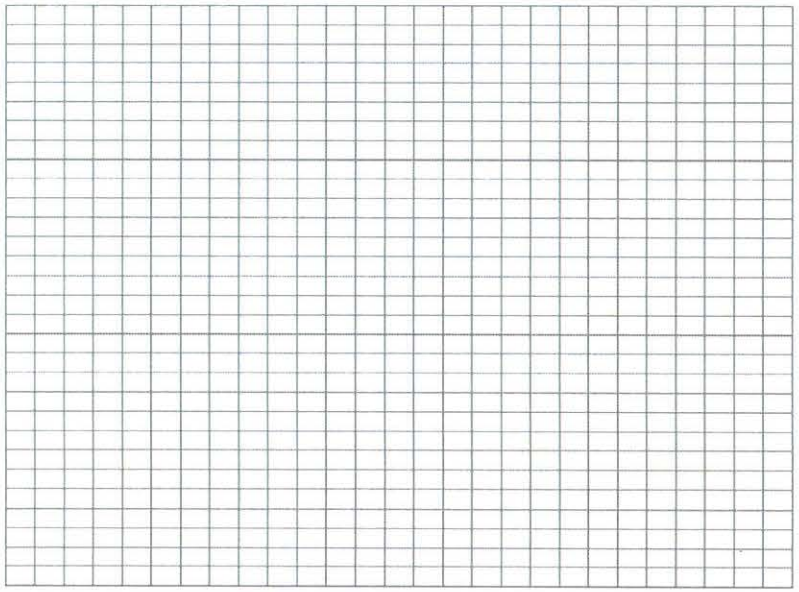
Depth (bgs):

Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/mineralogy, other): Petrol Waste

XRF Data:

Interval:				

Location Map:



Sampling Method: (circle)
Geoprobe
Slide Hammer Probe
Scoop
Ponar
Core Sampler
Other

Analyses:
(circle and indicate number of containers)
VOCs
SVOCS
Metals
Hexavalent Chromium
Pesticides
Aroclors

Notes/Comments:

Recorded By: AS

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Page: ____ of ____
Date: 8/19/20

Soil Collection Field Form

Exposure Area: Wilcox Oil **Weather:** Clear 80°

Sampling Location: EAF **GPS Coordinates: Lat:** N 35° 50.60.81

Sample ID: EAF-SA-08 **Long:** W 096 27.707

Sampling Personnel: TM AS **Sample Date/Time:** 8/19/20 1040

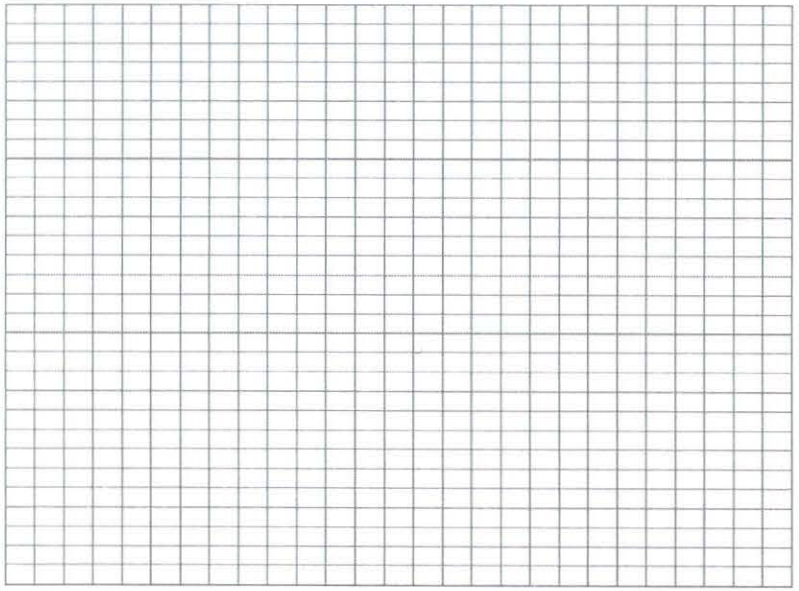
Depth (bgs):

Description (soil type, color, density/consistency, plasticity, moisture, grain size, angularity/mineralogy, other):

XRF Data:

Interval:				

Location Map:



Sampling Method: (circle)
Geoprobe
Slide Hammer Probe
Scoop
Ponar
Core Sampler
Other

Analyses:
(circle and indicate number of containers)
VOCs
SVOCS
Metals
Hexavalent Chromium
Pesticides
Aroclors

Notes/Comments:

Recorded By: AS

Wilcox Oil

ETF-SA-07

8/19/2020 @ 1030

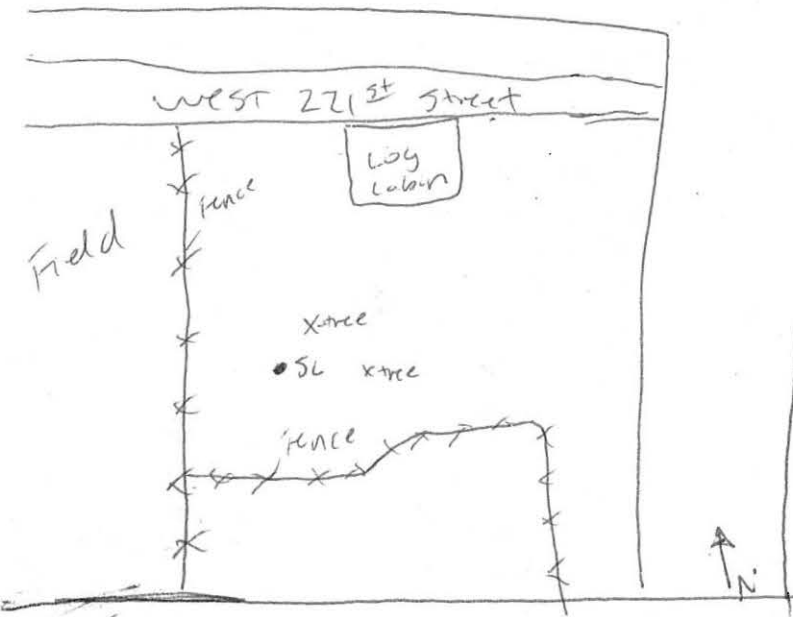
Coordinates: N35°50.495
W096°22.735

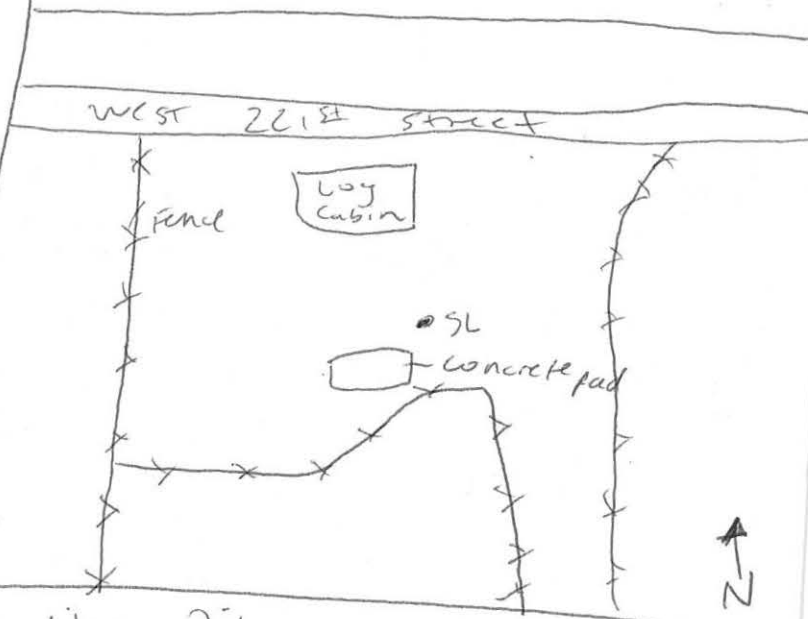
Wilcox Oil

ETF-SA-08

8/19/2020 @ 1040

GPS Coordinates
N35°50.508'
W096°27.707'





Wilcox Oil 8/19/2020 @ 1105

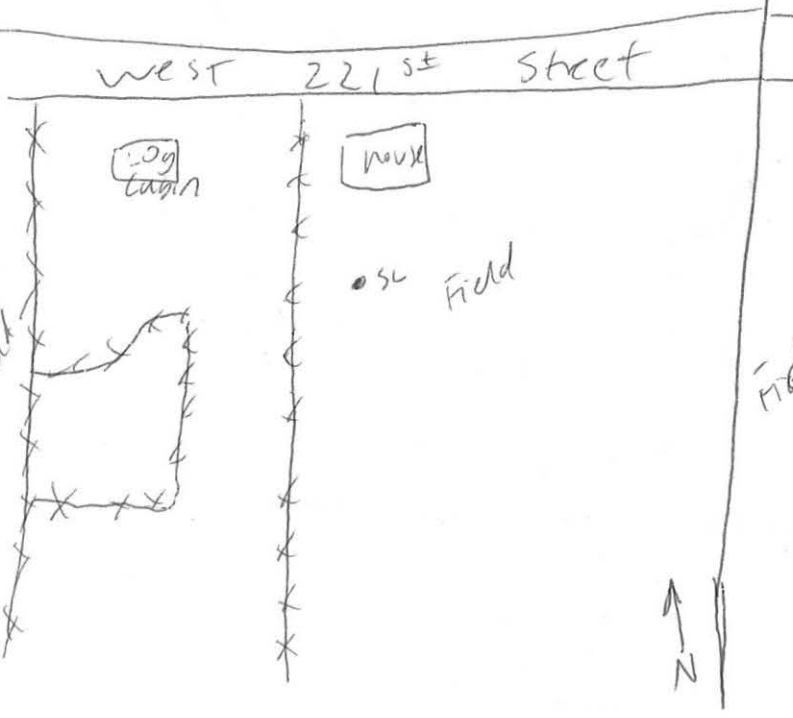
ETF-SA-06

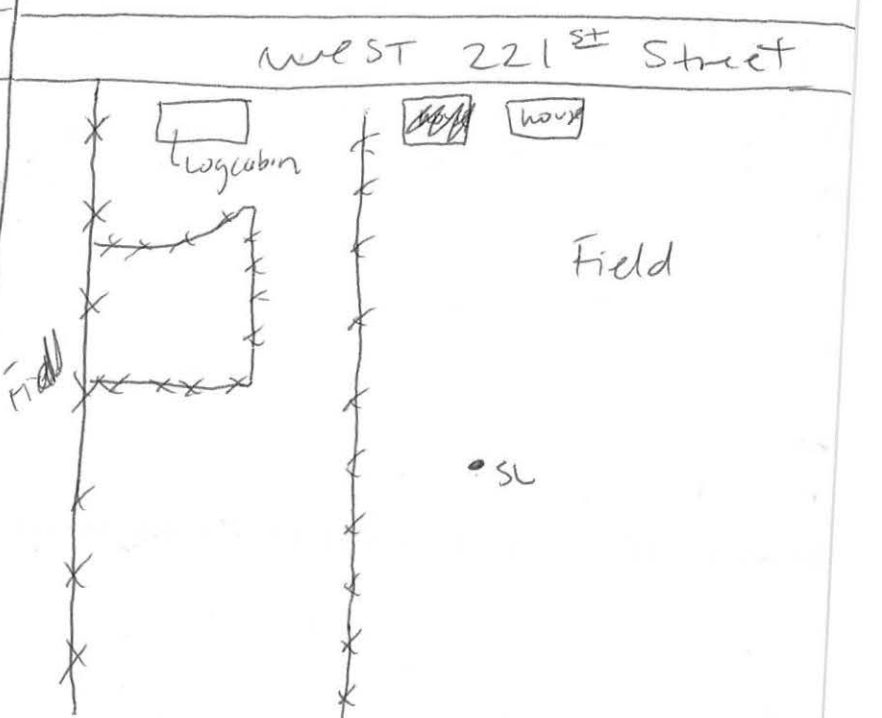
GPS coordinates: N35°50.495'
W096°22.666'

Wilcox Oil 8/19/2020 @ 1115

ETF-SA-03

GPS coordinates: N35°50.422'
W096°22.672'

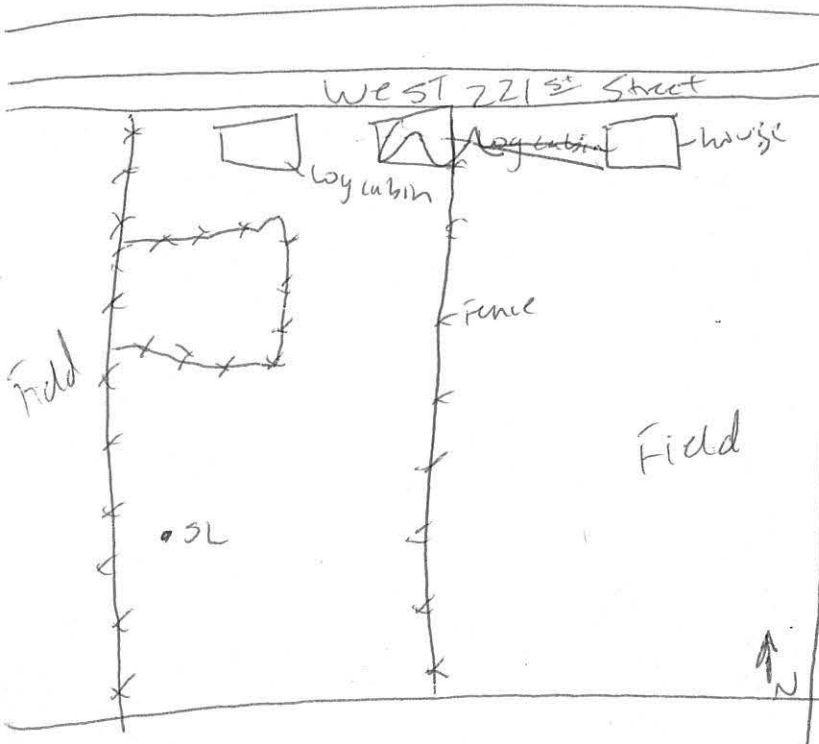




Wilcox Oil 8/19/2020 @ 1130

ETF-SA-04

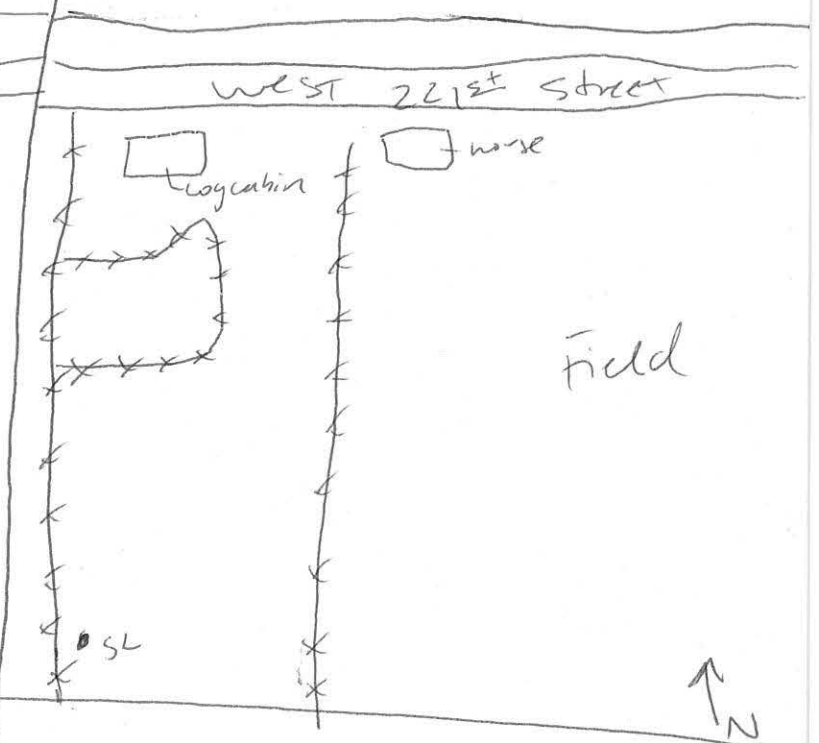
GPS coordinates N35° 50.389'
W096° 22.756'



Wilcox Oil 8/19/2020 @ 1140

ETF-SA-05

GPS coordinates: N35° 50.373'
W096° 22.758'



ATTACHMENT 3

TEMPORARY WELL LOGS

EA Engineering, Science, and Technology, Inc., PBC
405 State Hwy 121
Bldg. C, Ste. 100
Lewisville, TX 75067

FIELD BOREHOLE LOG

BOREHOLE NO.: **LPA-GW-01**

TOTAL DEPTH: **15 ft**

PROJECT INFORMATION

PROJECT: **Wilcox Oil Company Superfund Site**
SITE LOCATION: **Bristow, Creek County, Oklahoma**
ADDRESS: **W. 221st Street S.**
LOGGED BY: **Jacob Meinerts**
PROJECT MANAGER: **Pat Appel**
DATE DRILLED: **8-12-2020**

DRILLING INFORMATION

DRILLING CO.: **Mohawk Drilling**
DRILLER: **Tanner Brantley**
RIG TYPE: **Geoprobe 6610DT**
DRILLING METHOD: **Direct Push**
SAMPLING METHOD: **Plastic liners**
BOREHOLE SIZE: **1.75 inch**

Water level during drilling ▼ Water level after drilling

DEPTH	SOIL/ROCK SYMBOLS	USCS	SAMPLE DESCRIPTION	PID (ppm)	BORING COMPLETION	WELL DETAILS
0		SP-SC	SP-SC. 5YR 4/3 reddish brown. Loose, non-plastic, dry, fine grained.		1" Sch.40 PVC Riser 0 to 4'	
5		CL	CL. 5YR 4/6 yellowish red. Malleable, low - medium plasticity, some sand, clay - fine size grains, dry, product visible.		1" Sch.40 PVC Screen 0.010" slots 4' to 14'	
		SP-SC	SP-SC. 7.5YR 4/1 dark gray. Loose, non-plastic, wet, fine, contains product.			
10		CL-ML	CL-ML. 2.5YR 5/6 red. Very stiff, low - non-plastic, dry, clay size grains.			
		SP-SC	SP-SC. 2.5YR 5/6 red. Loose/soft, low - non-plastic, semi - wet, very fine, contains product.		TD 15'	
15		CL	CL. 2.5YR 5/4 reddish brown. Very lean, very stiff, moist, plastic, dry, clay size.			Clay Swelling/ Slough Material
20						
25						

NOTES: This log should not be used separately from the original report.

EA Engineering, Science, and Technology, Inc., PBC
405 State Hwy 121
Bldg. C, Ste. 100
Lewisville, TX 75067

FIELD BOREHOLE LOG

BOREHOLE NO.: **LPA-GW-02**

TOTAL DEPTH: **15 ft**

PROJECT INFORMATION

PROJECT: **Wilcox Oil Company Superfund Site**
SITE LOCATION: **Bristow, Creek County, Oklahoma**
ADDRESS: **W. 221st Street S.**
LOGGED BY: **Jacob Meinerts**
PROJECT MANAGER: **Pat Appel**
DATE DRILLED: **8-12-2020**

DRILLING INFORMATION

DRILLING CO.: **Mohawk Drilling**
DRILLER: **Tanner Brantley**
RIG TYPE: **Geoprobe 6610DT**
DRILLING METHOD: **Direct Push**
SAMPLING METHOD: **Plastic liners**
BOREHOLE SIZE: **1.75 inch**

Water level during drilling ▼ Water level after drilling

DEPTH	SOIL/ROCK SYMBOLS	USCS	SAMPLE DESCRIPTION	PID (ppm)	BORING COMPLETION	WELL DETAILS
0		ML-CL	ML-CL. 2.5YR 4/8 red. Dense/stiff, non-plastic, contains sand, dry, very fine - clay sized grains.			1" Sch.40 PVC Riser 0 to 5'
5		SP-SM	SP-SM. 2.5YR 4/6 red. Fairly loose, non-plastic, dry, very fine. Stringer of loose sand ~ 8'.			1" Sch.40 PVC Screen 0.010" slots 5' to 15'
10		ML	ML. 2.5YR 4/6 red. Stiff, low-non-plastic, dry, very fine - clay size grains.			
		ML	ML. 2.5YR 4/1 dark reddissh gray. Loose, non-plastic, wet, very fine, contains lithic fragments.concretions.			
15		CL	CL. 2.5YR 5/4 reddish brown. Very stiff/dense, low - non-plasticity, clay size grains.			TD 15'
20						
25						

NOTES: This log should not be used separately from the original report.

EA Engineering, Science, and Technology, Inc., PBC
405 State Hwy 121
Bldg. C, Ste. 100
Lewisville, TX 75067

FIELD BOREHOLE LOG

BOREHOLE NO.: **LPA-GW-03**

TOTAL DEPTH: **15 ft**

PROJECT INFORMATION

PROJECT: **Wilcox Oil Company Superfund Site**
SITE LOCATION: **Bristow, Creek County, Oklahoma**
ADDRESS: **W. 221st Street S.**
LOGGED BY: **Jacob Meinerts**
PROJECT MANAGER: **Pat Appel**
DATE DRILLED: **8-12-2020**

DRILLING INFORMATION

DRILLING CO.: **Mohawk Drilling**
DRILLER: **Tanner Brantley**
RIG TYPE: **Geoprobe 6610DT**
DRILLING METHOD: **Direct Push**
SAMPLING METHOD: **Plastic liners**
BOREHOLE SIZE: **1.75 inch**

Water level during drilling ▼ Water level after drilling

DEPTH	SOIL/ROCK SYMBOLS	USCS	SAMPLE DESCRIPTION	PID (ppm)	BORING COMPLETION	WELL DETAILS
0		SW-SC	SW-SC. 2.5YR 4/3 reddish brown - 5YR 3/3 dark reddish brown. Loose, non-plastic, dry, very fine.			1" Sch.40 PVC Riser 0 to 5'
5		CL-ML	CL-ML. 5YR 4/6 yellowish red. Very stiff, non-plastic, dry.			1" Sch.40 PVC Screen 0.010" slots 5' to 15'
10		CL-CH	CL-CH. 5YR 4/4 reddish brown. Cohesive/malleable, low plasticity, dry, clay with silt/sand.			
		SC-SW	SC-SW. 5YR 4/3 reddish brown. Loose, non-plastic, dry, very fine.			
15		ML-CL	ML-CL. 5YR 4/3 reddish brown. Semi-dense/malleable but not cohesive, non-plastic, dry, clay with silt & sand.			TD 15'
20						
25						

NOTES: This log should not be used separately from the original report.

EA Engineering, Science, and Technology, Inc., PBC
405 State Hwy 121
Bldg. C, Ste. 100
Lewisville, TX 75067

FIELD BOREHOLE LOG

BOREHOLE NO.: **WPA-GW-01**

TOTAL DEPTH: **25 ft**

PROJECT INFORMATION

PROJECT: **Wilcox Oil Company Superfund Site**
SITE LOCATION: **Bristow, Creek County, Oklahoma**
ADDRESS: **W. 221st Street S.**
LOGGED BY: **Jacob Meinerts**
PROJECT MANAGER: **Pat Appel**
DATE DRILLED: **8-12-2020**

DRILLING INFORMATION

DRILLING CO.: **Mohawk Drilling**
DRILLER: **Tanner Brantley**
RIG TYPE: **Geoprobe 6610DT**
DRILLING METHOD: **Direct Push**
SAMPLING METHOD: **Plastic liners**
BOREHOLE SIZE: **1.75 inch**

Water level during drilling ▼ Water level after drilling

DEPTH	SOIL/ROCK SYMBOLS	USCS	SAMPLE DESCRIPTION	PID (ppm)	BORING COMPLETION	WELL DETAILS
-5 to 0						
0 to 5		CL	CL. 7.5YR 3/3 dark brown. Fairly loose, non-plastic, no moisture, very fine - clay size grains.			
5 to 10		CL-CH	CL-CH. 5YR 4/6 yellowish red. Tight/dense, plastic, dry, clay - lean - iron oxide, some very fine sand/silt.			1" Sch.40 PVC Riser 0 to 15'
10 to 15		CH	CH. 5YR 5/4 reddish brown. Malleable, dry, low-medium plasticity, clay size grains, little iron oxide, lacks sand.			
15 to 20		CL-CH	CL-CH. 7.5YR 7/4 pink. Low-high plasticity, little - no moisture, little iron oxide, cohesive - primarily highly plastic with zones of low - medium.			1" Sch.40 PVC Screen 0.010" slots 15' to 25'
20 to 25		CH	CH. 5YR 4/3 reddish brown. Fairly dense, cohesive, highly plastic, clay size, no sand, little moisture.			
25						TD 25'

NOTES: This log should not be used separately from the original report.

EA Engineering, Science, and Technology, Inc., PBC
405 State Hwy 121
Bldg. C, Ste. 100
Lewisville, TX 75067

FIELD BOREHOLE LOG

BOREHOLE NO.: **WPA-GW-04**

TOTAL DEPTH: **12 ft**

PROJECT INFORMATION

PROJECT: **Wilcox Oil Company Superfund Site**
SITE LOCATION: **Bristow, Creek County, Oklahoma**
ADDRESS: **W. 221st Street S.**
LOGGED BY: **Jacob Meinerts**
PROJECT MANAGER: **Pat Appel**
DATE DRILLED: **8-12-2020**

DRILLING INFORMATION

DRILLING CO.: **Mohawk Drilling**
DRILLER: **Tanner Brantley**
RIG TYPE: **Geoprobe 6610DT**
DRILLING METHOD: **Direct Push**
SAMPLING METHOD: **Plastic liners**
BOREHOLE SIZE: **1.75 inch**

Water level during drilling ▼ Water level after drilling

DEPTH	SOIL/ROCK SYMBOLS	USCS	SAMPLE DESCRIPTION	PID (ppm)	BORING COMPLETION	WELL DETAILS
0		SW-SC	SW-SC. 7.5YR 4/4 brown. Loose, non-plastic, dry, fine - very fine grained.			1" Sch.40 PVC Riser 0 to 2'
5		SW-SP	SW-SP. 5YR 5/6 yellowish red. Loose, non-plastic, dry, fine - medium grained.			1" Sch.40 PVC Screen 0.010" slots 2' to 12'
		SW-SP	SW-SP. 5YR 5/6 yellowish red. Loose, non-plastic, wet, fine - medium grained.			
10		CL	CL. 7.5YR 5/6 strong brown. Fairly dense, semi plastic, dry.			
		SW-SP	SW-SP. 5YR 5/6 yellowish red. Loose, wet, semi plastic, fine-very fine.			
			CL. 7.5YR 5/6 strong brown. Cohesive, fat, dry, very plastic.			
		CL				TD 12'
15						
20						
25						

NOTES: This log should not be used separately from the original report.

EA Engineering, Science, and Technology, Inc., PBC
405 State Hwy 121
Bldg. C, Ste. 100
Lewisville, TX 75067

FIELD BOREHOLE LOG

BOREHOLE NO.: **WPA-GW-05**

TOTAL DEPTH: **22 ft**

PROJECT INFORMATION

PROJECT: **Wilcox Oil Company Superfund Site**
SITE LOCATION: **Bristow, Creek County, Oklahoma**
ADDRESS: **W. 221st Street S.**
LOGGED BY: **Jacob Meinerts**
PROJECT MANAGER: **Pat Appel**
DATE DRILLED: **8-12-2020**

DRILLING INFORMATION

DRILLING CO.: **Mohawk Drilling**
DRILLER: **Tanner Brantley**
RIG TYPE: **Geoprobe 6610DT**
DRILLING METHOD: **Direct Push**
SAMPLING METHOD: **Plastic liners**
BOREHOLE SIZE: **1.75 inch**

Water level during drilling ▼ Water level after drilling

DEPTH	SOIL/ROCK SYMBOLS	USCS	SAMPLE DESCRIPTION	PID (ppm)	BORING COMPLETION	WELL DETAILS
0		SW	SW-SC. 5YR 5/6 yellowish red. Loose, non-plastic, dry, fine sized grains, contains Iron oxide.			
5		SW	SW-SC. 5YR 5/6 yellowish red. Loose, non-plastic, dry, fine sized grains, contains Iron oxide. Contains product black, within sand.			1" Sch.40 PVC Riser 0 to 12'
		CH	CH. 5YR 4/4 reddish brown. With sand, fat, no moisture, highly plastic.			
10		CH	CH. 5YR 4/4 reddish brown. Highly plastic, fat, contains, some sand, contains Iron oxide, contains product.			
		SP	SP-SM. Contains product - nearly saturated.			1" Sch.40 PVC Screen 0.010" slots 12' to 22'
15		CH	CH. 5YR 4/4 reddish brown. Malleable/cohesive, highly plastic, some moisture, clay size.			
		SP	SP-SM. 2.5YR 3/6 dark red. Loose, wet-saturated, fine-medium sized grains, non-plastic.			
20						TD 22'
25						

NOTES: This log should not be used separately from the original report.

EA Engineering, Science, and Technology, Inc., PBC
405 State Hwy 121
Bldg. C, Ste. 100
Lewisville, TX 75067

FIELD BOREHOLE LOG

BOREHOLE NO.: **WPA-GW-06**

TOTAL DEPTH: **9 ft**

PROJECT INFORMATION

PROJECT: **Wilcox Oil Company Superfund Site**
SITE LOCATION: **Bristow, Creek County, Oklahoma**
ADDRESS: **West 221st Street South**
LOGGED BY: **Jacob Meinerts**
PROJECT MANAGER: **Pat Appel**
DATE DRILLED: **8-12-2020**

DRILLING INFORMATION

DRILLING CO.: **Mohawk Drilling**
DRILLER: **Tanner Brantley**
RIG TYPE: **Geoprobe 6610DT**
DRILLING METHOD: **Direct Push**
SAMPLING METHOD: **Plastic Liners**
BOREHOLE SIZE: **1.75 inch**

Water level during drilling ▼ Water level after drilling

DEPTH	SOIL/ROCK SYMBOLS	USCS	SAMPLE DESCRIPTION	PID (ppm)	BORING COMPLETION	WELL DETAILS
0		SW-SC	SW-SC. "Tar-like"			1" Sch.40 PVC Screen 0.010" slots 0'-9'
			SW-SC. 10Y 2.5/1 black. Semi-loose, poorly graded, dry, fine grained.			
5		SW-SC	SW-SC. 5Y 3/1 very dark gray. Semi-loose, poorly graded, dry, fine grained.			
		SM-SC	SM-SC. 5Y 6/2 light olive gray. Wet, tight, non-plastic, fine-very fine stringers of product through out last 3".			TD 9'
10						
15						
20						
25						

NOTES: This log should not be used separately from the original report.

EA Engineering, Science, and Technology, Inc., PBC
405 State Hwy 121
Bldg. C, Ste. 100
Lewisville, TX 75067

FIELD BOREHOLE LOG

BOREHOLE NO.: **WPA-GW-07**

TOTAL DEPTH: **24 ft**

PROJECT INFORMATION

PROJECT: **Wilcox Oil Company Superfund Site**
SITE LOCATION: **Bristow, Creek County, Oklahoma**
ADDRESS: **W. 221st Street S.**
LOGGED BY: **Jacob Meinerts**
PROJECT MANAGER: **Pat Appel**
DATE DRILLED: **8-12-2020**

DRILLING INFORMATION

DRILLING CO.: **Mohawk Drilling**
DRILLER: **Tanner Brantley**
RIG TYPE: **Geoprobe 6610DT**
DRILLING METHOD: **Direct Push**
SAMPLING METHOD: **Plastic liners**
BOREHOLE SIZE: **1.75 inch**

Water level during drilling ▼ Water level after drilling

DEPTH	SOIL/ROCK SYMBOLS	USCS	SAMPLE DESCRIPTION	PID (ppm)	BORING COMPLETION	WELL DETAILS
0		SW-SM	SW-SM. 5YR 5/4 reddish brown. Loose, friable, non-plastic, dry, fine grained, some iron oxide.			
5		ML-CL	ML-CL. 5YR 5/4 reddish brown. Tight, dense, non-plastic, dry.			
		CL	CL. 5YR 5/6 yellowish red. Dense, friable, non-plastic, dry.			1" Sch.40 PVC Riser 0 to 14'
		CL-CH	CL-CH. 5YR 5/6 yellowish red. Cohesive/malleable - fat, medium plasticity.			
10		CH	CH. 5YR 6/1 gray & 5YR 4/6 yellowish red. Very malleable, fat, dry, high plasticity, contains product, clay size grains, iron oxide.			
15		SW-SC	SW-SC. 2.5YR 4/1 dark reddish gray. Loose, malleable, wet, fine grained, semi-plastic - contains fines.			1" Sch.40 PVC Screen 0.010" slots 14' to 24'
20		CL-CH	CL-CH. 5YR 4/6 yellowish red. Malleable, medium plasticity, dry, clay size with silt, iron oxide.			
		SC	SC. 5YR 4/2 dark reddish gray. Loose, wet, semi plastic, fine-very fine with clay, contains product.			
25						TD 24'

NOTES: This log should not be used separately from the original report.

EA Engineering, Science, and Technology, Inc., PBC
405 State Hwy 121
Bldg. C, Ste. 100
Lewisville, TX 75067

FIELD BOREHOLE LOG

BOREHOLE NO.: **WPA-GW-09**

TOTAL DEPTH: **15 ft**

PROJECT INFORMATION

PROJECT: **Wilcox Oil Company Superfund Site**
SITE LOCATION: **Bristow, Creek County, Oklahoma**
ADDRESS: **W. 221st Street S.**
LOGGED BY: **Jacob Meinerts**
PROJECT MANAGER: **Pat Appel**
DATE DRILLED: **8-12-2020**

DRILLING INFORMATION

DRILLING CO.: **Mohawk Drilling**
DRILLER: **Tanner Brantley**
RIG TYPE: **Geoprobe 6610DT**
DRILLING METHOD: **Direct Push**
SAMPLING METHOD: **Plastic liners**
BOREHOLE SIZE: **1.75 inch**

Water level during drilling ▼ Water level after drilling

DEPTH	SOIL/ROCK SYMBOLS	USCS	SAMPLE DESCRIPTION	PID (ppm)	BORING COMPLETION	WELL DETAILS
0		SP-SC	SP-SC. 5YR 4/3 reddish brown. Loose/friable, dry, non-plastic, fine grained, iron oxide.			1" Sch.40 PVC Riser 0 to 5'
5		SP-SC	Gets wet at bottom ~5'. SP-SC. 5YR 43 reddish brown. Loose/friable, dry, non-plastic, fine grained, iron oxide.			1" Sch.40 PVC Screen 0.010" slots 5' to 15'
		SW-SM	SW-SM. 10YR 7/6 yellow. Loose, non-plastic, saturated, fine grained.			
10		SP-SC	SP-SC. 5YR 4/3 reddish brown. Semi-loose, dry, non-plastic, contains product, fine grained.			
		SP-SM	SP-SM. 7.5YR 5/8 strong brown. Loose, saturated, non-plastic, fine grained, contains product, odor. Becomes dry @ 15' and clay increases.			
15						TD 15'
20						
25						

NOTES: This log should not be used separately from the original report.

ATTACHMENT 4

ANALYTICAL LABORATORY REPORTS

eurofins | Environment Testing America

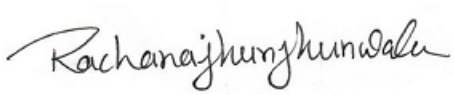
ANALYTICAL REPORT

Job Number: 410-10696-1

Job Description: EPA 6 Wilcox Oil Co Superfund Site

For:
EA Engineering, Science, and Technology
7995 E. Prentice Ave, Suite 206E
Greenwood Village, CO 80111

Attention: Pamela J Moss



Approved for release.
Rachana J Jhunjhunwala
Project Coordinator
9/16/2020 10:03 AM

Designee for
Kay G Hower, Principal Project Manager
2425 New Holland Pike, Lancaster, PA, 17601
(717)556-7364
kayhower@eurofinsus.com
09/16/2020

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Eurofins Lancaster Laboratories Env, LLC
2425 New Holland Pike, Lancaster, PA 17601
Tel (717) 656-2300 Fax (717) 656-2681 www.EurofinsUS.com

Job Number: 410-10696-1

Job Description: EPA 6 Wilcox Oil Co Superfund Site

Analytical test results meet all requirements of the associated regulatory program (e.g., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis. Data qualifiers are applied to note exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

* QC recoveries that exceed the upper limits and are associated with non-detect samples are qualified but no further narration is needed since the bias is high and does not change a non-detect result.

* Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD is performed, unless otherwise specified in the method.

* Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Measurement uncertainty values, as applicable, are available upon request.

Test results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" and tested in the laboratory are not performed within 15 minutes of collection.

This report shall not be reproduced except in full, without the written approval of the laboratory.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANACASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Table of Contents

Cover Title Page 1

Data Summaries 8

- Definitions 8
- Case Narrative 10
- Detection Summary 11
- Client Sample Results 15
- Default Detection Limits 33
- Surrogate Summary 38
- QC Sample Results 40
- QC Association 63
- Chronicle 69
- Certification Summary 73
- Method Summary 74
- Sample Summary 75
- Manual Integration Summary 76
- Reagent Traceability 102
  - COAs 274
- Sample Container Check 635

Organic Sample Data 636

- GC/MS VOA 636
  - Method 8260C 636
    - Method 8260C QC Summary 637
    - Method 8260C Sample Data 661
    - Standards Data 762
      - Method 8260C ICAL Data 762
      - Method 8260C CCAL Data 861

Table of Contents

Raw QC Data 894

Method 8260C Tune Data 894

Method 8260C Blank Data 906

Method 8260C LCS/LCSD Data 924

Method 8260C MS/MSD Data 957

Method 8260C Run Logs 971

Method 8260C Prep Data 974

GC/MS Semi VOA 981

Method 8270D 981

Method 8270D QC Summary 982

Method 8270D Sample Data 1007

Standards Data 1181

Method 8270D ICAL Data 1181

Method 8270D Resolution Data 1352

Method 8270D CCAL Data 1364

Raw QC Data 1430

Method 8270D Tune Data 1430

Method 8270D Blank Data 1484

Method 8270D LCS/LCSD Data 1506

Method 8270D Run Logs 1522

Method 8270D Prep Data 1528

GC VOA 1530

Method RSK-175 1530

Method RSK-175 QC Summary 1531

Method RSK-175 Sample Data 1537

Standards Data 1549

Table of Contents

Method RSK-175 ICAL Data 1549

Method RSK-175 CCAL Data 1564

Raw QC Data 1580

Method RSK-175 Blank Data 1580

Method RSK-175 LCS/LCSD Data 1584

Method RSK-175 Run Logs 1592

Method RSK-175 Prep Data 1595

Method RSK-175 CO2 1596

Method RSK-175 CO2 QC Summary 1597

Method RSK-175 CO2 Sample Data 1599

Standards Data 1608

Method RSK-175 CO2 ICAL Data 1608

Method RSK-175 CO2 CCAL Data 1623

Raw QC Data 1635

Method RSK-175 CO2 Blank Data 1635

Method RSK-175 CO2 LCS/LCSD Data 1638

Method RSK-175 CO2 Run Logs 1641

Method RSK-175 CO2 Prep Data 1643

HPLC/IC 1644

300_ORGFM_28D 1644

300_ORGFM_28D QC Summary 1645

300_ORGFM_28D Sample Data 1649

Standards Data 1658

300_ORGFM_28D ICAL Data 1658

300_ORGFM_28D CCAL Data 1688

Raw QC Data 1738

Table of Contents

300_ORGFM_28D Blank Data 1738

300_ORGFM_28D LCS/LCSD Data 1768

300_ORGFM_28D Run Logs 1774

300_ORGFM_28D Prep Data 1785

300_ORGFMS 1787

300_ORGFMS QC Summary 1788

300_ORGFMS Sample Data 1792

Standards Data 1801

300_ORGFMS ICAL Data 1801

300_ORGFMS CCAL Data 1846

Raw QC Data 1886

300_ORGFMS Blank Data 1886

300_ORGFMS LCS/LCSD Data 1916

300_ORGFMS Run Logs 1922

300_ORGFMS Prep Data 1930

Inorganic Sample Data 1932

Metals Data 1932

Met Cover Page 1933

Met Sample Data 1934

Met QC Data 1940

Met ICV/CCV 1940

Met CRQL 1961

Met Blanks 1970

Met ICSA/ICSAB 1992

Met LCS/LCSD 2008

Met MDL 2034

Table of Contents

Met IECF 2050

Met Linear Ranges 2062

Met Preparation Log 2068

Met Analysis Run Log 2074

Met Internal Standards 2094

Met Prep Data 2105

Met Raw Data 2114

General Chemistry Data 2898

Gen Chem Cover Page 2899

Gen Chem Sample Data 2900

Gen Chem QC Data 2903

Gen Chem ICV/CCV 2903

Gen Chem Blanks 2904

Gen Chem LCS/LCSD 2905

Gen Chem MDL 2906

Gen Chem Linear Ranges 2910

Gen Chem Analysis Run Log 2911

Gen Chem Prep Data 2916

Gen Chem Raw Data 2918

Shipping and Receiving Documents 2920

Client Chain of Custody 2921

Sample Receipt Checklist 2923

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Surrogate recovery exceeds control limits

HPLC/IC

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
H3	Sample was received and analyzed past holding time.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
1C	Result is from the primary column on a dual-column method.
2C	Result is from the confirmation column on a dual-column method.
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job Narrative
410-10696-1

Receipt
The samples were received on 8/14/2020 11:09 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.6º C and 1.2º C.

GC/MS VOA
Method 8260C: The continuing calibration verification (CCV) associated with batch 410-35697 recovered outside acceptance criteria, low biased, for 2-Butanone. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Non-detections of the affected analytes are reported. Any detections are considered estimated.

Method 8260C: The continuing calibration verification (CCV) associated with batch 410-34763 recovered outside acceptance criteria, low biased, for 4-Methyl-2-pentanone, 2-Butanone, 2-Hexanone, Dichlorodifluoromethane and Methyl acetate. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Non-detections of the affected analytes are reported. Any detections are considered estimated.

Method 8260C: The method requirement for no headspace was not met. The following volatile sample was analyzed with headspace in the sample container(s): TB-01 (410-10696-5). The sample container was received with headspace.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method 8270D: The laboratory control sample (LCS) for 410-33824 recovered outside control limits for several analytes. Sample MW-04 (410-10696-3) was re-extracted outside the method required holding time and the QC was within acceptance limits. The data is reported from the initial trial.

Method 8270D: The laboratory control sample (LCS) for preparation batch 410-33824 recovered outside acceptance limits for several analytes. There was insufficient sample for samples MW-01 (410-10696-1) and WPA-GW-02 (410-10696-6) to perform a re-extraction or re-analysis; therefore, the data have been reported.

Method 8270D: Surrogate recovery for the following sample was outside of acceptance limits: MW-01 (410-10696-1). There was insufficient sample to perform a re-extraction; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: EA Engineering, Science, and Technology
Job ID: 410-10696-1
Project/Site: EPA 6 Wilcox Oil Co Superfund Site

Client Sample ID: MW-01 — Lab Sample ID: 410-10696-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	0.79	J	1.0	0.40	ug/L	1		8260C	Total/NA
Methylcyclohexane	160		5.0	0.50	ug/L	1		8260C	Total/NA
Toluene	0.34	J	1.0	0.20	ug/L	1		8260C	Total/NA
Cyclohexane	150		5.0	1.0	ug/L	1		8260C	Total/NA
Acetone	2.1	J	20	0.70	ug/L	1		8260C	Total/NA
Isopropylbenzene	70		5.0	0.20	ug/L	1		8260C	Total/NA
Fluorene	0.42	J	0.50	0.10	ug/L	1		8270D	Total/NA
Naphthalene	39		0.50	0.10	ug/L	1		8270D	Total/NA
2-Methylnaphthalene	23		0.50	0.10	ug/L	1		8270D	Total/NA
CO2	130000		12000	2600	ug/L	1		RSK-175	Total/NA
Methane (1C)	12000		250	150	ug/L	50		RSK-175	Total/NA
Calcium	30.5		0.200	0.0960	mg/L	1		6010C	Total/NA
Iron	48.8		0.200	0.0400	mg/L	1		6010C	Total/NA
Magnesium	14.1		0.100	0.0400	mg/L	1		6010C	Total/NA
Potassium	1.69		0.500	0.204	mg/L	1		6010C	Total/NA
Sodium	5.30		1.00	0.239	mg/L	1		6010C	Total/NA
Calcium	33.5		0.206	0.0989	mg/L	1		6010C	Dissolved
Iron	54.7		0.206	0.0412	mg/L	1		6010C	Dissolved
Magnesium	15.0	B	0.103	0.0412	mg/L	1		6010C	Dissolved
Potassium	1.44		0.515	0.210	mg/L	1		6010C	Dissolved
Sodium	6.50		1.03	0.246	mg/L	1		6010C	Dissolved
Aluminum	147		25.0	19.7	ug/L	1		6020A	Total/NA
Arsenic	35.3		2.00	0.680	ug/L	1		6020A	Total/NA
Barium	360		2.00	0.746	ug/L	1		6020A	Total/NA
Chromium	3.42	B	2.00	0.334	ug/L	1		6020A	Total/NA
Cobalt	9.87		0.500	0.156	ug/L	1		6020A	Total/NA
Copper	0.378	J	1.00	0.362	ug/L	1		6020A	Total/NA
Lead	0.122	J	0.500	0.0710	ug/L	1		6020A	Total/NA
Manganese	794		2.00	0.634	ug/L	1		6020A	Total/NA
Nickel	2.59		1.00	0.604	ug/L	1		6020A	Total/NA
Vanadium	0.409	J	0.500	0.236	ug/L	1		6020A	Total/NA
Arsenic	36.4		2.06	0.700	ug/L	1		6020A	Dissolved
Barium	357		2.06	0.768	ug/L	1		6020A	Dissolved
Chromium	2.98		2.06	0.344	ug/L	1		6020A	Dissolved
Cobalt	10.7		0.515	0.161	ug/L	1		6020A	Dissolved
Manganese	849		2.06	0.653	ug/L	1		6020A	Dissolved
Nickel	2.71		1.03	0.622	ug/L	1		6020A	Dissolved
Selenium	0.298	J	1.03	0.286	ug/L	1		6020A	Dissolved
Ferrous Iron	52.7	HF	2.50	0.750	mg/L	50		3500 Fe B-2011	Total/NA

Client Sample ID: MW-03 — Lab Sample ID: 410-10696-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylcyclohexane	0.54	J	5.0	0.50	ug/L	1		8260C	Total/NA
Acetone	1.1	J	20	0.70	ug/L	1		8260C	Total/NA

Client Sample ID: MW-04 — Lab Sample ID: 410-10696-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	1300		5.0	2.0	ug/L	5		8260C	Total/NA
Methylcyclohexane	190		25	2.5	ug/L	5		8260C	Total/NA
Toluene	1200		5.0	1.0	ug/L	5		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-04 (Continued)
Lab Sample ID: 410-10696-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyclohexane	430		25	5.0	ug/L	5		8260C	Total/NA
Xylenes, Total	2600		30	7.0	ug/L	5		8260C	Total/NA
Acetone	34	J	100	3.5	ug/L	5		8260C	Total/NA
Bromodichloromethane	2.9	J	5.0	1.0	ug/L	5		8260C	Total/NA
1,2-Dibromo-3-Chloropropane	3.4	J	25	1.5	ug/L	5		8260C	Total/NA
Isopropylbenzene	46		25	1.0	ug/L	5		8260C	Total/NA
Benzene - DL	2800		10	2.0	ug/L	10		8260C	Total/NA
2,4-Dimethylphenol	6.6	J *	10	3.0	ug/L	1		8270D	Total/NA
Benzo[a]anthracene	0.68	*	0.51	0.10	ug/L	1		8270D	Total/NA
Benzo[a]pyrene	0.47	J *	0.51	0.10	ug/L	1		8270D	Total/NA
Carbazole	1.6	J	2.0	0.51	ug/L	1		8270D	Total/NA
Chrysene	0.46	J	0.51	0.10	ug/L	1		8270D	Total/NA
Fluoranthene	0.19	J	0.51	0.10	ug/L	1		8270D	Total/NA
Fluorene	1.1		0.51	0.10	ug/L	1		8270D	Total/NA
Phenanthrene	3.1	*	0.51	0.10	ug/L	1		8270D	Total/NA
Pyrene	0.64	*	0.51	0.10	ug/L	1		8270D	Total/NA
2-Methylnaphthalene	41		0.51	0.10	ug/L	1		8270D	Total/NA
4-Methylphenol	1.1	J	2.0	0.51	ug/L	1		8270D	Total/NA
Naphthalene - DL	190		1.0	0.20	ug/L	2		8270D	Total/NA
CO2	110000		12000	2600	ug/L	1		RSK-175	Total/NA
Methane (1C)	18000		500	300	ug/L	100		RSK-175	Total/NA
Sulfate	1.5	J	5.0	1.5	mg/L	5		EPA 300.0 R2.1	Total/NA
Calcium	51.4		0.200	0.0960	mg/L	1		6010C	Total/NA
Iron	27.1		0.200	0.0400	mg/L	1		6010C	Total/NA
Magnesium	27.1		0.100	0.0400	mg/L	1		6010C	Total/NA
Potassium	0.846		0.500	0.204	mg/L	1		6010C	Total/NA
Sodium	55.9		1.00	0.239	mg/L	1		6010C	Total/NA
Calcium	56.2		0.206	0.0989	mg/L	1		6010C	Dissolved
Iron	27.6		0.206	0.0412	mg/L	1		6010C	Dissolved
Magnesium	28.3	B	0.103	0.0412	mg/L	1		6010C	Dissolved
Sodium	58.7		1.03	0.246	mg/L	1		6010C	Dissolved
Aluminum	1810		25.0	19.7	ug/L	1		6020A	Total/NA
Arsenic	16.7		2.00	0.680	ug/L	1		6020A	Total/NA
Barium	212		2.00	0.746	ug/L	1		6020A	Total/NA
Beryllium	0.122	J	0.500	0.119	ug/L	1		6020A	Total/NA
Chromium	4.91	B	2.00	0.334	ug/L	1		6020A	Total/NA
Cobalt	5.63		0.500	0.156	ug/L	1		6020A	Total/NA
Copper	1.56		1.00	0.362	ug/L	1		6020A	Total/NA
Lead	3.42		0.500	0.0710	ug/L	1		6020A	Total/NA
Manganese	2870		2.00	0.634	ug/L	1		6020A	Total/NA
Nickel	4.03		1.00	0.604	ug/L	1		6020A	Total/NA
Selenium	0.661	J	1.00	0.278	ug/L	1		6020A	Total/NA
Vanadium	3.71		0.500	0.236	ug/L	1		6020A	Total/NA
Aluminum	191		25.8	20.3	ug/L	1		6020A	Dissolved
Arsenic	20.4		2.06	0.700	ug/L	1		6020A	Dissolved
Barium	272		2.06	0.768	ug/L	1		6020A	Dissolved
Chromium	3.18		2.06	0.344	ug/L	1		6020A	Dissolved
Cobalt	6.81		0.515	0.161	ug/L	1		6020A	Dissolved
Copper	0.572	J	1.03	0.373	ug/L	1		6020A	Dissolved
Lead	2.50		0.515	0.0731	ug/L	1		6020A	Dissolved
Manganese	3640		2.06	0.653	ug/L	1		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-04 (Continued)
Lab Sample ID: 410-10696-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nickel	3.42		1.03	0.622	ug/L	1		6020A	Dissolved
Selenium	0.940	J	1.03	0.286	ug/L	1		6020A	Dissolved
Vanadium	0.357	J	0.515	0.243	ug/L	1		6020A	Dissolved
Ferrous Iron	28.1	HF	1.00	0.300	mg/L	20		3500 Fe B-2011	Total/NA

Client Sample ID: MW-05
Lab Sample ID: 410-10696-4

No Detections.

Client Sample ID: TB-01
Lab Sample ID: 410-10696-5

No Detections.

Client Sample ID: WPA-GW-02
Lab Sample ID: 410-10696-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	150		5.0	2.0	ug/L	5		8260C	Total/NA
Methylcyclohexane	78		25	2.5	ug/L	5		8260C	Total/NA
Toluene	95		5.0	1.0	ug/L	5		8260C	Total/NA
Cyclohexane	130		25	5.0	ug/L	5		8260C	Total/NA
Xylenes, Total	200		30	7.0	ug/L	5		8260C	Total/NA
Acetone	43	J	100	3.5	ug/L	5		8260C	Total/NA
2-Butanone	8.4	J	50	1.5	ug/L	5		8260C	Total/NA
Isopropylbenzene	17	J	25	1.0	ug/L	5		8260C	Total/NA
Benzene - DL	1500		50	10	ug/L	50		8260C	Total/NA
Benzo[a]anthracene	0.95	*	0.53	0.11	ug/L	1		8270D	Total/NA
Benzo[a]pyrene	0.62	*	0.53	0.11	ug/L	1		8270D	Total/NA
Benzo[b]fluoranthene	0.53	*	0.53	0.11	ug/L	1		8270D	Total/NA
Benzo[g,h,i]perylene	0.53	*	0.53	0.11	ug/L	1		8270D	Total/NA
Anthracene	0.50	J *	0.53	0.11	ug/L	1		8270D	Total/NA
Carbazole	7.1		2.1	0.53	ug/L	1		8270D	Total/NA
Chrysene	1.1		0.53	0.11	ug/L	1		8270D	Total/NA
Fluoranthene	0.47	J	0.53	0.11	ug/L	1		8270D	Total/NA
Fluorene	1.3		0.53	0.11	ug/L	1		8270D	Total/NA
Naphthalene	41		0.53	0.11	ug/L	1		8270D	Total/NA
Phenanthrene	9.7	*	0.53	0.11	ug/L	1		8270D	Total/NA
Phenol	2.4		2.1	0.53	ug/L	1		8270D	Total/NA
Pyrene	1.6	*	0.53	0.11	ug/L	1		8270D	Total/NA
2-Methylnaphthalene	17		0.53	0.11	ug/L	1		8270D	Total/NA
CO2	30000		12000	2600	ug/L	1		RSK-175	Total/NA
Methane (1C)	2800		100	60	ug/L	20		RSK-175	Total/NA
Sulfate	2.4	J	5.0	1.5	mg/L	5		EPA 300.0 R2.1	Total/NA
Calcium	64.7		0.200	0.0960	mg/L	1		6010C	Total/NA
Iron	35.0		0.200	0.0400	mg/L	1		6010C	Total/NA
Magnesium	35.6		0.100	0.0400	mg/L	1		6010C	Total/NA
Potassium	5.05		0.500	0.204	mg/L	1		6010C	Total/NA
Sodium	27.3		1.00	0.239	mg/L	1		6010C	Total/NA
Calcium	65.8		0.206	0.0989	mg/L	1		6010C	Dissolved
Iron	1.66		0.206	0.0412	mg/L	1		6010C	Dissolved
Magnesium	35.0	B	0.103	0.0412	mg/L	1		6010C	Dissolved
Potassium	0.525		0.515	0.210	mg/L	1		6010C	Dissolved
Sodium	26.8		1.03	0.246	mg/L	1		6010C	Dissolved
Aluminum	18000		125	98.5	ug/L	5		6020A	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: WPA-GW-02 (Continued)
Lab Sample ID: 410-10696-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.45		2.00	0.680	ug/L	1		6020A	Total/NA
Barium	578		2.00	0.746	ug/L	1		6020A	Total/NA
Beryllium	1.02		0.500	0.119	ug/L	1		6020A	Total/NA
Chromium	41.8	B	2.00	0.334	ug/L	1		6020A	Total/NA
Cobalt	21.8		0.500	0.156	ug/L	1		6020A	Total/NA
Copper	33.0		1.00	0.362	ug/L	1		6020A	Total/NA
Lead	38.5		0.500	0.0710	ug/L	1		6020A	Total/NA
Manganese	6340		2.00	0.634	ug/L	1		6020A	Total/NA
Nickel	30.6		1.00	0.604	ug/L	1		6020A	Total/NA
Selenium	0.726	J	1.00	0.278	ug/L	1		6020A	Total/NA
Thallium	0.228	J	0.500	0.130	ug/L	1		6020A	Total/NA
Vanadium	43.2		0.500	0.236	ug/L	1		6020A	Total/NA
Zinc	225		10.0	6.18	ug/L	1		6020A	Total/NA
Arsenic	2.76		2.06	0.700	ug/L	1		6020A	Dissolved
Barium	371		2.06	0.768	ug/L	1		6020A	Dissolved
Chromium	3.29		2.06	0.344	ug/L	1		6020A	Dissolved
Cobalt	7.52		0.515	0.161	ug/L	1		6020A	Dissolved
Copper	0.511	J	1.03	0.373	ug/L	1		6020A	Dissolved
Lead	0.215	J	0.515	0.0731	ug/L	1		6020A	Dissolved
Manganese	5630		2.06	0.653	ug/L	1		6020A	Dissolved
Nickel	9.18		1.03	0.622	ug/L	1		6020A	Dissolved
Selenium	0.732	J	1.03	0.286	ug/L	1		6020A	Dissolved
Zinc	16.4		10.3	6.36	ug/L	1		6020A	Dissolved
Mercury	0.0957	J	0.200	0.0790	ug/L	1		7470A	Total/NA
Mercury	0.0800	J	0.200	0.0790	ug/L	1		7470A	Dissolved
Ferrous Iron	11.5	HF	0.500	0.150	mg/L	10		3500 Fe B-2011	Total/NA
Oxygen, Dissolved	7.42	HF	0.400	0.400	mg/L	1		4500 O G-2011	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-01
Date Collected: 08/11/20 15:45
Date Received: 08/14/20 11:09

Lab Sample ID: 410-10696-1
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			08/19/20 17:52	1
trans-1,3-Dichloropropene	ND		1.0	0.20	ug/L			08/19/20 17:52	1
Ethylbenzene	**0.79**	**J**	1.0	0.40	ug/L			08/19/20 17:52	1
Styrene	ND		5.0	0.20	ug/L			08/19/20 17:52	1
1,4-Dichlorobenzene	ND		5.0	0.20	ug/L			08/19/20 17:52	1
1,2-Dibromoethane	ND		1.0	0.20	ug/L			08/19/20 17:52	1
1,2-Dichloroethane	ND		1.0	0.30	ug/L			08/19/20 17:52	1
4-Methyl-2-pentanone	ND		10	0.50	ug/L			08/19/20 17:52	1
Methylcyclohexane	**160**		5.0	0.50	ug/L			08/19/20 17:52	1
Toluene	**0.34**	**J**	1.0	0.20	ug/L			08/19/20 17:52	1
Chlorobenzene	ND		1.0	0.20	ug/L			08/19/20 17:52	1
Cyclohexane	**150**		5.0	1.0	ug/L			08/19/20 17:52	1
1,2,4-Trichlorobenzene	ND		5.0	0.30	ug/L			08/19/20 17:52	1
Dibromochloromethane	ND		1.0	0.20	ug/L			08/19/20 17:52	1
Xylenes, Total	ND		6.0	1.4	ug/L			08/19/20 17:52	1
Tetrachloroethene	ND		1.0	0.20	ug/L			08/19/20 17:52	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			08/19/20 17:52	1
trans-1,2-Dichloroethene	ND		5.0	0.20	ug/L			08/19/20 17:52	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/19/20 17:52	1
1,3-Dichlorobenzene	ND		5.0	0.20	ug/L			08/19/20 17:52	1
Carbon tetrachloride	ND		1.0	0.20	ug/L			08/19/20 17:52	1
2-Hexanone	ND		10	0.30	ug/L			08/19/20 17:52	1
Acetone	**2.1**	**J**	20	0.70	ug/L			08/19/20 17:52	1
Chloroform	ND		1.0	0.20	ug/L			08/19/20 17:52	1
Benzene	ND		1.0	0.20	ug/L			08/19/20 17:52	1
1,1,1-Trichloroethane	ND		1.0	0.30	ug/L			08/19/20 17:52	1
Bromomethane	ND	*	1.0	0.30	ug/L			08/19/20 17:52	1
Chloromethane	ND		1.0	0.20	ug/L			08/19/20 17:52	1
Chloroethane	ND		1.0	0.20	ug/L			08/19/20 17:52	1
Vinyl chloride	ND		1.0	0.20	ug/L			08/19/20 17:52	1
Methylene Chloride	ND		1.0	0.30	ug/L			08/19/20 17:52	1
Carbon disulfide	ND		5.0	0.20	ug/L			08/19/20 17:52	1
Bromoform	ND		4.0	1.0	ug/L			08/19/20 17:52	1
Bromodichloromethane	ND		1.0	0.20	ug/L			08/19/20 17:52	1
1,1-Dichloroethane	ND		1.0	0.20	ug/L			08/19/20 17:52	1
1,1-Dichloroethene	ND		1.0	0.20	ug/L			08/19/20 17:52	1
Trichlorofluoromethane	ND		1.0	0.20	ug/L			08/19/20 17:52	1
Dichlorodifluoromethane	ND		1.0	0.20	ug/L			08/19/20 17:52	1
Freon 113	ND		10	0.20	ug/L			08/19/20 17:52	1
1,2-Dichloropropane	ND		1.0	0.20	ug/L			08/19/20 17:52	1
2-Butanone	ND		10	0.30	ug/L			08/19/20 17:52	1
1,1,2-Trichloroethane	ND		1.0	0.20	ug/L			08/19/20 17:52	1
Trichloroethene	ND		1.0	0.20	ug/L			08/19/20 17:52	1
Methyl acetate	ND		5.0	0.30	ug/L			08/19/20 17:52	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.20	ug/L			08/19/20 17:52	1
1,2-Dichlorobenzene	ND		5.0	0.20	ug/L			08/19/20 17:52	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.30	ug/L			08/19/20 17:52	1
Isopropylbenzene	**70**		5.0	0.20	ug/L			08/19/20 17:52	1

Client Sample ID: MW-01
Date Collected: 08/11/20 15:45
Date Received: 08/14/20 11:09

Lab Sample ID: 410-10696-1
Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*		*08/19/20 17:52*	*1*
Dibromofluoromethane (Surr)	*93*		*80 - 120*		*08/19/20 17:52*	*1*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*08/19/20 17:52*	*1*
Toluene-d8 (Surr)	*104*		*80 - 120*		*08/19/20 17:52*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	ND	*	10	3.0	ug/L		08/17/20 08:45	08/18/20 15:46	1
2,4-Dichlorophenol	ND	*	2.0	0.50	ug/L		08/17/20 08:45	08/18/20 15:46	1
2,4-Dimethylphenol	ND	*	10	3.0	ug/L		08/17/20 08:45	08/18/20 15:46	1
2,4-Dinitrophenol	ND		30	14	ug/L		08/17/20 08:45	08/18/20 15:46	1
2,4-Dinitrotoluene	ND	*	5.0	1.0	ug/L		08/17/20 08:45	08/18/20 15:46	1
2,4,5-Trichlorophenol	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 15:46	1
2,4,6-Trichlorophenol	ND	*	2.0	0.50	ug/L		08/17/20 08:45	08/18/20 15:46	1
2,2'-oxybis[1-chloropropane]	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 15:46	1
Di-n-butyl phthalate	ND		5.0	2.0	ug/L		08/17/20 08:45	08/18/20 15:46	1
Di-n-octyl phthalate	ND		11	5.0	ug/L		08/17/20 08:45	08/18/20 15:46	1
Benzo[a]anthracene	ND	*	0.50	0.10	ug/L		08/17/20 08:45	08/18/20 15:46	1
Benzo[a]pyrene	ND	*	0.50	0.10	ug/L		08/17/20 08:45	08/18/20 15:46	1
Benzo[b]fluoranthene	ND	*	0.50	0.10	ug/L		08/17/20 08:45	08/18/20 15:46	1
Benzo[g,h,i]perylene	ND	*	0.50	0.10	ug/L		08/17/20 08:45	08/18/20 15:46	1
Benzo[k]fluoranthene	ND	*	0.50	0.10	ug/L		08/17/20 08:45	08/18/20 15:46	1
Acenaphthene	ND		0.50	0.10	ug/L		08/17/20 08:45	08/18/20 15:46	1
Acenaphthylene	ND		0.50	0.10	ug/L		08/17/20 08:45	08/18/20 15:46	1
Acetophenone	ND	*	10	4.0	ug/L		08/17/20 08:45	08/18/20 15:46	1
Anthracene	ND	*	0.50	0.10	ug/L		08/17/20 08:45	08/18/20 15:46	1
Atrazine	ND		5.0	2.0	ug/L		08/17/20 08:45	08/18/20 15:46	1
Benzaldehyde	ND	*	10	3.0	ug/L		08/17/20 08:45	08/18/20 15:46	1
Butylbenzylphthalate	ND		5.0	2.0	ug/L		08/17/20 08:45	08/18/20 15:46	1
Caprolactam	ND		11	5.0	ug/L		08/17/20 08:45	08/18/20 15:46	1
Carbazole	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 15:46	1
Chrysene	ND		0.50	0.10	ug/L		08/17/20 08:45	08/18/20 15:46	1
Dibenz(a,h)anthracene	ND	*	0.50	0.10	ug/L		08/17/20 08:45	08/18/20 15:46	1
Dibenzofuran	ND	*	2.0	0.50	ug/L		08/17/20 08:45	08/18/20 15:46	1
Diethyl phthalate	ND		5.0	2.0	ug/L		08/17/20 08:45	08/18/20 15:46	1
Dimethyl phthalate	ND		5.0	2.0	ug/L		08/17/20 08:45	08/18/20 15:46	1
Hexachlorobenzene	ND	*	0.50	0.10	ug/L		08/17/20 08:45	08/18/20 15:46	1
Hexachlorobutadiene	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 15:46	1
Hexachlorocyclopentadiene	ND		11	5.0	ug/L		08/17/20 08:45	08/18/20 15:46	1
Hexachloroethane	ND		5.0	1.0	ug/L		08/17/20 08:45	08/18/20 15:46	1
Fluoranthene	ND		0.50	0.10	ug/L		08/17/20 08:45	08/18/20 15:46	1
Fluorene	**0.42**	**J**	0.50	0.10	ug/L		08/17/20 08:45	08/18/20 15:46	1
Indeno[1,2,3-cd]pyrene	ND	*	0.50	0.10	ug/L		08/17/20 08:45	08/18/20 15:46	1
Isophorone	ND	*	2.0	0.50	ug/L		08/17/20 08:45	08/18/20 15:46	1
N-Nitrosodi-n-propylamine	ND		3.0	0.71	ug/L		08/17/20 08:45	08/18/20 15:46	1
N-Nitrosodiphenylamine	ND		3.0	0.71	ug/L		08/17/20 08:45	08/18/20 15:46	1
Naphthalene	**39**		0.50	0.10	ug/L		08/17/20 08:45	08/18/20 15:46	1
Nitrobenzene	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 15:46	1
Pentachlorophenol	ND		5.0	1.0	ug/L		08/17/20 08:45	08/18/20 15:46	1
Phenanthrene	ND	*	0.50	0.10	ug/L		08/17/20 08:45	08/18/20 15:46	1

Client Sample ID: MW-01
Date Collected: 08/11/20 15:45
Date Received: 08/14/20 11:09

Lab Sample ID: 410-10696-1
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Phenol	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 15:46	1
Pyrene	ND	*	0.50	0.10	ug/L		08/17/20 08:45	08/18/20 15:46	1
2-Chloronaphthalene	ND		1.0	0.40	ug/L		08/17/20 08:45	08/18/20 15:46	1
2-Chlorophenol	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 15:46	1
2-Methylnaphthalene	**23**		0.50	0.10	ug/L		08/17/20 08:45	08/18/20 15:46	1
2-Methylphenol	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 15:46	1
2-Nitroaniline	ND	*	5.0	2.0	ug/L		08/17/20 08:45	08/18/20 15:46	1
2-Nitrophenol	ND		10	3.0	ug/L		08/17/20 08:45	08/18/20 15:46	1
3,3'-Dichlorobenzidine	ND		10	3.0	ug/L		08/17/20 08:45	08/18/20 15:46	1
3-Nitroaniline	ND		7.1	3.0	ug/L		08/17/20 08:45	08/18/20 15:46	1
4,6-Dinitro-2-methylphenol	ND		21	8.1	ug/L		08/17/20 08:45	08/18/20 15:46	1
4-Bromophenyl-phenylether	ND	*	2.0	0.50	ug/L		08/17/20 08:45	08/18/20 15:46	1
4-Methylphenol	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 15:46	1
4-Nitroaniline	ND		3.0	0.91	ug/L		08/17/20 08:45	08/18/20 15:46	1
4-Nitrophenol	ND		30	10	ug/L		08/17/20 08:45	08/18/20 15:46	1
Bis(2-chloroethoxy)methane	ND	*	2.0	0.50	ug/L		08/17/20 08:45	08/18/20 15:46	1
Bis(2-chloroethyl)ether	ND	*	2.0	0.50	ug/L		08/17/20 08:45	08/18/20 15:46	1
Bis(2-ethylhexyl) phthalate	ND		11	5.0	ug/L		08/17/20 08:45	08/18/20 15:46	1
2,6-Dinitrotoluene	ND	*	2.0	0.50	ug/L		08/17/20 08:45	08/18/20 15:46	1
4-Chloro-3-methylphenol	ND		3.5	1.6	ug/L		08/17/20 08:45	08/18/20 15:46	1
4-Chloroaniline	ND		10	4.0	ug/L		08/17/20 08:45	08/18/20 15:46	1
4-Chlorophenyl-phenyl ether	ND	*	2.0	0.50	ug/L		08/17/20 08:45	08/18/20 15:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*60*		*18 - 141*	*08/17/20 08:45*	*08/18/20 15:46*	*1*
2-Fluorobiphenyl (Surr)	*40*	*X*	*44 - 102*	*08/17/20 08:45*	*08/18/20 15:46*	*1*
2-Fluorophenol (Surr)	*30*		*10 - 84*	*08/17/20 08:45*	*08/18/20 15:46*	*1*
Nitrobenzene-d5 (Surr)	*40*		*38 - 113*	*08/17/20 08:45*	*08/18/20 15:46*	*1*
p-Terphenyl-d14 (Surr)	*29*	*X*	*34 - 128*	*08/17/20 08:45*	*08/18/20 15:46*	*1*
Phenol-d5 (Surr)	*25*		*10 - 67*	*08/17/20 08:45*	*08/18/20 15:46*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
CO2	**130000**		12000	2600	ug/L		08/17/20 09:26	08/17/20 12:13	1
Methane (1C)	**12000**		250	150	ug/L		08/17/20 08:59	08/17/20 15:25	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Propene (1C)	*88*		*28 - 140*	*08/17/20 08:59*	*08/17/20 15:25*	*50*

Method: EPA 300.0 R2.1 - Anions, Ion Chromatgraphy

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H H3	0.50	0.25	mg/L			08/16/20 15:05	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0	1.5	mg/L			08/16/20 15:05	5

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**30.5**		0.200	0.0960	mg/L		08/26/20 02:21	08/31/20 18:07	1
Iron	**48.8**		0.200	0.0400	mg/L		08/26/20 02:21	08/31/20 18:07	1

Client Sample ID: MW-01
Date Collected: 08/11/20 15:45
Date Received: 08/14/20 11:09

Lab Sample ID: 410-10696-1
Matrix: Water

Method: 6010C - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	**14.1**		0.100	0.0400	mg/L		08/26/20 02:21	08/31/20 18:07	1
Potassium	**1.69**		0.500	0.204	mg/L		08/26/20 02:21	08/31/20 18:07	1
Sodium	**5.30**		1.00	0.239	mg/L		08/26/20 02:21	08/31/20 18:07	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**33.5**		0.206	0.0989	mg/L		09/09/20 14:56	09/10/20 12:38	1
Iron	**54.7**		0.206	0.0412	mg/L		09/09/20 14:56	09/10/20 10:34	1
Magnesium	**15.0**	**B**	0.103	0.0412	mg/L		09/09/20 14:56	09/10/20 10:34	1
Potassium	**1.44**		0.515	0.210	mg/L		09/09/20 14:56	09/10/20 15:34	1
Sodium	**6.50**		1.03	0.246	mg/L		09/09/20 14:56	09/10/20 10:34	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**147**		25.0	19.7	ug/L		08/15/20 11:16	08/26/20 19:31	1
Antimony	ND		1.00	0.406	ug/L		08/15/20 11:16	08/18/20 15:51	1
Arsenic	**35.3**		2.00	0.680	ug/L		08/15/20 11:16	08/18/20 15:51	1
Barium	**360**		2.00	0.746	ug/L		08/15/20 11:16	08/18/20 15:51	1
Beryllium	ND		0.500	0.119	ug/L		08/15/20 11:16	08/18/20 15:51	1
Cadmium	ND		0.500	0.151	ug/L		08/15/20 11:16	08/18/20 15:51	1
Chromium	**3.42**	**B**	2.00	0.334	ug/L		08/15/20 11:16	08/18/20 15:51	1
Cobalt	**9.87**		0.500	0.156	ug/L		08/15/20 11:16	08/18/20 15:51	1
Copper	**0.378**	**J**	1.00	0.362	ug/L		08/15/20 11:16	08/18/20 15:51	1
Lead	**0.122**	**J**	0.500	0.0710	ug/L		08/15/20 11:16	08/18/20 15:51	1
Manganese	**794**		2.00	0.634	ug/L		08/15/20 11:16	08/18/20 15:51	1
Nickel	**2.59**		1.00	0.604	ug/L		08/15/20 11:16	08/18/20 15:51	1
Selenium	ND		1.00	0.278	ug/L		08/15/20 11:16	08/18/20 15:51	1
Silver	ND		0.500	0.170	ug/L		08/15/20 11:16	08/18/20 15:51	1
Thallium	ND		0.500	0.130	ug/L		08/15/20 11:16	08/18/20 15:51	1
Vanadium	**0.409**	**J**	0.500	0.236	ug/L		08/15/20 11:16	08/18/20 15:51	1
Zinc	ND		10.0	6.18	ug/L		08/15/20 11:16	08/18/20 15:51	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		25.8	20.3	ug/L		08/17/20 06:24	08/19/20 21:26	1
Antimony	ND		1.03	0.418	ug/L		08/17/20 06:24	08/19/20 21:26	1
Arsenic	**36.4**		2.06	0.700	ug/L		08/17/20 06:24	08/19/20 21:26	1
Barium	**357**		2.06	0.768	ug/L		08/17/20 06:24	08/19/20 21:26	1
Beryllium	ND		0.515	0.123	ug/L		08/17/20 06:24	08/26/20 16:28	1
Cadmium	ND		0.515	0.156	ug/L		08/17/20 06:24	08/19/20 21:26	1
Chromium	**2.98**		2.06	0.344	ug/L		08/17/20 06:24	08/19/20 21:26	1
Cobalt	**10.7**		0.515	0.161	ug/L		08/17/20 06:24	08/19/20 21:26	1
Copper	ND		1.03	0.373	ug/L		08/17/20 06:24	08/19/20 21:26	1
Lead	ND		0.515	0.0731	ug/L		08/17/20 06:24	08/19/20 21:26	1
Manganese	**849**		2.06	0.653	ug/L		08/17/20 06:24	08/26/20 16:28	1
Nickel	**2.71**		1.03	0.622	ug/L		08/17/20 06:24	08/19/20 21:26	1
Selenium	**0.298**	**J**	1.03	0.286	ug/L		08/17/20 06:24	08/19/20 21:26	1
Silver	ND		0.515	0.175	ug/L		08/17/20 06:24	08/26/20 16:28	1
Thallium	ND		0.515	0.134	ug/L		08/17/20 06:24	08/19/20 21:26	1
Vanadium	ND		0.515	0.243	ug/L		08/17/20 06:24	08/26/20 16:28	1

Client Sample ID: MW-01
Lab Sample ID: 410-10696-1
Date Collected: 08/11/20 15:45
Matrix: Water
Date Received: 08/14/20 11:09

Method: 6020A - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	ND		10.3	6.36	ug/L		08/17/20 06:24	08/19/20 21:26	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.0790	ug/L		08/15/20 11:44	08/17/20 10:39	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.0790	ug/L		08/15/20 11:36	08/18/20 10:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ferrous Iron	**52.7**	**HF**	2.50	0.750	mg/L			08/17/20 13:49	50
Oxygen, Dissolved	ND	HF	0.400	0.400	mg/L			08/15/20 16:46	1

Client Sample ID: MW-03
Lab Sample ID: 410-10696-2
Date Collected: 08/12/20 09:40
Matrix: Water
Date Received: 08/14/20 11:09

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			08/19/20 13:05	1
trans-1,3-Dichloropropene	ND		1.0	0.20	ug/L			08/19/20 13:05	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/19/20 13:05	1
Styrene	ND		5.0	0.20	ug/L			08/19/20 13:05	1
1,4-Dichlorobenzene	ND		5.0	0.20	ug/L			08/19/20 13:05	1
1,2-Dibromoethane	ND		1.0	0.20	ug/L			08/19/20 13:05	1
1,2-Dichloroethane	ND		1.0	0.30	ug/L			08/19/20 13:05	1
4-Methyl-2-pentanone	ND		10	0.50	ug/L			08/19/20 13:05	1
Methylcyclohexane	**0.54**	**J**	5.0	0.50	ug/L			08/19/20 13:05	1
Toluene	ND		1.0	0.20	ug/L			08/19/20 13:05	1
Chlorobenzene	ND		1.0	0.20	ug/L			08/19/20 13:05	1
Cyclohexane	ND		5.0	1.0	ug/L			08/19/20 13:05	1
1,2,4-Trichlorobenzene	ND		5.0	0.30	ug/L			08/19/20 13:05	1
Dibromochloromethane	ND		1.0	0.20	ug/L			08/19/20 13:05	1
Xylenes, Total	ND		6.0	1.4	ug/L			08/19/20 13:05	1
Tetrachloroethene	ND		1.0	0.20	ug/L			08/19/20 13:05	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			08/19/20 13:05	1
trans-1,2-Dichloroethene	ND		5.0	0.20	ug/L			08/19/20 13:05	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/19/20 13:05	1
1,3-Dichlorobenzene	ND		5.0	0.20	ug/L			08/19/20 13:05	1
Carbon tetrachloride	ND		1.0	0.20	ug/L			08/19/20 13:05	1
2-Hexanone	ND		10	0.30	ug/L			08/19/20 13:05	1
Acetone	**1.1**	**J**	20	0.70	ug/L			08/19/20 13:05	1
Chloroform	ND		1.0	0.20	ug/L			08/19/20 13:05	1
Benzene	ND		1.0	0.20	ug/L			08/19/20 13:05	1
1,1,1-Trichloroethane	ND		1.0	0.30	ug/L			08/19/20 13:05	1
Bromomethane	ND	* F1	1.0	0.30	ug/L			08/19/20 13:05	1
Chloromethane	ND		1.0	0.20	ug/L			08/19/20 13:05	1
Chloroethane	ND	F1	1.0	0.20	ug/L			08/19/20 13:05	1
Vinyl chloride	ND		1.0	0.20	ug/L			08/19/20 13:05	1

Client Sample ID: MW-03
Lab Sample ID: 410-10696-2

Date Collected: 08/12/20 09:40
Matrix: Water
Date Received: 08/14/20 11:09

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		1.0	0.30	ug/L			08/19/20 13:05	1
Carbon disulfide	ND		5.0	0.20	ug/L			08/19/20 13:05	1
Bromoform	ND		4.0	1.0	ug/L			08/19/20 13:05	1
Bromodichloromethane	ND		1.0	0.20	ug/L			08/19/20 13:05	1
1,1-Dichloroethane	ND		1.0	0.20	ug/L			08/19/20 13:05	1
1,1-Dichloroethene	ND		1.0	0.20	ug/L			08/19/20 13:05	1
Trichlorofluoromethane	ND	F1	1.0	0.20	ug/L			08/19/20 13:05	1
Dichlorodifluoromethane	ND		1.0	0.20	ug/L			08/19/20 13:05	1
Freon 113	ND		10	0.20	ug/L			08/19/20 13:05	1
1,2-Dichloropropane	ND		1.0	0.20	ug/L			08/19/20 13:05	1
2-Butanone	ND		10	0.30	ug/L			08/19/20 13:05	1
1,1,2-Trichloroethane	ND		1.0	0.20	ug/L			08/19/20 13:05	1
Trichloroethene	ND		1.0	0.20	ug/L			08/19/20 13:05	1
Methyl acetate	ND		5.0	0.30	ug/L			08/19/20 13:05	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.20	ug/L			08/19/20 13:05	1
1,2-Dichlorobenzene	ND		5.0	0.20	ug/L			08/19/20 13:05	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.30	ug/L			08/19/20 13:05	1
Isopropylbenzene	ND		5.0	0.20	ug/L			08/19/20 13:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*08/19/20 13:05*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*08/19/20 13:05*	*1*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*08/19/20 13:05*	*1*
Toluene-d8 (Surr)	*99*		*80 - 120*		*08/19/20 13:05*	*1*

Client Sample ID: MW-04
Lab Sample ID: 410-10696-3

Date Collected: 08/11/20 13:40
Matrix: Water
Date Received: 08/14/20 11:09

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		5.0	1.0	ug/L			08/21/20 18:19	5
trans-1,3-Dichloropropene	ND		5.0	1.0	ug/L			08/21/20 18:19	5
Ethylbenzene	**1300**		5.0	2.0	ug/L			08/21/20 18:19	5
Styrene	ND		25	1.0	ug/L			08/21/20 18:19	5
1,4-Dichlorobenzene	ND		25	1.0	ug/L			08/21/20 18:19	5
1,2-Dibromoethane	ND		5.0	1.0	ug/L			08/21/20 18:19	5
1,2-Dichloroethane	ND		5.0	1.5	ug/L			08/21/20 18:19	5
4-Methyl-2-pentanone	ND		50	2.5	ug/L			08/21/20 18:19	5
Methylcyclohexane	**190**		25	2.5	ug/L			08/21/20 18:19	5
Toluene	**1200**		5.0	1.0	ug/L			08/21/20 18:19	5
Chlorobenzene	ND		5.0	1.0	ug/L			08/21/20 18:19	5
Cyclohexane	**430**		25	5.0	ug/L			08/21/20 18:19	5
1,2,4-Trichlorobenzene	ND		25	1.5	ug/L			08/21/20 18:19	5
Dibromochloromethane	ND		5.0	1.0	ug/L			08/21/20 18:19	5
Xylenes, Total	**2600**		30	7.0	ug/L			08/21/20 18:19	5
Tetrachloroethene	ND		5.0	1.0	ug/L			08/21/20 18:19	5
cis-1,2-Dichloroethene	ND		5.0	1.0	ug/L			08/21/20 18:19	5
trans-1,2-Dichloroethene	ND		25	1.0	ug/L			08/21/20 18:19	5
Methyl tertiary butyl ether	ND		5.0	1.0	ug/L			08/21/20 18:19	5

Client Sample ID: MW-04
Date Collected: 08/11/20 13:40
Date Received: 08/14/20 11:09

Lab Sample ID: 410-10696-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		25	1.0	ug/L			08/21/20 18:19	5
Carbon tetrachloride	ND		5.0	1.0	ug/L			08/21/20 18:19	5
2-Hexanone	ND		50	1.5	ug/L			08/21/20 18:19	5
Acetone	**34**	**J**	100	3.5	ug/L			08/21/20 18:19	5
Chloroform	ND		5.0	1.0	ug/L			08/21/20 18:19	5
1,1,1-Trichloroethane	ND		5.0	1.5	ug/L			08/21/20 18:19	5
Bromomethane	ND	*	5.0	1.5	ug/L			08/21/20 18:19	5
Chloromethane	ND		5.0	1.0	ug/L			08/21/20 18:19	5
Chloroethane	ND		5.0	1.0	ug/L			08/21/20 18:19	5
Vinyl chloride	ND		5.0	1.0	ug/L			08/21/20 18:19	5
Methylene Chloride	ND		5.0	1.5	ug/L			08/21/20 18:19	5
Carbon disulfide	ND		25	1.0	ug/L			08/21/20 18:19	5
Bromoform	ND		20	5.0	ug/L			08/21/20 18:19	5
Bromodichloromethane	**2.9**	**J**	5.0	1.0	ug/L			08/21/20 18:19	5
1,1-Dichloroethane	ND		5.0	1.0	ug/L			08/21/20 18:19	5
1,1-Dichloroethene	ND		5.0	1.0	ug/L			08/21/20 18:19	5
Trichlorofluoromethane	ND		5.0	1.0	ug/L			08/21/20 18:19	5
Dichlorodifluoromethane	ND		5.0	1.0	ug/L			08/21/20 18:19	5
Freon 113	ND		50	1.0	ug/L			08/21/20 18:19	5
1,2-Dichloropropane	ND		5.0	1.0	ug/L			08/21/20 18:19	5
2-Butanone	ND		50	1.5	ug/L			08/21/20 18:19	5
1,1,2-Trichloroethane	ND		5.0	1.0	ug/L			08/21/20 18:19	5
Trichloroethene	ND		5.0	1.0	ug/L			08/21/20 18:19	5
Methyl acetate	ND		25	1.5	ug/L			08/21/20 18:19	5
1,1,2,2-Tetrachloroethane	ND		5.0	1.0	ug/L			08/21/20 18:19	5
1,2-Dichlorobenzene	ND		25	1.0	ug/L			08/21/20 18:19	5
1,2-Dibromo-3-Chloropropane	**3.4**	**J**	25	1.5	ug/L			08/21/20 18:19	5
Isopropylbenzene	**46**		25	1.0	ug/L			08/21/20 18:19	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*08/21/20 18:19*	*5*
Dibromofluoromethane (Surr)	*95*		*80 - 120*		*08/21/20 18:19*	*5*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*		*08/21/20 18:19*	*5*
Toluene-d8 (Surr)	*102*		*80 - 120*		*08/21/20 18:19*	*5*

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**2800**		10	2.0	ug/L			08/19/20 19:19	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*08/19/20 19:19*	*10*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*08/19/20 19:19*	*10*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*		*08/19/20 19:19*	*10*
Toluene-d8 (Surr)	*101*		*80 - 120*		*08/19/20 19:19*	*10*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	ND	*	10	3.0	ug/L		08/17/20 08:45	08/18/20 16:14	1
2,4-Dichlorophenol	ND	*	2.0	0.51	ug/L		08/17/20 08:45	08/18/20 16:14	1
2,4-Dimethylphenol	**6.6**	**J ***	10	3.0	ug/L		08/17/20 08:45	08/18/20 16:14	1

Client Sample ID: MW-04
Date Collected: 08/11/20 13:40
Date Received: 08/14/20 11:09

Lab Sample ID: 410-10696-3
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dinitrophenol	ND		30	14	ug/L		08/17/20 08:45	08/18/20 16:14	1
2,4-Dinitrotoluene	ND	*	5.1	1.0	ug/L		08/17/20 08:45	08/18/20 16:14	1
2,4,5-Trichlorophenol	ND		2.0	0.51	ug/L		08/17/20 08:45	08/18/20 16:14	1
2,4,6-Trichlorophenol	ND	*	2.0	0.51	ug/L		08/17/20 08:45	08/18/20 16:14	1
2,2'-oxybis[1-chloropropane]	ND		2.0	0.51	ug/L		08/17/20 08:45	08/18/20 16:14	1
Di-n-butyl phthalate	ND		5.1	2.0	ug/L		08/17/20 08:45	08/18/20 16:14	1
Di-n-octyl phthalate	ND		11	5.1	ug/L		08/17/20 08:45	08/18/20 16:14	1
Benzo[a]anthracene	**0.68**	*	0.51	0.10	ug/L		08/17/20 08:45	08/18/20 16:14	1
Benzo[a]pyrene	**0.47**	J *	0.51	0.10	ug/L		08/17/20 08:45	08/18/20 16:14	1
Benzo[b]fluoranthene	ND	*	0.51	0.10	ug/L		08/17/20 08:45	08/18/20 16:14	1
Benzo[g,h,i]perylene	ND	*	0.51	0.10	ug/L		08/17/20 08:45	08/18/20 16:14	1
Benzo[k]fluoranthene	ND	*	0.51	0.10	ug/L		08/17/20 08:45	08/18/20 16:14	1
Acenaphthene	ND		0.51	0.10	ug/L		08/17/20 08:45	08/18/20 16:14	1
Acenaphthylene	ND		0.51	0.10	ug/L		08/17/20 08:45	08/18/20 16:14	1
Acetophenone	ND	*	10	4.0	ug/L		08/17/20 08:45	08/18/20 16:14	1
Anthracene	ND	*	0.51	0.10	ug/L		08/17/20 08:45	08/18/20 16:14	1
Atrazine	ND		5.1	2.0	ug/L		08/17/20 08:45	08/18/20 16:14	1
Benzaldehyde	ND	*	10	3.0	ug/L		08/17/20 08:45	08/18/20 16:14	1
Butylbenzylphthalate	ND		5.1	2.0	ug/L		08/17/20 08:45	08/18/20 16:14	1
Caprolactam	ND		11	5.1	ug/L		08/17/20 08:45	08/18/20 16:14	1
Carbazole	**1.6**	J	2.0	0.51	ug/L		08/17/20 08:45	08/18/20 16:14	1
Chrysene	**0.46**	J	0.51	0.10	ug/L		08/17/20 08:45	08/18/20 16:14	1
Dibenz(a,h)anthracene	ND	*	0.51	0.10	ug/L		08/17/20 08:45	08/18/20 16:14	1
Dibenzofuran	ND	*	2.0	0.51	ug/L		08/17/20 08:45	08/18/20 16:14	1
Diethyl phthalate	ND		5.1	2.0	ug/L		08/17/20 08:45	08/18/20 16:14	1
Dimethyl phthalate	ND		5.1	2.0	ug/L		08/17/20 08:45	08/18/20 16:14	1
Hexachlorobenzene	ND	*	0.51	0.10	ug/L		08/17/20 08:45	08/18/20 16:14	1
Hexachlorobutadiene	ND		2.0	0.51	ug/L		08/17/20 08:45	08/18/20 16:14	1
Hexachlorocyclopentadiene	ND		11	5.1	ug/L		08/17/20 08:45	08/18/20 16:14	1
Hexachloroethane	ND		5.1	1.0	ug/L		08/17/20 08:45	08/18/20 16:14	1
Fluoranthene	**0.19**	J	0.51	0.10	ug/L		08/17/20 08:45	08/18/20 16:14	1
Fluorene	**1.1**		0.51	0.10	ug/L		08/17/20 08:45	08/18/20 16:14	1
Indeno[1,2,3-cd]pyrene	ND	*	0.51	0.10	ug/L		08/17/20 08:45	08/18/20 16:14	1
Isophorone	ND	*	2.0	0.51	ug/L		08/17/20 08:45	08/18/20 16:14	1
N-Nitrosodi-n-propylamine	ND		3.0	0.71	ug/L		08/17/20 08:45	08/18/20 16:14	1
N-Nitrosodiphenylamine	ND		3.0	0.71	ug/L		08/17/20 08:45	08/18/20 16:14	1
Nitrobenzene	ND		2.0	0.51	ug/L		08/17/20 08:45	08/18/20 16:14	1
Pentachlorophenol	ND		5.1	1.0	ug/L		08/17/20 08:45	08/18/20 16:14	1
Phenanthrene	**3.1**	*	0.51	0.10	ug/L		08/17/20 08:45	08/18/20 16:14	1
Phenol	ND		2.0	0.51	ug/L		08/17/20 08:45	08/18/20 16:14	1
Pyrene	**0.64**	*	0.51	0.10	ug/L		08/17/20 08:45	08/18/20 16:14	1
2-Chloronaphthalene	ND		1.0	0.40	ug/L		08/17/20 08:45	08/18/20 16:14	1
2-Chlorophenol	ND		2.0	0.51	ug/L		08/17/20 08:45	08/18/20 16:14	1
2-Methylnaphthalene	**41**		0.51	0.10	ug/L		08/17/20 08:45	08/18/20 16:14	1
2-Methylphenol	ND		2.0	0.51	ug/L		08/17/20 08:45	08/18/20 16:14	1
2-Nitroaniline	ND	*	5.1	2.0	ug/L		08/17/20 08:45	08/18/20 16:14	1
2-Nitrophenol	ND		10	3.0	ug/L		08/17/20 08:45	08/18/20 16:14	1
3,3'-Dichlorobenzidine	ND		10	3.0	ug/L		08/17/20 08:45	08/18/20 16:14	1
3-Nitroaniline	ND		7.1	3.0	ug/L		08/17/20 08:45	08/18/20 16:14	1

Client Sample ID: MW-04
Date Collected: 08/11/20 13:40
Date Received: 08/14/20 11:09

Lab Sample ID: 410-10696-3
Matrix: Water

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4,6-Dinitro-2-methylphenol	ND		21	8.1	ug/L		08/17/20 08:45	08/18/20 16:14	1
4-Bromophenyl-phenylether	ND	*	2.0	0.51	ug/L		08/17/20 08:45	08/18/20 16:14	1
4-Methylphenol	**1.1**	**J**	2.0	0.51	ug/L		08/17/20 08:45	08/18/20 16:14	1
4-Nitroaniline	ND		3.0	0.91	ug/L		08/17/20 08:45	08/18/20 16:14	1
4-Nitrophenol	ND		30	10	ug/L		08/17/20 08:45	08/18/20 16:14	1
Bis(2-chloroethoxy)methane	ND	*	2.0	0.51	ug/L		08/17/20 08:45	08/18/20 16:14	1
Bis(2-chloroethyl)ether	ND	*	2.0	0.51	ug/L		08/17/20 08:45	08/18/20 16:14	1
Bis(2-ethylhexyl) phthalate	ND		11	5.1	ug/L		08/17/20 08:45	08/18/20 16:14	1
2,6-Dinitrotoluene	ND	*	2.0	0.51	ug/L		08/17/20 08:45	08/18/20 16:14	1
4-Chloro-3-methylphenol	ND		3.5	1.6	ug/L		08/17/20 08:45	08/18/20 16:14	1
4-Chloroaniline	ND		10	4.0	ug/L		08/17/20 08:45	08/18/20 16:14	1
4-Chlorophenyl-phenyl ether	ND	*	2.0	0.51	ug/L		08/17/20 08:45	08/18/20 16:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*47*		*18 - 141*	*08/17/20 08:45*	*08/18/20 16:14*	*1*
2-Fluorobiphenyl (Surr)	*47*		*44 - 102*	*08/17/20 08:45*	*08/18/20 16:14*	*1*
2-Fluorophenol (Surr)	*22*		*10 - 84*	*08/17/20 08:45*	*08/18/20 16:14*	*1*
Nitrobenzene-d5 (Surr)	*54*		*38 - 113*	*08/17/20 08:45*	*08/18/20 16:14*	*1*
p-Terphenyl-d14 (Surr)	*46*		*34 - 128*	*08/17/20 08:45*	*08/18/20 16:14*	*1*
Phenol-d5 (Surr)	*21*		*10 - 67*	*08/17/20 08:45*	*08/18/20 16:14*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	**190**		1.0	0.20	ug/L		08/17/20 08:45	08/19/20 18:26	2

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*61*		*18 - 141*	*08/17/20 08:45*	*08/19/20 18:26*	*2*
2-Fluorobiphenyl (Surr)	*59*		*44 - 102*	*08/17/20 08:45*	*08/19/20 18:26*	*2*
2-Fluorophenol (Surr)	*26*		*10 - 84*	*08/17/20 08:45*	*08/19/20 18:26*	*2*
Nitrobenzene-d5 (Surr)	*66*		*38 - 113*	*08/17/20 08:45*	*08/19/20 18:26*	*2*
p-Terphenyl-d14 (Surr)	*57*		*34 - 128*	*08/17/20 08:45*	*08/19/20 18:26*	*2*
Phenol-d5 (Surr)	*26*		*10 - 67*	*08/17/20 08:45*	*08/19/20 18:26*	*2*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
CO2	**110000**		12000	2600	ug/L		08/17/20 09:26	08/17/20 12:23	1
Methane (1C)	**18000**		500	300	ug/L		08/17/20 08:59	08/17/20 15:43	100

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Propene (1C)	*89*		*28 - 140*	*08/17/20 08:59*	*08/17/20 15:43*	*100*

Method: EPA 300.0 R2.1 - Anions, Ion Chromatgraphy

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H H3	0.50	0.25	mg/L			08/16/20 14:31	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**1.5**	**J**	5.0	1.5	mg/L			08/16/20 14:31	5

Client Sample ID: MW-04
Date Collected: 08/11/20 13:40
Date Received: 08/14/20 11:09

Lab Sample ID: 410-10696-3
Matrix: Water

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**51.4**		0.200	0.0960	mg/L		08/26/20 02:21	08/31/20 18:00	1
Iron	**27.1**		0.200	0.0400	mg/L		08/26/20 02:21	08/31/20 18:00	1
Magnesium	**27.1**		0.100	0.0400	mg/L		08/26/20 02:21	08/31/20 18:00	1
Potassium	**0.846**		0.500	0.204	mg/L		08/26/20 02:21	08/31/20 18:00	1
Sodium	**55.9**		1.00	0.239	mg/L		08/26/20 02:21	08/31/20 18:00	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**56.2**		0.206	0.0989	mg/L		09/09/20 14:56	09/10/20 12:41	1
Iron	**27.6**		0.206	0.0412	mg/L		09/09/20 14:56	09/10/20 10:37	1
Magnesium	**28.3**	**B**	0.103	0.0412	mg/L		09/09/20 14:56	09/10/20 10:37	1
Potassium	ND		0.515	0.210	mg/L		09/09/20 14:56	09/10/20 15:37	1
Sodium	**58.7**		1.03	0.246	mg/L		09/09/20 14:56	09/10/20 10:37	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**1810**		25.0	19.7	ug/L		08/15/20 11:16	08/26/20 19:41	1
Antimony	ND		1.00	0.406	ug/L		08/15/20 11:16	08/18/20 15:54	1
Arsenic	**16.7**		2.00	0.680	ug/L		08/15/20 11:16	08/18/20 15:54	1
Barium	**212**		2.00	0.746	ug/L		08/15/20 11:16	08/18/20 15:54	1
Beryllium	**0.122**	**J**	0.500	0.119	ug/L		08/15/20 11:16	08/18/20 15:54	1
Cadmium	ND		0.500	0.151	ug/L		08/15/20 11:16	08/18/20 15:54	1
Chromium	**4.91**	**B**	2.00	0.334	ug/L		08/15/20 11:16	08/18/20 15:54	1
Cobalt	**5.63**		0.500	0.156	ug/L		08/15/20 11:16	08/18/20 15:54	1
Copper	**1.56**		1.00	0.362	ug/L		08/15/20 11:16	08/18/20 15:54	1
Lead	**3.42**		0.500	0.0710	ug/L		08/15/20 11:16	08/18/20 15:54	1
Manganese	**2870**		2.00	0.634	ug/L		08/15/20 11:16	08/18/20 15:54	1
Nickel	**4.03**		1.00	0.604	ug/L		08/15/20 11:16	08/18/20 15:54	1
Selenium	**0.661**	**J**	1.00	0.278	ug/L		08/15/20 11:16	08/18/20 15:54	1
Silver	ND		0.500	0.170	ug/L		08/15/20 11:16	08/18/20 15:54	1
Thallium	ND		0.500	0.130	ug/L		08/15/20 11:16	08/18/20 15:54	1
Vanadium	**3.71**		0.500	0.236	ug/L		08/15/20 11:16	08/18/20 15:54	1
Zinc	ND		10.0	6.18	ug/L		08/15/20 11:16	08/18/20 15:54	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**191**		25.8	20.3	ug/L		08/17/20 06:24	08/19/20 21:21	1
Antimony	ND		1.03	0.418	ug/L		08/17/20 06:24	08/19/20 21:21	1
Arsenic	**20.4**		2.06	0.700	ug/L		08/17/20 06:24	08/19/20 21:21	1
Barium	**272**		2.06	0.768	ug/L		08/17/20 06:24	08/19/20 21:21	1
Beryllium	ND		0.515	0.123	ug/L		08/17/20 06:24	08/26/20 16:24	1
Cadmium	ND		0.515	0.156	ug/L		08/17/20 06:24	08/19/20 21:21	1
Chromium	**3.18**		2.06	0.344	ug/L		08/17/20 06:24	08/19/20 21:21	1
Cobalt	**6.81**		0.515	0.161	ug/L		08/17/20 06:24	08/19/20 21:21	1
Copper	**0.572**	**J**	1.03	0.373	ug/L		08/17/20 06:24	08/19/20 21:21	1
Lead	**2.50**		0.515	0.0731	ug/L		08/17/20 06:24	08/19/20 21:21	1
Manganese	**3640**		2.06	0.653	ug/L		08/17/20 06:24	08/26/20 16:24	1
Nickel	**3.42**		1.03	0.622	ug/L		08/17/20 06:24	08/19/20 21:21	1
Selenium	**0.940**	**J**	1.03	0.286	ug/L		08/17/20 06:24	08/19/20 21:21	1
Silver	ND		0.515	0.175	ug/L		08/17/20 06:24	08/26/20 16:24	1

Client Sample ID: MW-04
Lab Sample ID: 410-10696-3
Date Collected: 08/11/20 13:40
Matrix: Water
Date Received: 08/14/20 11:09

Method: 6020A - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	ND		0.515	0.134	ug/L		08/17/20 06:24	08/19/20 21:21	1
Vanadium	**0.357**	**J**	0.515	0.243	ug/L		08/17/20 06:24	08/26/20 16:24	1
Zinc	ND		10.3	6.36	ug/L		08/17/20 06:24	08/19/20 21:21	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.0790	ug/L		08/15/20 11:44	08/17/20 10:41	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.0790	ug/L		08/15/20 11:36	08/18/20 10:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ferrous Iron	**28.1**	**HF**	1.00	0.300	mg/L			08/17/20 10:12	20
Oxygen, Dissolved	ND	HF	0.400	0.400	mg/L			08/15/20 16:46	1

Client Sample ID: MW-05
Lab Sample ID: 410-10696-4
Date Collected: 08/12/20 14:30
Matrix: Water
Date Received: 08/14/20 11:09

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			08/19/20 17:08	1
trans-1,3-Dichloropropene	ND		1.0	0.20	ug/L			08/19/20 17:08	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/19/20 17:08	1
Styrene	ND		5.0	0.20	ug/L			08/19/20 17:08	1
1,4-Dichlorobenzene	ND		5.0	0.20	ug/L			08/19/20 17:08	1
1,2-Dibromoethane	ND		1.0	0.20	ug/L			08/19/20 17:08	1
1,2-Dichloroethane	ND		1.0	0.30	ug/L			08/19/20 17:08	1
4-Methyl-2-pentanone	ND		10	0.50	ug/L			08/19/20 17:08	1
Methylcyclohexane	ND		5.0	0.50	ug/L			08/19/20 17:08	1
Toluene	ND		1.0	0.20	ug/L			08/19/20 17:08	1
Chlorobenzene	ND		1.0	0.20	ug/L			08/19/20 17:08	1
Cyclohexane	ND		5.0	1.0	ug/L			08/19/20 17:08	1
1,2,4-Trichlorobenzene	ND		5.0	0.30	ug/L			08/19/20 17:08	1
Dibromochloromethane	ND		1.0	0.20	ug/L			08/19/20 17:08	1
Xylenes, Total	ND		6.0	1.4	ug/L			08/19/20 17:08	1
Tetrachloroethene	ND		1.0	0.20	ug/L			08/19/20 17:08	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			08/19/20 17:08	1
trans-1,2-Dichloroethene	ND		5.0	0.20	ug/L			08/19/20 17:08	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/19/20 17:08	1
1,3-Dichlorobenzene	ND		5.0	0.20	ug/L			08/19/20 17:08	1
Carbon tetrachloride	ND		1.0	0.20	ug/L			08/19/20 17:08	1
2-Hexanone	ND		10	0.30	ug/L			08/19/20 17:08	1
Acetone	ND		20	0.70	ug/L			08/19/20 17:08	1
Chloroform	ND		1.0	0.20	ug/L			08/19/20 17:08	1
Benzene	ND		1.0	0.20	ug/L			08/19/20 17:08	1
1,1,1-Trichloroethane	ND		1.0	0.30	ug/L			08/19/20 17:08	1
Bromomethane	ND	*	1.0	0.30	ug/L			08/19/20 17:08	1
Chloromethane	ND		1.0	0.20	ug/L			08/19/20 17:08	1

Client Sample ID: MW-05
Lab Sample ID: 410-10696-4

Date Collected: 08/12/20 14:30
Matrix: Water
Date Received: 08/14/20 11:09

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroethane	ND		1.0	0.20	ug/L			08/19/20 17:08	1
Vinyl chloride	ND		1.0	0.20	ug/L			08/19/20 17:08	1
Methylene Chloride	ND		1.0	0.30	ug/L			08/19/20 17:08	1
Carbon disulfide	ND		5.0	0.20	ug/L			08/19/20 17:08	1
Bromoform	ND		4.0	1.0	ug/L			08/19/20 17:08	1
Bromodichloromethane	ND		1.0	0.20	ug/L			08/19/20 17:08	1
1,1-Dichloroethane	ND		1.0	0.20	ug/L			08/19/20 17:08	1
1,1-Dichloroethene	ND		1.0	0.20	ug/L			08/19/20 17:08	1
Trichlorofluoromethane	ND		1.0	0.20	ug/L			08/19/20 17:08	1
Dichlorodifluoromethane	ND		1.0	0.20	ug/L			08/19/20 17:08	1
Freon 113	ND		10	0.20	ug/L			08/19/20 17:08	1
1,2-Dichloropropane	ND		1.0	0.20	ug/L			08/19/20 17:08	1
2-Butanone	ND		10	0.30	ug/L			08/19/20 17:08	1
1,1,2-Trichloroethane	ND		1.0	0.20	ug/L			08/19/20 17:08	1
Trichloroethene	ND		1.0	0.20	ug/L			08/19/20 17:08	1
Methyl acetate	ND		5.0	0.30	ug/L			08/19/20 17:08	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.20	ug/L			08/19/20 17:08	1
1,2-Dichlorobenzene	ND		5.0	0.20	ug/L			08/19/20 17:08	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.30	ug/L			08/19/20 17:08	1
Isopropylbenzene	ND		5.0	0.20	ug/L			08/19/20 17:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*80 - 120*		*08/19/20 17:08*	*1*
Dibromofluoromethane (Surr)	*103*		*80 - 120*		*08/19/20 17:08*	*1*
4-Bromofluorobenzene (Surr)	*92*		*80 - 120*		*08/19/20 17:08*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*08/19/20 17:08*	*1*

Client Sample ID: TB-01
Lab Sample ID: 410-10696-5

Date Collected: 08/11/20 07:00
Matrix: Water
Date Received: 08/14/20 11:09

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			08/19/20 12:43	1
trans-1,3-Dichloropropene	ND		1.0	0.20	ug/L			08/19/20 12:43	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/19/20 12:43	1
Styrene	ND		5.0	0.20	ug/L			08/19/20 12:43	1
1,4-Dichlorobenzene	ND		5.0	0.20	ug/L			08/19/20 12:43	1
1,2-Dibromoethane	ND		1.0	0.20	ug/L			08/19/20 12:43	1
1,2-Dichloroethane	ND		1.0	0.30	ug/L			08/19/20 12:43	1
4-Methyl-2-pentanone	ND		10	0.50	ug/L			08/19/20 12:43	1
Methylcyclohexane	ND		5.0	0.50	ug/L			08/19/20 12:43	1
Toluene	ND		1.0	0.20	ug/L			08/19/20 12:43	1
Chlorobenzene	ND		1.0	0.20	ug/L			08/19/20 12:43	1
Cyclohexane	ND		5.0	1.0	ug/L			08/19/20 12:43	1
1,2,4-Trichlorobenzene	ND		5.0	0.30	ug/L			08/19/20 12:43	1
Dibromochloromethane	ND		1.0	0.20	ug/L			08/19/20 12:43	1
Xylenes, Total	ND		6.0	1.4	ug/L			08/19/20 12:43	1
Tetrachloroethene	ND		1.0	0.20	ug/L			08/19/20 12:43	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			08/19/20 12:43	1

Client Sample ID: TB-01
Lab Sample ID: 410-10696-5

Date Collected: 08/11/20 07:00
Matrix: Water
Date Received: 08/14/20 11:09

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND		5.0	0.20	ug/L			08/19/20 12:43	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/19/20 12:43	1
1,3-Dichlorobenzene	ND		5.0	0.20	ug/L			08/19/20 12:43	1
Carbon tetrachloride	ND		1.0	0.20	ug/L			08/19/20 12:43	1
2-Hexanone	ND		10	0.30	ug/L			08/19/20 12:43	1
Acetone	ND		20	0.70	ug/L			08/19/20 12:43	1
Chloroform	ND		1.0	0.20	ug/L			08/19/20 12:43	1
Benzene	ND		1.0	0.20	ug/L			08/19/20 12:43	1
1,1,1-Trichloroethane	ND		1.0	0.30	ug/L			08/19/20 12:43	1
Bromomethane	ND	*	1.0	0.30	ug/L			08/19/20 12:43	1
Chloromethane	ND		1.0	0.20	ug/L			08/19/20 12:43	1
Chloroethane	ND		1.0	0.20	ug/L			08/19/20 12:43	1
Vinyl chloride	ND		1.0	0.20	ug/L			08/19/20 12:43	1
Methylene Chloride	ND		1.0	0.30	ug/L			08/19/20 12:43	1
Carbon disulfide	ND		5.0	0.20	ug/L			08/19/20 12:43	1
Bromoform	ND		4.0	1.0	ug/L			08/19/20 12:43	1
Bromodichloromethane	ND		1.0	0.20	ug/L			08/19/20 12:43	1
1,1-Dichloroethane	ND		1.0	0.20	ug/L			08/19/20 12:43	1
1,1-Dichloroethene	ND		1.0	0.20	ug/L			08/19/20 12:43	1
Trichlorofluoromethane	ND		1.0	0.20	ug/L			08/19/20 12:43	1
Dichlorodifluoromethane	ND		1.0	0.20	ug/L			08/19/20 12:43	1
Freon 113	ND		10	0.20	ug/L			08/19/20 12:43	1
1,2-Dichloropropane	ND		1.0	0.20	ug/L			08/19/20 12:43	1
2-Butanone	ND		10	0.30	ug/L			08/19/20 12:43	1
1,1,2-Trichloroethane	ND		1.0	0.20	ug/L			08/19/20 12:43	1
Trichloroethene	ND		1.0	0.20	ug/L			08/19/20 12:43	1
Methyl acetate	ND		5.0	0.30	ug/L			08/19/20 12:43	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.20	ug/L			08/19/20 12:43	1
1,2-Dichlorobenzene	ND		5.0	0.20	ug/L			08/19/20 12:43	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.30	ug/L			08/19/20 12:43	1
Isopropylbenzene	ND		5.0	0.20	ug/L			08/19/20 12:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*08/19/20 12:43*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*08/19/20 12:43*	*1*
4-Bromofluorobenzene (Surr)	*89*		*80 - 120*		*08/19/20 12:43*	*1*
Toluene-d8 (Surr)	*100*		*80 - 120*		*08/19/20 12:43*	*1*

Client Sample ID: WPA-GW-02
Lab Sample ID: 410-10696-6

Date Collected: 08/11/20 14:15
Matrix: Water
Date Received: 08/14/20 11:09

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		5.0	1.0	ug/L			08/19/20 18:36	5
trans-1,3-Dichloropropene	ND		5.0	1.0	ug/L			08/19/20 18:36	5
Ethylbenzene	**150**		5.0	2.0	ug/L			08/19/20 18:36	5
Styrene	ND		25	1.0	ug/L			08/19/20 18:36	5
1,4-Dichlorobenzene	ND		25	1.0	ug/L			08/19/20 18:36	5
1,2-Dibromoethane	ND		5.0	1.0	ug/L			08/19/20 18:36	5

Client Sample ID: WPA-GW-02
Lab Sample ID: 410-10696-6

Date Collected: 08/11/20 14:15
Matrix: Water
Date Received: 08/14/20 11:09

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		5.0	1.5	ug/L			08/19/20 18:36	5
4-Methyl-2-pentanone	ND		50	2.5	ug/L			08/19/20 18:36	5
Methylcyclohexane	**78**		25	2.5	ug/L			08/19/20 18:36	5
Toluene	**95**		5.0	1.0	ug/L			08/19/20 18:36	5
Chlorobenzene	ND		5.0	1.0	ug/L			08/19/20 18:36	5
Cyclohexane	**130**		25	5.0	ug/L			08/19/20 18:36	5
1,2,4-Trichlorobenzene	ND		25	1.5	ug/L			08/19/20 18:36	5
Dibromochloromethane	ND		5.0	1.0	ug/L			08/19/20 18:36	5
Xylenes, Total	**200**		30	7.0	ug/L			08/19/20 18:36	5
Tetrachloroethene	ND		5.0	1.0	ug/L			08/19/20 18:36	5
cis-1,2-Dichloroethene	ND		5.0	1.0	ug/L			08/19/20 18:36	5
trans-1,2-Dichloroethene	ND		25	1.0	ug/L			08/19/20 18:36	5
Methyl tertiary butyl ether	ND		5.0	1.0	ug/L			08/19/20 18:36	5
1,3-Dichlorobenzene	ND		25	1.0	ug/L			08/19/20 18:36	5
Carbon tetrachloride	ND		5.0	1.0	ug/L			08/19/20 18:36	5
2-Hexanone	ND		50	1.5	ug/L			08/19/20 18:36	5
Acetone	**43**	**J**	100	3.5	ug/L			08/19/20 18:36	5
Chloroform	ND		5.0	1.0	ug/L			08/19/20 18:36	5
1,1,1-Trichloroethane	ND		5.0	1.5	ug/L			08/19/20 18:36	5
Bromomethane	ND	*	5.0	1.5	ug/L			08/19/20 18:36	5
Chloromethane	ND		5.0	1.0	ug/L			08/19/20 18:36	5
Chloroethane	ND		5.0	1.0	ug/L			08/19/20 18:36	5
Vinyl chloride	ND		5.0	1.0	ug/L			08/19/20 18:36	5
Methylene Chloride	ND		5.0	1.5	ug/L			08/19/20 18:36	5
Carbon disulfide	ND		25	1.0	ug/L			08/19/20 18:36	5
Bromoform	ND		20	5.0	ug/L			08/19/20 18:36	5
Bromodichloromethane	ND		5.0	1.0	ug/L			08/19/20 18:36	5
1,1-Dichloroethane	ND		5.0	1.0	ug/L			08/19/20 18:36	5
1,1-Dichloroethene	ND		5.0	1.0	ug/L			08/19/20 18:36	5
Trichlorofluoromethane	ND		5.0	1.0	ug/L			08/19/20 18:36	5
Dichlorodifluoromethane	ND		5.0	1.0	ug/L			08/19/20 18:36	5
Freon 113	ND		50	1.0	ug/L			08/19/20 18:36	5
1,2-Dichloropropane	ND		5.0	1.0	ug/L			08/19/20 18:36	5
2-Butanone	**8.4**	**J**	50	1.5	ug/L			08/19/20 18:36	5
1,1,2-Trichloroethane	ND		5.0	1.0	ug/L			08/19/20 18:36	5
Trichloroethene	ND		5.0	1.0	ug/L			08/19/20 18:36	5
Methyl acetate	ND		25	1.5	ug/L			08/19/20 18:36	5
1,1,2,2-Tetrachloroethane	ND		5.0	1.0	ug/L			08/19/20 18:36	5
1,2-Dichlorobenzene	ND		25	1.0	ug/L			08/19/20 18:36	5
1,2-Dibromo-3-Chloropropane	ND		25	1.5	ug/L			08/19/20 18:36	5
Isopropylbenzene	**17**	**J**	25	1.0	ug/L			08/19/20 18:36	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*		*08/19/20 18:36*	*5*
Dibromofluoromethane (Surr)	*96*		*80 - 120*		*08/19/20 18:36*	*5*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*08/19/20 18:36*	*5*
Toluene-d8 (Surr)	*102*		*80 - 120*		*08/19/20 18:36*	*5*

Client Sample ID: WPA-GW-02
Lab Sample ID: 410-10696-6

Date Collected: 08/11/20 14:15
Matrix: Water
Date Received: 08/14/20 11:09

Method: 8260C - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**1500**		50	10	ug/L			08/19/20 18:57	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*		*08/19/20 18:57*	*50*
Dibromofluoromethane (Surr)	*99*		*80 - 120*		*08/19/20 18:57*	*50*
4-Bromofluorobenzene (Surr)	*93*		*80 - 120*		*08/19/20 18:57*	*50*
Toluene-d8 (Surr)	*102*		*80 - 120*		*08/19/20 18:57*	*50*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	ND	*	11	3.2	ug/L		08/17/20 08:45	08/18/20 16:43	1
2,4-Dichlorophenol	ND	*	2.1	0.53	ug/L		08/17/20 08:45	08/18/20 16:43	1
2,4-Dimethylphenol	ND	*	11	3.2	ug/L		08/17/20 08:45	08/18/20 16:43	1
2,4-Dinitrophenol	ND		32	15	ug/L		08/17/20 08:45	08/18/20 16:43	1
2,4-Dinitrotoluene	ND	*	5.3	1.1	ug/L		08/17/20 08:45	08/18/20 16:43	1
2,4,5-Trichlorophenol	ND		2.1	0.53	ug/L		08/17/20 08:45	08/18/20 16:43	1
2,4,6-Trichlorophenol	ND	*	2.1	0.53	ug/L		08/17/20 08:45	08/18/20 16:43	1
2,2'-oxybis[1-chloropropane]	ND		2.1	0.53	ug/L		08/17/20 08:45	08/18/20 16:43	1
Di-n-butyl phthalate	ND		5.3	2.1	ug/L		08/17/20 08:45	08/18/20 16:43	1
Di-n-octyl phthalate	ND		12	5.3	ug/L		08/17/20 08:45	08/18/20 16:43	1
Benzo[a]anthracene	**0.95**	*	0.53	0.11	ug/L		08/17/20 08:45	08/18/20 16:43	1
Benzo[a]pyrene	**0.62**	*	0.53	0.11	ug/L		08/17/20 08:45	08/18/20 16:43	1
Benzo[b]fluoranthene	**0.53**	*	0.53	0.11	ug/L		08/17/20 08:45	08/18/20 16:43	1
Benzo[g,h,i]perylene	**0.53**	*	0.53	0.11	ug/L		08/17/20 08:45	08/18/20 16:43	1
Benzo[k]fluoranthene	ND	*	0.53	0.11	ug/L		08/17/20 08:45	08/18/20 16:43	1
Acenaphthene	ND		0.53	0.11	ug/L		08/17/20 08:45	08/18/20 16:43	1
Acenaphthylene	ND		0.53	0.11	ug/L		08/17/20 08:45	08/18/20 16:43	1
Acetophenone	ND	*	11	4.3	ug/L		08/17/20 08:45	08/18/20 16:43	1
Anthracene	**0.50**	**J** *	0.53	0.11	ug/L		08/17/20 08:45	08/18/20 16:43	1
Atrazine	ND		5.3	2.1	ug/L		08/17/20 08:45	08/18/20 16:43	1
Benzaldehyde	ND	*	11	3.2	ug/L		08/17/20 08:45	08/18/20 16:43	1
Butylbenzylphthalate	ND		5.3	2.1	ug/L		08/17/20 08:45	08/18/20 16:43	1
Caprolactam	ND		12	5.3	ug/L		08/17/20 08:45	08/18/20 16:43	1
Carbazole	**7.1**		2.1	0.53	ug/L		08/17/20 08:45	08/18/20 16:43	1
Chrysene	**1.1**		0.53	0.11	ug/L		08/17/20 08:45	08/18/20 16:43	1
Dibenz(a,h)anthracene	ND	*	0.53	0.11	ug/L		08/17/20 08:45	08/18/20 16:43	1
Dibenzofuran	ND	*	2.1	0.53	ug/L		08/17/20 08:45	08/18/20 16:43	1
Diethyl phthalate	ND		5.3	2.1	ug/L		08/17/20 08:45	08/18/20 16:43	1
Dimethyl phthalate	ND		5.3	2.1	ug/L		08/17/20 08:45	08/18/20 16:43	1
Hexachlorobenzene	ND	*	0.53	0.11	ug/L		08/17/20 08:45	08/18/20 16:43	1
Hexachlorobutadiene	ND		2.1	0.53	ug/L		08/17/20 08:45	08/18/20 16:43	1
Hexachlorocyclopentadiene	ND		12	5.3	ug/L		08/17/20 08:45	08/18/20 16:43	1
Hexachloroethane	ND		5.3	1.1	ug/L		08/17/20 08:45	08/18/20 16:43	1
Fluoranthene	**0.47**	**J**	0.53	0.11	ug/L		08/17/20 08:45	08/18/20 16:43	1
Fluorene	**1.3**		0.53	0.11	ug/L		08/17/20 08:45	08/18/20 16:43	1
Indeno[1,2,3-cd]pyrene	ND	*	0.53	0.11	ug/L		08/17/20 08:45	08/18/20 16:43	1
Isophorone	ND	*	2.1	0.53	ug/L		08/17/20 08:45	08/18/20 16:43	1
N-Nitrosodi-n-propylamine	ND		3.2	0.75	ug/L		08/17/20 08:45	08/18/20 16:43	1
N-Nitrosodiphenylamine	ND		3.2	0.75	ug/L		08/17/20 08:45	08/18/20 16:43	1
Naphthalene	**41**		0.53	0.11	ug/L		08/17/20 08:45	08/18/20 16:43	1

Client Sample ID: WPA-GW-02
Lab Sample ID: 410-10696-6

Date Collected: 08/11/20 14:15
Matrix: Water
Date Received: 08/14/20 11:09

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrobenzene	ND		2.1	0.53	ug/L		08/17/20 08:45	08/18/20 16:43	1
Pentachlorophenol	ND		5.3	1.1	ug/L		08/17/20 08:45	08/18/20 16:43	1
Phenanthrene	**9.7**	*	0.53	0.11	ug/L		08/17/20 08:45	08/18/20 16:43	1
Phenol	**2.4**		2.1	0.53	ug/L		08/17/20 08:45	08/18/20 16:43	1
Pyrene	**1.6**	*	0.53	0.11	ug/L		08/17/20 08:45	08/18/20 16:43	1
2-Chloronaphthalene	ND		1.1	0.43	ug/L		08/17/20 08:45	08/18/20 16:43	1
2-Chlorophenol	ND		2.1	0.53	ug/L		08/17/20 08:45	08/18/20 16:43	1
2-Methylnaphthalene	**17**		0.53	0.11	ug/L		08/17/20 08:45	08/18/20 16:43	1
2-Methylphenol	ND		2.1	0.53	ug/L		08/17/20 08:45	08/18/20 16:43	1
2-Nitroaniline	ND	*	5.3	2.1	ug/L		08/17/20 08:45	08/18/20 16:43	1
2-Nitrophenol	ND		11	3.2	ug/L		08/17/20 08:45	08/18/20 16:43	1
3,3'-Dichlorobenzidine	ND		11	3.2	ug/L		08/17/20 08:45	08/18/20 16:43	1
3-Nitroaniline	ND		7.5	3.2	ug/L		08/17/20 08:45	08/18/20 16:43	1
4,6-Dinitro-2-methylphenol	ND		22	8.5	ug/L		08/17/20 08:45	08/18/20 16:43	1
4-Bromophenyl-phenylether	ND	*	2.1	0.53	ug/L		08/17/20 08:45	08/18/20 16:43	1
4-Methylphenol	ND		2.1	0.53	ug/L		08/17/20 08:45	08/18/20 16:43	1
4-Nitroaniline	ND		3.2	0.96	ug/L		08/17/20 08:45	08/18/20 16:43	1
4-Nitrophenol	ND		32	11	ug/L		08/17/20 08:45	08/18/20 16:43	1
Bis(2-chloroethoxy)methane	ND	*	2.1	0.53	ug/L		08/17/20 08:45	08/18/20 16:43	1
Bis(2-chloroethyl)ether	ND	*	2.1	0.53	ug/L		08/17/20 08:45	08/18/20 16:43	1
Bis(2-ethylhexyl) phthalate	ND		12	5.3	ug/L		08/17/20 08:45	08/18/20 16:43	1
2,6-Dinitrotoluene	ND	*	2.1	0.53	ug/L		08/17/20 08:45	08/18/20 16:43	1
4-Chloro-3-methylphenol	ND		3.7	1.7	ug/L		08/17/20 08:45	08/18/20 16:43	1
4-Chloroaniline	ND		11	4.3	ug/L		08/17/20 08:45	08/18/20 16:43	1
4-Chlorophenyl-phenyl ether	ND	*	2.1	0.53	ug/L		08/17/20 08:45	08/18/20 16:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*35*		*18 - 141*	*08/17/20 08:45*	*08/18/20 16:43*	*1*
2-Fluorobiphenyl (Surr)	*46*		*44 - 102*	*08/17/20 08:45*	*08/18/20 16:43*	*1*
2-Fluorophenol (Surr)	*16*		*10 - 84*	*08/17/20 08:45*	*08/18/20 16:43*	*1*
Nitrobenzene-d5 (Surr)	*54*		*38 - 113*	*08/17/20 08:45*	*08/18/20 16:43*	*1*
p-Terphenyl-d14 (Surr)	*39*		*34 - 128*	*08/17/20 08:45*	*08/18/20 16:43*	*1*
Phenol-d5 (Surr)	*14*		*10 - 67*	*08/17/20 08:45*	*08/18/20 16:43*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
CO2	**30000**		12000	2600	ug/L		08/17/20 09:26	08/17/20 12:33	1
Methane (1C)	**2800**		100	60	ug/L		08/17/20 08:59	08/17/20 16:01	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Propene (1C)	*91*		*28 - 140*	*08/17/20 08:59*	*08/17/20 16:01*	*20*

Method: EPA 300.0 R2.1 - Anions, Ion Chromatgraphy

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND	H H3	0.50	0.25	mg/L			08/19/20 08:23	5

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	**2.4**	**J**	5.0	1.5	mg/L			08/19/20 08:23	5

Client Sample ID: WPA-GW-02
Lab Sample ID: 410-10696-6

Date Collected: 08/11/20 14:15
Matrix: Water
Date Received: 08/14/20 11:09

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**64.7**		0.200	0.0960	mg/L		08/26/20 02:21	08/31/20 18:04	1
Iron	**35.0**		0.200	0.0400	mg/L		08/26/20 02:21	08/31/20 18:04	1
Magnesium	**35.6**		0.100	0.0400	mg/L		08/26/20 02:21	08/31/20 18:04	1
Potassium	**5.05**		0.500	0.204	mg/L		08/26/20 02:21	08/31/20 18:04	1
Sodium	**27.3**		1.00	0.239	mg/L		08/26/20 02:21	08/31/20 18:04	1

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	**65.8**		0.206	0.0989	mg/L		09/09/20 14:56	09/10/20 12:44	1
Iron	**1.66**		0.206	0.0412	mg/L		09/09/20 14:56	09/10/20 10:47	1
Magnesium	**35.0**	**B**	0.103	0.0412	mg/L		09/09/20 14:56	09/10/20 10:47	1
Potassium	**0.525**		0.515	0.210	mg/L		09/09/20 14:56	09/10/20 15:40	1
Sodium	**26.8**		1.03	0.246	mg/L		09/09/20 14:56	09/10/20 12:44	1

Method: 6020A - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	**18000**		125	98.5	ug/L		08/15/20 11:16	08/26/20 19:46	5
Antimony	ND		5.00	2.03	ug/L		08/15/20 11:16	08/26/20 19:46	5
Arsenic	**8.45**		2.00	0.680	ug/L		08/15/20 11:16	08/18/20 15:56	1
Barium	**578**		2.00	0.746	ug/L		08/15/20 11:16	08/18/20 15:56	1
Beryllium	**1.02**		0.500	0.119	ug/L		08/15/20 11:16	08/18/20 15:56	1
Cadmium	ND		0.500	0.151	ug/L		08/15/20 11:16	08/18/20 15:56	1
Chromium	**41.8**	**B**	2.00	0.334	ug/L		08/15/20 11:16	08/18/20 15:56	1
Cobalt	**21.8**		0.500	0.156	ug/L		08/15/20 11:16	08/18/20 15:56	1
Copper	**33.0**		1.00	0.362	ug/L		08/15/20 11:16	08/18/20 15:56	1
Lead	**38.5**		0.500	0.0710	ug/L		08/15/20 11:16	08/18/20 15:56	1
Manganese	**6340**		2.00	0.634	ug/L		08/15/20 11:16	08/18/20 15:56	1
Nickel	**30.6**		1.00	0.604	ug/L		08/15/20 11:16	08/18/20 15:56	1
Selenium	**0.726**	**J**	1.00	0.278	ug/L		08/15/20 11:16	08/18/20 15:56	1
Silver	ND		0.500	0.170	ug/L		08/15/20 11:16	08/18/20 15:56	1
Thallium	**0.228**	**J**	0.500	0.130	ug/L		08/15/20 11:16	08/18/20 15:56	1
Vanadium	**43.2**		0.500	0.236	ug/L		08/15/20 11:16	08/18/20 15:56	1
Zinc	**225**		10.0	6.18	ug/L		08/15/20 11:16	08/18/20 15:56	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		25.8	20.3	ug/L		08/17/20 06:24	08/19/20 21:23	1
Antimony	ND		1.03	0.418	ug/L		08/17/20 06:24	08/19/20 21:23	1
Arsenic	**2.76**		2.06	0.700	ug/L		08/17/20 06:24	08/19/20 21:23	1
Barium	**371**		2.06	0.768	ug/L		08/17/20 06:24	08/19/20 21:23	1
Beryllium	ND		0.515	0.123	ug/L		08/17/20 06:24	08/26/20 16:26	1
Cadmium	ND		0.515	0.156	ug/L		08/17/20 06:24	08/19/20 21:23	1
Chromium	**3.29**		2.06	0.344	ug/L		08/17/20 06:24	08/19/20 21:23	1
Cobalt	**7.52**		0.515	0.161	ug/L		08/17/20 06:24	08/19/20 21:23	1
Copper	**0.511**	**J**	1.03	0.373	ug/L		08/17/20 06:24	08/19/20 21:23	1
Lead	**0.215**	**J**	0.515	0.0731	ug/L		08/17/20 06:24	08/19/20 21:23	1
Manganese	**5630**		2.06	0.653	ug/L		08/17/20 06:24	08/26/20 16:26	1
Nickel	**9.18**		1.03	0.622	ug/L		08/17/20 06:24	08/19/20 21:23	1
Selenium	**0.732**	**J**	1.03	0.286	ug/L		08/17/20 06:24	08/19/20 21:23	1
Silver	ND		0.515	0.175	ug/L		08/17/20 06:24	08/26/20 16:26	1

Client Sample ID: WPA-GW-02
Lab Sample ID: 410-10696-6

Date Collected: 08/11/20 14:15
Matrix: Water
Date Received: 08/14/20 11:09

Method: 6020A - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	ND		0.515	0.134	ug/L		08/17/20 06:24	08/19/20 21:23	1
Vanadium	ND		0.515	0.243	ug/L		08/17/20 06:24	08/26/20 16:26	1
Zinc	**16.4**		10.3	6.36	ug/L		08/17/20 06:24	08/19/20 21:23	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0957**	**J**	0.200	0.0790	ug/L		08/15/20 11:44	08/17/20 10:43	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.0800**	**J**	0.200	0.0790	ug/L		08/15/20 11:36	08/18/20 10:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ferrous Iron	**11.5**	**HF**	0.500	0.150	mg/L			08/17/20 13:34	10
Oxygen, Dissolved	**7.42**	**HF**	0.400	0.400	mg/L			08/15/20 16:46	1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	RL	MDL	Units
1,1,1-Trichloroethane	1.0	0.30	ug/L
1,1,2,2-Tetrachloroethane	1.0	0.20	ug/L
1,1,2-Trichloroethane	1.0	0.20	ug/L
1,1-Dichloroethane	1.0	0.20	ug/L
1,1-Dichloroethene	1.0	0.20	ug/L
1,2,4-Trichlorobenzene	5.0	0.30	ug/L
1,2-Dibromo-3-Chloropropane	5.0	0.30	ug/L
1,2-Dibromoethane	1.0	0.20	ug/L
1,2-Dichlorobenzene	5.0	0.20	ug/L
1,2-Dichloroethane	1.0	0.30	ug/L
1,2-Dichloropropane	1.0	0.20	ug/L
1,3-Dichlorobenzene	5.0	0.20	ug/L
1,4-Dichlorobenzene	5.0	0.20	ug/L
2-Butanone	10	0.30	ug/L
2-Hexanone	10	0.30	ug/L
4-Methyl-2-pentanone	10	0.50	ug/L
Acetone	20	0.70	ug/L
Benzene	1.0	0.20	ug/L
Bromodichloromethane	1.0	0.20	ug/L
Bromoform	4.0	1.0	ug/L
Bromomethane	1.0	0.30	ug/L
Carbon disulfide	5.0	0.20	ug/L
Carbon tetrachloride	1.0	0.20	ug/L
Chlorobenzene	1.0	0.20	ug/L
Chloroethane	1.0	0.20	ug/L
Chloroform	1.0	0.20	ug/L
Chloromethane	1.0	0.20	ug/L
cis-1,2-Dichloroethene	1.0	0.20	ug/L
cis-1,3-Dichloropropene	1.0	0.20	ug/L
Cyclohexane	5.0	1.0	ug/L
Dibromochloromethane	1.0	0.20	ug/L
Dichlorodifluoromethane	1.0	0.20	ug/L
Ethylbenzene	1.0	0.40	ug/L
Freon 113	10	0.20	ug/L
Isopropylbenzene	5.0	0.20	ug/L
Methyl acetate	5.0	0.30	ug/L
Methyl tertiary butyl ether	1.0	0.20	ug/L
Methylcyclohexane	5.0	0.50	ug/L
Methylene Chloride	1.0	0.30	ug/L
Styrene	5.0	0.20	ug/L
Tetrachloroethene	1.0	0.20	ug/L
Toluene	1.0	0.20	ug/L
trans-1,2-Dichloroethene	5.0	0.20	ug/L
trans-1,3-Dichloropropene	1.0	0.20	ug/L
Trichloroethene	1.0	0.20	ug/L
Trichlorofluoromethane	1.0	0.20	ug/L
Vinyl chloride	1.0	0.20	ug/L
Xylenes, Total	6.0	1.4	ug/L

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Prep: 3510C

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: EPA 6 Wilcox Oil Co Superfund Site

Job ID: 410-10696-1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Prep: 3510C

Analyte	RL	MDL	Units
1,1'-Biphenyl	10	3.0	ug/L
2,2'-oxybis[1-chloropropane]	2.0	0.50	ug/L
2,4,5-Trichlorophenol	2.0	0.50	ug/L
2,4,6-Trichlorophenol	2.0	0.50	ug/L
2,4-Dichlorophenol	2.0	0.50	ug/L
2,4-Dimethylphenol	10	3.0	ug/L
2,4-Dinitrophenol	30	14	ug/L
2,4-Dinitrotoluene	5.0	1.0	ug/L
2,6-Dinitrotoluene	2.0	0.50	ug/L
2-Chloronaphthalene	1.0	0.40	ug/L
2-Chlorophenol	2.0	0.50	ug/L
2-Methylnaphthalene	0.50	0.10	ug/L
2-Methylphenol	2.0	0.50	ug/L
2-Nitroaniline	5.0	2.0	ug/L
2-Nitrophenol	10	3.0	ug/L
3,3'-Dichlorobenzidine	10	3.0	ug/L
3-Nitroaniline	7.0	3.0	ug/L
4,6-Dinitro-2-methylphenol	21	8.0	ug/L
4-Bromophenyl-phenylether	2.0	0.50	ug/L
4-Chloro-3-methylphenol	3.5	1.6	ug/L
4-Chloroaniline	10	4.0	ug/L
4-Chlorophenyl-phenyl ether	2.0	0.50	ug/L
4-Methylphenol	2.0	0.50	ug/L
4-Nitroaniline	3.0	0.90	ug/L
4-Nitrophenol	30	10	ug/L
Acenaphthene	0.50	0.10	ug/L
Acenaphthylene	0.50	0.10	ug/L
Acetophenone	10	4.0	ug/L
Anthracene	0.50	0.10	ug/L
Atrazine	5.0	2.0	ug/L
Benzaldehyde	10	3.0	ug/L
Benzo[a]anthracene	0.50	0.10	ug/L
Benzo[a]pyrene	0.50	0.10	ug/L
Benzo[b]fluoranthene	0.50	0.10	ug/L
Benzo[g,h,i]perylene	0.50	0.10	ug/L
Benzo[k]fluoranthene	0.50	0.10	ug/L
Bis(2-chloroethoxy)methane	2.0	0.50	ug/L
Bis(2-chloroethyl)ether	2.0	0.50	ug/L
Bis(2-ethylhexyl) phthalate	11	5.0	ug/L
Butylbenzylphthalate	5.0	2.0	ug/L
Caprolactam	11	5.0	ug/L
Carbazole	2.0	0.50	ug/L
Chrysene	0.50	0.10	ug/L
Dibenz(a,h)anthracene	0.50	0.10	ug/L
Dibenzofuran	2.0	0.50	ug/L
Diethyl phthalate	5.0	2.0	ug/L
Dimethyl phthalate	5.0	2.0	ug/L
Di-n-butyl phthalate	5.0	2.0	ug/L
Di-n-octyl phthalate	11	5.0	ug/L
Fluoranthene	0.50	0.10	ug/L
Fluorene	0.50	0.10	ug/L
Hexachlorobenzene	0.50	0.10	ug/L

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Prep: 3510C

Analyte	RL	MDL	Units
Hexachlorobutadiene	2.0	0.50	ug/L
Hexachlorocyclopentadiene	11	5.0	ug/L
Hexachloroethane	5.0	1.0	ug/L
Indeno[1,2,3-cd]pyrene	0.50	0.10	ug/L
Isophorone	2.0	0.50	ug/L
Naphthalene	0.50	0.10	ug/L
Nitrobenzene	2.0	0.50	ug/L
N-Nitrosodi-n-propylamine	3.0	0.70	ug/L
N-Nitrosodiphenylamine	3.0	0.70	ug/L
Pentachlorophenol	5.0	1.0	ug/L
Phenanthrene	0.50	0.10	ug/L
Phenol	2.0	0.50	ug/L
Pyrene	0.50	0.10	ug/L

Method: RSK-175 - Dissolved Gases (GC)

Prep: RSK-175

Analyte	RL	MDL	Units
CO2	12000	2600	ug/L
Methane (1C)	5.0	3.0	ug/L

Method: EPA 300.0 R2.1 - Anions, Ion Chromatgraphy

Analyte	RL	MDL	Units
Nitrogen, Nitrate	0.10	0.050	mg/L

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Analyte	RL	MDL	Units
Sulfate	1.0	0.30	mg/L

Method: 6010C - Metals (ICP)

Prep: 3010A

Analyte	RL	MDL	Units
Calcium	0.200	0.0960	mg/L
Iron	0.200	0.0400	mg/L
Magnesium	0.100	0.0400	mg/L
Potassium	0.500	0.204	mg/L
Sodium	1.00	0.239	mg/L

Method: 6010C - Metals (ICP) - Dissolved

Prep: Non-Digest Prep

Analyte	RL	MDL	Units
Calcium	0.200	0.0960	mg/L
Iron	0.200	0.0400	mg/L
Magnesium	0.100	0.0400	mg/L
Potassium	0.500	0.204	mg/L
Sodium	1.00	0.239	mg/L

Method: 6020A - Metals (ICP/MS)

Prep: 3020A

Analyte	RL	MDL	Units
Aluminum	25.0	19.7	ug/L

Method: 6020A - Metals (ICP/MS) (Continued)

Prep: 3020A

Analyte	RL	MDL	Units
Antimony	1.00	0.406	ug/L
Arsenic	2.00	0.680	ug/L
Barium	2.00	0.746	ug/L
Beryllium	0.500	0.119	ug/L
Cadmium	0.500	0.151	ug/L
Chromium	2.00	0.334	ug/L
Cobalt	0.500	0.156	ug/L
Copper	1.00	0.362	ug/L
Lead	0.500	0.0710	ug/L
Manganese	2.00	0.634	ug/L
Nickel	1.00	0.604	ug/L
Selenium	1.00	0.278	ug/L
Silver	0.500	0.170	ug/L
Thallium	0.500	0.130	ug/L
Vanadium	0.500	0.236	ug/L
Zinc	10.0	6.18	ug/L

Method: 6020A - Metals (ICP/MS) - Dissolved

Prep: Non-Digest Prep

Analyte	RL	MDL	Units
Aluminum	25.0	19.7	ug/L
Antimony	1.00	0.406	ug/L
Arsenic	2.00	0.680	ug/L
Barium	2.00	0.746	ug/L
Beryllium	0.500	0.119	ug/L
Cadmium	0.500	0.151	ug/L
Chromium	2.00	0.334	ug/L
Cobalt	0.500	0.156	ug/L
Copper	1.00	0.362	ug/L
Lead	0.500	0.0710	ug/L
Manganese	2.00	0.634	ug/L
Nickel	1.00	0.604	ug/L
Selenium	1.00	0.278	ug/L
Silver	0.500	0.170	ug/L
Thallium	0.500	0.130	ug/L
Vanadium	0.500	0.236	ug/L
Zinc	10.0	6.18	ug/L

Method: 7470A - Mercury (CVAA)

Prep: 7470A

Analyte	RL	MDL	Units
Mercury	0.200	0.0790	ug/L

Method: 7470A - Mercury (CVAA) - Dissolved

Prep: 7470A

Analyte	RL	MDL	Units
Mercury	0.200	0.0790	ug/L

General Chemistry

Analyte	RL	MDL	Units
Ferrous Iron	0.0500	0.0150	mg/L

Default Detection Limits

Client: EA Engineering, Science, and Technology
Project/Site: EPA 6 Wilcox Oil Co Superfund Site

Job ID: 410-10696-1

General Chemistry (Continued)

Analyte	RL	MDL	Units
Oxygen, Dissolved	0.400	0.400	mg/L

Surrogate Summary

Client: EA Engineering, Science, and Technology
Project/Site: EPA 6 Wilcox Oil Co Superfund Site

Job ID: 410-10696-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	DBFM	BFB	TOL
Lab Sample ID	Client Sample ID	(80-120)	(80-120)	(80-120)	(80-120)
410-10696-1	MW-01	99	93	97	104
410-10696-2	MW-03	103	102	93	99
410-10696-2 MS	MW-03	99	99	96	100
410-10696-2 MSD	MW-03	99	99	96	100
410-10696-3 - DL	MW-04	102	96	97	101
410-10696-3	MW-04	104	95	98	102
410-10696-4	MW-05	103	103	92	100
410-10696-5	TB-01	102	102	89	100
410-10696-6 - DL	WPA-GW-02	100	99	93	102
410-10696-6	WPA-GW-02	101	96	96	102
LCS 410-34763/5	Lab Control Sample	101	100	97	101
LCS 410-35697/6	Lab Control Sample	100	100	98	102
LCSD 410-34763/34	Lab Control Sample Dup	100	98	97	101
LCSD 410-35697/8	Lab Control Sample Dup	101	99	98	101
MB 410-34763/7	Method Blank	102	102	91	101
MB 410-35697/12	Method Blank	104	104	88	101

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
DBFM = Dibromofluoromethane (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	TPHd14	PHL
Lab Sample ID	Client Sample ID	(18-141)	(44-102)	(10-84)	(38-113)	(34-128)	(10-67)
410-10696-1	MW-01	60	40 X	30	40	29 X	25
410-10696-3	MW-04	47	47	22	54	46	21
410-10696-3 - DL	MW-04	61	59	26	66	57	26
410-10696-6	WPA-GW-02	35	46	16	54	39	14
LCS 410-33824/2-A	Lab Control Sample	62	47	34	51	51	27
MB 410-33824/1-A	Method Blank	56	44	28	48	55	21

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
TPHd14 = p-Terphenyl-d14 (Surr)
PHL = Phenol-d5 (Surr)

Method: RSK-175 - Dissolved Gases (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)
		Propene1
Lab Sample ID	Client Sample ID	(28-140)
410-10696-1	MW-01	88

Surrogate Summary

Client: EA Engineering, Science, and Technology
Job ID: 410-10696-1
Project/Site: EPA 6 Wilcox Oil Co Superfund Site

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	Propene1 (28-140)
410-10696-3	MW-04	89
410-10696-6	WPA-GW-02	91
LCS 410-33890/2-A	Lab Control Sample	92
LCSD 410-33890/3-A	Lab Control Sample Dup	97
MB 410-33890/1-A	Method Blank	97

Surrogate Legend

Propene = Propene

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 410-34763/7
Matrix: Water
Analysis Batch: 34763

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			08/19/20 11:31	1
trans-1,3-Dichloropropene	ND		1.0	0.20	ug/L			08/19/20 11:31	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/19/20 11:31	1
Styrene	ND		5.0	0.20	ug/L			08/19/20 11:31	1
1,4-Dichlorobenzene	ND		5.0	0.20	ug/L			08/19/20 11:31	1
1,2-Dibromoethane	ND		1.0	0.20	ug/L			08/19/20 11:31	1
1,2-Dichloroethane	ND		1.0	0.30	ug/L			08/19/20 11:31	1
4-Methyl-2-pentanone	ND		10	0.50	ug/L			08/19/20 11:31	1
Methylcyclohexane	ND		5.0	0.50	ug/L			08/19/20 11:31	1
Toluene	ND		1.0	0.20	ug/L			08/19/20 11:31	1
Chlorobenzene	ND		1.0	0.20	ug/L			08/19/20 11:31	1
Cyclohexane	ND		5.0	1.0	ug/L			08/19/20 11:31	1
1,2,4-Trichlorobenzene	ND		5.0	0.30	ug/L			08/19/20 11:31	1
Dibromochloromethane	ND		1.0	0.20	ug/L			08/19/20 11:31	1
Xylenes, Total	ND		6.0	1.4	ug/L			08/19/20 11:31	1
Tetrachloroethene	ND		1.0	0.20	ug/L			08/19/20 11:31	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			08/19/20 11:31	1
trans-1,2-Dichloroethene	ND		5.0	0.20	ug/L			08/19/20 11:31	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/19/20 11:31	1
1,3-Dichlorobenzene	ND		5.0	0.20	ug/L			08/19/20 11:31	1
Carbon tetrachloride	ND		1.0	0.20	ug/L			08/19/20 11:31	1
2-Hexanone	ND		10	0.30	ug/L			08/19/20 11:31	1
Acetone	ND		20	0.70	ug/L			08/19/20 11:31	1
Chloroform	ND		1.0	0.20	ug/L			08/19/20 11:31	1
Benzene	ND		1.0	0.20	ug/L			08/19/20 11:31	1
1,1,1-Trichloroethane	ND		1.0	0.30	ug/L			08/19/20 11:31	1
Bromomethane	ND		1.0	0.30	ug/L			08/19/20 11:31	1
Chloromethane	ND		1.0	0.20	ug/L			08/19/20 11:31	1
Chloroethane	ND		1.0	0.20	ug/L			08/19/20 11:31	1
Vinyl chloride	ND		1.0	0.20	ug/L			08/19/20 11:31	1
Methylene Chloride	ND		1.0	0.30	ug/L			08/19/20 11:31	1
Carbon disulfide	ND		5.0	0.20	ug/L			08/19/20 11:31	1
Bromoform	ND		4.0	1.0	ug/L			08/19/20 11:31	1
Bromodichloromethane	ND		1.0	0.20	ug/L			08/19/20 11:31	1
1,1-Dichloroethane	ND		1.0	0.20	ug/L			08/19/20 11:31	1
1,1-Dichloroethene	ND		1.0	0.20	ug/L			08/19/20 11:31	1
Trichlorofluoromethane	ND		1.0	0.20	ug/L			08/19/20 11:31	1
Dichlorodifluoromethane	ND		1.0	0.20	ug/L			08/19/20 11:31	1
Freon 113	ND		10	0.20	ug/L			08/19/20 11:31	1
1,2-Dichloropropane	ND		1.0	0.20	ug/L			08/19/20 11:31	1
2-Butanone	ND		10	0.30	ug/L			08/19/20 11:31	1
1,1,2-Trichloroethane	ND		1.0	0.20	ug/L			08/19/20 11:31	1
Trichloroethene	ND		1.0	0.20	ug/L			08/19/20 11:31	1
Methyl acetate	ND		5.0	0.30	ug/L			08/19/20 11:31	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.20	ug/L			08/19/20 11:31	1
1,2-Dichlorobenzene	ND		5.0	0.20	ug/L			08/19/20 11:31	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.30	ug/L			08/19/20 11:31	1
Isopropylbenzene	ND		5.0	0.20	ug/L			08/19/20 11:31	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 410-34763/7
Matrix: Water
Analysis Batch: 34763

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*102*		*80 - 120*		*08/19/20 11:31*	*1*
Dibromofluoromethane (Surr)	*102*		*80 - 120*		*08/19/20 11:31*	*1*
4-Bromofluorobenzene (Surr)	*91*		*80 - 120*		*08/19/20 11:31*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*08/19/20 11:31*	*1*

Lab Sample ID: LCS 410-34763/5
Matrix: Water
Analysis Batch: 34763

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,3-Dichloropropene	20.0	18.8		ug/L		94	75 - 120
trans-1,3-Dichloropropene	20.0	18.2		ug/L		91	67 - 120
Ethylbenzene	20.0	20.0		ug/L		100	80 - 120
Styrene	20.0	19.6		ug/L		98	80 - 120
1,4-Dichlorobenzene	20.0	20.1		ug/L		101	80 - 120
1,2-Dibromoethane	20.0	19.4		ug/L		97	77 - 120
1,2-Dichloroethane	20.0	19.1		ug/L		96	73 - 124
4-Methyl-2-pentanone	100	86.1		ug/L		86	62 - 133
Methylcyclohexane	20.0	18.9		ug/L		94	67 - 121
Toluene	20.0	20.1		ug/L		101	80 - 120
Chlorobenzene	20.0	20.9		ug/L		104	80 - 120
Cyclohexane	20.0	17.9		ug/L		89	68 - 126
1,2,4-Trichlorobenzene	20.0	18.9		ug/L		94	63 - 120
Dibromochloromethane	20.0	20.5		ug/L		102	71 - 120
Xylenes, Total	60.0	60.2		ug/L		100	80 - 120
Tetrachloroethene	20.0	18.4		ug/L		92	80 - 120
cis-1,2-Dichloroethene	20.0	21.0		ug/L		105	80 - 125
trans-1,2-Dichloroethene	20.0	19.9		ug/L		100	80 - 126
Methyl tertiary butyl ether	20.0	17.2		ug/L		86	69 - 122
1,3-Dichlorobenzene	20.0	19.8		ug/L		99	80 - 120
Carbon tetrachloride	20.0	20.8		ug/L		104	64 - 134
2-Hexanone	100	85.8		ug/L		86	56 - 135
Acetone	150	144		ug/L		96	54 - 157
Chloroform	20.0	20.6		ug/L		103	80 - 120
Benzene	20.0	20.2		ug/L		101	80 - 120
1,1,1-Trichloroethane	20.0	20.3		ug/L		102	67 - 126
Bromomethane	20.0	26.0	*	ug/L		130	53 - 128
Chloromethane	20.0	18.1		ug/L		90	56 - 121
Chloroethane	20.0	24.4		ug/L		122	55 - 123
Vinyl chloride	20.0	19.2		ug/L		96	56 - 120
Methylene Chloride	20.0	20.2		ug/L		101	80 - 120
Carbon disulfide	20.0	19.6		ug/L		98	65 - 128
Bromoform	20.0	18.0		ug/L		90	51 - 120
Bromodichloromethane	20.0	19.8		ug/L		99	71 - 120
1,1-Dichloroethane	20.0	19.4		ug/L		97	80 - 120
1,1-Dichloroethene	20.0	20.6		ug/L		103	80 - 131
Trichlorofluoromethane	20.0	26.4		ug/L		132	55 - 135
Dichlorodifluoromethane	20.0	16.1		ug/L		81	41 - 127

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 410-34763/5
Matrix: Water
Analysis Batch: 34763

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Freon 113			20.0	19.3		ug/L		96	73 - 139		
1,2-Dichloropropane			20.0	19.7		ug/L		99	80 - 120		
2-Butanone			150	118		ug/L		78	59 - 135		
1,1,2-Trichloroethane			20.0	21.2		ug/L		106	80 - 120		
Trichloroethene			20.0	20.2		ug/L		101	80 - 120		
Methyl acetate			20.0	16.0		ug/L		80	54 - 136		
1,1,2,2-Tetrachloroethane			20.0	19.6		ug/L		98	72 - 120		
1,2-Dichlorobenzene			20.0	20.3		ug/L		102	80 - 120		
1,2-Dibromo-3-Chloropropane			20.0	17.1		ug/L		86	47 - 131		
Isopropylbenzene			20.0	20.3		ug/L		101	80 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: LCSD 410-34763/34
Matrix: Water
Analysis Batch: 34763

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
cis-1,3-Dichloropropene			20.0	18.7		ug/L		94	75 - 120	0	30
trans-1,3-Dichloropropene			20.0	18.1		ug/L		91	67 - 120	1	30
Ethylbenzene			20.0	20.1		ug/L		100	80 - 120	0	30
Styrene			20.0	19.6		ug/L		98	80 - 120	0	30
1,4-Dichlorobenzene			20.0	20.3		ug/L		102	80 - 120	1	30
1,2-Dibromoethane			20.0	19.6		ug/L		98	77 - 120	1	30
1,2-Dichloroethane			20.0	19.8		ug/L		99	73 - 124	3	30
4-Methyl-2-pentanone			100	86.2		ug/L		86	62 - 133	0	30
Methylcyclohexane			20.0	19.3		ug/L		97	67 - 121	2	30
Toluene			20.0	20.3		ug/L		101	80 - 120	1	30
Chlorobenzene			20.0	20.8		ug/L		104	80 - 120	0	30
Cyclohexane			20.0	18.1		ug/L		90	68 - 126	1	30
1,2,4-Trichlorobenzene			20.0	18.9		ug/L		94	63 - 120	0	30
Dibromochloromethane			20.0	20.5		ug/L		102	71 - 120	0	30
Xylenes, Total			60.0	60.3		ug/L		101	80 - 120	0	30
Tetrachloroethene			20.0	18.7		ug/L		94	80 - 120	2	30
cis-1,2-Dichloroethene			20.0	21.1		ug/L		105	80 - 125	0	30
trans-1,2-Dichloroethene			20.0	20.1		ug/L		101	80 - 126	1	30
Methyl tertiary butyl ether			20.0	17.1		ug/L		85	69 - 122	1	30
1,3-Dichlorobenzene			20.0	19.8		ug/L		99	80 - 120	0	30
Carbon tetrachloride			20.0	20.6		ug/L		103	64 - 134	1	30
2-Hexanone			100	86.8		ug/L		87	56 - 135	1	30
Acetone			150	141		ug/L		94	54 - 157	2	30
Chloroform			20.0	20.3		ug/L		102	80 - 120	1	30
Benzene			20.0	20.2		ug/L		101	80 - 120	0	30
1,1,1-Trichloroethane			20.0	20.3		ug/L		102	67 - 126	0	30

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 410-34763/34
Matrix: Water
Analysis Batch: 34763

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromomethane			20.0	25.8	*	ug/L		129	53 - 128	1	30
Chloromethane			20.0	18.1		ug/L		91	56 - 121	0	30
Chloroethane			20.0	24.2		ug/L		121	55 - 123	1	30
Vinyl chloride			20.0	19.4		ug/L		97	56 - 120	1	30
Methylene Chloride			20.0	20.4		ug/L		102	80 - 120	1	30
Carbon disulfide			20.0	19.5		ug/L		97	65 - 128	1	30
Bromoform			20.0	18.0		ug/L		90	51 - 120	0	30
Bromodichloromethane			20.0	19.9		ug/L		99	71 - 120	1	30
1,1-Dichloroethane			20.0	19.5		ug/L		97	80 - 120	0	30
1,1-Dichloroethene			20.0	20.8		ug/L		104	80 - 131	1	30
Trichlorofluoromethane			20.0	26.3		ug/L		132	55 - 135	0	30
Dichlorodifluoromethane			20.0	16.0		ug/L		80	41 - 127	1	30
Freon 113			20.0	19.3		ug/L		96	73 - 139	0	30
1,2-Dichloropropane			20.0	20.0		ug/L		100	80 - 120	1	30
2-Butanone			150	122		ug/L		81	59 - 135	3	30
1,1,2-Trichloroethane			20.0	21.0		ug/L		105	80 - 120	1	30
Trichloroethene			20.0	20.2		ug/L		101	80 - 120	0	30
Methyl acetate			20.0	16.1		ug/L		80	54 - 136	0	30
1,1,2,2-Tetrachloroethane			20.0	19.6		ug/L		98	72 - 120	0	30
1,2-Dichlorobenzene			20.0	20.3		ug/L		101	80 - 120	0	30
1,2-Dibromo-3-Chloropropane			20.0	16.7		ug/L		83	47 - 131	2	30
Isopropylbenzene			20.0	20.2		ug/L		101	80 - 120	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*98*		*80 - 120*
4-Bromofluorobenzene (Surr)	*97*		*80 - 120*
Toluene-d8 (Surr)	*101*		*80 - 120*

Lab Sample ID: 410-10696-2 MS
Matrix: Water
Analysis Batch: 34763

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,3-Dichloropropene	ND		20.0	18.1		ug/L		91	75 - 120
trans-1,3-Dichloropropene	ND		20.0	18.0		ug/L		90	67 - 120
Ethylbenzene	ND		20.0	20.9		ug/L		105	80 - 120
Styrene	ND		20.0	20.1		ug/L		101	80 - 120
1,4-Dichlorobenzene	ND		20.0	20.6		ug/L		103	80 - 120
1,2-Dibromoethane	ND		20.0	19.6		ug/L		98	77 - 120
1,2-Dichloroethane	ND		20.0	19.9		ug/L		100	73 - 124
4-Methyl-2-pentanone	ND		100	84.1		ug/L		84	62 - 133
Methylcyclohexane	0.54	J	20.0	22.4		ug/L		109	67 - 121
Toluene	ND		20.0	20.9		ug/L		105	80 - 120
Chlorobenzene	ND		20.0	21.4		ug/L		107	80 - 120
Cyclohexane	ND		20.0	20.6		ug/L		103	68 - 126
1,2,4-Trichlorobenzene	ND		20.0	20.9		ug/L		105	63 - 120
Dibromochloromethane	ND		20.0	20.6		ug/L		103	71 - 120

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 410-10696-2 MS
Matrix: Water
Analysis Batch: 34763

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Xylenes, Total	ND		60.0	63.2		ug/L		105	80 - 120
Tetrachloroethene	ND		20.0	19.1		ug/L		95	80 - 120
cis-1,2-Dichloroethene	ND		20.0	21.9		ug/L		109	80 - 125
trans-1,2-Dichloroethene	ND		20.0	21.5		ug/L		107	80 - 126
Methyl tertiary butyl ether	ND		20.0	16.7		ug/L		83	69 - 122
1,3-Dichlorobenzene	ND		20.0	20.3		ug/L		101	80 - 120
Carbon tetrachloride	ND		20.0	22.4		ug/L		112	64 - 134
2-Hexanone	ND		100	85.1		ug/L		85	56 - 135
Acetone	1.1	J	150	160		ug/L		106	54 - 157
Chloroform	ND		20.0	21.2		ug/L		106	80 - 120
Benzene	ND		20.0	21.2		ug/L		106	80 - 120
1,1,1-Trichloroethane	ND		20.0	21.8		ug/L		109	67 - 126
Bromomethane	ND	* F1	20.0	29.0	F1	ug/L		145	53 - 128
Chloromethane	ND		20.0	20.4		ug/L		102	56 - 121
Chloroethane	ND	F1	20.0	26.3	F1	ug/L		132	55 - 123
Vinyl chloride	ND		20.0	22.1		ug/L		110	56 - 120
Methylene Chloride	ND		20.0	21.1		ug/L		106	80 - 120
Carbon disulfide	ND		20.0	21.6		ug/L		108	65 - 128
Bromoform	ND		20.0	17.5		ug/L		87	51 - 120
Bromodichloromethane	ND		20.0	20.5		ug/L		103	71 - 120
1,1-Dichloroethane	ND		20.0	20.3		ug/L		102	80 - 120
1,1-Dichloroethene	ND		20.0	22.6		ug/L		113	80 - 131
Trichlorofluoromethane	ND	F1	20.0	28.6	F1	ug/L		143	55 - 135
Dichlorodifluoromethane	ND		20.0	20.5		ug/L		102	41 - 127
Freon 113	ND		20.0	21.9		ug/L		109	73 - 139
1,2-Dichloropropane	ND		20.0	20.2		ug/L		101	80 - 120
2-Butanone	ND		150	115		ug/L		77	59 - 135
1,1,2-Trichloroethane	ND		20.0	21.3		ug/L		106	80 - 120
Trichloroethene	ND		20.0	21.3		ug/L		107	80 - 120
Methyl acetate	ND		20.0	15.3		ug/L		77	54 - 136
1,1,2,2-Tetrachloroethane	ND		20.0	19.3		ug/L		96	72 - 120
1,2-Dichlorobenzene	ND		20.0	20.8		ug/L		104	80 - 120
1,2-Dibromo-3-Chloropropane	ND		20.0	17.3		ug/L		87	47 - 131
Isopropylbenzene	ND		20.0	21.8		ug/L		109	80 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: 410-10696-2 MSD
Matrix: Water
Analysis Batch: 34763

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
cis-1,3-Dichloropropene	ND		20.0	17.7		ug/L		88	75 - 120	3	30
trans-1,3-Dichloropropene	ND		20.0	17.9		ug/L		89	67 - 120	1	30

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 410-10696-2 MSD
Matrix: Water
Analysis Batch: 34763

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylbenzene	ND		20.0	20.4		ug/L		102	80 - 120	3	30
Styrene	ND		20.0	19.5		ug/L		98	80 - 120	3	30
1,4-Dichlorobenzene	ND		20.0	20.0		ug/L		100	80 - 120	3	30
1,2-Dibromoethane	ND		20.0	19.1		ug/L		96	77 - 120	2	30
1,2-Dichloroethane	ND		20.0	19.4		ug/L		97	73 - 124	3	30
4-Methyl-2-pentanone	ND		100	82.5		ug/L		83	62 - 133	2	30
Methylcyclohexane	0.54	J	20.0	21.7		ug/L		106	67 - 121	3	30
Toluene	ND		20.0	20.3		ug/L		101	80 - 120	3	30
Chlorobenzene	ND		20.0	20.8		ug/L		104	80 - 120	3	30
Cyclohexane	ND		20.0	19.7		ug/L		99	68 - 126	5	30
1,2,4-Trichlorobenzene	ND		20.0	20.5		ug/L		102	63 - 120	2	30
Dibromochloromethane	ND		20.0	20.0		ug/L		100	71 - 120	3	30
Xylenes, Total	ND		60.0	61.3		ug/L		102	80 - 120	3	30
Tetrachloroethene	ND		20.0	18.5		ug/L		92	80 - 120	3	30
cis-1,2-Dichloroethene	ND		20.0	20.8		ug/L		104	80 - 125	5	30
trans-1,2-Dichloroethene	ND		20.0	20.9		ug/L		105	80 - 126	3	30
Methyl tertiary butyl ether	ND		20.0	16.6		ug/L		83	69 - 122	1	30
1,3-Dichlorobenzene	ND		20.0	19.6		ug/L		98	80 - 120	3	30
Carbon tetrachloride	ND		20.0	21.6		ug/L		108	64 - 134	4	30
2-Hexanone	ND		100	83.6		ug/L		84	56 - 135	2	30
Acetone	1.1	J	150	154		ug/L		102	54 - 157	4	30
Chloroform	ND		20.0	20.8		ug/L		104	80 - 120	2	30
Benzene	ND		20.0	20.5		ug/L		102	80 - 120	4	30
1,1,1-Trichloroethane	ND		20.0	21.0		ug/L		105	67 - 126	4	30
Bromomethane	ND	* F1	20.0	28.0	F1	ug/L		140	53 - 128	3	30
Chloromethane	ND		20.0	19.9		ug/L		99	56 - 121	2	30
Chloroethane	ND	F1	20.0	25.9	F1	ug/L		129	55 - 123	2	30
Vinyl chloride	ND		20.0	21.7		ug/L		108	56 - 120	2	30
Methylene Chloride	ND		20.0	20.3		ug/L		102	80 - 120	4	30
Carbon disulfide	ND		20.0	20.7		ug/L		104	65 - 128	4	30
Bromoform	ND		20.0	17.4		ug/L		87	51 - 120	0	30
Bromodichloromethane	ND		20.0	19.8		ug/L		99	71 - 120	4	30
1,1-Dichloroethane	ND		20.0	19.7		ug/L		99	80 - 120	3	30
1,1-Dichloroethene	ND		20.0	22.1		ug/L		111	80 - 131	2	30
Trichlorofluoromethane	ND	F1	20.0	29.1	F1	ug/L		146	55 - 135	2	30
Dichlorodifluoromethane	ND		20.0	18.7		ug/L		93	41 - 127	9	30
Freon 113	ND		20.0	20.8		ug/L		104	73 - 139	5	30
1,2-Dichloropropane	ND		20.0	19.8		ug/L		99	80 - 120	2	30
2-Butanone	ND		150	114		ug/L		76	59 - 135	1	30
1,1,2-Trichloroethane	ND		20.0	21.2		ug/L		106	80 - 120	0	30
Trichloroethene	ND		20.0	20.5		ug/L		102	80 - 120	4	30
Methyl acetate	ND		20.0	15.0		ug/L		75	54 - 136	2	30
1,1,2,2-Tetrachloroethane	ND		20.0	18.8		ug/L		94	72 - 120	2	30
1,2-Dichlorobenzene	ND		20.0	20.0		ug/L		100	80 - 120	4	30
1,2-Dibromo-3-Chloropropane	ND		20.0	17.1		ug/L		85	47 - 131	2	30
Isopropylbenzene	ND		20.0	21.0		ug/L		105	80 - 120	4	30

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 410-10696-2 MSD
Matrix: Water
Analysis Batch: 34763

Client Sample ID: MW-03
Prep Type: Total/NA

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	*99*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*
Toluene-d8 (Surr)	*100*		*80 - 120*

Lab Sample ID: MB 410-35697/12
Matrix: Water
Analysis Batch: 35697

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,3-Dichloropropene	ND		1.0	0.20	ug/L			08/21/20 12:24	1
trans-1,3-Dichloropropene	ND		1.0	0.20	ug/L			08/21/20 12:24	1
Ethylbenzene	ND		1.0	0.40	ug/L			08/21/20 12:24	1
Styrene	ND		5.0	0.20	ug/L			08/21/20 12:24	1
1,4-Dichlorobenzene	ND		5.0	0.20	ug/L			08/21/20 12:24	1
1,2-Dibromoethane	ND		1.0	0.20	ug/L			08/21/20 12:24	1
1,2-Dichloroethane	ND		1.0	0.30	ug/L			08/21/20 12:24	1
4-Methyl-2-pentanone	ND		10	0.50	ug/L			08/21/20 12:24	1
Methylcyclohexane	ND		5.0	0.50	ug/L			08/21/20 12:24	1
Toluene	ND		1.0	0.20	ug/L			08/21/20 12:24	1
Chlorobenzene	ND		1.0	0.20	ug/L			08/21/20 12:24	1
Cyclohexane	ND		5.0	1.0	ug/L			08/21/20 12:24	1
1,2,4-Trichlorobenzene	ND		5.0	0.30	ug/L			08/21/20 12:24	1
Dibromochloromethane	ND		1.0	0.20	ug/L			08/21/20 12:24	1
Xylenes, Total	ND		6.0	1.4	ug/L			08/21/20 12:24	1
Tetrachloroethene	ND		1.0	0.20	ug/L			08/21/20 12:24	1
cis-1,2-Dichloroethene	ND		1.0	0.20	ug/L			08/21/20 12:24	1
trans-1,2-Dichloroethene	ND		5.0	0.20	ug/L			08/21/20 12:24	1
Methyl tertiary butyl ether	ND		1.0	0.20	ug/L			08/21/20 12:24	1
1,3-Dichlorobenzene	ND		5.0	0.20	ug/L			08/21/20 12:24	1
Carbon tetrachloride	ND		1.0	0.20	ug/L			08/21/20 12:24	1
2-Hexanone	ND		10	0.30	ug/L			08/21/20 12:24	1
Acetone	ND		20	0.70	ug/L			08/21/20 12:24	1
Chloroform	ND		1.0	0.20	ug/L			08/21/20 12:24	1
Benzene	ND		1.0	0.20	ug/L			08/21/20 12:24	1
1,1,1-Trichloroethane	ND		1.0	0.30	ug/L			08/21/20 12:24	1
Bromomethane	ND		1.0	0.30	ug/L			08/21/20 12:24	1
Chloromethane	ND		1.0	0.20	ug/L			08/21/20 12:24	1
Chloroethane	ND		1.0	0.20	ug/L			08/21/20 12:24	1
Vinyl chloride	ND		1.0	0.20	ug/L			08/21/20 12:24	1
Methylene Chloride	ND		1.0	0.30	ug/L			08/21/20 12:24	1
Carbon disulfide	ND		5.0	0.20	ug/L			08/21/20 12:24	1
Bromoform	ND		4.0	1.0	ug/L			08/21/20 12:24	1
Bromodichloromethane	ND		1.0	0.20	ug/L			08/21/20 12:24	1
1,1-Dichloroethane	ND		1.0	0.20	ug/L			08/21/20 12:24	1
1,1-Dichloroethene	ND		1.0	0.20	ug/L			08/21/20 12:24	1
Trichlorofluoromethane	ND		1.0	0.20	ug/L			08/21/20 12:24	1
Dichlorodifluoromethane	ND		1.0	0.20	ug/L			08/21/20 12:24	1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 410-35697/12
Matrix: Water
Analysis Batch: 35697

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Freon 113	ND		10	0.20	ug/L			08/21/20 12:24	1
1,2-Dichloropropane	ND		1.0	0.20	ug/L			08/21/20 12:24	1
2-Butanone	ND		10	0.30	ug/L			08/21/20 12:24	1
1,1,2-Trichloroethane	ND		1.0	0.20	ug/L			08/21/20 12:24	1
Trichloroethene	ND		1.0	0.20	ug/L			08/21/20 12:24	1
Methyl acetate	ND		5.0	0.30	ug/L			08/21/20 12:24	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.20	ug/L			08/21/20 12:24	1
1,2-Dichlorobenzene	ND		5.0	0.20	ug/L			08/21/20 12:24	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.30	ug/L			08/21/20 12:24	1
Isopropylbenzene	ND		5.0	0.20	ug/L			08/21/20 12:24	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*80 - 120*		*08/21/20 12:24*	*1*
Dibromofluoromethane (Surr)	*104*		*80 - 120*		*08/21/20 12:24*	*1*
4-Bromofluorobenzene (Surr)	*88*		*80 - 120*		*08/21/20 12:24*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*08/21/20 12:24*	*1*

Lab Sample ID: LCS 410-35697/6
Matrix: Water
Analysis Batch: 35697

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,3-Dichloropropene	20.0	18.9		ug/L		95	75 - 120
trans-1,3-Dichloropropene	20.0	18.3		ug/L		92	67 - 120
Ethylbenzene	20.0	20.6		ug/L		103	80 - 120
Styrene	20.0	20.3		ug/L		102	80 - 120
1,4-Dichlorobenzene	20.0	20.5		ug/L		103	80 - 120
1,2-Dibromoethane	20.0	20.1		ug/L		101	77 - 120
1,2-Dichloroethane	20.0	21.0		ug/L		105	73 - 124
4-Methyl-2-pentanone	100	92.6		ug/L		93	62 - 133
Methylcyclohexane	20.0	18.2		ug/L		91	67 - 121
Toluene	20.0	21.1		ug/L		105	80 - 120
Chlorobenzene	20.0	21.9		ug/L		109	80 - 120
Cyclohexane	20.0	18.0		ug/L		90	68 - 126
1,2,4-Trichlorobenzene	20.0	18.3		ug/L		91	63 - 120
Dibromochloromethane	20.0	20.9		ug/L		105	71 - 120
Xylenes, Total	60.0	62.2		ug/L		104	80 - 120
Tetrachloroethene	20.0	18.3		ug/L		92	80 - 120
cis-1,2-Dichloroethene	20.0	22.0		ug/L		110	80 - 125
trans-1,2-Dichloroethene	20.0	21.2		ug/L		106	80 - 126
Methyl tertiary butyl ether	20.0	17.1		ug/L		85	69 - 122
1,3-Dichlorobenzene	20.0	20.2		ug/L		101	80 - 120
Carbon tetrachloride	20.0	21.7		ug/L		109	64 - 134
2-Hexanone	100	91.9		ug/L		92	56 - 135
Acetone	150	168		ug/L		112	54 - 157
Chloroform	20.0	21.6		ug/L		108	80 - 120
Benzene	20.0	21.4		ug/L		107	80 - 120
1,1,1-Trichloroethane	20.0	21.1		ug/L		106	67 - 126

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 410-35697/6
Matrix: Water
Analysis Batch: 35697

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromomethane	20.0	26.4	*	ug/L		132	53 - 128
Chloromethane	20.0	18.7		ug/L		94	56 - 121
Chloroethane	20.0	24.0		ug/L		120	55 - 123
Vinyl chloride	20.0	19.7		ug/L		99	56 - 120
Methylene Chloride	20.0	21.5		ug/L		107	80 - 120
Carbon disulfide	20.0	20.9		ug/L		104	65 - 128
Bromoform	20.0	17.7		ug/L		88	51 - 120
Bromodichloromethane	20.0	20.6		ug/L		103	71 - 120
1,1-Dichloroethane	20.0	20.3		ug/L		102	80 - 120
1,1-Dichloroethene	20.0	21.8		ug/L		109	80 - 131
Trichlorofluoromethane	20.0	24.6		ug/L		123	55 - 135
Dichlorodifluoromethane	20.0	16.4		ug/L		82	41 - 127
Freon 113	20.0	20.5		ug/L		103	73 - 139
1,2-Dichloropropane	20.0	21.0		ug/L		105	80 - 120
2-Butanone	150	135		ug/L		90	59 - 135
1,1,2-Trichloroethane	20.0	22.2		ug/L		111	80 - 120
Trichloroethene	20.0	20.8		ug/L		104	80 - 120
Methyl acetate	20.0	17.3		ug/L		87	54 - 136
1,1,2,2-Tetrachloroethane	20.0	20.3		ug/L		102	72 - 120
1,2-Dichlorobenzene	20.0	20.8		ug/L		104	80 - 120
1,2-Dibromo-3-Chloropropane	20.0	17.2		ug/L		86	47 - 131
Isopropylbenzene	20.0	20.3		ug/L		102	80 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*80 - 120*
Dibromofluoromethane (Surr)	*100*		*80 - 120*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Toluene-d8 (Surr)	*102*		*80 - 120*

Lab Sample ID: LCSD 410-35697/8
Matrix: Water
Analysis Batch: 35697

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
cis-1,3-Dichloropropene	20.0	18.9		ug/L		94	75 - 120	0	30
trans-1,3-Dichloropropene	20.0	18.3		ug/L		92	67 - 120	0	30
Ethylbenzene	20.0	20.5		ug/L		103	80 - 120	0	30
Styrene	20.0	20.1		ug/L		100	80 - 120	1	30
1,4-Dichlorobenzene	20.0	20.8		ug/L		104	80 - 120	1	30
1,2-Dibromoethane	20.0	20.4		ug/L		102	77 - 120	1	30
1,2-Dichloroethane	20.0	21.0		ug/L		105	73 - 124	0	30
4-Methyl-2-pentanone	100	93.0		ug/L		93	62 - 133	0	30
Methylcyclohexane	20.0	18.2		ug/L		91	67 - 121	0	30
Toluene	20.0	20.9		ug/L		104	80 - 120	1	30
Chlorobenzene	20.0	21.7		ug/L		108	80 - 120	1	30
Cyclohexane	20.0	17.8		ug/L		89	68 - 126	1	30
1,2,4-Trichlorobenzene	20.0	18.4		ug/L		92	63 - 120	0	30
Dibromochloromethane	20.0	20.8		ug/L		104	71 - 120	1	30

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 410-35697/8
Matrix: Water
Analysis Batch: 35697

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Xylenes, Total			60.0	61.3		ug/L		102	80 - 120	1	30
Tetrachloroethene			20.0	18.4		ug/L		92	80 - 120	0	30
cis-1,2-Dichloroethene			20.0	21.8		ug/L		109	80 - 125	1	30
trans-1,2-Dichloroethene			20.0	20.9		ug/L		105	80 - 126	1	30
Methyl tertiary butyl ether			20.0	17.1		ug/L		85	69 - 122	0	30
1,3-Dichlorobenzene			20.0	20.4		ug/L		102	80 - 120	1	30
Carbon tetrachloride			20.0	21.5		ug/L		108	64 - 134	1	30
2-Hexanone			100	93.3		ug/L		93	56 - 135	2	30
Acetone			150	164		ug/L		109	54 - 157	2	30
Chloroform			20.0	21.5		ug/L		108	80 - 120	0	30
Benzene			20.0	21.3		ug/L		106	80 - 120	1	30
1,1,1-Trichloroethane			20.0	21.1		ug/L		105	67 - 126	0	30
Bromomethane			20.0	24.4		ug/L		122	53 - 128	8	30
Chloromethane			20.0	18.6		ug/L		93	56 - 121	1	30
Chloroethane			20.0	23.8		ug/L		119	55 - 123	1	30
Vinyl chloride			20.0	19.2		ug/L		96	56 - 120	3	30
Methylene Chloride			20.0	21.5		ug/L		107	80 - 120	0	30
Carbon disulfide			20.0	20.9		ug/L		105	65 - 128	0	30
Bromoform			20.0	17.7		ug/L		88	51 - 120	0	30
Bromodichloromethane			20.0	20.7		ug/L		104	71 - 120	1	30
1,1-Dichloroethane			20.0	20.2		ug/L		101	80 - 120	1	30
1,1-Dichloroethene			20.0	21.7		ug/L		108	80 - 131	0	30
Trichlorofluoromethane			20.0	23.9		ug/L		119	55 - 135	3	30
Dichlorodifluoromethane			20.0	15.8		ug/L		79	41 - 127	4	30
Freon 113			20.0	20.2		ug/L		101	73 - 139	1	30
1,2-Dichloropropane			20.0	20.8		ug/L		104	80 - 120	1	30
2-Butanone			150	135		ug/L		90	59 - 135	0	30
1,1,2-Trichloroethane			20.0	22.1		ug/L		111	80 - 120	0	30
Trichloroethene			20.0	20.6		ug/L		103	80 - 120	1	30
Methyl acetate			20.0	16.7		ug/L		84	54 - 136	4	30
1,1,2,2-Tetrachloroethane			20.0	20.5		ug/L		103	72 - 120	1	30
1,2-Dichlorobenzene			20.0	20.7		ug/L		103	80 - 120	0	30
1,2-Dibromo-3-Chloropropane			20.0	17.9		ug/L		89	47 - 131	4	30
Isopropylbenzene			20.0	20.2		ug/L		101	80 - 120	0	30

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*99*		*80 - 120*
4-Bromofluorobenzene (Surr)	*98*		*80 - 120*
Toluene-d8 (Surr)	*101*		*80 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 410-33824/1-A
Matrix: Water
Analysis Batch: 34301

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33824

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	ND		10	3.0	ug/L		08/17/20 08:45	08/18/20 11:00	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 410-33824/1-A
Matrix: Water
Analysis Batch: 34301

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33824

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4-Dichlorophenol	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 11:00	1
2,4-Dimethylphenol	ND		10	3.0	ug/L		08/17/20 08:45	08/18/20 11:00	1
2,4-Dinitrophenol	ND		30	14	ug/L		08/17/20 08:45	08/18/20 11:00	1
2,4-Dinitrotoluene	ND		5.0	1.0	ug/L		08/17/20 08:45	08/18/20 11:00	1
2,4,5-Trichlorophenol	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 11:00	1
2,4,6-Trichlorophenol	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 11:00	1
2,2'-oxybis[1-chloropropane]	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 11:00	1
Di-n-butyl phthalate	ND		5.0	2.0	ug/L		08/17/20 08:45	08/18/20 11:00	1
Di-n-octyl phthalate	ND		11	5.0	ug/L		08/17/20 08:45	08/18/20 11:00	1
Benzo[a]anthracene	ND		0.50	0.10	ug/L		08/17/20 08:45	08/18/20 11:00	1
Benzo[a]pyrene	ND		0.50	0.10	ug/L		08/17/20 08:45	08/18/20 11:00	1
Benzo[b]fluoranthene	ND		0.50	0.10	ug/L		08/17/20 08:45	08/18/20 11:00	1
Benzo[g,h,i]perylene	ND		0.50	0.10	ug/L		08/17/20 08:45	08/18/20 11:00	1
Benzo[k]fluoranthene	ND		0.50	0.10	ug/L		08/17/20 08:45	08/18/20 11:00	1
Acenaphthene	ND		0.50	0.10	ug/L		08/17/20 08:45	08/18/20 11:00	1
Acenaphthylene	ND		0.50	0.10	ug/L		08/17/20 08:45	08/18/20 11:00	1
Acetophenone	ND		10	4.0	ug/L		08/17/20 08:45	08/18/20 11:00	1
Anthracene	ND		0.50	0.10	ug/L		08/17/20 08:45	08/18/20 11:00	1
Atrazine	ND		5.0	2.0	ug/L		08/17/20 08:45	08/18/20 11:00	1
Benzaldehyde	ND		10	3.0	ug/L		08/17/20 08:45	08/18/20 11:00	1
Butylbenzylphthalate	ND		5.0	2.0	ug/L		08/17/20 08:45	08/18/20 11:00	1
Caprolactam	ND		11	5.0	ug/L		08/17/20 08:45	08/18/20 11:00	1
Carbazole	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 11:00	1
Chrysene	ND		0.50	0.10	ug/L		08/17/20 08:45	08/18/20 11:00	1
Dibenz(a,h)anthracene	ND		0.50	0.10	ug/L		08/17/20 08:45	08/18/20 11:00	1
Dibenzofuran	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 11:00	1
Diethyl phthalate	ND		5.0	2.0	ug/L		08/17/20 08:45	08/18/20 11:00	1
Dimethyl phthalate	ND		5.0	2.0	ug/L		08/17/20 08:45	08/18/20 11:00	1
Hexachlorobenzene	ND		0.50	0.10	ug/L		08/17/20 08:45	08/18/20 11:00	1
Hexachlorobutadiene	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 11:00	1
Hexachlorocyclopentadiene	ND		11	5.0	ug/L		08/17/20 08:45	08/18/20 11:00	1
Hexachloroethane	ND		5.0	1.0	ug/L		08/17/20 08:45	08/18/20 11:00	1
Fluoranthene	ND		0.50	0.10	ug/L		08/17/20 08:45	08/18/20 11:00	1
Fluorene	ND		0.50	0.10	ug/L		08/17/20 08:45	08/18/20 11:00	1
Indeno[1,2,3-cd]pyrene	ND		0.50	0.10	ug/L		08/17/20 08:45	08/18/20 11:00	1
Isophorone	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 11:00	1
N-Nitrosodi-n-propylamine	ND		3.0	0.70	ug/L		08/17/20 08:45	08/18/20 11:00	1
N-Nitrosodiphenylamine	ND		3.0	0.70	ug/L		08/17/20 08:45	08/18/20 11:00	1
Naphthalene	ND		0.50	0.10	ug/L		08/17/20 08:45	08/18/20 11:00	1
Nitrobenzene	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 11:00	1
Pentachlorophenol	ND		5.0	1.0	ug/L		08/17/20 08:45	08/18/20 11:00	1
Phenanthrene	ND		0.50	0.10	ug/L		08/17/20 08:45	08/18/20 11:00	1
Phenol	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 11:00	1
Pyrene	ND		0.50	0.10	ug/L		08/17/20 08:45	08/18/20 11:00	1
2-Chloronaphthalene	ND		1.0	0.40	ug/L		08/17/20 08:45	08/18/20 11:00	1
2-Chlorophenol	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 11:00	1
2-Methylnaphthalene	ND		0.50	0.10	ug/L		08/17/20 08:45	08/18/20 11:00	1
2-Methylphenol	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 11:00	1
2-Nitroaniline	ND		5.0	2.0	ug/L		08/17/20 08:45	08/18/20 11:00	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 410-33824/1-A
Matrix: Water
Analysis Batch: 34301

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33824

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Nitrophenol	ND		10	3.0	ug/L		08/17/20 08:45	08/18/20 11:00	1
3,3'-Dichlorobenzidine	ND		10	3.0	ug/L		08/17/20 08:45	08/18/20 11:00	1
3-Nitroaniline	ND		7.0	3.0	ug/L		08/17/20 08:45	08/18/20 11:00	1
4,6-Dinitro-2-methylphenol	ND		21	8.0	ug/L		08/17/20 08:45	08/18/20 11:00	1
4-Bromophenyl-phenylether	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 11:00	1
4-Methylphenol	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 11:00	1
4-Nitroaniline	ND		3.0	0.90	ug/L		08/17/20 08:45	08/18/20 11:00	1
4-Nitrophenol	ND		30	10	ug/L		08/17/20 08:45	08/18/20 11:00	1
Bis(2-chloroethoxy)methane	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 11:00	1
Bis(2-chloroethyl)ether	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 11:00	1
Bis(2-ethylhexyl) phthalate	ND		11	5.0	ug/L		08/17/20 08:45	08/18/20 11:00	1
2,6-Dinitrotoluene	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 11:00	1
4-Chloro-3-methylphenol	ND		3.5	1.6	ug/L		08/17/20 08:45	08/18/20 11:00	1
4-Chloroaniline	ND		10	4.0	ug/L		08/17/20 08:45	08/18/20 11:00	1
4-Chlorophenyl-phenyl ether	ND		2.0	0.50	ug/L		08/17/20 08:45	08/18/20 11:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*56*		*18 - 141*	*08/17/20 08:45*	*08/18/20 11:00*	*1*
2-Fluorobiphenyl (Surr)	*44*		*44 - 102*	*08/17/20 08:45*	*08/18/20 11:00*	*1*
2-Fluorophenol (Surr)	*28*		*10 - 84*	*08/17/20 08:45*	*08/18/20 11:00*	*1*
Nitrobenzene-d5 (Surr)	*48*		*38 - 113*	*08/17/20 08:45*	*08/18/20 11:00*	*1*
p-Terphenyl-d14 (Surr)	*55*		*34 - 128*	*08/17/20 08:45*	*08/18/20 11:00*	*1*
Phenol-d5 (Surr)	*21*		*10 - 67*	*08/17/20 08:45*	*08/18/20 11:00*	*1*

Lab Sample ID: LCS 410-33824/2-A
Matrix: Water
Analysis Batch: 34301

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33824

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1'-Biphenyl	50.2	26.7	*	ug/L		53	56 - 109
2,4-Dichlorophenol	50.1	30.9	*	ug/L		62	65 - 110
2,4-Dimethylphenol	50.1	26.2	*	ug/L		52	53 - 93
2,4-Dinitrophenol	100	67.0		ug/L		67	44 - 134
2,4-Dinitrotoluene	50.3	32.0	*	ug/L		64	66 - 122
2,4,5-Trichlorophenol	50.2	33.0		ug/L		66	66 - 118
2,4,6-Trichlorophenol	50.1	33.2	*	ug/L		66	69 - 117
2,2'-oxybis[1-chloropropane]	50.2	26.0		ug/L		52	48 - 105
Di-n-butyl phthalate	50.2	31.2		ug/L		62	58 - 125
Di-n-octyl phthalate	50.2	30.9		ug/L		62	60 - 136
Benzo[a]anthracene	50.0	30.4	*	ug/L		61	68 - 123
Benzo[a]pyrene	50.2	26.8	*	ug/L		53	71 - 117
Benzo[b]fluoranthene	50.1	28.2	*	ug/L		56	69 - 121
Benzo[g,h,i]perylene	50.1	25.9	*	ug/L		52	60 - 119
Benzo[k]fluoranthene	50.1	30.4	*	ug/L		61	69 - 122
Acenaphthene	50.1	26.0		ug/L		52	52 - 114
Acenaphthylene	50.2	29.0		ug/L		58	56 - 127
Acetophenone	50.1	30.2	*	ug/L		60	61 - 114
Anthracene	50.1	31.1	*	ug/L		62	67 - 116

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 410-33824/2-A
Matrix: Water
Analysis Batch: 34301

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33824

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Atrazine	50.4	35.6		ug/L		71	71 - 133
Benzaldehyde	50.5	27.2	*	ug/L		54	55 - 116
Butylbenzylphthalate	50.0	27.7		ug/L		55	40 - 133
Caprolactam	50.5	7.56	J	ug/L		15	10 - 57
Carbazole	50.0	33.4		ug/L		67	64 - 127
Chrysene	50.0	33.5		ug/L		67	65 - 121
Dibenz(a,h)anthracene	50.2	25.8	*	ug/L		52	63 - 128
Dibenzofuran	50.0	27.4	*	ug/L		55	60 - 112
Diethyl phthalate	50.1	26.4		ug/L		53	41 - 126
Dimethyl phthalate	50.0	18.2		ug/L		36	10 - 134
Hexachlorobenzene	50.1	29.7	*	ug/L		59	60 - 117
Hexachlorobutadiene	50.4	20.5		ug/L		41	20 - 108
Hexachlorocyclopentadiene	101	15.1		ug/L		15	10 - 91
Hexachloroethane	50.3	19.0		ug/L		38	23 - 95
Fluoranthene	50.1	34.9		ug/L		70	63 - 122
Fluorene	50.1	29.5		ug/L		59	56 - 115
Indeno[1,2,3-cd]pyrene	50.2	25.2	*	ug/L		50	59 - 123
Isophorone	50.0	31.2	*	ug/L		62	63 - 120
N-Nitrosodi-n-propylamine	50.0	31.7		ug/L		63	58 - 120
N-Nitrosodiphenylamine	50.0	31.0		ug/L		62	60 - 126
Naphthalene	50.4	25.5		ug/L		51	51 - 102
Nitrobenzene	50.2	29.9		ug/L		60	59 - 109
Pentachlorophenol	50.4	33.8		ug/L		67	54 - 131
Phenanthrene	50.2	29.8	*	ug/L		59	65 - 113
Phenol	50.2	16.0		ug/L		32	19 - 79
Pyrene	50.4	30.1	*	ug/L		60	65 - 115
2-Chloronaphthalene	50.0	25.8		ug/L		52	51 - 107
2-Chlorophenol	50.2	28.7		ug/L		57	57 - 105
2-Methylnaphthalene	50.0	26.5		ug/L		53	51 - 107
2-Methylphenol	50.2	28.7		ug/L		57	53 - 107
2-Nitroaniline	50.1	30.8	*	ug/L		62	66 - 126
2-Nitrophenol	50.1	31.4		ug/L		63	63 - 111
3,3'-Dichlorobenzidine	50.2	26.8		ug/L		53	42 - 107
3-Nitroaniline	50.2	28.7		ug/L		57	55 - 121
4,6-Dinitro-2-methylphenol	50.0	33.5		ug/L		67	63 - 129
4-Bromophenyl-phenylether	50.3	29.8	*	ug/L		59	60 - 114
4-Methylphenol	50.1	26.7		ug/L		53	49 - 108
4-Nitroaniline	50.1	28.8		ug/L		58	55 - 113
4-Nitrophenol	50.1	18.8	J	ug/L		37	23 - 89
Bis(2-chloroethoxy)methane	50.4	30.3	*	ug/L		60	63 - 116
Bis(2-chloroethyl)ether	50.3	28.6	*	ug/L		57	58 - 108
Bis(2-ethylhexyl) phthalate	50.3	34.3		ug/L		68	61 - 129
2,6-Dinitrotoluene	50.3	29.7	*	ug/L		59	71 - 120
4-Chloro-3-methylphenol	50.0	34.6		ug/L		69	60 - 118
4-Chloroaniline	50.0	25.0		ug/L		50	45 - 111
4-Chlorophenyl-phenyl ether	50.2	26.9	*	ug/L		53	57 - 110

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 410-33824/2-A
Matrix: Water
Analysis Batch: 34301

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33824

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*62*		*18 - 141*
2-Fluorobiphenyl (Surr)	*47*		*44 - 102*
2-Fluorophenol (Surr)	*34*		*10 - 84*
Nitrobenzene-d5 (Surr)	*51*		*38 - 113*
p-Terphenyl-d14 (Surr)	*51*		*34 - 128*
Phenol-d5 (Surr)	*27*		*10 - 67*

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 410-33890/1-A
Matrix: Water
Analysis Batch: 33923

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33890

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methane (1C)	ND		5.0	3.0	ug/L		08/17/20 08:59	08/17/20 11:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Propene (1C)	*97*		*28 - 140*	*08/17/20 08:59*	*08/17/20 11:22*	*1*

Lab Sample ID: LCS 410-33890/2-A
Matrix: Water
Analysis Batch: 33923

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33890

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Methane (1C)			59.4	58.3		ug/L		98	85 - 115		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Propene (1C)	*92*		*28 - 140*

Lab Sample ID: LCSD 410-33890/3-A
Matrix: Water
Analysis Batch: 33923

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 33890

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (1C)			59.4	60.6		ug/L		102	85 - 115	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Propene (1C)	*97*		*28 - 140*

Lab Sample ID: MB 410-33917/1-A
Matrix: Water
Analysis Batch: 33932

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33917

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
CO2	ND		12000	2600	ug/L		08/17/20 09:26	08/17/20 11:21	1

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: LCS 410-33917/2-A
Matrix: Water
Analysis Batch: 33932
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33917

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
CO2	35800	38200		ug/L		107	72 - 116

Method: EPA 300.0 R2.1 - Anions, Ion Chromatgraphy

Lab Sample ID: MB 410-33690/4
Matrix: Water
Analysis Batch: 33690
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.10	0.050	mg/L			08/16/20 11:59	1

Lab Sample ID: LCS 410-33690/3
Matrix: Water
Analysis Batch: 33690
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate	0.750	0.799		mg/L		107	90 - 110

Lab Sample ID: MB 410-34574/4
Matrix: Water
Analysis Batch: 34574
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate	ND		0.10	0.050	mg/L			08/19/20 00:57	1

Lab Sample ID: LCS 410-34574/3
Matrix: Water
Analysis Batch: 34574
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate	0.750	0.718		mg/L		96	90 - 110

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography

Lab Sample ID: MB 410-33689/4
Matrix: Water
Analysis Batch: 33689
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.30	mg/L			08/16/20 11:59	1

Lab Sample ID: LCS 410-33689/3
Matrix: Water
Analysis Batch: 33689
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	7.50	7.97		mg/L		106	90 - 110

Method: EPA 300.0 R2.1 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 410-34575/4
Matrix: Water
Analysis Batch: 34575

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.30	mg/L			08/19/20 00:57	1

Lab Sample ID: LCS 410-34575/3
Matrix: Water
Analysis Batch: 34575

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	7.50	7.66		mg/L		102	90 - 110

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 410-37214/1-A
Matrix: Water
Analysis Batch: 39416

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 37214

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND		0.200	0.0960	mg/L		08/26/20 02:21	08/31/20 16:37	1
Iron	ND		0.200	0.0400	mg/L		08/26/20 02:21	08/31/20 16:37	1
Magnesium	ND		0.100	0.0400	mg/L		08/26/20 02:21	08/31/20 16:37	1
Potassium	ND		0.500	0.204	mg/L		08/26/20 02:21	08/31/20 16:37	1
Sodium	ND		1.00	0.239	mg/L		08/26/20 02:21	08/31/20 16:37	1

Lab Sample ID: LCS 410-37214/2-A
Matrix: Water
Analysis Batch: 39416

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 37214

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	0.400	0.4153		mg/L		104	80 - 120
Iron	0.402	0.4078		mg/L		101	80 - 120
Magnesium	0.200	0.2077		mg/L		104	80 - 120
Potassium	5.60	5.807		mg/L		104	80 - 120
Sodium	2.00	2.151		mg/L		108	80 - 120

Lab Sample ID: MB 410-42157/1-A
Matrix: Water
Analysis Batch: 42585

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 42157

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND		0.206	0.0989	mg/L		09/09/20 14:56	09/10/20 10:08	1
Iron	ND		0.206	0.0412	mg/L		09/09/20 14:56	09/10/20 10:08	1
Magnesium	0.04576	J	0.103	0.0412	mg/L		09/09/20 14:56	09/10/20 10:08	1
Potassium	ND		0.515	0.210	mg/L		09/09/20 14:56	09/10/20 10:08	1
Sodium	ND		1.03	0.246	mg/L		09/09/20 14:56	09/10/20 10:08	1

Lab Sample ID: LCS 410-42157/2-A
Matrix: Water
Analysis Batch: 42585

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42157

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.402	0.4415		mg/L		110	80 - 120

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 410-42157/2-A
Matrix: Water
Analysis Batch: 42585

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42157

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Magnesium	0.200	0.2108		mg/L		105	80 - 120
Sodium	2.00	2.168		mg/L		108	80 - 120

Lab Sample ID: LCS 410-42157/2-A
Matrix: Water
Analysis Batch: 42602

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42157

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	0.400	0.3970		mg/L		99	80 - 120

Lab Sample ID: LCS 410-42157/2-A
Matrix: Water
Analysis Batch: 42633

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 42157

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	5.60	5.448		mg/L		97	80 - 120

Lab Sample ID: LRC 410-39416/15
Matrix: Water
Analysis Batch: 39416

Client Sample ID: Lab Control Sample

Analyte	Spike Added	LRC Result	LRC Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	500	473.2		mg/L		95	
Iron	300	286.6		mg/L		96	
Magnesium	500	446.5		mg/L		89	
Potassium	500	493.4		mg/L		99	
Sodium	500	468.0		mg/L		94	

Lab Sample ID: LRC 410-39416/17
Matrix: Water
Analysis Batch: 39416

Client Sample ID: Lab Control Sample

Analyte	Spike Added	LRC Result	LRC Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	250	243.9		mg/L		98	
Iron	150	146.6		mg/L		98	
Magnesium	250	242.3		mg/L		97	
Potassium	250	248.9		mg/L		100	
Sodium	250	243.1		mg/L		97	

Lab Sample ID: LRC 410-42585/13
Matrix: Water
Analysis Batch: 42585

Client Sample ID: Lab Control Sample

Analyte	Spike Added	LRC Result	LRC Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	500	527.4		mg/L		105	
Iron	300	317.6		mg/L		106	
Magnesium	500	523.6		mg/L		105	
Potassium	500	516.0		mg/L		103	
Sodium	500	525.4		mg/L		105	

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LRC 410-42585/15
Matrix: Water
Analysis Batch: 42585

Client Sample ID: Lab Control Sample

Analyte	Spike Added	LRC Result	LRC Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	250	274.3		mg/L		110	
Iron	150	157.8		mg/L		105	
Magnesium	250	261.0		mg/L		104	
Potassium	250	256.7		mg/L		103	
Sodium	250	264.5		mg/L		106	

Lab Sample ID: LRC 410-42633/13
Matrix: Water
Analysis Batch: 42633

Client Sample ID: Lab Control Sample

Analyte	Spike Added	LRC Result	LRC Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	500	496.2		mg/L		99	
Iron	300	300.2		mg/L		100	
Magnesium	500	519.9		mg/L		104	
Potassium	500	533.3		mg/L		107	
Sodium	500	521.7		mg/L		104	

Lab Sample ID: LRC 410-42633/15
Matrix: Water
Analysis Batch: 42633

Client Sample ID: Lab Control Sample

Analyte	Spike Added	LRC Result	LRC Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	250	258.1		mg/L		103	
Iron	150	154.7		mg/L		103	
Magnesium	250	264.4		mg/L		106	
Potassium	250	277.2		mg/L		111	
Sodium	250	273.4		mg/L		109	

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 410-33581/1-A
Matrix: Water
Analysis Batch: 34834

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33581

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		1.00	0.406	ug/L		08/15/20 11:16	08/18/20 15:28	1
Arsenic	ND		2.00	0.680	ug/L		08/15/20 11:16	08/18/20 15:28	1
Barium	ND		2.00	0.746	ug/L		08/15/20 11:16	08/18/20 15:28	1
Beryllium	ND		0.500	0.119	ug/L		08/15/20 11:16	08/18/20 15:28	1
Cadmium	ND		0.500	0.151	ug/L		08/15/20 11:16	08/18/20 15:28	1
Chromium	0.4390	J	2.00	0.334	ug/L		08/15/20 11:16	08/18/20 15:28	1
Cobalt	ND		0.500	0.156	ug/L		08/15/20 11:16	08/18/20 15:28	1
Copper	ND		1.00	0.362	ug/L		08/15/20 11:16	08/18/20 15:28	1
Lead	ND		0.500	0.0710	ug/L		08/15/20 11:16	08/18/20 15:28	1
Manganese	ND		2.00	0.634	ug/L		08/15/20 11:16	08/18/20 15:28	1
Nickel	ND		1.00	0.604	ug/L		08/15/20 11:16	08/18/20 15:28	1
Selenium	ND		1.00	0.278	ug/L		08/15/20 11:16	08/18/20 15:28	1
Silver	ND		0.500	0.170	ug/L		08/15/20 11:16	08/18/20 15:28	1
Thallium	ND		0.500	0.130	ug/L		08/15/20 11:16	08/18/20 15:28	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 410-33581/1-A
Matrix: Water
Analysis Batch: 34834

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33581

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vanadium	ND		0.500	0.236	ug/L		08/15/20 11:16	08/18/20 15:28	1
Zinc	ND		10.0	6.18	ug/L		08/15/20 11:16	08/18/20 15:28	1

Lab Sample ID: MB 410-33581/1-A
Matrix: Water
Analysis Batch: 37732

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33581

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		25.0	19.7	ug/L		08/15/20 11:16	08/26/20 19:14	1

Lab Sample ID: LCS 410-33581/2-A
Matrix: Water
Analysis Batch: 34834

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33581

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	9.89	10.50		ug/L		106	85 - 120
Barium	49.6	52.30		ug/L		105	80 - 120
Beryllium	4.02	4.098		ug/L		102	90 - 112
Cadmium	5.00	5.117		ug/L		102	86 - 113
Chromium	50.2	52.12		ug/L		104	90 - 115
Cobalt	250	242.1		ug/L		97	90 - 113
Copper	50.0	52.49		ug/L		105	80 - 120
Lead	4.92	5.342		ug/L		109	90 - 115
Manganese	50.2	53.88		ug/L		107	89 - 120
Nickel	50.2	53.18		ug/L		106	90 - 114
Selenium	10.0	10.19		ug/L		102	80 - 120
Silver	50.3	51.22		ug/L		102	88 - 113
Thallium	2.00	2.089		ug/L		104	80 - 120
Vanadium	50.0	52.77		ug/L		106	90 - 115
Zinc	502	531.8		ug/L		106	90 - 115

Lab Sample ID: LCS 410-33581/2-A
Matrix: Water
Analysis Batch: 37732

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33581

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	199	215.3		ug/L		108	87 - 119
Antimony	6.02	5.596		ug/L		93	80 - 120

Lab Sample ID: MB 410-33792/1-A
Matrix: Water
Analysis Batch: 35326

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33792

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	ND		25.8	20.3	ug/L		08/17/20 06:24	08/19/20 20:18	1
Antimony	ND		1.03	0.418	ug/L		08/17/20 06:24	08/19/20 20:18	1
Arsenic	ND		2.06	0.700	ug/L		08/17/20 06:24	08/19/20 20:18	1
Barium	ND		2.06	0.768	ug/L		08/17/20 06:24	08/19/20 20:18	1
Cadmium	ND		0.515	0.156	ug/L		08/17/20 06:24	08/19/20 20:18	1
Chromium	ND		2.06	0.344	ug/L		08/17/20 06:24	08/19/20 20:18	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 410-33792/1-A
Matrix: Water
Analysis Batch: 35326

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33792

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		0.515	0.161	ug/L		08/17/20 06:24	08/19/20 20:18	1
Copper	ND		1.03	0.373	ug/L		08/17/20 06:24	08/19/20 20:18	1
Lead	ND		0.515	0.0731	ug/L		08/17/20 06:24	08/19/20 20:18	1
Manganese	ND		2.06	0.653	ug/L		08/17/20 06:24	08/19/20 20:18	1
Nickel	ND		1.03	0.622	ug/L		08/17/20 06:24	08/19/20 20:18	1
Selenium	ND		1.03	0.286	ug/L		08/17/20 06:24	08/19/20 20:18	1
Silver	ND		0.515	0.175	ug/L		08/17/20 06:24	08/19/20 20:18	1
Thallium	ND		0.515	0.134	ug/L		08/17/20 06:24	08/19/20 20:18	1
Zinc	ND		10.3	6.36	ug/L		08/17/20 06:24	08/19/20 20:18	1

Lab Sample ID: MB 410-33792/1-A
Matrix: Water
Analysis Batch: 37661

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33792

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND		0.515	0.123	ug/L		08/17/20 06:24	08/26/20 16:21	1
Vanadium	ND		0.515	0.243	ug/L		08/17/20 06:24	08/26/20 16:21	1

Lab Sample ID: LCS 410-33792/2-A
Matrix: Water
Analysis Batch: 35326

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33792

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	199	199.3		ug/L		100	87 - 119
Antimony	6.02	6.135		ug/L		102	80 - 120
Arsenic	9.89	10.81		ug/L		109	85 - 120
Barium	49.6	54.69		ug/L		110	80 - 120
Cadmium	5.00	5.417		ug/L		108	86 - 113
Chromium	50.2	53.87		ug/L		107	90 - 115
Cobalt	250	264.5		ug/L		106	90 - 113
Copper	50.0	53.19		ug/L		106	80 - 120
Lead	4.92	5.223		ug/L		106	90 - 115
Manganese	50.2	54.07		ug/L		108	89 - 120
Nickel	50.2	53.90		ug/L		107	90 - 114
Selenium	10.0	10.38		ug/L		104	80 - 120
Silver	50.3	53.51		ug/L		106	88 - 113
Thallium	2.00	2.114		ug/L		106	80 - 120
Zinc	502	539.7		ug/L		108	90 - 115

Lab Sample ID: LCS 410-33792/2-A
Matrix: Water
Analysis Batch: 37661

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33792

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	4.02	4.288		ug/L		107	90 - 112
Vanadium	50.0	53.11		ug/L		106	90 - 115

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LRC 410-34834/10
Client Sample ID: Lab Control Sample
Matrix: Water
Analysis Batch: 34834

Analyte	Spike Added	LRC Result	LRC Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	50000	46400		ug/L		93	90 - 110
Antimony	500	484.7		ug/L		97	90 - 110
Arsenic	500	463.5		ug/L		93	90 - 110
Barium	500	461.0		ug/L		92	90 - 110
Beryllium	500	470.4		ug/L		94	90 - 110
Cadmium	500	458.4		ug/L		92	90 - 110
Chromium	500	473.8		ug/L		95	90 - 110
Cobalt	500	450.0		ug/L		90	90 - 110
Copper	500	455.9		ug/L		91	90 - 110
Lead	500	492.6		ug/L		99	90 - 110
Manganese	500	476.6		ug/L		95	90 - 110
Nickel	500	474.0		ug/L		95	90 - 110
Selenium	500	464.4		ug/L		93	90 - 110
Silver	500	455.5		ug/L		91	90 - 110
Thallium	500	516.9		ug/L		103	90 - 110
Vanadium	500	478.2		ug/L		96	90 - 110
Zinc	500	458.8		ug/L		92	90 - 110

Lab Sample ID: LRC 410-35326/8
Client Sample ID: Lab Control Sample
Matrix: Water
Analysis Batch: 35326

Analyte	Spike Added	LRC Result	LRC Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	50000	48310		ug/L		97	90 - 110
Antimony	500	494.6		ug/L		99	90 - 110
Arsenic	500	486.2		ug/L		97	90 - 110
Barium	500	473.0		ug/L		95	90 - 110
Beryllium	500	472.3		ug/L		94	90 - 110
Cadmium	500	467.2		ug/L		93	90 - 110
Chromium	500	474.7		ug/L		95	90 - 110
Cobalt	500	476.6		ug/L		95	90 - 110
Copper	500	454.6		ug/L		91	90 - 110
Lead	500	494.5		ug/L		99	90 - 110
Manganese	500	490.0		ug/L		98	90 - 110
Nickel	500	464.7		ug/L		93	90 - 110
Selenium	500	476.1		ug/L		95	90 - 110
Thallium	500	521.2		ug/L		104	90 - 110
Vanadium	500	469.0		ug/L		94	90 - 110
Zinc	500	470.7		ug/L		94	90 - 110

Lab Sample ID: LRC 410-37661/8
Client Sample ID: Lab Control Sample
Matrix: Water
Analysis Batch: 37661

Analyte	Spike Added	LRC Result	LRC Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	50000	54050		ug/L		108	90 - 110
Antimony	500	515.8		ug/L		103	90 - 110
Arsenic	500	489.6		ug/L		98	90 - 110
Barium	500	486.0		ug/L		97	90 - 110

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LRC 410-37661/8
Matrix: Water
Analysis Batch: 37661

Client Sample ID: Lab Control Sample

Analyte	Spike Added	LRC Result	LRC Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	500	503.0		ug/L		101	90 - 110
Cadmium	500	483.1		ug/L		97	90 - 110
Chromium	500	491.7		ug/L		98	90 - 110
Cobalt	500	455.6		ug/L		91	90 - 110
Copper	500	487.9		ug/L		98	90 - 110
Lead	500	517.4		ug/L		103	90 - 110
Manganese	500	512.5		ug/L		103	90 - 110
Nickel	500	489.7		ug/L		98	90 - 110
Selenium	500	482.3		ug/L		96	90 - 110
Silver	500	487.1		ug/L		97	90 - 110
Thallium	500	541.4		ug/L		108	90 - 110
Vanadium	500	506.0		ug/L		101	90 - 110
Zinc	500	482.3		ug/L		96	90 - 110

Lab Sample ID: LRC 410-37732/8
Matrix: Water
Analysis Batch: 37732

Client Sample ID: Lab Control Sample

Analyte	Spike Added	LRC Result	LRC Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	50000	54050		ug/L		108	90 - 110
Antimony	500	515.8		ug/L		103	90 - 110
Arsenic	500	489.6		ug/L		98	90 - 110
Barium	500	486.0		ug/L		97	90 - 110
Beryllium	500	503.0		ug/L		101	90 - 110
Cadmium	500	483.1		ug/L		97	90 - 110
Chromium	500	491.7		ug/L		98	90 - 110
Cobalt	500	455.6		ug/L		91	90 - 110
Copper	500	487.9		ug/L		98	90 - 110
Lead	500	517.4		ug/L		103	90 - 110
Manganese	500	512.5		ug/L		103	90 - 110
Nickel	500	489.7		ug/L		98	90 - 110
Selenium	500	482.3		ug/L		96	90 - 110
Silver	500	487.1		ug/L		97	90 - 110
Thallium	500	541.4		ug/L		108	90 - 110
Vanadium	500	506.0		ug/L		101	90 - 110
Zinc	500	482.3		ug/L		96	90 - 110

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 410-33593/1-A
Matrix: Water
Analysis Batch: 34494

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33593

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.0790	ug/L		08/15/20 11:36	08/18/20 09:49	1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 410-33593/2-A
Matrix: Water
Analysis Batch: 34494

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33593

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			1.00	1.074		ug/L		107	80 - 118		

Lab Sample ID: MB 410-33595/1-A
Matrix: Water
Analysis Batch: 33995

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 33595

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.200	0.0790	ug/L		08/15/20 11:44	08/17/20 10:16	1

Lab Sample ID: LCS 410-33595/2-A
Matrix: Water
Analysis Batch: 33995

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 33595

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			1.00	0.9786		ug/L		98	80 - 118		

Method: 3500 Fe B-2011 - Iron, Ferrous and Ferric

Lab Sample ID: MB 410-34032/14
Matrix: Water
Analysis Batch: 34032

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ferrous Iron	ND		0.0500	0.0150	mg/L			08/17/20 09:34	1

Lab Sample ID: LCS 410-34032/13
Matrix: Water
Analysis Batch: 34032

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ferrous Iron			1.00	1.003		mg/L		100	90 - 110		

GC/MS VOA

Analysis Batch: 34763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Total/NA	Water	8260C	
410-10696-2	MW-03	Total/NA	Water	8260C	
410-10696-3 - DL	MW-04	Total/NA	Water	8260C	
410-10696-4	MW-05	Total/NA	Water	8260C	
410-10696-5	TB-01	Total/NA	Water	8260C	
410-10696-6	WPA-GW-02	Total/NA	Water	8260C	
410-10696-6 - DL	WPA-GW-02	Total/NA	Water	8260C	
MB 410-34763/7	Method Blank	Total/NA	Water	8260C	
LCS 410-34763/5	Lab Control Sample	Total/NA	Water	8260C	
LCSD 410-34763/34	Lab Control Sample Dup	Total/NA	Water	8260C	
410-10696-2 MS	MW-03	Total/NA	Water	8260C	
410-10696-2 MSD	MW-03	Total/NA	Water	8260C	

Analysis Batch: 35697

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-3	MW-04	Total/NA	Water	8260C	
MB 410-35697/12	Method Blank	Total/NA	Water	8260C	
LCS 410-35697/6	Lab Control Sample	Total/NA	Water	8260C	
LCSD 410-35697/8	Lab Control Sample Dup	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 33824

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Total/NA	Water	3510C	
410-10696-3 - DL	MW-04	Total/NA	Water	3510C	
410-10696-3	MW-04	Total/NA	Water	3510C	
410-10696-6	WPA-GW-02	Total/NA	Water	3510C	
MB 410-33824/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-33824/2-A	Lab Control Sample	Total/NA	Water	3510C	

Analysis Batch: 34301

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Total/NA	Water	8270D	33824
410-10696-3	MW-04	Total/NA	Water	8270D	33824
410-10696-6	WPA-GW-02	Total/NA	Water	8270D	33824
MB 410-33824/1-A	Method Blank	Total/NA	Water	8270D	33824
LCS 410-33824/2-A	Lab Control Sample	Total/NA	Water	8270D	33824

Analysis Batch: 34776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-3 - DL	MW-04	Total/NA	Water	8270D	33824

Prep Batch: 35738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-3 - REDL	MW-04	Total/NA	Water	3510C	
410-10696-3 - RE	MW-04	Total/NA	Water	3510C	
MB 410-35738/1-A	Method Blank	Total/NA	Water	3510C	
LCS 410-35738/2-A	Lab Control Sample	Total/NA	Water	3510C	

GC/MS Semi VOA

Analysis Batch: 36695

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 410-35738/1-A	Method Blank	Total/NA	Water	8270D	35738
LCS 410-35738/2-A	Lab Control Sample	Total/NA	Water	8270D	35738

Analysis Batch: 36891

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-3 - RE	MW-04	Total/NA	Water	8270D	35738

Analysis Batch: 37350

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-3 - REDL	MW-04	Total/NA	Water	8270D	35738

GC VOA

Prep Batch: 33890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Total/NA	Water	RSK-175	
410-10696-3	MW-04	Total/NA	Water	RSK-175	
410-10696-6	WPA-GW-02	Total/NA	Water	RSK-175	
MB 410-33890/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-33890/2-A	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 410-33890/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	

Prep Batch: 33917

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Total/NA	Water	RSK-175	
410-10696-3	MW-04	Total/NA	Water	RSK-175	
410-10696-6	WPA-GW-02	Total/NA	Water	RSK-175	
MB 410-33917/1-A	Method Blank	Total/NA	Water	RSK-175	
LCS 410-33917/2-A	Lab Control Sample	Total/NA	Water	RSK-175	

Analysis Batch: 33923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Total/NA	Water	RSK-175	33890
410-10696-3	MW-04	Total/NA	Water	RSK-175	33890
410-10696-6	WPA-GW-02	Total/NA	Water	RSK-175	33890
MB 410-33890/1-A	Method Blank	Total/NA	Water	RSK-175	33890
LCS 410-33890/2-A	Lab Control Sample	Total/NA	Water	RSK-175	33890
LCSD 410-33890/3-A	Lab Control Sample Dup	Total/NA	Water	RSK-175	33890

Analysis Batch: 33932

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Total/NA	Water	RSK-175	33917
410-10696-3	MW-04	Total/NA	Water	RSK-175	33917
410-10696-6	WPA-GW-02	Total/NA	Water	RSK-175	33917
MB 410-33917/1-A	Method Blank	Total/NA	Water	RSK-175	33917
LCS 410-33917/2-A	Lab Control Sample	Total/NA	Water	RSK-175	33917

HPLC/IC

Analysis Batch: 33689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Total/NA	Water	EPA 300.0 R2.1	

HPLC/IC (Continued)

Analysis Batch: 33689 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-3	MW-04	Total/NA	Water	EPA 300.0 R2.1	
MB 410-33689/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-33689/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 33690

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Total/NA	Water	EPA 300.0 R2.1	
410-10696-3	MW-04	Total/NA	Water	EPA 300.0 R2.1	
MB 410-33690/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-33690/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 34574

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-6	WPA-GW-02	Total/NA	Water	EPA 300.0 R2.1	
MB 410-34574/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-34574/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Analysis Batch: 34575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-6	WPA-GW-02	Total/NA	Water	EPA 300.0 R2.1	
MB 410-34575/4	Method Blank	Total/NA	Water	EPA 300.0 R2.1	
LCS 410-34575/3	Lab Control Sample	Total/NA	Water	EPA 300.0 R2.1	

Metals

Prep Batch: 33581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Total/NA	Water	3020A	
410-10696-3	MW-04	Total/NA	Water	3020A	
410-10696-6	WPA-GW-02	Total/NA	Water	3020A	
MB 410-33581/1-A	Method Blank	Total/NA	Water	3020A	
LCS 410-33581/2-A	Lab Control Sample	Total/NA	Water	3020A	

Prep Batch: 33593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Dissolved	Water	7470A	
410-10696-3	MW-04	Dissolved	Water	7470A	
410-10696-6	WPA-GW-02	Dissolved	Water	7470A	
MB 410-33593/1-A	Method Blank	Total/NA	Water	7470A	
LCS 410-33593/2-A	Lab Control Sample	Total/NA	Water	7470A	

Prep Batch: 33595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Total/NA	Water	7470A	
410-10696-3	MW-04	Total/NA	Water	7470A	
410-10696-6	WPA-GW-02	Total/NA	Water	7470A	
MB 410-33595/1-A	Method Blank	Total/NA	Water	7470A	
LCS 410-33595/2-A	Lab Control Sample	Total/NA	Water	7470A	

Metals

Prep Batch: 33792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Dissolved	Water	Non-Digest Prep	
410-10696-3	MW-04	Dissolved	Water	Non-Digest Prep	
410-10696-6	WPA-GW-02	Dissolved	Water	Non-Digest Prep	
MB 410-33792/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-33792/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	

Analysis Batch: 33995

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Total/NA	Water	7470A	33595
410-10696-3	MW-04	Total/NA	Water	7470A	33595
410-10696-6	WPA-GW-02	Total/NA	Water	7470A	33595
MB 410-33595/1-A	Method Blank	Total/NA	Water	7470A	33595
LCS 410-33595/2-A	Lab Control Sample	Total/NA	Water	7470A	33595

Analysis Batch: 34494

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Dissolved	Water	7470A	33593
410-10696-3	MW-04	Dissolved	Water	7470A	33593
410-10696-6	WPA-GW-02	Dissolved	Water	7470A	33593
MB 410-33593/1-A	Method Blank	Total/NA	Water	7470A	33593
LCS 410-33593/2-A	Lab Control Sample	Total/NA	Water	7470A	33593

Analysis Batch: 34834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Total/NA	Water	6020A	33581
410-10696-3	MW-04	Total/NA	Water	6020A	33581
410-10696-6	WPA-GW-02	Total/NA	Water	6020A	33581
MB 410-33581/1-A	Method Blank	Total/NA	Water	6020A	33581
LCS 410-33581/2-A	Lab Control Sample	Total/NA	Water	6020A	33581
LRC 410-34834/10	Lab Control Sample		Water	6020A	

Analysis Batch: 35326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Dissolved	Water	6020A	33792
410-10696-3	MW-04	Dissolved	Water	6020A	33792
410-10696-6	WPA-GW-02	Dissolved	Water	6020A	33792
MB 410-33792/1-A	Method Blank	Total/NA	Water	6020A	33792
LCS 410-33792/2-A	Lab Control Sample	Total/NA	Water	6020A	33792
LRC 410-35326/8	Lab Control Sample		Water	6020A	

Prep Batch: 37214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Total/NA	Water	3010A	
410-10696-3	MW-04	Total/NA	Water	3010A	
410-10696-6	WPA-GW-02	Total/NA	Water	3010A	
MB 410-37214/1-A	Method Blank	Total/NA	Water	3010A	
LCS 410-37214/2-A	Lab Control Sample	Total/NA	Water	3010A	

Analysis Batch: 37661

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Dissolved	Water	6020A	33792

Metals (Continued)

Analysis Batch: 37661 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-3	MW-04	Dissolved	Water	6020A	33792
410-10696-6	WPA-GW-02	Dissolved	Water	6020A	33792
MB 410-33792/1-A	Method Blank	Total/NA	Water	6020A	33792
LCS 410-33792/2-A	Lab Control Sample	Total/NA	Water	6020A	33792
LRC 410-37661/8	Lab Control Sample		Water	6020A	

Analysis Batch: 37732

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Total/NA	Water	6020A	33581
410-10696-3	MW-04	Total/NA	Water	6020A	33581
410-10696-6	WPA-GW-02	Total/NA	Water	6020A	33581
MB 410-33581/1-A	Method Blank	Total/NA	Water	6020A	33581
LCS 410-33581/2-A	Lab Control Sample	Total/NA	Water	6020A	33581
LRC 410-37732/8	Lab Control Sample		Water	6020A	

Analysis Batch: 39416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Total/NA	Water	6010C	37214
410-10696-3	MW-04	Total/NA	Water	6010C	37214
410-10696-6	WPA-GW-02	Total/NA	Water	6010C	37214
MB 410-37214/1-A	Method Blank	Total/NA	Water	6010C	37214
LCS 410-37214/2-A	Lab Control Sample	Total/NA	Water	6010C	37214
LRC 410-39416/14	Lab Control Sample		Water	6010C	
LRC 410-39416/15	Lab Control Sample		Water	6010C	
LRC 410-39416/16	Lab Control Sample		Water	6010C	
LRC 410-39416/17	Lab Control Sample		Water	6010C	

Prep Batch: 42157

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Dissolved	Water	Non-Digest Prep	
410-10696-3	MW-04	Dissolved	Water	Non-Digest Prep	
410-10696-6	WPA-GW-02	Dissolved	Water	Non-Digest Prep	
MB 410-42157/1-A	Method Blank	Total/NA	Water	Non-Digest Prep	
LCS 410-42157/2-A	Lab Control Sample	Total/NA	Water	Non-Digest Prep	

Analysis Batch: 42585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Dissolved	Water	6010C	42157
410-10696-1	MW-01	Dissolved	Water	6010C	42157
410-10696-3	MW-04	Dissolved	Water	6010C	42157
410-10696-3	MW-04	Dissolved	Water	6010C	42157
410-10696-6	WPA-GW-02	Dissolved	Water	6010C	42157
410-10696-6	WPA-GW-02	Dissolved	Water	6010C	42157
MB 410-42157/1-A	Method Blank	Total/NA	Water	6010C	42157
LCS 410-42157/2-A	Lab Control Sample	Total/NA	Water	6010C	42157
LRC 410-42585/12	Lab Control Sample		Water	6010C	
LRC 410-42585/13	Lab Control Sample		Water	6010C	
LRC 410-42585/14	Lab Control Sample		Water	6010C	
LRC 410-42585/15	Lab Control Sample		Water	6010C	

Metals

Analysis Batch: 42602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 410-42157/2-A	Lab Control Sample	Total/NA	Water	6010C	42157

Analysis Batch: 42633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Dissolved	Water	6010C	42157
410-10696-3	MW-04	Dissolved	Water	6010C	42157
410-10696-6	WPA-GW-02	Dissolved	Water	6010C	42157
LCS 410-42157/2-A	Lab Control Sample	Total/NA	Water	6010C	42157
LRC 410-42633/12	Lab Control Sample		Water	6010C	
LRC 410-42633/13	Lab Control Sample		Water	6010C	
LRC 410-42633/14	Lab Control Sample		Water	6010C	
LRC 410-42633/15	Lab Control Sample		Water	6010C	

General Chemistry

Analysis Batch: 33637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Total/NA	Water	4500 O G-2011	
410-10696-3	MW-04	Total/NA	Water	4500 O G-2011	
410-10696-6	WPA-GW-02	Total/NA	Water	4500 O G-2011	

Analysis Batch: 34032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
410-10696-1	MW-01	Total/NA	Water	3500 Fe B-2011	
410-10696-3	MW-04	Total/NA	Water	3500 Fe B-2011	
410-10696-6	WPA-GW-02	Total/NA	Water	3500 Fe B-2011	
MB 410-34032/14	Method Blank	Total/NA	Water	3500 Fe B-2011	
LCS 410-34032/13	Lab Control Sample	Total/NA	Water	3500 Fe B-2011	

Client Sample ID: MW-01

Lab Sample ID: 410-10696-1

Date Collected: 08/11/20 15:45

Matrix: Water

Date Received: 08/14/20 11:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	34763	08/19/20 17:52	K4WN	ELLE
Total/NA	Prep	3510C			33824	08/17/20 08:45	R9CT	ELLE
Total/NA	Analysis	8270D		1	34301	08/18/20 15:46	W6XI	ELLE
Total/NA	Prep	RSK-175			33917	08/17/20 09:26	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	33932	08/17/20 12:13	IYN5	ELLE
Total/NA	Prep	RSK-175			33890	08/17/20 08:59	IYN5	ELLE
Total/NA	Analysis	RSK-175		50	33923	08/17/20 15:25	IYN5	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	33689	08/16/20 15:05	GJ35	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	33690	08/16/20 15:05	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			42157	09/09/20 14:56	UJLA	ELLE
Dissolved	Analysis	6010C		1	42585	09/10/20 10:34	UPJE	ELLE
Dissolved	Prep	Non-Digest Prep			42157	09/09/20 14:56	UJLA	ELLE
Dissolved	Analysis	6010C		1	42585	09/10/20 12:38	UPJE	ELLE
Dissolved	Prep	Non-Digest Prep			42157	09/09/20 14:56	UJLA	ELLE
Dissolved	Analysis	6010C		1	42633	09/10/20 15:34	UPJE	ELLE
Total/NA	Prep	3010A			37214	08/26/20 02:21	UJL8	ELLE
Total/NA	Analysis	6010C		1	39416	08/31/20 18:07	UCIG	ELLE
Dissolved	Prep	Non-Digest Prep			33792	08/17/20 06:24	UJL8	ELLE
Dissolved	Analysis	6020A		1	37661	08/26/20 16:28	UPJE	ELLE
Dissolved	Prep	Non-Digest Prep			33792	08/17/20 06:24	UJL8	ELLE
Dissolved	Analysis	6020A		1	35326	08/19/20 21:26	V5SW	ELLE
Total/NA	Prep	3020A			33581	08/15/20 11:16	UJLA	ELLE
Total/NA	Analysis	6020A		1	34834	08/18/20 15:51	V5SW	ELLE
Total/NA	Prep	3020A			33581	08/15/20 11:16	UJLA	ELLE
Total/NA	Analysis	6020A		1	37732	08/26/20 19:31	UPJE	ELLE
Dissolved	Prep	7470A			33593	08/15/20 11:36	UJLA	ELLE
Dissolved	Analysis	7470A		1	34494	08/18/20 10:07	UDSV	ELLE
Total/NA	Prep	7470A			33595	08/15/20 11:44	UJLA	ELLE
Total/NA	Analysis	7470A		1	33995	08/17/20 10:39	UDSV	ELLE
Total/NA	Analysis	3500 Fe B-2011		50	34032	08/17/20 13:49	L8MI	ELLE
Total/NA	Analysis	4500 O G-2011		1	33637	08/15/20 16:46	TI24	ELLE

Client Sample ID: MW-03

Lab Sample ID: 410-10696-2

Date Collected: 08/12/20 09:40

Matrix: Water

Date Received: 08/14/20 11:09

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	34763	08/19/20 13:05	K4WN	ELLE

Client Sample ID: MW-04

Date Collected: 08/11/20 13:40
Date Received: 08/14/20 11:09

Lab Sample ID: 410-10696-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C	DL	10	34763	08/19/20 19:19	K4WN	ELLE
Total/NA	Analysis	8260C		5	35697	08/21/20 18:19	K4WN	ELLE
Total/NA	Prep	3510C			33824	08/17/20 08:45	R9CT	ELLE
Total/NA	Analysis	8270D		1	34301	08/18/20 16:14	W6XI	ELLE
Total/NA	Prep	3510C	DL		33824	08/17/20 08:45	R9CT	ELLE
Total/NA	Analysis	8270D	DL	2	34776	08/19/20 18:26	UWHS	ELLE
Total/NA	Prep	3510C	RE		35738	08/21/20 08:45	R9CT	ELLE
Total/NA	Analysis	8270D	RE	1	36891	08/25/20 13:45	W6XI	ELLE
Total/NA	Prep	3510C	REDL		35738	08/21/20 08:45	R9CT	ELLE
Total/NA	Analysis	8270D	REDL	5	37350	08/26/20 15:28	UWHS	ELLE
Total/NA	Prep	RSK-175			33917	08/17/20 09:26	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	33932	08/17/20 12:23	IYN5	ELLE
Total/NA	Prep	RSK-175			33890	08/17/20 08:59	IYN5	ELLE
Total/NA	Analysis	RSK-175		100	33923	08/17/20 15:43	IYN5	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	33689	08/16/20 14:31	GJ35	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	33690	08/16/20 14:31	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			42157	09/09/20 14:56	UJLA	ELLE
Dissolved	Analysis	6010C		1	42585	09/10/20 10:37	UPJE	ELLE
Dissolved	Prep	Non-Digest Prep			42157	09/09/20 14:56	UJLA	ELLE
Dissolved	Analysis	6010C		1	42585	09/10/20 12:41	UPJE	ELLE
Dissolved	Prep	Non-Digest Prep			42157	09/09/20 14:56	UJLA	ELLE
Dissolved	Analysis	6010C		1	42633	09/10/20 15:37	UPJE	ELLE
Total/NA	Prep	3010A			37214	08/26/20 02:21	UJL8	ELLE
Total/NA	Analysis	6010C		1	39416	08/31/20 18:00	UCIG	ELLE
Dissolved	Prep	Non-Digest Prep			33792	08/17/20 06:24	UJL8	ELLE
Dissolved	Analysis	6020A		1	37661	08/26/20 16:24	UPJE	ELLE
Dissolved	Prep	Non-Digest Prep			33792	08/17/20 06:24	UJL8	ELLE
Dissolved	Analysis	6020A		1	35326	08/19/20 21:21	V5SW	ELLE
Total/NA	Prep	3020A			33581	08/15/20 11:16	UJLA	ELLE
Total/NA	Analysis	6020A		1	34834	08/18/20 15:54	V5SW	ELLE
Total/NA	Prep	3020A			33581	08/15/20 11:16	UJLA	ELLE
Total/NA	Analysis	6020A		1	37732	08/26/20 19:41	UPJE	ELLE
Dissolved	Prep	7470A			33593	08/15/20 11:36	UJLA	ELLE
Dissolved	Analysis	7470A		1	34494	08/18/20 10:09	UDSV	ELLE
Total/NA	Prep	7470A			33595	08/15/20 11:44	UJLA	ELLE
Total/NA	Analysis	7470A		1	33995	08/17/20 10:41	UDSV	ELLE
Total/NA	Analysis	3500 Fe B-2011		20	34032	08/17/20 10:12	L8MI	ELLE
Total/NA	Analysis	4500 O G-2011		1	33637	08/15/20 16:46	TI24	ELLE

Client Sample ID: MW-05
Date Collected: 08/12/20 14:30
Date Received: 08/14/20 11:09

Lab Sample ID: 410-10696-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	34763	08/19/20 17:08	K4WN	ELLE

Client Sample ID: TB-01
Date Collected: 08/11/20 07:00
Date Received: 08/14/20 11:09

Lab Sample ID: 410-10696-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	34763	08/19/20 12:43	K4WN	ELLE

Client Sample ID: WPA-GW-02
Date Collected: 08/11/20 14:15
Date Received: 08/14/20 11:09

Lab Sample ID: 410-10696-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		5	34763	08/19/20 18:36	K4WN	ELLE
Total/NA	Analysis	8260C	DL	50	34763	08/19/20 18:57	K4WN	ELLE
Total/NA	Prep	3510C			33824	08/17/20 08:45	R9CT	ELLE
Total/NA	Analysis	8270D		1	34301	08/18/20 16:43	W6XI	ELLE
Total/NA	Prep	RSK-175			33917	08/17/20 09:26	IYN5	ELLE
Total/NA	Analysis	RSK-175		1	33932	08/17/20 12:33	IYN5	ELLE
Total/NA	Prep	RSK-175			33890	08/17/20 08:59	IYN5	ELLE
Total/NA	Analysis	RSK-175		20	33923	08/17/20 16:01	IYN5	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	34574	08/19/20 08:23	GJ35	ELLE
Total/NA	Analysis	EPA 300.0 R2.1		5	34575	08/19/20 08:23	GJ35	ELLE
Dissolved	Prep	Non-Digest Prep			42157	09/09/20 14:56	UJLA	ELLE
Dissolved	Analysis	6010C		1	42585	09/10/20 10:47	UPJE	ELLE
Dissolved	Prep	Non-Digest Prep			42157	09/09/20 14:56	UJLA	ELLE
Dissolved	Analysis	6010C		1	42585	09/10/20 12:44	UPJE	ELLE
Dissolved	Prep	Non-Digest Prep			42157	09/09/20 14:56	UJLA	ELLE
Dissolved	Analysis	6010C		1	42633	09/10/20 15:40	UPJE	ELLE
Total/NA	Prep	3010A			37214	08/26/20 02:21	UJL8	ELLE
Total/NA	Analysis	6010C		1	39416	08/31/20 18:04	UCIG	ELLE
Dissolved	Prep	Non-Digest Prep			33792	08/17/20 06:24	UJL8	ELLE
Dissolved	Analysis	6020A		1	37661	08/26/20 16:26	UPJE	ELLE
Dissolved	Prep	Non-Digest Prep			33792	08/17/20 06:24	UJL8	ELLE
Dissolved	Analysis	6020A		1	35326	08/19/20 21:23	V5SW	ELLE
Total/NA	Prep	3020A			33581	08/15/20 11:16	UJLA	ELLE
Total/NA	Analysis	6020A		1	34834	08/18/20 15:56	V5SW	ELLE
Total/NA	Prep	3020A			33581	08/15/20 11:16	UJLA	ELLE
Total/NA	Analysis	6020A		5	37732	08/26/20 19:46	UPJE	ELLE
Dissolved	Prep	7470A			33593	08/15/20 11:36	UJLA	ELLE
Dissolved	Analysis	7470A		1	34494	08/18/20 10:11	UDSV	ELLE
Total/NA	Prep	7470A			33595	08/15/20 11:44	UJLA	ELLE
Total/NA	Analysis	7470A		1	33995	08/17/20 10:43	UDSV	ELLE

Lab Chronicle

Client: EA Engineering, Science, and Technology
Project/Site: EPA 6 Wilcox Oil Co Superfund Site

Job ID: 410-10696-1

Client Sample ID: WPA-GW-02

Date Collected: 08/11/20 14:15
Date Received: 08/14/20 11:09

Lab Sample ID: 410-10696-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	3500 Fe B-2011		10	34032	08/17/20 13:34	L8MI	ELLE
Total/NA	Analysis	4500 O G-2011		1	33637	08/15/20 16:46	TI24	ELLE

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: EA Engineering, Science, and Technology
Job ID: 410-10696-1
Project/Site: EPA 6 Wilcox Oil Co Superfund Site

Laboratory: Eurofins Lancaster Laboratories Env, LLC

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Oklahoma	NELAP	R-205	02-01-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
3500 Fe B-2011		Water	Ferrous Iron
8270D	3510C	Water	2-Methylphenol
EPA 300.0 R2.1		Water	Nitrogen, Nitrate
RSK-175	RSK-175	Water	CO2

Method Summary

Client: EA Engineering, Science, and Technology
Job ID: 410-10696-1
Project/Site: EPA 6 Wilcox Oil Co Superfund Site

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	ELLE
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	ELLE
RSK-175	Dissolved Gases (GC)	RSK	ELLE
EPA 300.0 R2.1	Anions, Ion Chromatgraphy	EPA	ELLE
EPA 300.0 R2.1	Anions, Ion Chromatography	EPA	ELLE
6010C	Metals (ICP)	SW846	ELLE
6020A	Metals (ICP/MS)	SW846	ELLE
7470A	Mercury (CVAA)	SW846	ELLE
3500 Fe B-2011	Iron, Ferrous and Ferric	SM	ELLE
4500 O G-2011	Oxygen, Dissolved	SM	ELLE
3010A	Preparation, Total Metals	SW846	ELLE
3020A	Preparation, Total Metals	SW846	ELLE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ELLE
5030C	Purge and Trap	SW846	ELLE
7470A	Preparation, Mercury	SW846	ELLE
Non-Digest Prep	Preparation, Non-Digested Aqueous Metals	EPA	ELLE
RSK-175	Dissolved Gases Prep	RSK	ELLE

Protocol References:

EPA = US Environmental Protection Agency

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ELLE = Eurofins Lancaster Laboratories Env, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: EA Engineering, Science, and Technology
Project/Site: EPA 6 Wilcox Oil Co Superfund Site

Job ID: 410-10696-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
410-10696-1	MW-01	Water	08/11/20 15:45	08/14/20 11:09	
410-10696-2	MW-03	Water	08/12/20 09:40	08/14/20 11:09	
410-10696-3	MW-04	Water	08/11/20 13:40	08/14/20 11:09	
410-10696-4	MW-05	Water	08/12/20 14:30	08/14/20 11:09	
410-10696-5	TB-01	Water	08/11/20 07:00	08/14/20 11:09	
410-10696-6	WPA-GW-02	Water	08/11/20 14:15	08/14/20 11:09	

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: 9355 Analysis Batch Number: 22126

Lab Sample ID: IC 410-22126/3 Client Sample ID:

Date Analyzed: 07/14/20 13:31 Lab File ID: YL14I01.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	2.04	Incomplete Integration	campbellme	07/14/20 18:20
Chloromethane	2.24	Split Peak	campbellme	07/14/20 18:21
1,3-Butadiene	2.35	Split Peak	campbellme	07/14/20 18:21
2-Propanol	3.86	Split Peak	campbellme	07/14/20 18:47
t-Butyl alcohol-d10 (IS)	4.35	Incomplete Integration	campbellme	07/14/20 18:22
n-Butanol	8.19	Baseline	campbellme	07/14/20 18:23
1,4-Dioxane	8.76	Split Peak	campbellme	07/14/20 18:24

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: 9355 Analysis Batch Number: 22126

Lab Sample ID: IC 410-22126/4 Client Sample ID:

Date Analyzed: 07/14/20 13:53 Lab File ID: YL14I02.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	2.05	Incomplete Integration	campbellme	07/14/20 18:27
Chloromethane	2.25	Baseline	campbellme	07/14/20 18:28
2-Propanol	3.86	Split Peak	campbellme	07/14/20 18:46
t-Butyl alcohol-d10 (IS)	4.36	Incomplete Integration	campbellme	07/14/20 18:28
Methylene Chloride	4.37	Incomplete Integration	campbellme	07/14/20 18:28
n-Butanol	8.19	Baseline	campbellme	07/14/20 18:29
1,4-Dioxane	8.76	Split Peak	campbellme	07/14/20 18:29

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: 9355 Analysis Batch Number: 22126

Lab Sample ID: ICIS 410-22126/5 Client Sample ID:

Date Analyzed: 07/14/20 14:15 Lab File ID: YL14I03.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	2.05	Incomplete Integration	campbellme	07/14/20 18:30
Chloromethane	2.25	Baseline	campbellme	07/14/20 18:30
2-Propanol	3.86	Split Peak	campbellme	07/14/20 18:45
t-Butyl alcohol-d10 (IS)	4.36	Incomplete Integration	campbellme	07/14/20 18:30
n-Butanol	8.19	Baseline	campbellme	07/14/20 18:31
1,4-Dioxane	8.76	Split Peak	campbellme	07/14/20 18:32
Ethyl methacrylate	10.23	Incomplete Integration	campbellme	07/14/20 18:32

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: 9355 Analysis Batch Number: 22126

Lab Sample ID: IC 410-22126/6 Client Sample ID:

Date Analyzed: 07/14/20 14:37 Lab File ID: YL14I04.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	2.05	Incomplete Integration	campbellme	07/14/20 18:33
Chloromethane	2.25	Baseline	campbellme	07/14/20 18:34
1,3-Butadiene	2.37	Baseline	campbellme	07/14/20 18:34
Bromomethane	2.70	Incomplete Integration	campbellme	07/14/20 18:34
2-Propanol	3.86	Baseline	campbellme	07/14/20 18:44
t-Butyl alcohol-d10 (IS)	4.36	Incomplete Integration	campbellme	07/14/20 18:34
n-Butanol	8.19	Baseline	campbellme	07/14/20 18:35
1,4-Dioxane	8.76	Split Peak	campbellme	07/14/20 18:35

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: 9355 Analysis Batch Number: 22126

Lab Sample ID: IC 410-22126/7 Client Sample ID:

Date Analyzed: 07/14/20 14:59 Lab File ID: YL14I05.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	2.05	Incomplete Integration	campbellme	07/14/20 18:36
Chloromethane	2.24	Baseline	campbellme	07/14/20 18:36
1,3-Butadiene	2.36	Baseline	campbellme	07/14/20 18:36
Vinyl chloride	2.37	Incomplete Integration	campbellme	07/14/20 18:36
2-Propanol	3.87	Baseline	campbellme	07/14/20 18:43
t-Butyl alcohol-d10 (IS)	4.34	Incomplete Integration	campbellme	07/14/20 18:37
n-Butanol	8.19	Incomplete Integration	campbellme	07/14/20 18:37
1,4-Dioxane	8.76	Split Peak	campbellme	07/14/20 18:37

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: 9355 Analysis Batch Number: 22126

Lab Sample ID: IC 410-22126/8 Client Sample ID:

Date Analyzed: 07/14/20 15:22 Lab File ID: YL14I06.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Chloromethane	2.24	Incomplete Integration	campbellme	07/14/20 18:38
1,3-Butadiene	2.36	Baseline	campbellme	07/14/20 18:38
Allyl chloride	4.17	Baseline	campbellme	07/14/20 18:39
t-Butyl alcohol-d10 (IS)	4.36	Incomplete Integration	campbellme	07/14/20 18:39
n-Butanol	8.19	Incomplete Integration	campbellme	07/14/20 18:39
1,4-Dioxane	8.75	Incomplete Integration	campbellme	07/14/20 18:39

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: 9355 Analysis Batch Number: 22126

Lab Sample ID: IC 410-22126/9 Client Sample ID:

Date Analyzed: 07/14/20 15:43 Lab File ID: YL14I07.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,3-Butadiene	2.36	Baseline	campbellme	07/14/20 18:40
Vinyl chloride	2.37	Incomplete Integration	campbellme	07/14/20 18:40
n-Pentane	3.15	Baseline	campbellme	07/14/20 18:41
1,1-Dichloroethene	3.68	Incomplete Integration	campbellme	07/14/20 18:41
Methyl iodide	3.89	Incomplete Integration	campbellme	07/14/20 18:41
t-Butyl alcohol-d10 (IS)	4.36	Incomplete Integration	campbellme	07/14/20 18:41
Methylene Chloride	4.37	Incomplete Integration	campbellme	07/14/20 18:41
t-Butyl alcohol	4.50	Incomplete Integration	campbellme	07/14/20 18:41
Methacrylonitrile	6.52	Incomplete Integration	campbellme	07/14/20 18:42
n-Butanol	8.19	Incomplete Integration	campbellme	07/14/20 18:42

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: 9355 Analysis Batch Number: 22126

Lab Sample ID: ICV 410-22126/10 Client Sample ID:

Date Analyzed: 07/14/20 16:05 Lab File ID: YL14V01.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Dichlorodifluoromethane	2.04	Incomplete Integration	campbellme	07/14/20 19:05
Chloromethane	2.25	Baseline	campbellme	07/14/20 19:05
1,3-Butadiene	2.37	Baseline	campbellme	07/14/20 19:06
t-Butyl alcohol-d10 (IS)	4.36	Incomplete Integration	campbellme	07/14/20 19:06
n-Butanol	8.19	Baseline	campbellme	07/14/20 19:06

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: 9355 Analysis Batch Number: 34763

Lab Sample ID: CCVIS 410-34763/3 Client Sample ID:

Date Analyzed: 08/19/20 09:19 Lab File ID: YG19C01.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
t-Butyl alcohol-d10 (IS)	4.36	Incomplete Integration	mellinger c	08/19/20 09:46
1,4-Dioxane	8.76	Incomplete Integration	mellinger c	08/19/20 09:47

Lab Sample ID: LCS 410-34763/5 Client Sample ID:

Date Analyzed: 08/19/20 10:03 Lab File ID: YG19L01.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
t-Butyl alcohol-d10 (IS)	4.36	Incomplete Integration	mellinger c	08/19/20 10:45
1,1-Dichloroethane	5.44	Incomplete Integration	mellinger c	08/19/20 10:45

Lab Sample ID: LCSD 410-34763/34 Client Sample ID:

Date Analyzed: 08/19/20 10:47 Lab File ID: YG19L02.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
t-Butyl alcohol-d10 (IS)	4.34	Incomplete Integration	mellinger c	08/19/20 11:32

Lab Sample ID: MB 410-34763/7 Client Sample ID:

Date Analyzed: 08/19/20 11:31 Lab File ID: YG19B01.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
t-Butyl alcohol-d10 (IS)	4.36	Incomplete Integration	mellinger c	08/19/20 11:59

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: 9355 Analysis Batch Number: 34763

Lab Sample ID: 410-10696-5 Client Sample ID: TB-01

Date Analyzed: 08/19/20 12:43 Lab File ID: YG19S02.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toluene	9.92	Peak assignment corrected	campbellme	08/19/20 18:28

Lab Sample ID: 410-10696-2 Client Sample ID: MW-03

Date Analyzed: 08/19/20 13:05 Lab File ID: YG19S03.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Toluene	9.93	Incomplete Integration	campbellme	08/19/20 18:29

Lab Sample ID: 410-10696-1 Client Sample ID: MW-01

Date Analyzed: 08/19/20 17:52 Lab File ID: YG19S16.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,1,2,2-Tetrachloroethane		Invalid Compound ID	campbellme	08/19/20 18:39
1,2-Dichloropropane		Invalid Compound ID	campbellme	08/25/20 20:19
2-Hexanone		Invalid Compound ID	campbellme	08/19/20 18:39
4-Methyl-2-pentanone		Invalid Compound ID	campbellme	08/19/20 18:39
Bromodichloromethane		Invalid Compound ID	campbellme	08/25/20 20:19

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: 9355 Analysis Batch Number: 34763

Lab Sample ID: 410-10696-6 Client Sample ID: WPA-GW-02

Date Analyzed: 08/19/20 18:36 Lab File ID: YG19S18.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone	3.70	Split Peak	campbellme	08/25/20 20:19
2-Butanone	6.22	Incomplete Integration	campbellme	08/19/20 19:46
1,1,2-Trichloroethane		Invalid Compound ID	campbellme	08/19/20 19:46
1,2-Dichloroethane		Invalid Compound ID	campbellme	08/19/20 19:46
1,2-Dichloropropane		Invalid Compound ID	campbellme	08/25/20 20:19
2-Hexanone		Invalid Compound ID	campbellme	08/19/20 19:46
Bromodichloromethane		Invalid Compound ID	campbellme	08/19/20 19:46
Chloroform		Invalid Compound ID	campbellme	08/19/20 19:46
Styrene		Invalid Compound ID	campbellme	08/19/20 19:47

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: 9355 Analysis Batch Number: 35697

Lab Sample ID: CCVIS 410-35697/3 Client Sample ID:

Date Analyzed: 08/21/20 09:05 Lab File ID: YG21C01.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
t-Butyl alcohol-d10 (IS)	4.35	Incomplete Integration	mellinger c	08/21/20 09:33
1,4-Dioxane	8.75	Incomplete Integration	mellinger c	08/21/20 09:34

Lab Sample ID: LCS 410-35697/6 Client Sample ID:

Date Analyzed: 08/21/20 10:11 Lab File ID: YG21L01.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
t-Butyl alcohol-d10 (IS)	4.36	Incomplete Integration	mellinger c	08/21/20 10:49

Lab Sample ID: LCSD 410-35697/8 Client Sample ID:

Date Analyzed: 08/21/20 10:56 Lab File ID: YG21L02.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
t-Butyl alcohol-d10 (IS)	4.36	Incomplete Integration	mellinger c	08/21/20 11:26

Lab Sample ID: MB 410-35697/12 Client Sample ID:

Date Analyzed: 08/21/20 12:24 Lab File ID: YG21B01.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
t-Butyl alcohol-d10 (IS)	4.37	Incomplete Integration	mellinger c	08/21/20 12:50

GC/MS VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: 9355 Analysis Batch Number: 35697

Lab Sample ID: 410-10696-3 Client Sample ID: MW-04

Date Analyzed: 08/21/20 18:19 Lab File ID: YG21S15.D GC Column: R-624SilMS 30 ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acetone	3.70	Split Peak	campbellme	08/21/20 19:17
1,1,2,2-Tetrachloroethane		Invalid Compound ID	campbellme	08/21/20 19:19
1,1,2-Trichloroethane		Invalid Compound ID	campbellme	08/21/20 19:19
1,1-Dichloroethane		Invalid Compound ID	campbellme	08/21/20 19:18
1,2-Dichloroethane		Invalid Compound ID	campbellme	08/21/20 19:18
1,2-Dichloropropane		Invalid Compound ID	campbellme	08/21/20 19:18
2-Hexanone		Invalid Compound ID	campbellme	08/21/20 19:19
4-Methyl-2-pentanone		Invalid Compound ID	campbellme	08/21/20 19:18
Chloroform		Invalid Compound ID	campbellme	08/21/20 19:18
Chloromethane		Invalid Compound ID	campbellme	08/21/20 19:17
Styrene		Invalid Compound ID	campbellme	08/21/20 19:19

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: HP19760 Analysis Batch Number: 28519

Lab Sample ID: ICIS 410-28519/2 Client Sample ID:

Date Analyzed: 07/31/20 16:07 Lab File ID: DG1951.D GC Column: DB-5MS 30m 0. ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
1,4-Dioxane	1.78	Peak assignment corrected	hartenstinel	07/31/20 16:40
N-Nitrosodimethylamine	2.38	Peak assignment corrected	transuea	07/31/20 17:45
Pyridine	2.42	Peak assignment corrected	transuea	07/31/20 17:45
2-Picoline	3.66	Peak assignment corrected	transuea	07/31/20 17:35
N-Nitrosomethylethylamine	3.87	Peak assignment corrected	transuea	07/31/20 17:45
Methyl methanesulfonate	4.34	Peak assignment corrected	transuea	07/31/20 17:45
2-Fluorophenol (Surr)	4.57	Peak assignment corrected	transuea	07/31/20 17:35
N-Nitrosodiethylamine	4.91	Peak assignment corrected	transuea	07/31/20 17:45
Ethyl methanesulfonate	5.38	Peak assignment corrected	transuea	07/31/20 17:45
Benzaldehyde	5.83	Peak assignment corrected	transuea	07/31/20 17:35
Aniline	6.00	Peak assignment corrected	transuea	07/31/20 17:35
Phenol	6.00	Peak assignment corrected	transuea	07/31/20 17:35
Bis(2-chloroethyl)ether	6.12	Peak assignment corrected	transuea	07/31/20 17:36
2-Chlorophenol	6.16	Peak assignment corrected	transuea	07/31/20 17:36
1,3-Dichlorobenzene	6.39	Peak assignment corrected	transuea	07/31/20 17:36
1,4-Dichlorobenzene-d4 (IS)	6.48	Peak assignment corrected	hartenstinel	07/31/20 16:40
1,4-Dichlorobenzene	6.50	Peak assignment corrected	transuea	07/31/20 17:45
Benzyl alcohol	6.71	Peak assignment corrected	transuea	07/31/20 17:36
1,2-Dichlorobenzene	6.72	Peak assignment corrected	transuea	07/31/20 17:45
Indene	6.86	Peak assignment corrected	transuea	07/31/20 17:45
N-Nitrosopyrrolidine	7.06	Peak assignment corrected	transuea	07/31/20 17:36
Acetophenone	7.10	Peak assignment corrected	transuea	07/31/20 17:36
N-Nitrosodi-n-propylamine	7.13	Peak assignment corrected	transuea	07/31/20 17:36
N-Nitrosomorpholine	7.13	Peak assignment corrected	transuea	07/31/20 17:36
o-Toluidine	7.15	Peak assignment corrected	transuea	07/31/20 17:36
Hexachloroethane	7.23	Peak assignment corrected	transuea	07/31/20 17:37
Nitrobenzene-d5 (Surr)	7.31	Peak assignment corrected	transuea	07/31/20 17:45
Nitrobenzene	7.34	Peak assignment corrected	transuea	07/31/20 17:37

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: HP19760 Analysis Batch Number: 28519

Lab Sample ID: ICIS 410-28519/2 Client Sample ID:

Date Analyzed: 07/31/20 16:07 Lab File ID: DG1951.D GC Column: DB-5MS 30m 0. ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
N-Nitrosopiperidine	7.58	Peak assignment corrected	transuea	07/31/20 17:46
Isophorone	7.73	Peak assignment corrected	transuea	07/31/20 17:37
2-Nitrophenol	7.84	Peak assignment corrected	transuea	07/31/20 17:46
2,4-Dimethylphenol	7.95	Peak assignment corrected	transuea	07/31/20 17:37
Benzoic acid	8.10	Baseline	transuea	07/31/20 17:46
2,4-Dichlorophenol	8.21	Peak assignment corrected	transuea	07/31/20 17:37
1,2,4-Trichlorobenzene	8.34	Baseline	transuea	07/31/20 17:46
Naphthalene-d8 (IS)	8.42	Peak assignment corrected	transuea	07/31/20 17:37
Naphthalene	8.45	Peak assignment corrected	transuea	07/31/20 17:37
4-Chloroaniline	8.56	Peak assignment corrected	transuea	07/31/20 17:37
2,6-Dichlorophenol	8.57	Peak assignment corrected	transuea	07/31/20 17:37
Hexachloropropene	8.60	Baseline	transuea	07/31/20 17:47
Hexachlorobutadiene	8.68	Baseline	transuea	07/31/20 17:47
Quinoline	8.98	Peak assignment corrected	transuea	07/31/20 17:38
Caprolactam	9.09	Baseline	transuea	07/31/20 17:47
4-Chloro-3-methylphenol	9.37	Peak assignment corrected	transuea	07/31/20 17:38
2-Methylnaphthalene	9.55	Peak assignment corrected	transuea	07/31/20 17:38
1-Methylnaphthalene	9.70	Peak assignment corrected	transuea	07/31/20 17:38
1,2,4,5-Tetrachlorobenzene	9.82	Baseline	transuea	07/31/20 17:47
Hexachlorocyclopentadiene	9.82	Baseline	transuea	07/31/20 17:47
Isosafrole Peak 1	9.92	Peak assignment corrected	transuea	07/31/20 17:38
2,4,6-Trichlorophenol	10.02	Peak assignment corrected	transuea	07/31/20 17:39
2,4,5-Trichlorophenol	10.07	Peak assignment corrected	transuea	07/31/20 17:39
Isosafrole Peak 2	10.28	Peak assignment corrected	transuea	07/31/20 17:39
1,1'-Biphenyl	10.32	Peak assignment corrected	transuea	07/31/20 17:39
2-Chloronaphthalene	10.32	Peak assignment corrected	transuea	07/31/20 17:39
1-Chloronaphthalene	10.35	Baseline	transuea	07/31/20 17:47
Diphenyl ether	10.50	Baseline	transuea	07/31/20 17:47
1,4-Naphthoquinone	10.61	Peak assignment corrected	transuea	07/31/20 17:40
1,3-Dinitrobenzene	10.86	Baseline	transuea	07/31/20 17:47

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: HP19760 Analysis Batch Number: 28519

Lab Sample ID: ICIS 410-28519/2 Client Sample ID:

Date Analyzed: 07/31/20 16:07 Lab File ID: DG1951.D GC Column: DB-5MS 30m 0. ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Acenaphthylene	10.97	Baseline	transuea	07/31/20 17:48
3-Nitroaniline	11.17	Peak assignment corrected	transuea	07/31/20 17:40
Acenaphthene	11.25	Baseline	transuea	07/31/20 17:48
5-Nitro-o-toluidine	12.04	Peak assignment corrected	transuea	07/31/20 17:40
4,6-Dinitro-2-methylphenol	12.09	Baseline	transuea	07/31/20 17:48
cis-Diallate	12.55	Peak assignment corrected	transuea	07/31/20 17:41
Phorate	12.56	Peak assignment corrected	transuea	07/31/20 17:41
Phenacetin	12.58	Peak assignment corrected	transuea	07/31/20 17:41
4-Bromophenyl-phenylether	12.62	Baseline	transuea	07/31/20 17:48
trans-Diallate	12.65	Baseline	transuea	07/31/20 17:48
Dimethoate	12.75	Peak assignment corrected	transuea	07/31/20 17:41
Atrazine	12.86	Peak assignment corrected	transuea	07/31/20 17:41
Pentachlorophenol	12.91	Baseline	transuea	07/31/20 17:48
4-Aminobiphenyl	12.93	Peak assignment corrected	transuea	07/31/20 17:41
Pronamide	13.04	Peak assignment corrected	transuea	07/31/20 17:41
Phenanthrene-d10 (IS)	13.13	Peak assignment corrected	transuea	07/31/20 17:41
Phenanthrene	13.16	Peak assignment corrected	transuea	07/31/20 17:41
Anthracene	13.22	Peak assignment corrected	transuea	07/31/20 17:42
Octachlorostyrene	14.49	Baseline	transuea	07/31/20 17:48
Isodrin	14.53	Baseline	transuea	07/31/20 17:48
Fluoranthene	14.74	Peak assignment corrected	transuea	07/31/20 17:42
Benzidine	14.98	Peak assignment corrected	transuea	07/31/20 17:42
Pyrene-d10 (IS)	15.04	Peak assignment corrected	transuea	07/31/20 17:42
Pyrene	15.07	Peak assignment corrected	transuea	07/31/20 17:42
p-Terphenyl-d14 (Surr)	15.36	Peak assignment corrected	transuea	07/31/20 17:42
p-Dimethylamino azobenzene	15.59	Peak assignment corrected	transuea	07/31/20 17:42
Chlorobenzilate	15.68	Peak assignment corrected	transuea	07/31/20 17:42
3,3'-Dimethylbenzidine	16.14	Peak assignment corrected	transuea	07/31/20 17:42
Butylbenzylphthalate	16.21	Peak assignment corrected	transuea	07/31/20 17:42
2-Acetylaminofluorene	16.55	Peak assignment corrected	transuea	07/31/20 17:43

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: HP19760 Analysis Batch Number: 28519

Lab Sample ID: ICIS 410-28519/2 Client Sample ID:

Date Analyzed: 07/31/20 16:07 Lab File ID: DG1951.D GC Column: DB-5MS 30m 0. ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
3,3'-Dichlorobenzidine	17.04	Peak assignment corrected	transuea	07/31/20 17:43
Benzo[a]anthracene	17.04	Peak assignment corrected	transuea	07/31/20 17:43
4,4'-Methylene bis(2-chloroaniline)	17.06	Peak assignment corrected	transuea	07/31/20 17:43
Chrysene	17.09	Peak assignment corrected	transuea	07/31/20 17:43
Bis(2-ethylhexyl) phthalate	17.27	Peak assignment corrected	transuea	07/31/20 17:43
6-Methylchrysene	17.89	Peak assignment corrected	transuea	07/31/20 17:43
Di-n-octyl phthalate	18.42	Peak assignment corrected	transuea	07/31/20 17:43
Benzo[b]fluoranthene	18.86	Peak assignment corrected	transuea	07/31/20 17:43
7,12-Dimethylbenz(a)anthracene	18.87	Baseline	transuea	07/31/20 17:48
Benzo[k]fluoranthene	18.91	Peak assignment corrected	transuea	07/31/20 17:44
Benzo[a]pyrene	19.38	Peak assignment corrected	transuea	07/31/20 17:44
Perylene-d12 (IS)	19.47	Peak assignment corrected	hartensti nel	07/31/20 16:41
3-Methylcholanthrene	19.96	Peak assignment corrected	transuea	07/31/20 17:44
Dibenz[a,h]acridine	20.76	Peak assignment corrected	transuea	07/31/20 17:44
Dibenz[a,j]acridine	20.84	Peak assignment corrected	transuea	07/31/20 17:44
Indeno[1,2,3-cd]pyrene	21.06	Peak assignment corrected	transuea	07/31/20 17:44
Dibenz(a,h)anthracene	21.11	Peak assignment corrected	transuea	07/31/20 17:44
Benzo[g,h,i]perylene	21.42	Peak assignment corrected	hartensti nel	07/31/20 16:41

Lab Sample ID: IC 410-28519/3 Client Sample ID:

Date Analyzed: 07/31/20 16:46 Lab File ID: DG1952.D GC Column: DB-5MS 30m 0. ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Pyridine	2.55	Peak assignment corrected	transuea	07/31/20 17:51
trans-Diallate	12.65	Peak assignment corrected	transuea	07/31/20 17:51
Dibenz[a,j]acridine	20.82	Baseline	transuea	07/31/20 17:53

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: HP19760 Analysis Batch Number: 28519

Lab Sample ID: IC 410-28519/4 Client Sample ID:

Date Analyzed: 07/31/20 17:15 Lab File ID: DG1953.D GC Column: DB-5MS 30m 0. ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzoic acid	8.17	Baseline	williamss	08/02/20 17:05
Caprolactam	9.16	Peak assignment corrected	williamss	08/02/20 17:04

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: HP19760 Analysis Batch Number: 34301

Lab Sample ID: MB 410-33824/1-A Client Sample ID:

Date Analyzed: 08/18/20 11:00 Lab File ID: DH1003.D GC Column: DB-5MS 30m 0. ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[a]pyrene		Invalid Compound ID	monbornee	08/19/20 08:08
Di-n-octyl phthalate		Invalid Compound ID	monbornee	08/19/20 08:08

Lab Sample ID: 410-10696-1 Client Sample ID: MW-01

Date Analyzed: 08/18/20 15:46 Lab File ID: DH1013.D GC Column: DB-5MS 30m 0. ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,6-Dinitrotoluene		Invalid Compound ID	monbornee	08/19/20 09:24
2-Nitroaniline		Invalid Compound ID	monbornee	08/19/20 09:24
3,3'-Dichlorobenzidine		Invalid Compound ID	monbornee	08/19/20 09:24
4-Nitroaniline		Invalid Compound ID	monbornee	08/19/20 09:24
Acenaphthene		Invalid Compound ID	monbornee	08/19/20 09:24
Acenaphthylene		Invalid Compound ID	monbornee	08/19/20 09:24
Benzo[a]anthracene		Invalid Compound ID	monbornee	08/19/20 09:24
Benzo[a]pyrene		Invalid Compound ID	monbornee	08/19/20 09:24
Benzo[b]fluoranthene		Invalid Compound ID	monbornee	08/19/20 09:24
Bis(2-chloroethoxy)methane		Invalid Compound ID	monbornee	08/19/20 09:24
Chrysene		Invalid Compound ID	monbornee	08/19/20 09:24
Di-n-octyl phthalate		Invalid Compound ID	monbornee	08/19/20 09:24
Hexachloroethane		Invalid Compound ID	monbornee	08/19/20 09:23
Nitrobenzene		Invalid Compound ID	monbornee	08/19/20 09:23
Phenanthrene		Invalid Compound ID	monbornee	08/19/20 09:24

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: HP19760 Analysis Batch Number: 34301

Lab Sample ID: 410-10696-3 Client Sample ID: MW-04

Date Analyzed: 08/18/20 16:14 Lab File ID: DH1014.D GC Column: DB-5MS 30m 0. ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,6-Dinitrotoluene		Invalid Compound ID	monbornee	08/30/20 14:35
2-Chloronaphthalene		Invalid Compound ID	monbornee	08/30/20 14:34
2-Nitroaniline		Invalid Compound ID	monbornee	08/30/20 14:35
3,3'-Dichlorobenzidine		Invalid Compound ID	monbornee	08/19/20 09:25
4-Nitroaniline		Invalid Compound ID	monbornee	08/30/20 14:35
Acenaphthene		Invalid Compound ID	monbornee	08/30/20 14:35
Acenaphthylene		Invalid Compound ID	monbornee	08/30/20 14:35
Acetophenone		Invalid Compound ID	monbornee	08/30/20 14:34
Anthracene		Invalid Compound ID	monbornee	08/19/20 09:25
Benzaldehyde		Invalid Compound ID	monbornee	08/30/20 14:34
Benzo[b]fluoranthene		Invalid Compound ID	monbornee	08/19/20 09:25
Benzo[g,h,i]perylene		Invalid Compound ID	monbornee	08/19/20 09:25
Dibenz(a,h)anthracene		Invalid Compound ID	monbornee	08/19/20 09:25
Di-n-octyl phthalate		Invalid Compound ID	monbornee	08/19/20 09:25
Hexachloroethane		Invalid Compound ID	monbornee	08/30/20 14:34
Indeno[1,2,3-cd]pyrene		Invalid Compound ID	monbornee	08/19/20 09:25
Isophorone		Invalid Compound ID	monbornee	08/30/20 14:34
Nitrobenzene		Invalid Compound ID	monbornee	08/30/20 14:34
N-Nitrosodi-n-propylamine		Invalid Compound ID	monbornee	08/30/20 14:34
N-Nitrosodiphenylamine		Invalid Compound ID	monbornee	08/30/20 14:35
Pentachlorophenol		Invalid Compound ID	monbornee	08/19/20 09:25
Phenol		Invalid Compound ID	monbornee	08/30/20 14:34
Fluoranthene	14.59	Split Peak	monbornee	08/30/20 14:35
Benzo[a]pyrene	19.19	Split Peak	monbornee	08/30/20 14:35

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: HP19760 Analysis Batch Number: 34301

Lab Sample ID: 410-10696-6 Client Sample ID: WPA-GW-02

Date Analyzed: 08/18/20 16:43 Lab File ID: DH1015.D GC Column: DB-5MS 30m 0. ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,6-Dinitrotoluene		Invalid Compound ID	monbornee	08/19/20 09:26
2-Chlorophenol		Invalid Compound ID	monbornee	08/19/20 09:26
2-Nitroaniline		Invalid Compound ID	monbornee	08/19/20 09:26
3,3'-Dichlorobenzidine		Invalid Compound ID	monbornee	08/19/20 09:27
4-Nitroaniline		Invalid Compound ID	monbornee	08/19/20 09:27
Acenaphthene		Invalid Compound ID	monbornee	08/19/20 09:27
Acenaphthylene		Invalid Compound ID	monbornee	08/19/20 09:26
Acetophenone		Invalid Compound ID	monbornee	08/19/20 09:26
Benzaldehyde		Invalid Compound ID	monbornee	08/19/20 09:26
Bis(2-chloroethoxy)methane		Invalid Compound ID	monbornee	08/19/20 09:26
Dibenz(a,h)anthracene		Invalid Compound ID	monbornee	08/19/20 09:28
Di-n-octyl phthalate		Invalid Compound ID	monbornee	08/19/20 09:27
Hexachloroethane		Invalid Compound ID	monbornee	08/19/20 09:26
Indeno[1,2,3-cd]pyrene		Invalid Compound ID	monbornee	08/19/20 09:28
Isophorone		Invalid Compound ID	monbornee	08/19/20 09:26
Nitrobenzene		Invalid Compound ID	monbornee	08/19/20 09:26
Pentachlorophenol		Invalid Compound ID	monbornee	08/19/20 09:27
Anthracene	13.09	Split Peak	monbornee	08/19/20 09:27
Benzo[a]pyrene	19.19	Split Peak	monbornee	08/19/20 09:27

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: HP19760 Analysis Batch Number: 36695

Lab Sample ID: CCVIS 410-36695/2 Client Sample ID:

Date Analyzed: 08/24/20 20:52 Lab File ID: DH1401.D GC Column: DB-5MS 30m 0. ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
N-Nitrosomethylethylamine	3.63	Assign Peak	williamss	08/24/20 21:34

Lab Sample ID: MB 410-35738/1-A Client Sample ID:

Date Analyzed: 08/25/20 02:51 Lab File ID: DH1409.D GC Column: DB-5MS 30m 0. ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Benzo[a]pyrene		Invalid Compound ID	monbornee	08/25/20 10:01
Di-n-octyl phthalate		Invalid Compound ID	monbornee	08/25/20 10:01
Nitrobenzene		Invalid Compound ID	monbornee	08/25/20 10:01

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: HP19760 Analysis Batch Number: 36891

Lab Sample ID: 410-10696-3 RE Client Sample ID: MW-04 RE

Date Analyzed: 08/25/20 13:45 Lab File ID: DH1457.D GC Column: DB-5MS 30m 0. ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
2,6-Dinitrotoluene		Invalid Compound ID	monbornee	08/26/20 08:05
2-Chloronaphthalene		Invalid Compound ID	monbornee	08/26/20 08:05
2-Methylphenol		Invalid Compound ID	monbornee	08/26/20 08:05
2-Nitroaniline		Invalid Compound ID	monbornee	08/26/20 08:05
3,3'-Dichlorobenzidine		Invalid Compound ID	monbornee	08/26/20 08:06
4-Chloro-3-methylphenol		Invalid Compound ID	monbornee	08/26/20 08:05
4-Nitroaniline		Invalid Compound ID	monbornee	08/26/20 08:06
Acenaphthene		Invalid Compound ID	monbornee	08/26/20 08:05
Acenaphthylene		Invalid Compound ID	monbornee	08/26/20 08:05
Acetophenone		Invalid Compound ID	monbornee	08/26/20 08:05
Anthracene		Invalid Compound ID	monbornee	08/26/20 08:06
Benzaldehyde		Invalid Compound ID	monbornee	08/26/20 08:05
Benzo[b]fluoranthene		Invalid Compound ID	monbornee	08/26/20 08:06
Benzo[g,h,i]perylene		Invalid Compound ID	monbornee	08/26/20 08:06
Bis(2-chloroethoxy)methane		Invalid Compound ID	monbornee	08/26/20 08:05
Dibenz(a,h)anthracene		Invalid Compound ID	monbornee	08/26/20 08:06
Dibenzofuran		Invalid Compound ID	monbornee	08/26/20 08:06
Di-n-octyl phthalate		Invalid Compound ID	monbornee	08/26/20 08:06
Hexachloroethane		Invalid Compound ID	monbornee	08/26/20 08:05
Indeno[1,2,3-cd]pyrene		Invalid Compound ID	monbornee	08/26/20 08:06
Isophorone		Invalid Compound ID	monbornee	08/26/20 08:05
Nitrobenzene		Invalid Compound ID	monbornee	08/26/20 08:05
N-Nitrosodi-n-propylamine		Invalid Compound ID	monbornee	08/26/20 08:05
N-Nitrosodiphenylamine		Invalid Compound ID	monbornee	08/26/20 08:06
Phenol		Invalid Compound ID	monbornee	08/26/20 08:05
Benzo[a]pyrene	19.09	Invalid Compound ID	monbornee	08/26/20 08:07

GC/MS SEMI VOA MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: HP19760 Analysis Batch Number: 37350

Lab Sample ID: CCVIS 410-37350/2 Client Sample ID:

Date Analyzed: 08/26/20 12:17 Lab File ID: DH1511.D GC Column: DB-5MS 30m 0. ID: 0.25(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
N-Nitrosomethylethylamine	3.59	Incomplete Integration	monbornee	08/26/20 12:53
Benzo[g,h,i]perylene	21.09	Incomplete Integration	monbornee	08/26/20 12:53

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: 12115 Analysis Batch Number: 39350

Lab Sample ID: CCVRT 410-39350/1 Client Sample ID:

Date Analyzed: 09/01/20 05:54 Lab File ID: 2024415B_1.d GC Column: IC15-AS14 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	14.27	Peak assignment corrected	litwak	09/02/20 06:18

HPLC/IC MANUAL INTEGRATION SUMMARY

Lab Name: Eurofins Lancaster Laborator Job No.: 410-10696-1

SDG No.:

Instrument ID: 19052 Analysis Batch Number: 27551

Lab Sample ID: ICV 410-27551/7 Client Sample ID:

Date Analyzed: 07/29/20 14:14 Lab File ID: 2021113C_7.d GC Column: IC06-AS14 ID: 4(mm)

COMPOUND NAME	RETENTION TIME	MANUAL INTEGRATION		
		REASON	ANALYST	DATE
Sulfate	12.56	Peak assignment corrected	litwak	07/30/20 11:39

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
GCS_HSSICVMS_00001	11/30/22	04/22/20	DI Water, Lot In House	4029 L	GCS_HSSICV_00001	4029 L	Methane	4990 ug/L
.GCS_HSSICV_00001	11/30/22	PortaGas, Lot 234979			(Purchased Reagent)		Methane	0.00000499 ppm v/v
GCS_HSSMS_00002	01/02/23	04/06/20	DI Water, Lot In house	110 mL	GCS_HSSCRV_00002	110 mL	Methane	4950 ug/L
.GCS_HSSCRV_00002	01/02/23	Airgas Specialty Gasses, Lot 160-401685396-1			(Purchased Reagent)		Methane	0.00000495 mg/uL
GCS_HSSSS_00002	01/02/23	04/06/20	DI Water, Lot In House	110 mL	GCS_HSSSUR_00002	110 mL	Propene	1750 ug/L
.GCS_HSSSUR_00002	01/02/23	Airgas Specialty Gases, Lot 160-401685397-1			(Purchased Reagent)		Propene	0.00000175 mg/uL
GCV_CO2ICV_00001	01/28/21	01/28/20	DI Water, Lot In House	1 mL	GCV_CO2XX_00001	0.0018 g	CO2	547000 ppb
.GCV_CO2XX_00001	04/23/23	Air Products, Lot A214157			(Purchased Reagent)		CO2	30.3889 %
GCV_CO2MS_00001	01/28/21	01/28/20	DI Water, Lot In House	1 g	GCV_CO2CRV_00001	0.0018 g	CO2	1791000 ppb
.GCV_CO2CRV_00001	04/23/23	Praxair, Lot 4-11-18			(Purchased Reagent)		CO2	99.5 %
GCV_HSSMS_00005	12/05/22	04/22/20	DI Water, Lot In house	110 mL	GCV_HSSCRV_00003	110 mL	Acetylene	4260 ug/L
							Butane	4990 ug/L
							Ethane	4920 ug/L
							Ethylene	5050 ug/L
							Methane	4990 ug/L
							Propane	5050 ug/L
							Propane, 2-methyl	4990 ug/L
.GCV_HSSCRV_00003	12/05/22	Airgas Specialty Gasses, Lot 160-401668391-1			(Purchased Reagent)		Acetylene	0.00000426 mg/uL
							Butane	0.00000499 mg/uL
							Ethane	0.00000492 mg/uL
							Ethylene	0.00000505 mg/uL
							Methane	0.00000499 mg/uL
							Propane	0.00000505 mg/uL
							Propane, 2-methyl	0.00000499 mg/uL
GCV_HSSSS_00004	12/05/22	02/11/20	DI Water, Lot In House	110 mL	GCV_HSSSUR_00002	110 mL	Propene	1750 ug/L
.GCV_HSSSUR_00002	12/05/22	Airgas Specialty Gases, Lot 160-401668392-1			(Purchased Reagent)		Propene	0.00000175 mg/uL
Hg_0.1Cal_CP_00067	08/19/20	08/12/20	0.15% HNO3, Lot 033868	10 mL	Hg_1Cont_IV_00062	1 mL	Mercury	0.1 ug/mL
.Hg_1Cont_IV_00062	08/19/20	08/12/20	0.15% HNO3, Lot 033868	10 mL	MT_S_10Hg_IV_00004	1 mL	Mercury	1 ug/mL
..MT_S_10Hg_IV_00004	12/27/20	Inorganic Ventures, Lot P2-HG683300			(Purchased Reagent)		Mercury	10 ug/mL
Hg_0.1Cont_IV_00056	08/20/20	08/13/20	0.15% HNO3, Lot 033868	10 mL	Hg_1Cont_IV_00063	1 mL	Mercury	0.1 ug/mL
.Hg_1Cont_IV_00063	08/20/20	08/13/20	0.15% HNO3, Lot 033868	10 mL	MT_S_10Hg_IV_00004	1 mL	Mercury	1 ug/mL
..MT_S_10Hg_IV_00004	12/27/20	Inorganic Ventures, Lot P2-HG683300			(Purchased Reagent)		Mercury	10 ug/mL
Hg_1Cal_CP_00059	08/19/20	08/12/20	0.15% HNO3, Lot 033868	10 mL	Hg_10Cal_CP_00003	1 mL	Nitric acid	698 ug/mL
							Mercury	0.999 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.Hg_10Cal_CP_00003	11/01/20	07/10/20	DI Water, Lot DI07102020	100 mL	MT_HNO3_JT_00001	1 mL	Nitric acid	6980 ug/mL
					MT_S_1KHg_CP_00001	1 mL	Mercury	9.99 ug/mL
..MT_HNO3_JT_00001	09/19/20	J.T.Baker, Lot 0000234822			(Purchased Reagent)		Nitric acid	69.8 %
..MT_S_1KHg_CP_00001	11/01/20	CPI International, Lot 1009904-41			(Purchased Reagent)		Mercury	999 ug/mL
Hg_1Cal_CP_00062	08/20/20	08/13/20	0.15% HNO3, Lot 033868	10 mL	Hg_10Cal_CP_00003	1 mL	Nitric acid	698 ug/mL
							Mercury	0.999 ug/mL
.Hg_10Cal_CP_00003	11/01/20	07/10/20	DI Water, Lot DI07102020	100 mL	MT_HNO3_JT_00001	1 mL	Nitric acid	6980 ug/mL
					MT_S_1KHg_CP_00001	1 mL	Mercury	9.99 ug/mL
..MT_HNO3_JT_00001	09/19/20	J.T.Baker, Lot 0000234822			(Purchased Reagent)		Nitric acid	69.8 %
..MT_S_1KHg_CP_00001	11/01/20	CPI International, Lot 1009904-41			(Purchased Reagent)		Mercury	999 ug/mL
Hg_1Cont_IV_00062	08/19/20	08/12/20	0.15% HNO3, Lot 033868	10 mL	MT_S_10Hg_IV_00004	1 mL	Mercury	1 ug/mL
.MT_S_10Hg_IV_00004	12/27/20	Inorganic Ventures, Lot P2-HG683300			(Purchased Reagent)		Mercury	10 ug/mL
Hg_1Cont_IV_00063	08/20/20	08/13/20	0.15% HNO3, Lot 033868	10 mL	MT_S_10Hg_IV_00004	1 mL	Mercury	1 ug/mL
.MT_S_10Hg_IV_00004	12/27/20	Inorganic Ventures, Lot P2-HG683300			(Purchased Reagent)		Mercury	10 ug/mL
Hg_5K2S2O8_00006	01/14/21	07/14/20	DI Water, Lot DI07142020	2000 mL	MT_K2S2O8_JT_00005	100.08 g	Potassium persulfate	4.999 %
.MT_K2S2O8_JT_00005	06/07/21	J.T.Baker, Lot 0000219692			(Purchased Reagent)		Potassium persulfate	99.9 %
Hg_NaClHNO_00006	01/14/21	07/14/20	DI Water, Lot DI07142020	2000 mL	MT_H3NO_JT_00015	240.12 g	Hydroxylamine hydrochloride	11.958 %
					MT_NaCl_JT_00004	240.03 g	Sodium Chloride	12.0015 %
.MT_H3NO_JT_00015	07/14/21	J.T.Baker, Lot 0000252114			(Purchased Reagent)		Hydroxylamine hydrochloride	99.6 %
.MT_NaCl_JT_00004	06/18/21	J.T.Baker, Lot 0000242093			(Purchased Reagent)		Sodium Chloride	100 %
MP_1:1HCl_00004	12/08/20	06/08/20	DI Water, Lot DI06082020	20000 mL	MT_HCl_JT_00003	10000 mL	Hydrogen Chloride	188500 ug/mL
.MT_HCl_JT_00003	11/11/23	J.T.Baker, Lot 0000217157			(Purchased Reagent)		Hydrogen Chloride	37.7 %
MP_1:1HCl_00005	02/18/21	08/18/20	DI Water, Lot DI08182020	20000 mL	MT_HCl_JT_00005	10000 mL	Hydrogen Chloride	188500 ug/mL
.MT_HCl_JT_00005	09/15/24	J.T.Baker, Lot 0000243992			(Purchased Reagent)		Hydrogen Chloride	37.7 %
MP_1:1HNO3_00005	01/24/21	07/24/20	DI Water, Lot DI004232020	20000 mL	MT_HNO3_JT_00003	10000 mL	Nitric acid	349000 ug/mL
.MT_HNO3_JT_00003	06/09/24	J.T.Baker, Lot 0000234822			(Purchased Reagent)		Nitric acid	69.8 %
MP_1:1HNO3_00006	03/02/21	08/30/20	DI Water, Lot DI008302020	20000 mL	MT_HNO3_JT_00003	10000 mL	Nitric acid	349000 ug/mL
.MT_HNO3_JT_00003	06/09/24	J.T.Baker, Lot 0000234822			(Purchased Reagent)		Nitric acid	69.8 %
MP_40Hg_IV_00027	08/20/20	08/13/20	DI Water, Lot DI08132020	200 mL	MT_HNO3_JT_00003	0.3 mL	Nitric acid	1047 ug/mL
					MT_S_10Hg_IV_00005	0.8 mL	Mercury	0.040016 ug/mL
.MT_HNO3_JT_00003	06/09/24	J.T.Baker, Lot 0000234822			(Purchased Reagent)		Nitric acid	69.8 %
.MT_S_10Hg_IV_00005	10/31/20	Inorganic Ventures, Lot P2-HG683300			(Purchased Reagent)		Mercury	10.004 ug/mL
MP_5%KMnO4_00062	02/02/21	08/02/20	DI Water, Lot DI08022020	2000 mL	MT_KMnO4_FI_00006	100.2 g	Potassium Permanganate	4.99497 %
.MT_KMnO4_FI_00006	07/15/21	Fisher, Lot 197337			(Purchased Reagent)		Potassium Permanganate	99.7 %

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MP_5K2S2O8_00014	12/07/20	06/07/20	DI Water, Lot DI05202020	2000 mL	MT_K2S2O8_JT_00004	92 g	Potassium persulfate	4.998 %
					MT_K2S2O8_JT_00005	8.06 g	Potassium persulfate	4.998 %
.MT_K2S2O8_JT_00004	05/12/21	J.T.Baker, Lot 0000219692			(Purchased Reagent)		Potassium persulfate	99.9 %
.MT_K2S2O8_JT_00005	06/07/21	J.T.Baker, Lot 0000219692			(Purchased Reagent)		Potassium persulfate	99.9 %
MSS_FVICV_BAS_00001	01/28/21	07/28/20	MeCl2, Lot 200018	5 mL	MSS_FV8270_IS_00002	100 uL	1,4-Dichlorobenzene-d4	20 ppm
							Acenaphthene-d10	20 ppm
							Naphthalene-d8	20 ppm
							Perylene-d12	20 ppm
							Phenanthrene-d10	20 ppm
							Pyrene-d10 (IS)	20 ppm
.MSS_FV8270_IS_00002	02/28/21	Restek, Lot A0134880			(Purchased Reagent)		1,4-Dichlorobenzene-d4	1000 ug/mL
							Acenaphthene-d10	1000 ug/mL
							Naphthalene-d8	1000 ug/mL
							Perylene-d12	1000 ug/mL
							Phenanthrene-d10	1000 ug/mL
							Pyrene-d10 (IS)	1000 ug/mL
MSS_FVICV_BAS_00001	01/28/21	07/28/20	MeCl2, Lot 200018	5 mL	MSS_REVLCS_4_00006	250 uL	Atrazine	50 ppm
							Benzaldehyde	50 ppm
							Caprolactam	50 ppm
.MSS_REVLCS_4_00006	03/31/21	Restek, Lot A0147047			(Purchased Reagent)		Atrazine	1000 ug/mL
							Benzaldehyde	1000 ug/mL
							Caprolactam	1000 ug/mL
MSS_RV8270_1_00008	12/30/20	07/28/20	MeCl2, Lot 201838	2 mL	MSS_FV8270_1_00008	500 uL	2,4-Dinitrophenol	1.125 ppm
							4,6-Dinitro-2-methylphenol	0.625 ppm
							4-Nitrophenol	0.625 ppm
							Benzidine	1 ppm
							Benzyl alcohol	0.125 ppm
							Indene	0.125 ppm
							Octachlorostyrene	0.125 ppm
							Benzoic acid	1.25 ppm
							1,1'-Biphenyl	0.125 ppm
							Acetophenone	0.125 ppm
							Atrazine	0.125 ppm
							Benzaldehyde	0.125 ppm
							Caprolactam	0.125 ppm
							1,4-Dichlorobenzene-d4	5 ppm
							Acenaphthene-d10	5 ppm
							Naphthalene-d8	5 ppm
							Perylene-d12	5 ppm
							Phenanthrene-d10	5 ppm
							Pyrene-d10 (IS)	5 ppm
							2,4,6-Tribromophenol (Surr)	0.25 ppm
							2-Fluorobiphenyl (Surr)	0.25 ppm
							2-Fluorophenol (Surr)	0.25 ppm
							Nitrobenzene-d5 (Surr)	0.25 ppm
							p-Terphenyl-d14 (Surr)	0.25 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenol-d5 (Surr)	0.25 ppm
							N-Nitrosodiphenylamine	0.125 ppm
							1,4-Naphthoquinone	0.125 ppm
							1-Chloronaphthalene	0.125 ppm
							6-Methylchrysene	0.125 ppm
							Chlorobenzilate	0.125 ppm
							Dibenz[a,h]acridine	0.125 ppm
							Dibenz[a,j]acridine	0.125 ppm
							Dimethoate	0.125 ppm
							Ethyl Parathion	0.125 ppm
							Isodrin	0.125 ppm
							Methyl parathion	0.125 ppm
							o,o',o''-Triethylphosphorothioate	0.125 ppm
							Phorate	0.125 ppm
							Pronamide	0.125 ppm
							Quinoline	0.125 ppm
							Sulfotepp	0.125 ppm
							Thionazin	0.125 ppm
							1,2,4-Trichlorobenzene	0.125 ppm
							1,2-Dichlorobenzene	0.125 ppm
							1,2-Diphenylhydrazine	0.125 ppm
							1,3-Dichlorobenzene	0.125 ppm
							1,4-Dichlorobenzene	0.125 ppm
							2,2'-oxybis[1-chloropropane]	0.125 ppm
							2,4,5-Trichlorophenol	0.125 ppm
							2,4,6-Trichlorophenol	0.125 ppm
							2,4-Dichlorophenol	0.125 ppm
							2,4-Dimethylphenol	0.125 ppm
							2,4-Dinitrotoluene	0.125 ppm
							2,6-Dinitrotoluene	0.125 ppm
							2-Chloronaphthalene	0.125 ppm
							2-Chlorophenol	0.125 ppm
							2-Methylnaphthalene	0.125 ppm
							2-Methylphenol	0.125 ppm
							2-Nitroaniline	0.125 ppm
							2-Nitrophenol	0.125 ppm
							3-Nitroaniline	0.125 ppm
							4-Bromophenyl-phenylether	0.125 ppm
							4-Chloro-3-methylphenol	0.125 ppm
							4-Chloroaniline	0.125 ppm
							4-Chlorophenyl-phenyl ether	0.125 ppm
							4-Methylphenol	0.125 ppm
							4-Nitroaniline	0.125 ppm
							Acenaphthene	0.125 ppm
							Acenaphthylene	0.125 ppm
							Anthracene	0.125 ppm
							Benzo[a]anthracene	0.125 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[a]pyrene	0.125 ppm
							Benzo[b]fluoranthene	0.125 ppm
							Benzo[g,h,i]perylene	0.125 ppm
							Benzo[k]fluoranthene	0.125 ppm
							Bis(2-chloroethoxy)methane	0.125 ppm
							Bis(2-chloroethyl)ether	0.125 ppm
							Bis(2-ethylhexyl) phthalate	0.125 ppm
							Butylbenzylphthalate	0.125 ppm
							Carbazole	0.125 ppm
							Chrysene	0.125 ppm
							Di-n-butyl phthalate	0.125 ppm
							Di-n-octyl phthalate	0.125 ppm
							Dibenz(a,h)anthracene	0.125 ppm
							Dibenzofuran	0.125 ppm
							Diethyl phthalate	0.125 ppm
							Dimethyl phthalate	0.125 ppm
							Fluoranthene	0.125 ppm
							Fluorene	0.125 ppm
							Hexachlorobenzene	0.125 ppm
							Hexachlorobutadiene	0.125 ppm
							Hexachlorocyclopentadiene	0.125 ppm
							Hexachloroethane	0.125 ppm
							Indeno[1,2,3-cd]pyrene	0.125 ppm
							Isophorone	0.125 ppm
							N-Nitrosodi-n-propylamine	0.125 ppm
							N-Nitrosodimethylamine	0.125 ppm
							Naphthalene	0.125 ppm
							Nitrobenzene	0.125 ppm
							Pentachlorophenol	0.125 ppm
							Phenanthrene	0.125 ppm
							Phenol	0.125 ppm
							Pyrene	0.125 ppm
							3,3'-Dichlorobenzidine	0.125 ppm
							3,3'-Dimethylbenzidine	0.125 ppm
							1,2,4,5-Tetrachlorobenzene	0.125 ppm
							1,3-Dinitrobenzene	0.125 ppm
							1,4-Dinitrobenzene	0.125 ppm
							2,3,4,6-Tetrachlorophenol	0.125 ppm
							2,6-Dichlorophenol	0.125 ppm
							2-Acetylaminofluorene	0.125 ppm
							3-Methylcholanthrene	0.125 ppm
							4,4'-Methylene bis(2-chloroaniline)	0.125 ppm
							4-Aminobiphenyl	0.125 ppm
							4-Nitroquinoline-1-oxide	0.125 ppm
							cis-Diallate	0.0925 ppm
							Dinoseb	0.125 ppm
							Ethyl methanesulfonate	0.125 ppm

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexachloropropene	0.125 ppm
							Isosafrole Peak 1	0.02 ppm
							Isosafrole Peak 2	0.105 ppm
							Methyl methanesulfonate	0.125 ppm
							N-Nitro-o-toluidine	0.125 ppm
							N-Nitrosodi-n-butylamine	0.125 ppm
							N-Nitrosodiethylamine	0.125 ppm
							N-Nitrosomethylethylamine	0.125 ppm
							N-Nitrosomorpholine	0.125 ppm
							N-Nitrosopiperidine	0.125 ppm
							N-Nitrosopyrrolidine	0.125 ppm
							p-Dimethylamino azobenzene	0.125 ppm
							Pentachlorobenzene	0.125 ppm
							Pentachloronitrobenzene	0.125 ppm
							Phenacetin	0.125 ppm
							Safrole, Total	0.125 ppm
							trans-Diallate	0.0325 ppm
							1,4-Dioxane	0.125 ppm
							1-Methylnaphthalene	0.125 ppm
							1-Naphthylamine	0.125 ppm
							2-Naphthylamine	0.125 ppm
							2-Picoline	0.125 ppm
							2-Toluidine	0.125 ppm
							7,12-Dimethylbenz(a)anthracene	0.125 ppm
							Aniline	0.125 ppm
							Phenyl ether	0.125 ppm
							Pyridine	0.125 ppm
.MSS_FV8270_1_00008	12/30/20	07/28/20	MeCl2, Lot 201838	2 mL	MSS_FV8270_2_00008	1000 uL	2,4-Dinitrophenol	4.5 ppm
							4,6-Dinitro-2-methylphenol	2.5 ppm
							4-Nitrophenol	2.5 ppm
							Benzidine	4 ppm
							Benzyl alcohol	0.5 ppm
							Indene	0.5 ppm
							Octachlorostyrene	0.5 ppm
							Benzoic acid	5 ppm
							1,1'-Biphenyl	0.5 ppm
							Acetophenone	0.5 ppm
							Atrazine	0.5 ppm
							Benzaldehyde	0.5 ppm
							Caprolactam	0.5 ppm
							1,4-Dichlorobenzene-d4	20 ppm
							Acenaphthene-d10	20 ppm
							Naphthalene-d8	20 ppm
							Perylene-d12	20 ppm
							Phenanthrene-d10	20 ppm
							Pyrene-d10 (IS)	20 ppm
							2,4,6-Tribromophenol (Surr)	1 ppm
							2-Fluorobiphenyl (Surr)	1 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Fluorophenol (Surr)	1 ppm
							Nitrobenzene-d5 (Surr)	1 ppm
							p-Terphenyl-d14 (Surr)	1 ppm
							Phenol-d5 (Surr)	1 ppm
							N-Nitrosodiphenylamine	0.5 ppm
							1,4-Naphthoquinone	0.5 ppm
							1-Chloronaphthalene	0.5 ppm
							6-Methylchrysene	0.5 ppm
							Chlorobenzilate	0.5 ppm
							Dibenz[a,h]acridine	0.5 ppm
							Dibenz[a,j]acridine	0.5 ppm
							Dimethoate	0.5 ppm
							Ethyl Parathion	0.5 ppm
							Isodrin	0.5 ppm
							Methyl parathion	0.5 ppm
							o,o',o''-Triethylphosphorothioate	0.5 ppm
							Phorate	0.5 ppm
							Pronamide	0.5 ppm
							Quinoline	0.5 ppm
							Sulfotepp	0.5 ppm
							Thionazin	0.5 ppm
							1,2,4-Trichlorobenzene	0.5 ppm
							1,2-Dichlorobenzene	0.5 ppm
							1,2-Diphenylhydrazine	0.5 ppm
							1,3-Dichlorobenzene	0.5 ppm
							1,4-Dichlorobenzene	0.5 ppm
							2,2'-oxybis[1-chloropropane]	0.5 ppm
							2,4,5-Trichlorophenol	0.5 ppm
							2,4,6-Trichlorophenol	0.5 ppm
							2,4-Dichlorophenol	0.5 ppm
							2,4-Dimethylphenol	0.5 ppm
							2,4-Dinitrotoluene	0.5 ppm
							2,6-Dinitrotoluene	0.5 ppm
							2-Chloronaphthalene	0.5 ppm
							2-Chlorophenol	0.5 ppm
							2-Methylnaphthalene	0.5 ppm
							2-Methylphenol	0.5 ppm
							2-Nitroaniline	0.5 ppm
							2-Nitrophenol	0.5 ppm
							3-Nitroaniline	0.5 ppm
							4-Bromophenyl-phenylether	0.5 ppm
							4-Chloro-3-methylphenol	0.5 ppm
							4-Chloroaniline	0.5 ppm
							4-Chlorophenyl-phenyl ether	0.5 ppm
							4-Methylphenol	0.5 ppm
							4-Nitroaniline	0.5 ppm
							Acenaphthene	0.5 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acenaphthylene	0.5 ppm
							Anthracene	0.5 ppm
							Benzo[a]anthracene	0.5 ppm
							Benzo[a]pyrene	0.5 ppm
							Benzo[b]fluoranthene	0.5 ppm
							Benzo[g,h,i]perylene	0.5 ppm
							Benzo[k]fluoranthene	0.5 ppm
							Bis(2-chloroethoxy)methane	0.5 ppm
							Bis(2-chloroethyl)ether	0.5 ppm
							Bis(2-ethylhexyl) phthalate	0.5 ppm
							Butylbenzylphthalate	0.5 ppm
							Carbazole	0.5 ppm
							Chrysene	0.5 ppm
							Di-n-butyl phthalate	0.5 ppm
							Di-n-octyl phthalate	0.5 ppm
							Dibenz(a,h)anthracene	0.5 ppm
							Dibenzofuran	0.5 ppm
							Diethyl phthalate	0.5 ppm
							Dimethyl phthalate	0.5 ppm
							Fluoranthene	0.5 ppm
							Fluorene	0.5 ppm
							Hexachlorobenzene	0.5 ppm
							Hexachlorobutadiene	0.5 ppm
							Hexachlorocyclopentadiene	0.5 ppm
							Hexachloroethane	0.5 ppm
							Indeno[1,2,3-cd]pyrene	0.5 ppm
							Isophorone	0.5 ppm
							N-Nitrosodi-n-propylamine	0.5 ppm
							N-Nitrosodimethylamine	0.5 ppm
							Naphthalene	0.5 ppm
							Nitrobenzene	0.5 ppm
							Pentachlorophenol	0.5 ppm
							Phenanthrene	0.5 ppm
							Phenol	0.5 ppm
							Pyrene	0.5 ppm
							3,3'-Dichlorobenzidine	0.5 ppm
							3,3'-Dimethylbenzidine	0.5 ppm
							1,2,4,5-Tetrachlorobenzene	0.5 ppm
							1,3-Dinitrobenzene	0.5 ppm
							1,4-Dinitrobenzene	0.5 ppm
							2,3,4,6-Tetrachlorophenol	0.5 ppm
							2,6-Dichlorophenol	0.5 ppm
							2-Acetylaminofluorene	0.5 ppm
							3-Methylcholanthrene	0.5 ppm
							4,4'-Methylene bis(2-chloroaniline)	0.5 ppm
							4-Aminobiphenyl	0.5 ppm
							4-Nitroquinoline-1-oxide	0.5 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							cis-Diallate	0.37 ppm
							Dinoseb	0.5 ppm
							Ethyl methanesulfonate	0.5 ppm
							Hexachloropropene	0.5 ppm
							Isosafrole Peak 1	0.08 ppm
							Isosafrole Peak 2	0.42 ppm
							Methyl methanesulfonate	0.5 ppm
							N-Nitro-o-toluidine	0.5 ppm
							N-Nitrosodi-n-butylamine	0.5 ppm
							N-Nitrosodiethylamine	0.5 ppm
							N-Nitrosomethylethylamine	0.5 ppm
							N-Nitrosomorpholine	0.5 ppm
							N-Nitrosopiperidine	0.5 ppm
							N-Nitrosopyrrolidine	0.5 ppm
							p-Dimethylamino azobenzene	0.5 ppm
							Pentachlorobenzene	0.5 ppm
							Pentachloronitrobenzene	0.5 ppm
							Phenacetin	0.5 ppm
							Safrole, Total	0.5 ppm
							trans-Diallate	0.13 ppm
							1,4-Dioxane	0.5 ppm
							1-Methylnaphthalene	0.5 ppm
							1-Naphthylamine	0.5 ppm
							2-Naphthylamine	0.5 ppm
							2-Picoline	0.5 ppm
							2-Toluidine	0.5 ppm
							7,12-Dimethylbenz(a)anthracene	0.5 ppm
							Aniline	0.5 ppm
							Phenyl ether	0.5 ppm
							Pyridine	0.5 ppm
					MSS_FV8270_IS_00002	20 uL	1,4-Dichlorobenzene-d4	20 ppm
							Acenaphthene-d10	20 ppm
							Naphthalene-d8	20 ppm
							Perylene-d12	20 ppm
							Phenanthrene-d10	20 ppm
							Pyrene-d10 (IS)	20 ppm
..MSS_FV8270_2_00008	12/30/20	07/28/20	MeCl2, Lot 201838	5 mL	MSS_AB_24DNP_00003	40 uL	2,4-Dinitrophenol	9 ppm
					MSS_AB_46D2MP_00003	20 uL	4,6-Dinitro-2-methylphenol	5 ppm
					MSS_AB_4NP_00001	20 uL	4-Nitrophenol	5 ppm
					MSS_AB_BZIDIN_00006	5 uL	Benzidine	8 ppm
					MSS_CR#9_DL_00005	5 uL	Benzyl alcohol	1 ppm
							Indene	1 ppm
							Octachlorostyrene	1 ppm
					MSS_CR8270_6_00005	25 uL	Benzoic acid	10 ppm
					MSS_CR8270_8_00002	2.5 uL	1,1'-Biphenyl	1 ppm
							Acetophenone	1 ppm
							Atrazine	1 ppm
							Benzaldehyde	1 ppm

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Caprolactam	1 ppm
					MSS_FV8270_IS_00002	100 uL	1,4-Dichlorobenzene-d4	20 ppm
							Acenaphthene-d10	20 ppm
							Naphthalene-d8	20 ppm
							Perylene-d12	20 ppm
							Phenanthrene-d10	20 ppm
							Pyrene-d10 (IS)	20 ppm
					MSS_FV8270_WS_00005	25 uL	2,4,6-Tribromophenol (Surr)	2 ppm
							2-Fluorobiphenyl (Surr)	2 ppm
							2-Fluorophenol (Surr)	2 ppm
							Nitrobenzene-d5 (Surr)	2 ppm
							p-Terphenyl-d14 (Surr)	2 ppm
							Phenol-d5 (Surr)	2 ppm
							Benzidine	8 ppm
							N-Nitrosodiphenylamine	1 ppm
							1,4-Naphthoquinone	1 ppm
							1-Chloronaphthalene	1 ppm
							6-Methylchrysene	1 ppm
							Chlorobenzilate	1 ppm
							Dibenz[a,h]acridine	1 ppm
							Dibenz[a,j]acridine	1 ppm
							Dimethoate	1 ppm
							Ethyl Parathion	1 ppm
							Isodrin	1 ppm
							Methyl parathion	1 ppm
							o,o',o''-Triethylphosphorothioate	1 ppm
							Phorate	1 ppm
							Pronamide	1 ppm
							Quinoline	1 ppm
							Sulfotepp	1 ppm
							Thionazin	1 ppm
							1,2,4-Trichlorobenzene	1 ppm
							1,2-Dichlorobenzene	1 ppm
							1,2-Diphenylhydrazine	1 ppm
							1,3-Dichlorobenzene	1 ppm
							1,4-Dichlorobenzene	1 ppm
							2,2'-oxybis[1-chloropropane]	1 ppm
							2,4,5-Trichlorophenol	1 ppm
							2,4,6-Trichlorophenol	1 ppm
							2,4-Dichlorophenol	1 ppm
							2,4-Dimethylphenol	1 ppm
							2,4-Dinitrophenol	9 ppm
							2,4-Dinitrotoluene	1 ppm
							2,6-Dinitrotoluene	1 ppm
							2-Chloronaphthalene	1 ppm
							2-Chlorophenol	1 ppm
							2-Methylnaphthalene	1 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Methylphenol	1 ppm
							2-Nitroaniline	1 ppm
							2-Nitrophenol	1 ppm
							3-Nitroaniline	1 ppm
							4,6-Dinitro-2-methylphenol	5 ppm
							4-Bromophenyl-phenylether	1 ppm
							4-Chloro-3-methylphenol	1 ppm
							4-Chloroaniline	1 ppm
							4-Chlorophenyl-phenyl ether	1 ppm
							4-Methylphenol	1 ppm
							4-Nitroaniline	1 ppm
							4-Nitrophenol	5 ppm
							Acenaphthene	1 ppm
							Acenaphthylene	1 ppm
							Anthracene	1 ppm
							Benzo[a]anthracene	1 ppm
							Benzo[a]pyrene	1 ppm
							Benzo[b]fluoranthene	1 ppm
							Benzo[g,h,i]perylene	1 ppm
							Benzo[k]fluoranthene	1 ppm
							Bis(2-chloroethoxy)methane	1 ppm
							Bis(2-chloroethyl)ether	1 ppm
							Bis(2-ethylhexyl) phthalate	1 ppm
							Butylbenzylphthalate	1 ppm
							Carbazole	1 ppm
							Chrysene	1 ppm
							Di-n-butyl phthalate	1 ppm
							Di-n-octyl phthalate	1 ppm
							Dibenz(a,h)anthracene	1 ppm
							Dibenzofuran	1 ppm
							Diethyl phthalate	1 ppm
							Dimethyl phthalate	1 ppm
							Fluoranthene	1 ppm
							Fluorene	1 ppm
							Hexachlorobenzene	1 ppm
							Hexachlorobutadiene	1 ppm
							Hexachlorocyclopentadiene	1 ppm
							Hexachloroethane	1 ppm
							Indeno[1,2,3-cd]pyrene	1 ppm
							Isophorone	1 ppm
							N-Nitrosodi-n-propylamine	1 ppm
							N-Nitrosodimethylamine	1 ppm
							Naphthalene	1 ppm
							Nitrobenzene	1 ppm
							Pentachlorophenol	1 ppm
							Phenanthrene	1 ppm
							Phenol	1 ppm
							Pyrene	1 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							3,3'-Dichlorobenzidine	1 ppm
							3,3'-Dimethylbenzidine	1 ppm
							1,2,4,5-Tetrachlorobenzene	1 ppm
							1,3-Dinitrobenzene	1 ppm
							1,4-Dinitrobenzene	1 ppm
							2,3,4,6-Tetrachlorophenol	1 ppm
							2,6-Dichlorophenol	1 ppm
							2-Acetylaminofluorene	1 ppm
							3-Methylcholanthrene	1 ppm
							4,4'-Methylene bis(2-chloroaniline)	1 ppm
							4-Aminobiphenyl	1 ppm
							4-Nitroquinoline-1-oxide	1 ppm
							cis-Diallate	0.74 ppm
							Dinoseb	1 ppm
							Ethyl methanesulfonate	1 ppm
							Hexachloropropene	1 ppm
							Isosafrole Peak 1	0.16 ppm
							Isosafrole Peak 2	0.84 ppm
							Methyl methanesulfonate	1 ppm
							N-Nitro-o-toluidine	1 ppm
							N-Nitrosodi-n-butylamine	1 ppm
							N-Nitrosodiethylamine	1 ppm
							N-Nitrosomethylethylamine	1 ppm
							N-Nitrosomorpholine	1 ppm
							N-Nitrosopiperidine	1 ppm
							N-Nitrosopyrrolidine	1 ppm
							p-Dimethylamino azobenzene	1 ppm
							Pentachlorobenzene	1 ppm
							Pentachloronitrobenzene	1 ppm
							Phenacetin	1 ppm
							Safrole, Total	1 ppm
							trans-Diallate	0.26 ppm
							1,4-Dioxane	1 ppm
							1-Methylnaphthalene	1 ppm
							1-Naphthylamine	1 ppm
							2-Naphthylamine	1 ppm
							2-Picoline	1 ppm
							2-Toluidine	1 ppm
							7,12-Dimethylbenz(a)anthracene	1 ppm
							Aniline	1 ppm
							Phenyl ether	1 ppm
							Pyridine	1 ppm
...MSS_AB_24DNP_00003	09/05/23		Absolute, Lot 090518		(Purchased Reagent)		2,4-Dinitrophenol	1000 ug/mL
...MSS_AB_46D2MP_00003	10/20/22		Absolute, Lot 102017		(Purchased Reagent)		4,6-Dinitro-2-methylphenol	1000 ug/mL
...MSS_AB_4NP_00001	10/07/21		Absolute, Lot 100716		(Purchased Reagent)		4-Nitrophenol	1000 ug/mL
...MSS_AB_BZIDIN_00006	01/29/23		Absolute, Lot 012920		(Purchased Reagent)		Benzidine	5000 ug/mL
...MSS_CR#9_DL_00005	09/30/21	07/21/20	MeCl2, Lot 200018	5 mL	MSS_CR8270_9_00003	1000 uL	Benzyl alcohol	1000 ppm

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Indene	1000 ppm
							Octachlorostyrene	1000 ppm
....MSS_CR8270_9_00003	09/30/21		Restek, Lot A0131112		(Purchased Reagent)		Benzyl alcohol	5000 ug/mL
							Indene	5000 ug/mL
							Octachlorostyrene	5000 ug/mL
...MSS_CR8270_6_00005	02/28/21		Restek, Lot A0146280		(Purchased Reagent)		Benzoic acid	2000 ug/mL
...MSS_CR8270_8_00002	02/28/21		Restek, Lot A0146313		(Purchased Reagent)		1,1'-Biphenyl	2000 ug/mL
							Acetophenone	2000 ug/mL
							Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
...MSS_FV8270_IS_00002	02/28/21		Restek, Lot A0134880		(Purchased Reagent)		1,4-Dichlorobenzene-d4	1000 ug/mL
							Acenaphthene-d10	1000 ug/mL
							Naphthalene-d8	1000 ug/mL
							Perylene-d12	1000 ug/mL
							Phenanthrene-d10	1000 ug/mL
							Pyrene-d10 (IS)	1000 ug/mL
...MSS_FV8270_WS_00005	12/30/20	07/13/20	MeCl2, Lot 200018	25 mL	MSS_8270_SURR_00002	2500 uL	2,4,6-Tribromophenol (Surr)	400 ppm
							2-Fluorobiphenyl (Surr)	400 ppm
							2-Fluorophenol (Surr)	400 ppm
							Nitrobenzene-d5 (Surr)	400 ppm
							p-Terphenyl-d14 (Surr)	400 ppm
							Phenol-d5 (Surr)	400 ppm
					MSS_AB_BZIDIN_00004	2000 uL	Benzidine	600 ppm
					MSS_CR8270_1_00004	1000 uL	N-Nitrosodiphenylamine	200 ppm
					MSS_CR8270_10_00004	2500 uL	1,4-Naphthoquinone	200 ppm
							1-Chloronaphthalene	200 ppm
							6-Methylchrysene	200 ppm
							Chlorobenzilate	200 ppm
							Dibenz[a,h]acridine	200 ppm
							Dibenz[a,j]acridine	200 ppm
							Dimethoate	200 ppm
							Ethyl Parathion	200 ppm
							Isodrin	200 ppm
							Methyl parathion	200 ppm
							o,o',o''-Triethylphosphorothioate	200 ppm
							Phorate	200 ppm
							Pronamide	200 ppm
							Quinoline	200 ppm
							Sulfotepp	200 ppm
							Thionazin	200 ppm
					MSS_CR8270_2_00007	5000 uL	1,2,4-Trichlorobenzene	200 ppm
							1,2-Dichlorobenzene	200 ppm
							1,2-Diphenylhydrazine	200 ppm
							1,3-Dichlorobenzene	200 ppm
							1,4-Dichlorobenzene	200 ppm
							2,2'-oxybis[1-chloropropane]	200 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4,5-Trichlorophenol	200 ppm
							2,4,6-Trichlorophenol	200 ppm
							2,4-Dichlorophenol	200 ppm
							2,4-Dimethylphenol	200 ppm
							2,4-Dinitrophenol	200 ppm
							2,4-Dinitrotoluene	200 ppm
							2,6-Dinitrotoluene	200 ppm
							2-Chloronaphthalene	200 ppm
							2-Chlorophenol	200 ppm
							2-Methylnaphthalene	200 ppm
							2-Methylphenol	200 ppm
							2-Nitroaniline	200 ppm
							2-Nitrophenol	200 ppm
							3-Nitroaniline	200 ppm
							4,6-Dinitro-2-methylphenol	200 ppm
							4-Bromophenyl-phenylether	200 ppm
							4-Chloro-3-methylphenol	200 ppm
							4-Chloroaniline	200 ppm
							4-Chlorophenyl-phenyl ether	200 ppm
							4-Methylphenol	200 ppm
							4-Nitroaniline	200 ppm
							4-Nitrophenol	200 ppm
							Acenaphthene	200 ppm
							Acenaphthylene	200 ppm
							Anthracene	200 ppm
							Benzo[a]anthracene	200 ppm
							Benzo[a]pyrene	200 ppm
							Benzo[b]fluoranthene	200 ppm
							Benzo[g,h,i]perylene	200 ppm
							Benzo[k]fluoranthene	200 ppm
							Bis(2-chloroethoxy)methane	200 ppm
							Bis(2-chloroethyl)ether	200 ppm
							Bis(2-ethylhexyl) phthalate	200 ppm
							Butylbenzylphthalate	200 ppm
							Carbazole	200 ppm
							Chrysene	200 ppm
							Di-n-butyl phthalate	200 ppm
							Di-n-octyl phthalate	200 ppm
							Dibenz(a,h)anthracene	200 ppm
							Dibenzofuran	200 ppm
							Diethyl phthalate	200 ppm
							Dimethyl phthalate	200 ppm
							Fluoranthene	200 ppm
							Fluorene	200 ppm
							Hexachlorobenzene	200 ppm
							Hexachlorobutadiene	200 ppm
							Hexachlorocyclopentadiene	200 ppm
							Hexachloroethane	200 ppm

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Indeno[1,2,3-cd]pyrene	200 ppm
							Isophorone	200 ppm
							N-Nitrosodi-n-propylamine	200 ppm
							N-Nitrosodimethylamine	200 ppm
							Naphthalene	200 ppm
							Nitrobenzene	200 ppm
							Pentachlorophenol	200 ppm
							Phenanthrene	200 ppm
							Phenol	200 ppm
							Pyrene	200 ppm
					MSS_CR8270_3_00004	2500 uL	3,3'-Dichlorobenzidine	200 ppm
							3,3'-Dimethylbenzidine	200 ppm
							Benzidine	600 ppm
					MSS_CR8270_4_00004	2500 uL	1,2,4,5-Tetrachlorobenzene	200 ppm
							1,3-Dinitrobenzene	200 ppm
							1,4-Dinitrobenzene	200 ppm
							2,3,4,6-Tetrachlorophenol	200 ppm
							2,6-Dichlorophenol	200 ppm
							2-Acetylaminofluorene	200 ppm
							3-Methylcholanthrene	200 ppm
							4,4'-Methylene bis(2-chloroaniline)	200 ppm
							4-Aminobiphenyl	200 ppm
							4-Nitroquinoline-1-oxide	200 ppm
							cis-Diallate	148 ppm
							Dinoseb	200 ppm
							Ethyl methanesulfonate	200 ppm
							Hexachloropropene	200 ppm
							Isosafrole Peak 1	32 ppm
							Isosafrole Peak 2	168 ppm
							Methyl methanesulfonate	200 ppm
							N-Nitro-o-toluidine	200 ppm
							N-Nitrosodi-n-butylamine	200 ppm
							N-Nitrosodiethylamine	200 ppm
							N-Nitrosomethylethylamine	200 ppm
							N-Nitrosomorpholine	200 ppm
							N-Nitrosopiperidine	200 ppm
							N-Nitrosopyrrolidine	200 ppm
							p-Dimethylamino azobenzene	200 ppm
							Pentachlorobenzene	200 ppm
							Pentachloronitrobenzene	200 ppm
							Phenacetin	200 ppm
							Safrole, Total	200 ppm
							trans-Diallate	52 ppm
					MSS_CR8270_7_00004	2500 uL	1,4-Dioxane	200 ppm
							1-Methylnaphthalene	200 ppm
							1-Naphthylamine	200 ppm
							2-Naphthylamine	200 ppm

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Picoline	200 ppm
							2-Toluidine	200 ppm
							7,12-Dimethylbenz(a)anthracene	200 ppm
							Aniline	200 ppm
							Phenyl ether	200 ppm
							Pyridine	200 ppm
....MSS_8270_SURR_00002	04/30/23		Sigma- Aldrich, Lot LRAC6081		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	4000 ug/mL
							2-Fluorobiphenyl (Surr)	4000 ug/mL
							2-Fluorophenol (Surr)	4000 ug/mL
							Nitrobenzene-d5 (Surr)	4000 ug/mL
							p-Terphenyl-d14 (Surr)	4000 ug/mL
							Phenol-d5 (Surr)	4000 ug/mL
....MSS_AB_BZIDIN_00004	01/29/23		Absolute, Lot 012920		(Purchased Reagent)		Benzidine	5000 ug/mL
....MSS_CR8270_1_00004	10/31/22		Restek, Lot A0154042		(Purchased Reagent)		N-Nitrosodiphenylamine	5000 ug/mL
....MSS_CR8270_10_00004	06/30/21		Restek, Lot A0156085		(Purchased Reagent)		1,4-Naphthoquinone	2000 ug/mL
							1-Chloronaphthalene	2000 ug/mL
							6-Methylchrysene	2000 ug/mL
							Chlorobenzilate	2000 ug/mL
							Dibenz[a,h]acridine	2000 ug/mL
							Dibenz[a,j]acridine	2000 ug/mL
							Dimethoate	2000 ug/mL
							Ethyl Parathion	2000 ug/mL
							Isodrin	2000 ug/mL
							Methyl parathion	2000 ug/mL
							o,o',o''-Triethylphosphorothioate	2000 ug/mL
							Phorate	2000 ug/mL
							Pronamide	2000 ug/mL
							Quinoline	2000 ug/mL
							Sulfotepp	2000 ug/mL
							Thionazin	2000 ug/mL
....MSS_CR8270_2_00007	02/28/22		Restek, Lot A0146253		(Purchased Reagent)		1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	1000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	1000 ug/mL
							4-Bromophenyl-phenylether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl-phenyl ether	1000 ug/mL
							4-Methylphenol	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	1000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Anthracene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butylbenzylphthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	1000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
....MSS_CR8270_3_00004	09/30/21		Restek, Lot A0130858		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							3,3'-Dimethylbenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
....MSS_CR8270_4_00004	12/31/20		Restek, Lot A0150344		(Purchased Reagent)		1,2,4,5-Tetrachlorobenzene	2000 ug/mL
							1,3-Dinitrobenzene	2000 ug/mL
							1,4-Dinitrobenzene	2000 ug/mL
							2,3,4,6-Tetrachlorophenol	2000 ug/mL
							2,6-Dichlorophenol	2000 ug/mL
							2-Acetylaminofluorene	2000 ug/mL
							3-Methylcholanthrene	2000 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	2000 ug/mL
							4-Aminobiphenyl	2000 ug/mL
							4-Nitroquinoline-1-oxide	2000 ug/mL
							cis-Diallate	1480 ug/mL
							Dinoseb	2000 ug/mL
							Ethyl methanesulfonate	2000 ug/mL
							Hexachloropropene	2000 ug/mL
							Isosafrole Peak 1	320 ug/mL
							Isosafrole Peak 2	1680 ug/mL
							Methyl methanesulfonate	2000 ug/mL
							N-Nitro-o-toluidine	2000 ug/mL
							N-Nitrosodi-n-butylamine	2000 ug/mL
							N-Nitrosodiethylamine	2000 ug/mL
							N-Nitrosomethylethylamine	2000 ug/mL
							N-Nitrosomorpholine	2000 ug/mL
							N-Nitrosopiperidine	2000 ug/mL
							N-Nitrosopyrrolidine	2000 ug/mL
							p-Dimethylamino azobenzene	2000 ug/mL
							Pentachlorobenzene	2000 ug/mL
							Pentachloronitrobenzene	2000 ug/mL
							Phenacetin	2000 ug/mL
							Safrole, Total	2000 ug/mL
							trans-Diallate	520 ug/mL
....MSS_CR8270_7_00004	11/30/22		Restek, Lot A0155157		(Purchased Reagent)		1,4-Dioxane	2000 ug/mL
							1-Methylnaphthalene	2000 ug/mL
							1-Naphthylamine	2000 ug/mL
							2-Naphthylamine	2000 ug/mL
							2-Picoline	2000 ug/mL
							2-Toluidine	2000 ug/mL
							7,12-Dimethylbenz(a)anthracene	2000 ug/mL
							Aniline	2000 ug/mL
							Phenyl ether	2000 ug/mL
							Pyridine	2000 ug/mL
..MSS_FV8270_IS_00002	02/28/21		Restek, Lot A0134880		(Purchased Reagent)		1,4-Dichlorobenzene-d4	1000 ug/mL
							Acenaphthene-d10	1000 ug/mL
							Naphthalene-d8	1000 ug/mL
							Perylene-d12	1000 ug/mL
							Phenanthrene-d10	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pyrene-d10 (IS)	1000 ug/mL
MSS_RV8270_2_00007	12/30/20	07/28/20	MeCl2, Lot 201838	2 mL	MSS_FV8270_2_00008	500 uL	2,4-Dinitrophenol	2.25 ppm
							4,6-Dinitro-2-methylphenol	1.25 ppm
							4-Nitrophenol	1.25 ppm
							Benzidine	2 ppm
							Benzyl alcohol	0.25 ppm
							Indene	0.25 ppm
							Octachlorostyrene	0.25 ppm
							Benzoic acid	2.5 ppm
							1,1'-Biphenyl	0.25 ppm
							Acetophenone	0.25 ppm
							Atrazine	0.25 ppm
							Benzaldehyde	0.25 ppm
							Caprolactam	0.25 ppm
							1,4-Dichlorobenzene-d4	5 ppm
							Acenaphthene-d10	5 ppm
							Naphthalene-d8	5 ppm
							Perylene-d12	5 ppm
							Phenanthrene-d10	5 ppm
							Pyrene-d10 (IS)	5 ppm
							2,4,6-Tribromophenol (Surr)	0.5 ppm
							2-Fluorobiphenyl (Surr)	0.5 ppm
							2-Fluorophenol (Surr)	0.5 ppm
							Nitrobenzene-d5 (Surr)	0.5 ppm
							p-Terphenyl-d14 (Surr)	0.5 ppm
							Phenol-d5 (Surr)	0.5 ppm
							N-Nitrosodiphenylamine	0.25 ppm
							1,4-Naphthoquinone	0.25 ppm
							1-Chloronaphthalene	0.25 ppm
							6-Methylchrysene	0.25 ppm
							Chlorobenzilate	0.25 ppm
							Dibenz[a,h]acridine	0.25 ppm
							Dibenz[a,j]acridine	0.25 ppm
							Dimethoate	0.25 ppm
							Ethyl Parathion	0.25 ppm
							Isodrin	0.25 ppm
							Methyl parathion	0.25 ppm
							o,o',o''-Triethylphosphorothioate	0.25 ppm
							Phorate	0.25 ppm
							Pronamide	0.25 ppm
							Quinoline	0.25 ppm
							Sulfotepp	0.25 ppm
							Thionazin	0.25 ppm
							1,2,4-Trichlorobenzene	0.25 ppm
							1,2-Dichlorobenzene	0.25 ppm
							1,2-Diphenylhydrazine	0.25 ppm
							1,3-Dichlorobenzene	0.25 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,4-Dichlorobenzene	0.25 ppm
							2,2'-oxybis[1-chloropropane]	0.25 ppm
							2,4,5-Trichlorophenol	0.25 ppm
							2,4,6-Trichlorophenol	0.25 ppm
							2,4-Dichlorophenol	0.25 ppm
							2,4-Dimethylphenol	0.25 ppm
							2,4-Dinitrotoluene	0.25 ppm
							2,6-Dinitrotoluene	0.25 ppm
							2-Chloronaphthalene	0.25 ppm
							2-Chlorophenol	0.25 ppm
							2-Methylnaphthalene	0.25 ppm
							2-Methylphenol	0.25 ppm
							2-Nitroaniline	0.25 ppm
							2-Nitrophenol	0.25 ppm
							3-Nitroaniline	0.25 ppm
							4-Bromophenyl-phenylether	0.25 ppm
							4-Chloro-3-methylphenol	0.25 ppm
							4-Chloroaniline	0.25 ppm
							4-Chlorophenyl-phenyl ether	0.25 ppm
							4-Methylphenol	0.25 ppm
							4-Nitroaniline	0.25 ppm
							Acenaphthene	0.25 ppm
							Acenaphthylene	0.25 ppm
							Anthracene	0.25 ppm
							Benzo[a]anthracene	0.25 ppm
							Benzo[a]pyrene	0.25 ppm
							Benzo[b]fluoranthene	0.25 ppm
							Benzo[g,h,i]perylene	0.25 ppm
							Benzo[k]fluoranthene	0.25 ppm
							Bis(2-chloroethoxy)methane	0.25 ppm
							Bis(2-chloroethyl)ether	0.25 ppm
							Bis(2-ethylhexyl) phthalate	0.25 ppm
							Butylbenzylphthalate	0.25 ppm
							Carbazole	0.25 ppm
							Chrysene	0.25 ppm
							Di-n-butyl phthalate	0.25 ppm
							Di-n-octyl phthalate	0.25 ppm
							Dibenz(a,h)anthracene	0.25 ppm
							Dibenzofuran	0.25 ppm
							Diethyl phthalate	0.25 ppm
							Dimethyl phthalate	0.25 ppm
							Fluoranthene	0.25 ppm
							Fluorene	0.25 ppm
							Hexachlorobenzene	0.25 ppm
							Hexachlorobutadiene	0.25 ppm
							Hexachlorocyclopentadiene	0.25 ppm
							Hexachloroethane	0.25 ppm
							Indeno[1,2,3-cd]pyrene	0.25 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Isophorone	0.25 ppm
							N-Nitrosodi-n-propylamine	0.25 ppm
							N-Nitrosodimethylamine	0.25 ppm
							Naphthalene	0.25 ppm
							Nitrobenzene	0.25 ppm
							Pentachlorophenol	0.25 ppm
							Phenanthrene	0.25 ppm
							Phenol	0.25 ppm
							Pyrene	0.25 ppm
							3,3'-Dichlorobenzidine	0.25 ppm
							3,3'-Dimethylbenzidine	0.25 ppm
							1,2,4,5-Tetrachlorobenzene	0.25 ppm
							1,3-Dinitrobenzene	0.25 ppm
							1,4-Dinitrobenzene	0.25 ppm
							2,3,4,6-Tetrachlorophenol	0.25 ppm
							2,6-Dichlorophenol	0.25 ppm
							2-Acetylaminofluorene	0.25 ppm
							3-Methylcholanthrene	0.25 ppm
							4,4'-Methylene bis(2-chloroaniline)	0.25 ppm
							4-Aminobiphenyl	0.25 ppm
							4-Nitroquinoline-1-oxide	0.25 ppm
							cis-Diallate	0.185 ppm
							Dinoseb	0.25 ppm
							Ethyl methanesulfonate	0.25 ppm
							Hexachloropropene	0.25 ppm
							Isosafrole Peak 1	0.04 ppm
							Isosafrole Peak 2	0.21 ppm
							Methyl methanesulfonate	0.25 ppm
							N-Nitro-o-toluidine	0.25 ppm
							N-Nitrosodi-n-butylamine	0.25 ppm
							N-Nitrosodiethylamine	0.25 ppm
							N-Nitrosomethylethylamine	0.25 ppm
							N-Nitrosomorpholine	0.25 ppm
							N-Nitrosopiperidine	0.25 ppm
							N-Nitrosopyrrolidine	0.25 ppm
							p-Dimethylamino azobenzene	0.25 ppm
							Pentachlorobenzene	0.25 ppm
							Pentachloronitrobenzene	0.25 ppm
							Phenacetin	0.25 ppm
							Safrole, Total	0.25 ppm
							trans-Diallate	0.065 ppm
							1,4-Dioxane	0.25 ppm
							1-Methylnaphthalene	0.25 ppm
							1-Naphthylamine	0.25 ppm
							2-Naphthylamine	0.25 ppm
							2-Picoline	0.25 ppm
							2-Toluidine	0.25 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							7,12-Dimethylbenz(a)anthracene	0.25 ppm
							Aniline	0.25 ppm
							Phenyl ether	0.25 ppm
							Pyridine	0.25 ppm
.MSS_FV8270_2_00008	12/30/20	07/28/20	MeCl2, Lot 201838	5 mL	MSS_AB_24DNP_00003	40 uL	2,4-Dinitrophenol	9 ppm
					MSS_AB_46D2MP_00003	20 uL	4,6-Dinitro-2-methylphenol	5 ppm
					MSS_AB_4NP_00001	20 uL	4-Nitrophenol	5 ppm
					MSS_AB_BZIDIN_00006	5 uL	Benzidine	8 ppm
					MSS_CR#9_DL_00005	5 uL	Benzyl alcohol	1 ppm
							Indene	1 ppm
							Octachlorostyrene	1 ppm
					MSS_CR8270_6_00005	25 uL	Benzoic acid	10 ppm
					MSS_CR8270_8_00002	2.5 uL	1,1'-Biphenyl	1 ppm
							Acetophenone	1 ppm
							Atrazine	1 ppm
							Benzaldehyde	1 ppm
							Caprolactam	1 ppm
					MSS_FV8270_IS_00002	100 uL	1,4-Dichlorobenzene-d4	20 ppm
							Acenaphthene-d10	20 ppm
							Naphthalene-d8	20 ppm
							Perylene-d12	20 ppm
							Phenanthrene-d10	20 ppm
							Pyrene-d10 (IS)	20 ppm
					MSS_FV8270_WS_00005	25 uL	2,4,6-Tribromophenol (Surr)	2 ppm
							2-Fluorobiphenyl (Surr)	2 ppm
							2-Fluorophenol (Surr)	2 ppm
							Nitrobenzene-d5 (Surr)	2 ppm
							p-Terphenyl-d14 (Surr)	2 ppm
							Phenol-d5 (Surr)	2 ppm
							Benzidine	8 ppm
							N-Nitrosodiphenylamine	1 ppm
							1,4-Naphthoquinone	1 ppm
							1-Chloronaphthalene	1 ppm
							6-Methylchrysene	1 ppm
							Chlorobenzilate	1 ppm
							Dibenz[a,h]acridine	1 ppm
							Dibenz[a,j]acridine	1 ppm
							Dimethoate	1 ppm
							Ethyl Parathion	1 ppm
							Isodrin	1 ppm
							Methyl parathion	1 ppm
							o,o',o''-Triethylphosphorothioate	1 ppm
							Phorate	1 ppm
							Pronamide	1 ppm
							Quinoline	1 ppm
							Sulfotepp	1 ppm
							Thionazin	1 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,4-Trichlorobenzene	1 ppm
							1,2-Dichlorobenzene	1 ppm
							1,2-Diphenylhydrazine	1 ppm
							1,3-Dichlorobenzene	1 ppm
							1,4-Dichlorobenzene	1 ppm
							2,2'-oxybis[1-chloropropane]	1 ppm
							2,4,5-Trichlorophenol	1 ppm
							2,4,6-Trichlorophenol	1 ppm
							2,4-Dichlorophenol	1 ppm
							2,4-Dimethylphenol	1 ppm
							2,4-Dinitrophenol	9 ppm
							2,4-Dinitrotoluene	1 ppm
							2,6-Dinitrotoluene	1 ppm
							2-Chloronaphthalene	1 ppm
							2-Chlorophenol	1 ppm
							2-Methylnaphthalene	1 ppm
							2-Methylphenol	1 ppm
							2-Nitroaniline	1 ppm
							2-Nitrophenol	1 ppm
							3-Nitroaniline	1 ppm
							4,6-Dinitro-2-methylphenol	5 ppm
							4-Bromophenyl-phenylether	1 ppm
							4-Chloro-3-methylphenol	1 ppm
							4-Chloroaniline	1 ppm
							4-Chlorophenyl-phenyl ether	1 ppm
							4-Methylphenol	1 ppm
							4-Nitroaniline	1 ppm
							4-Nitrophenol	5 ppm
							Acenaphthene	1 ppm
							Acenaphthylene	1 ppm
							Anthracene	1 ppm
							Benzo[a]anthracene	1 ppm
							Benzo[a]pyrene	1 ppm
							Benzo[b]fluoranthene	1 ppm
							Benzo[g,h,i]perylene	1 ppm
							Benzo[k]fluoranthene	1 ppm
							Bis(2-chloroethoxy)methane	1 ppm
							Bis(2-chloroethyl)ether	1 ppm
							Bis(2-ethylhexyl) phthalate	1 ppm
							Butylbenzylphthalate	1 ppm
							Carbazole	1 ppm
							Chrysene	1 ppm
							Di-n-butyl phthalate	1 ppm
							Di-n-octyl phthalate	1 ppm
							Dibenz(a,h)anthracene	1 ppm
							Dibenzofuran	1 ppm
							Diethyl phthalate	1 ppm
							Dimethyl phthalate	1 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Fluoranthene	1 ppm
							Fluorene	1 ppm
							Hexachlorobenzene	1 ppm
							Hexachlorobutadiene	1 ppm
							Hexachlorocyclopentadiene	1 ppm
							Hexachloroethane	1 ppm
							Indeno[1,2,3-cd]pyrene	1 ppm
							Isophorone	1 ppm
							N-Nitrosodi-n-propylamine	1 ppm
							N-Nitrosodimethylamine	1 ppm
							Naphthalene	1 ppm
							Nitrobenzene	1 ppm
							Pentachlorophenol	1 ppm
							Phenanthrene	1 ppm
							Phenol	1 ppm
							Pyrene	1 ppm
							3,3'-Dichlorobenzidine	1 ppm
							3,3'-Dimethylbenzidine	1 ppm
							1,2,4,5-Tetrachlorobenzene	1 ppm
							1,3-Dinitrobenzene	1 ppm
							1,4-Dinitrobenzene	1 ppm
							2,3,4,6-Tetrachlorophenol	1 ppm
							2,6-Dichlorophenol	1 ppm
							2-Acetylaminofluorene	1 ppm
							3-Methylcholanthrene	1 ppm
							4,4'-Methylene bis(2-chloroaniline)	1 ppm
							4-Aminobiphenyl	1 ppm
							4-Nitroquinoline-1-oxide	1 ppm
							cis-Diallate	0.74 ppm
							Dinoseb	1 ppm
							Ethyl methanesulfonate	1 ppm
							Hexachloropropene	1 ppm
							Isosafrole Peak 1	0.16 ppm
							Isosafrole Peak 2	0.84 ppm
							Methyl methanesulfonate	1 ppm
							N-Nitro-o-toluidine	1 ppm
							N-Nitrosodi-n-butylamine	1 ppm
							N-Nitrosodiethylamine	1 ppm
							N-Nitrosomethylethylamine	1 ppm
							N-Nitrosomorpholine	1 ppm
							N-Nitrosopiperidine	1 ppm
							N-Nitrosopyrrolidine	1 ppm
							p-Dimethylamino azobenzene	1 ppm
							Pentachlorobenzene	1 ppm
							Pentachloronitrobenzene	1 ppm
							Phenacetin	1 ppm
							Safrole, Total	1 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							trans-Diallate	0.26 ppm
							1,4-Dioxane	1 ppm
							1-Methylnaphthalene	1 ppm
							1-Naphthylamine	1 ppm
							2-Naphthylamine	1 ppm
							2-Picoline	1 ppm
							2-Toluidine	1 ppm
							7,12-Dimethylbenz(a)anthracene	1 ppm
							Aniline	1 ppm
							Phenyl ether	1 ppm
							Pyridine	1 ppm
..MSS_AB_24DNP_00003	09/05/23		Absolute, Lot 090518		(Purchased Reagent)		2,4-Dinitrophenol	1000 ug/mL
..MSS_AB_46D2MP_00003	10/20/22		Absolute, Lot 102017		(Purchased Reagent)		4,6-Dinitro-2-methylphenol	1000 ug/mL
..MSS_AB_4NP_00001	10/07/21		Absolute, Lot 100716		(Purchased Reagent)		4-Nitrophenol	1000 ug/mL
..MSS_AB_BZIDIN_00006	01/29/23		Absolute, Lot 012920		(Purchased Reagent)		Benzidine	5000 ug/mL
..MSS_CR#9_DL_00005	09/30/21	07/21/20	MeCl2, Lot 200018	5 mL	MSS_CR8270_9_00003	1000 uL	Benzyl alcohol	1000 ppm
							Indene	1000 ppm
							Octachlorostyrene	1000 ppm
...MSS_CR8270_9_00003	09/30/21		Restek, Lot A0131112		(Purchased Reagent)		Benzyl alcohol	5000 ug/mL
							Indene	5000 ug/mL
							Octachlorostyrene	5000 ug/mL
..MSS_CR8270_6_00005	02/28/21		Restek, Lot A0146280		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MSS_CR8270_8_00002	02/28/21		Restek, Lot A0146313		(Purchased Reagent)		1,1'-Biphenyl	2000 ug/mL
							Acetophenone	2000 ug/mL
							Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..MSS_FV8270_IS_00002	02/28/21		Restek, Lot A0134880		(Purchased Reagent)		1,4-Dichlorobenzene-d4	1000 ug/mL
							Acenaphthene-d10	1000 ug/mL
							Naphthalene-d8	1000 ug/mL
							Perylene-d12	1000 ug/mL
							Phenanthrene-d10	1000 ug/mL
							Pyrene-d10 (IS)	1000 ug/mL
..MSS_FV8270_WS_00005	12/30/20	07/13/20	MeCl2, Lot 200018	25 mL	MSS_8270_SURR_00002	2500 uL	2,4,6-Tribromophenol (Surr)	400 ppm
							2-Fluorobiphenyl (Surr)	400 ppm
							2-Fluorophenol (Surr)	400 ppm
							Nitrobenzene-d5 (Surr)	400 ppm
							p-Terphenyl-d14 (Surr)	400 ppm
							Phenol-d5 (Surr)	400 ppm
					MSS_AB_BZIDIN_00004	2000 uL	Benzidine	600 ppm
					MSS_CR8270_1_00004	1000 uL	N-Nitrosodiphenylamine	200 ppm
					MSS_CR8270_10_00004	2500 uL	1,4-Naphthoquinone	200 ppm
							1-Chloronaphthalene	200 ppm
							6-Methylchrysene	200 ppm
							Chlorobenzilate	200 ppm
							Dibenz[a,h]acridine	200 ppm
							Dibenz[a,j]acridine	200 ppm
							Dimethoate	200 ppm

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Ethyl Parathion	200 ppm
							Isodrin	200 ppm
							Methyl parathion	200 ppm
							o,o',o''-Triethylphosphorothioate	200 ppm
							Phorate	200 ppm
							Pronamide	200 ppm
							Quinoline	200 ppm
							Sulfotepp	200 ppm
							Thionazin	200 ppm
					MSS_CR8270_2_00007	5000 uL	1,2,4-Trichlorobenzene	200 ppm
							1,2-Dichlorobenzene	200 ppm
							1,2-Diphenylhydrazine	200 ppm
							1,3-Dichlorobenzene	200 ppm
							1,4-Dichlorobenzene	200 ppm
							2,2'-oxybis[1-chloropropane]	200 ppm
							2,4,5-Trichlorophenol	200 ppm
							2,4,6-Trichlorophenol	200 ppm
							2,4-Dichlorophenol	200 ppm
							2,4-Dimethylphenol	200 ppm
							2,4-Dinitrophenol	200 ppm
							2,4-Dinitrotoluene	200 ppm
							2,6-Dinitrotoluene	200 ppm
							2-Chloronaphthalene	200 ppm
							2-Chlorophenol	200 ppm
							2-Methylnaphthalene	200 ppm
							2-Methylphenol	200 ppm
							2-Nitroaniline	200 ppm
							2-Nitrophenol	200 ppm
							3-Nitroaniline	200 ppm
							4,6-Dinitro-2-methylphenol	200 ppm
							4-Bromophenyl-phenylether	200 ppm
							4-Chloro-3-methylphenol	200 ppm
							4-Chloroaniline	200 ppm
							4-Chlorophenyl-phenyl ether	200 ppm
							4-Methylphenol	200 ppm
							4-Nitroaniline	200 ppm
							4-Nitrophenol	200 ppm
							Acenaphthene	200 ppm
							Acenaphthylene	200 ppm
							Anthracene	200 ppm
							Benzo[a]anthracene	200 ppm
							Benzo[a]pyrene	200 ppm
							Benzo[b]fluoranthene	200 ppm
							Benzo[g,h,i]perylene	200 ppm
							Benzo[k]fluoranthene	200 ppm
							Bis(2-chloroethoxy)methane	200 ppm
							Bis(2-chloroethyl)ether	200 ppm

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Bis(2-ethylhexyl) phthalate	200 ppm
							Butylbenzylphthalate	200 ppm
							Carbazole	200 ppm
							Chrysene	200 ppm
							Di-n-butyl phthalate	200 ppm
							Di-n-octyl phthalate	200 ppm
							Dibenz(a,h)anthracene	200 ppm
							Dibenzofuran	200 ppm
							Diethyl phthalate	200 ppm
							Dimethyl phthalate	200 ppm
							Fluoranthene	200 ppm
							Fluorene	200 ppm
							Hexachlorobenzene	200 ppm
							Hexachlorobutadiene	200 ppm
							Hexachlorocyclopentadiene	200 ppm
							Hexachloroethane	200 ppm
							Indeno[1,2,3-cd]pyrene	200 ppm
							Isophorone	200 ppm
							N-Nitrosodi-n-propylamine	200 ppm
							N-Nitrosodimethylamine	200 ppm
							Naphthalene	200 ppm
							Nitrobenzene	200 ppm
							Pentachlorophenol	200 ppm
							Phenanthrene	200 ppm
							Phenol	200 ppm
							Pyrene	200 ppm
					MSS_CR8270_3_00004	2500 uL	3,3'-Dichlorobenzidine	200 ppm
							3,3'-Dimethylbenzidine	200 ppm
							Benzidine	600 ppm
					MSS_CR8270_4_00004	2500 uL	1,2,4,5-Tetrachlorobenzene	200 ppm
							1,3-Dinitrobenzene	200 ppm
							1,4-Dinitrobenzene	200 ppm
							2,3,4,6-Tetrachlorophenol	200 ppm
							2,6-Dichlorophenol	200 ppm
							2-Acetylaminofluorene	200 ppm
							3-Methylcholanthrene	200 ppm
							4,4'-Methylene bis(2-chloroaniline)	200 ppm
							4-Aminobiphenyl	200 ppm
							4-Nitroquinoline-1-oxide	200 ppm
							cis-Diallate	148 ppm
							Dinoseb	200 ppm
							Ethyl methanesulfonate	200 ppm
							Hexachloropropene	200 ppm
							Isosafrole Peak 1	32 ppm
							Isosafrole Peak 2	168 ppm
							Methyl methanesulfonate	200 ppm
							N-Nitro-o-toluidine	200 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							N-Nitrosodi-n-butylamine	200 ppm
							N-Nitrosodiethylamine	200 ppm
							N-Nitrosomethylethylamine	200 ppm
							N-Nitrosomorpholine	200 ppm
							N-Nitrosopiperidine	200 ppm
							N-Nitrosopyrrolidine	200 ppm
							p-Dimethylamino azobenzene	200 ppm
							Pentachlorobenzene	200 ppm
							Pentachloronitrobenzene	200 ppm
							Phenacetin	200 ppm
							Safrole, Total	200 ppm
							trans-Diallate	52 ppm
					MSS_CR8270_7_00004	2500 uL	1,4-Dioxane	200 ppm
							1-Methylnaphthalene	200 ppm
							1-Naphthylamine	200 ppm
							2-Naphthylamine	200 ppm
							2-Picoline	200 ppm
							2-Toluidine	200 ppm
							7,12-Dimethylbenz(a)anthracene	200 ppm
							Aniline	200 ppm
							Phenyl ether	200 ppm
							Pyridine	200 ppm
...MSS_8270_SURR_00002	04/30/23		Sigma- Aldrich, Lot LRAC6081		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	4000 ug/mL
							2-Fluorobiphenyl (Surr)	4000 ug/mL
							2-Fluorophenol (Surr)	4000 ug/mL
							Nitrobenzene-d5 (Surr)	4000 ug/mL
							p-Terphenyl-d14 (Surr)	4000 ug/mL
							Phenol-d5 (Surr)	4000 ug/mL
...MSS_AB_BZIDIN_00004	01/29/23		Absolute, Lot 012920		(Purchased Reagent)		Benzidine	5000 ug/mL
...MSS_CR8270_1_00004	10/31/22		Restek, Lot A0154042		(Purchased Reagent)		N-Nitrosodiphenylamine	5000 ug/mL
...MSS_CR8270_10_00004	06/30/21		Restek, Lot A0156085		(Purchased Reagent)		1,4-Naphthoquinone	2000 ug/mL
							1-Chloronaphthalene	2000 ug/mL
							6-Methylchrysene	2000 ug/mL
							Chlorobenzilate	2000 ug/mL
							Dibenz[a,h]acridine	2000 ug/mL
							Dibenz[a,j]acridine	2000 ug/mL
							Dimethoate	2000 ug/mL
							Ethyl Parathion	2000 ug/mL
							Isodrin	2000 ug/mL
							Methyl parathion	2000 ug/mL
							o,o',o''-Triethylphosphorothioate	2000 ug/mL
							Phorate	2000 ug/mL
							Pronamide	2000 ug/mL
							Quinoline	2000 ug/mL
							Sulfotepp	2000 ug/mL
							Thionazin	2000 ug/mL
...MSS_CR8270_2_00007	02/28/22		Restek, Lot A0146253		(Purchased Reagent)		1,2,4-Trichlorobenzene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	1000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	1000 ug/mL
							4-Bromophenyl-phenylether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl-phenyl ether	1000 ug/mL
							4-Methylphenol	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	1000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Anthracene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butylbenzylphthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	1000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
...MSS_CR8270_3_00004	09/30/21		Restek, Lot A0130858		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							3,3'-Dimethylbenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
...MSS_CR8270_4_00004	12/31/20		Restek, Lot A0150344		(Purchased Reagent)		1,2,4,5-Tetrachlorobenzene	2000 ug/mL
							1,3-Dinitrobenzene	2000 ug/mL
							1,4-Dinitrobenzene	2000 ug/mL
							2,3,4,6-Tetrachlorophenol	2000 ug/mL
							2,6-Dichlorophenol	2000 ug/mL
							2-Acetylaminofluorene	2000 ug/mL
							3-Methylcholanthrene	2000 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	2000 ug/mL
							4-Aminobiphenyl	2000 ug/mL
							4-Nitroquinoline-1-oxide	2000 ug/mL
							cis-Diallate	1480 ug/mL
							Dinoseb	2000 ug/mL
							Ethyl methanesulfonate	2000 ug/mL
							Hexachloropropene	2000 ug/mL
							Isosafrole Peak 1	320 ug/mL
							Isosafrole Peak 2	1680 ug/mL
							Methyl methanesulfonate	2000 ug/mL
							N-Nitro-o-toluidine	2000 ug/mL
							N-Nitrosodi-n-butylamine	2000 ug/mL
							N-Nitrosodiethylamine	2000 ug/mL
							N-Nitrosomethylethylamine	2000 ug/mL
							N-Nitrosomorpholine	2000 ug/mL
							N-Nitrosopiperidine	2000 ug/mL
							N-Nitrosopyrrolidine	2000 ug/mL
							p-Dimethylamino azobenzene	2000 ug/mL
							Pentachlorobenzene	2000 ug/mL
							Pentachloronitrobenzene	2000 ug/mL
							Phenacetin	2000 ug/mL
							Safrole, Total	2000 ug/mL

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							trans-Diallate	520 ug/mL
...MSS_CR8270_7_00004	11/30/22		Restek, Lot A0155157		(Purchased Reagent)		1,4-Dioxane	2000 ug/mL
							1-Methylnaphthalene	2000 ug/mL
							1-Naphthylamine	2000 ug/mL
							2-Naphthylamine	2000 ug/mL
							2-Picoline	2000 ug/mL
							2-Toluidine	2000 ug/mL
							7,12-Dimethylbenz(a)anthracene	2000 ug/mL
							Aniline	2000 ug/mL
							Phenyl ether	2000 ug/mL
							Pyridine	2000 ug/mL
MSS_RV8270_3_00007	12/30/20	07/28/20	MeCl2, Lot 201838	2 mL	MSS_FV8270_3_00008	500 uL	2,4-Dinitrophenol	3.75 ppm
							4,6-Dinitro-2-methylphenol	2.5 ppm
							4-Nitrophenol	2.5 ppm
							Benzyl alcohol	1.25 ppm
							Indene	1.25 ppm
							Octachlorostyrene	1.25 ppm
							Benzoic acid	3.75 ppm
							1,1'-Biphenyl	1.25 ppm
							Acetophenone	1.25 ppm
							Atrazine	1.25 ppm
							Benzaldehyde	1.25 ppm
							Caprolactam	1.25 ppm
							1,4-Dichlorobenzene-d4	5 ppm
							Acenaphthene-d10	5 ppm
							Naphthalene-d8	5 ppm
							Perylene-d12	5 ppm
							Phenanthrene-d10	5 ppm
							Pyrene-d10 (IS)	5 ppm
							2,4,6-Tribromophenol (Surr)	2.5 ppm
							2-Fluorobiphenyl (Surr)	2.5 ppm
							2-Fluorophenol (Surr)	2.5 ppm
							Nitrobenzene-d5 (Surr)	2.5 ppm
							p-Terphenyl-d14 (Surr)	2.5 ppm
							Phenol-d5 (Surr)	2.5 ppm
							Benzidine	3.75 ppm
							N-Nitrosodiphenylamine	1.25 ppm
							1,4-Naphthoquinone	1.25 ppm
							1-Chloronaphthalene	1.25 ppm
							6-Methylchrysene	1.25 ppm
							Chlorobenzilate	1.25 ppm
							Dibenz[a,h]acridine	1.25 ppm
							Dibenz[a,j]acridine	1.25 ppm
							Dimethoate	1.25 ppm
							Ethyl Parathion	1.25 ppm
							Isodrin	1.25 ppm
							Methyl parathion	1.25 ppm

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							o,o',o''-Triethylphosphorothioate	1.25 ppm
							Phorate	1.25 ppm
							Pronamide	1.25 ppm
							Quinoline	1.25 ppm
							Sulfotepp	1.25 ppm
							Thionazin	1.25 ppm
							1,2,4-Trichlorobenzene	1.25 ppm
							1,2-Dichlorobenzene	1.25 ppm
							1,2-Diphenylhydrazine	1.25 ppm
							1,3-Dichlorobenzene	1.25 ppm
							1,4-Dichlorobenzene	1.25 ppm
							2,2'-oxybis[1-chloropropane]	1.25 ppm
							2,4,5-Trichlorophenol	1.25 ppm
							2,4,6-Trichlorophenol	1.25 ppm
							2,4-Dichlorophenol	1.25 ppm
							2,4-Dimethylphenol	1.25 ppm
							2,4-Dinitrotoluene	1.25 ppm
							2,6-Dinitrotoluene	1.25 ppm
							2-Chloronaphthalene	1.25 ppm
							2-Chlorophenol	1.25 ppm
							2-Methylnaphthalene	1.25 ppm
							2-Methylphenol	1.25 ppm
							2-Nitroaniline	1.25 ppm
							2-Nitrophenol	1.25 ppm
							3-Nitroaniline	1.25 ppm
							4-Bromophenyl-phenylether	1.25 ppm
							4-Chloro-3-methylphenol	1.25 ppm
							4-Chloroaniline	1.25 ppm
							4-Chlorophenyl-phenyl ether	1.25 ppm
							4-Methylphenol	1.25 ppm
							4-Nitroaniline	1.25 ppm
							Acenaphthene	1.25 ppm
							Acenaphthylene	1.25 ppm
							Anthracene	1.25 ppm
							Benzo[a]anthracene	1.25 ppm
							Benzo[a]pyrene	1.25 ppm
							Benzo[b]fluoranthene	1.25 ppm
							Benzo[g,h,i]perylene	1.25 ppm
							Benzo[k]fluoranthene	1.25 ppm
							Bis(2-chloroethoxy)methane	1.25 ppm
							Bis(2-chloroethyl)ether	1.25 ppm
							Bis(2-ethylhexyl) phthalate	1.25 ppm
							Butylbenzylphthalate	1.25 ppm
							Carbazole	1.25 ppm
							Chrysene	1.25 ppm
							Di-n-butyl phthalate	1.25 ppm
							Di-n-octyl phthalate	1.25 ppm

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dibenz(a,h)anthracene	1.25 ppm
							Dibenzofuran	1.25 ppm
							Diethyl phthalate	1.25 ppm
							Dimethyl phthalate	1.25 ppm
							Fluoranthene	1.25 ppm
							Fluorene	1.25 ppm
							Hexachlorobenzene	1.25 ppm
							Hexachlorobutadiene	1.25 ppm
							Hexachlorocyclopentadiene	1.25 ppm
							Hexachloroethane	1.25 ppm
							Indeno[1,2,3-cd]pyrene	1.25 ppm
							Isophorone	1.25 ppm
							N-Nitrosodi-n-propylamine	1.25 ppm
							N-Nitrosodimethylamine	1.25 ppm
							Naphthalene	1.25 ppm
							Nitrobenzene	1.25 ppm
							Pentachlorophenol	1.25 ppm
							Phenanthrene	1.25 ppm
							Phenol	1.25 ppm
							Pyrene	1.25 ppm
							3,3'-Dichlorobenzidine	1.25 ppm
							3,3'-Dimethylbenzidine	1.25 ppm
							1,2,4,5-Tetrachlorobenzene	1.25 ppm
							1,3-Dinitrobenzene	1.25 ppm
							1,4-Dinitrobenzene	1.25 ppm
							2,3,4,6-Tetrachlorophenol	1.25 ppm
							2,6-Dichlorophenol	1.25 ppm
							2-Acetylaminofluorene	1.25 ppm
							3-Methylcholanthrene	1.25 ppm
							4,4'-Methylene bis(2-chloroaniline)	1.25 ppm
							4-Aminobiphenyl	1.25 ppm
							4-Nitroquinoline-1-oxide	1.25 ppm
							cis-Diallate	0.925 ppm
							Dinoseb	1.25 ppm
							Ethyl methanesulfonate	1.25 ppm
							Hexachloropropene	1.25 ppm
							Isosafrole Peak 1	0.2 ppm
							Isosafrole Peak 2	1.05 ppm
							Methyl methanesulfonate	1.25 ppm
							N-Nitro-o-toluidine	1.25 ppm
							N-Nitrosodi-n-butylamine	1.25 ppm
							N-Nitrosodiethylamine	1.25 ppm
							N-Nitrosomethylethylamine	1.25 ppm
							N-Nitrosomorpholine	1.25 ppm
							N-Nitrosopiperidine	1.25 ppm
							N-Nitrosopyrrolidine	1.25 ppm
							p-Dimethylamino azobenzene	1.25 ppm

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pentachlorobenzene	1.25 ppm
							Pentachloronitrobenzene	1.25 ppm
							Phenacetin	1.25 ppm
							Safrole, Total	1.25 ppm
							trans-Diallate	0.325 ppm
							1,4-Dioxane	1.25 ppm
							1-Methylnaphthalene	1.25 ppm
							1-Naphthylamine	1.25 ppm
							2-Naphthylamine	1.25 ppm
							2-Picoline	1.25 ppm
							2-Toluidine	1.25 ppm
							7,12-Dimethylbenz(a)anthracene	1.25 ppm
							Aniline	1.25 ppm
							Phenyl ether	1.25 ppm
							Pyridine	1.25 ppm
.MSS_FV8270_3_00008	12/30/20	07/28/20	MeCl2, Lot 201838	2 mL	MSS_AB_24DNP_00003	20 uL	2,4-Dinitrophenol	15 ppm
					MSS_AB_46D2MP_00003	10 uL	4,6-Dinitro-2-methylphenol	10 ppm
					MSS_AB_4NP_00001	10 uL	4-Nitrophenol	10 ppm
					MSS_CR#9_DL_00005	10 uL	Benzyl alcohol	5 ppm
							Indene	5 ppm
							Octachlorostyrene	5 ppm
					MSS_CR8270_6_00005	15 uL	Benzoic acid	15 ppm
					MSS_CR8270_8_00002	5 uL	1,1'-Biphenyl	5 ppm
							Acetophenone	5 ppm
							Atrazine	5 ppm
							Benzaldehyde	5 ppm
							Caprolactam	5 ppm
					MSS_FV8270_IS_00002	40 uL	1,4-Dichlorobenzene-d4	20 ppm
							Acenaphthene-d10	20 ppm
							Naphthalene-d8	20 ppm
							Perylene-d12	20 ppm
							Phenanthrene-d10	20 ppm
							Pyrene-d10 (IS)	20 ppm
					MSS_FV8270_WS_00005	50 uL	2,4,6-Tribromophenol (Surr)	10 ppm
							2-Fluorobiphenyl (Surr)	10 ppm
							2-Fluorophenol (Surr)	10 ppm
							Nitrobenzene-d5 (Surr)	10 ppm
							p-Terphenyl-d14 (Surr)	10 ppm
							Phenol-d5 (Surr)	10 ppm
							Benzidine	15 ppm
							N-Nitrosodiphenylamine	5 ppm
							1,4-Naphthoquinone	5 ppm
							1-Chloronaphthalene	5 ppm
							6-Methylchrysene	5 ppm
							Chlorobenzilate	5 ppm
							Dibenz[a,h]acridine	5 ppm
							Dibenz[a,j]acridine	5 ppm
							Dimethoate	5 ppm

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Ethyl Parathion	5 ppm
							Isodrin	5 ppm
							Methyl parathion	5 ppm
							o,o',o''-Triethylphosphorothioate	5 ppm
							Phorate	5 ppm
							Pronamide	5 ppm
							Quinoline	5 ppm
							Sulfotepp	5 ppm
							Thionazin	5 ppm
							1,2,4-Trichlorobenzene	5 ppm
							1,2-Dichlorobenzene	5 ppm
							1,2-Diphenylhydrazine	5 ppm
							1,3-Dichlorobenzene	5 ppm
							1,4-Dichlorobenzene	5 ppm
							2,2'-oxybis[1-chloropropane]	5 ppm
							2,4,5-Trichlorophenol	5 ppm
							2,4,6-Trichlorophenol	5 ppm
							2,4-Dichlorophenol	5 ppm
							2,4-Dimethylphenol	5 ppm
							2,4-Dinitrophenol	15 ppm
							2,4-Dinitrotoluene	5 ppm
							2,6-Dinitrotoluene	5 ppm
							2-Chloronaphthalene	5 ppm
							2-Chlorophenol	5 ppm
							2-Methylnaphthalene	5 ppm
							2-Methylphenol	5 ppm
							2-Nitroaniline	5 ppm
							2-Nitrophenol	5 ppm
							3-Nitroaniline	5 ppm
							4,6-Dinitro-2-methylphenol	10 ppm
							4-Bromophenyl-phenylether	5 ppm
							4-Chloro-3-methylphenol	5 ppm
							4-Chloroaniline	5 ppm
							4-Chlorophenyl-phenyl ether	5 ppm
							4-Methylphenol	5 ppm
							4-Nitroaniline	5 ppm
							4-Nitrophenol	10 ppm
							Acenaphthene	5 ppm
							Acenaphthylene	5 ppm
							Anthracene	5 ppm
							Benzo[a]anthracene	5 ppm
							Benzo[a]pyrene	5 ppm
							Benzo[b]fluoranthene	5 ppm
							Benzo[g,h,i]perylene	5 ppm
							Benzo[k]fluoranthene	5 ppm
							Bis(2-chloroethoxy)methane	5 ppm
							Bis(2-chloroethyl)ether	5 ppm

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Bis(2-ethylhexyl) phthalate	5 ppm
							Butylbenzylphthalate	5 ppm
							Carbazole	5 ppm
							Chrysene	5 ppm
							Di-n-butyl phthalate	5 ppm
							Di-n-octyl phthalate	5 ppm
							Dibenz(a,h)anthracene	5 ppm
							Dibenzofuran	5 ppm
							Diethyl phthalate	5 ppm
							Dimethyl phthalate	5 ppm
							Fluoranthene	5 ppm
							Fluorene	5 ppm
							Hexachlorobenzene	5 ppm
							Hexachlorobutadiene	5 ppm
							Hexachlorocyclopentadiene	5 ppm
							Hexachloroethane	5 ppm
							Indeno[1,2,3-cd]pyrene	5 ppm
							Isophorone	5 ppm
							N-Nitrosodi-n-propylamine	5 ppm
							N-Nitrosodimethylamine	5 ppm
							Naphthalene	5 ppm
							Nitrobenzene	5 ppm
							Pentachlorophenol	5 ppm
							Phenanthrene	5 ppm
							Phenol	5 ppm
							Pyrene	5 ppm
							3,3'-Dichlorobenzidine	5 ppm
							3,3'-Dimethylbenzidine	5 ppm
							1,2,4,5-Tetrachlorobenzene	5 ppm
							1,3-Dinitrobenzene	5 ppm
							1,4-Dinitrobenzene	5 ppm
							2,3,4,6-Tetrachlorophenol	5 ppm
							2,6-Dichlorophenol	5 ppm
							2-Acetylaminofluorene	5 ppm
							3-Methylcholanthrene	5 ppm
							4,4'-Methylene bis(2-chloroaniline)	5 ppm
							4-Aminobiphenyl	5 ppm
							4-Nitroquinoline-1-oxide	5 ppm
							cis-Diallate	3.7 ppm
							Dinoseb	5 ppm
							Ethyl methanesulfonate	5 ppm
							Hexachloropropene	5 ppm
							Isosafrole Peak 1	0.8 ppm
							Isosafrole Peak 2	4.2 ppm
							Methyl methanesulfonate	5 ppm
							N-Nitro-o-toluidine	5 ppm
							N-Nitrosodi-n-butylamine	5 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							N-Nitrosodiethylamine	5 ppm
							N-Nitrosomethylethylamine	5 ppm
							N-Nitrosomorpholine	5 ppm
							N-Nitrosopiperidine	5 ppm
							N-Nitrosopyrrolidine	5 ppm
							p-Dimethylamino azobenzene	5 ppm
							Pentachlorobenzene	5 ppm
							Pentachloronitrobenzene	5 ppm
							Phenacetin	5 ppm
							Safrole, Total	5 ppm
							trans-Diallate	1.3 ppm
							1,4-Dioxane	5 ppm
							1-Methylnaphthalene	5 ppm
							1-Naphthylamine	5 ppm
							2-Naphthylamine	5 ppm
							2-Picoline	5 ppm
							2-Toluidine	5 ppm
							7,12-Dimethylbenz(a)anthracene	5 ppm
							Aniline	5 ppm
							Phenyl ether	5 ppm
							Pyridine	5 ppm
..MSS_AB_24DNP_00003	09/05/23		Absolute, Lot 090518		(Purchased Reagent)		2,4-Dinitrophenol	1000 ug/mL
..MSS_AB_46D2MP_00003	10/20/22		Absolute, Lot 102017		(Purchased Reagent)		4,6-Dinitro-2-methylphenol	1000 ug/mL
..MSS_AB_4NP_00001	10/07/21		Absolute, Lot 100716		(Purchased Reagent)		4-Nitrophenol	1000 ug/mL
..MSS_CR#9_DL_00005	09/30/21	07/21/20	MeCl2, Lot 200018	5 mL	MSS_CR8270_9_00003	1000 uL	Benzyl alcohol	1000 ppm
							Indene	1000 ppm
							Octachlorostyrene	1000 ppm
...MSS_CR8270_9_00003	09/30/21		Restek, Lot A0131112		(Purchased Reagent)		Benzyl alcohol	5000 ug/mL
							Indene	5000 ug/mL
							Octachlorostyrene	5000 ug/mL
..MSS_CR8270_6_00005	02/28/21		Restek, Lot A0146280		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MSS_CR8270_8_00002	02/28/21		Restek, Lot A0146313		(Purchased Reagent)		1,1'-Biphenyl	2000 ug/mL
							Acetophenone	2000 ug/mL
							Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..MSS_FV8270_IS_00002	02/28/21		Restek, Lot A0134880		(Purchased Reagent)		1,4-Dichlorobenzene-d4	1000 ug/mL
							Acenaphthene-d10	1000 ug/mL
							Naphthalene-d8	1000 ug/mL
							Perylene-d12	1000 ug/mL
							Phenanthrene-d10	1000 ug/mL
							Pyrene-d10 (IS)	1000 ug/mL
..MSS_FV8270_WS_00005	12/30/20	07/13/20	MeCl2, Lot 200018	25 mL	MSS_8270_SURR_00002	2500 uL	2,4,6-Tribromophenol (Surr)	400 ppm
							2-Fluorobiphenyl (Surr)	400 ppm
							2-Fluorophenol (Surr)	400 ppm
							Nitrobenzene-d5 (Surr)	400 ppm
							p-Terphenyl-d14 (Surr)	400 ppm
							Phenol-d5 (Surr)	400 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					MSS_AB_BZIDIN_00004	2000 uL	Benzidine	600 ppm
					MSS_CR8270_1_00004	1000 uL	N-Nitrosodiphenylamine	200 ppm
					MSS_CR8270_10_00004	2500 uL	1,4-Naphthoquinone	200 ppm
							1-Chloronaphthalene	200 ppm
							6-Methylchrysene	200 ppm
							Chlorobenzilate	200 ppm
							Dibenz[a,h]acridine	200 ppm
							Dibenz[a,j]acridine	200 ppm
							Dimethoate	200 ppm
							Ethyl Parathion	200 ppm
							Isodrin	200 ppm
							Methyl parathion	200 ppm
							o,o',o''-Triethylphosphorothioate	200 ppm
							Phorate	200 ppm
							Pronamide	200 ppm
							Quinoline	200 ppm
							Sulfotepp	200 ppm
							Thionazin	200 ppm
					MSS_CR8270_2_00007	5000 uL	1,2,4-Trichlorobenzene	200 ppm
							1,2-Dichlorobenzene	200 ppm
							1,2-Diphenylhydrazine	200 ppm
							1,3-Dichlorobenzene	200 ppm
							1,4-Dichlorobenzene	200 ppm
							2,2'-oxybis[1-chloropropane]	200 ppm
							2,4,5-Trichlorophenol	200 ppm
							2,4,6-Trichlorophenol	200 ppm
							2,4-Dichlorophenol	200 ppm
							2,4-Dimethylphenol	200 ppm
							2,4-Dinitrophenol	200 ppm
							2,4-Dinitrotoluene	200 ppm
							2,6-Dinitrotoluene	200 ppm
							2-Chloronaphthalene	200 ppm
							2-Chlorophenol	200 ppm
							2-Methylnaphthalene	200 ppm
							2-Methylphenol	200 ppm
							2-Nitroaniline	200 ppm
							2-Nitrophenol	200 ppm
							3-Nitroaniline	200 ppm
							4,6-Dinitro-2-methylphenol	200 ppm
							4-Bromophenyl-phenylether	200 ppm
							4-Chloro-3-methylphenol	200 ppm
							4-Chloroaniline	200 ppm
							4-Chlorophenyl-phenyl ether	200 ppm
							4-Methylphenol	200 ppm
							4-Nitroaniline	200 ppm
							4-Nitrophenol	200 ppm
							Acenaphthene	200 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acenaphthylene	200 ppm
							Anthracene	200 ppm
							Benzo[a]anthracene	200 ppm
							Benzo[a]pyrene	200 ppm
							Benzo[b]fluoranthene	200 ppm
							Benzo[g,h,i]perylene	200 ppm
							Benzo[k]fluoranthene	200 ppm
							Bis(2-chloroethoxy)methane	200 ppm
							Bis(2-chloroethyl)ether	200 ppm
							Bis(2-ethylhexyl) phthalate	200 ppm
							Butylbenzylphthalate	200 ppm
							Carbazole	200 ppm
							Chrysene	200 ppm
							Di-n-butyl phthalate	200 ppm
							Di-n-octyl phthalate	200 ppm
							Dibenz(a,h)anthracene	200 ppm
							Dibenzofuran	200 ppm
							Diethyl phthalate	200 ppm
							Dimethyl phthalate	200 ppm
							Fluoranthene	200 ppm
							Fluorene	200 ppm
							Hexachlorobenzene	200 ppm
							Hexachlorobutadiene	200 ppm
							Hexachlorocyclopentadiene	200 ppm
							Hexachloroethane	200 ppm
							Indeno[1,2,3-cd]pyrene	200 ppm
							Isophorone	200 ppm
							N-Nitrosodi-n-propylamine	200 ppm
							N-Nitrosodimethylamine	200 ppm
							Naphthalene	200 ppm
							Nitrobenzene	200 ppm
							Pentachlorophenol	200 ppm
							Phenanthrene	200 ppm
							Phenol	200 ppm
							Pyrene	200 ppm
					MSS_CR8270_3_00004	2500 uL	3,3'-Dichlorobenzidine	200 ppm
							3,3'-Dimethylbenzidine	200 ppm
							Benzidine	600 ppm
					MSS_CR8270_4_00004	2500 uL	1,2,4,5-Tetrachlorobenzene	200 ppm
							1,3-Dinitrobenzene	200 ppm
							1,4-Dinitrobenzene	200 ppm
							2,3,4,6-Tetrachlorophenol	200 ppm
							2,6-Dichlorophenol	200 ppm
							2-Acetylaminofluorene	200 ppm
							3-Methylcholanthrene	200 ppm
							4,4'-Methylene bis(2-chloroaniline)	200 ppm
							4-Aminobiphenyl	200 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Nitroquinoline-1-oxide	200 ppm
							cis-Diallate	148 ppm
							Dinoseb	200 ppm
							Ethyl methanesulfonate	200 ppm
							Hexachloropropene	200 ppm
							Isosafrole Peak 1	32 ppm
							Isosafrole Peak 2	168 ppm
							Methyl methanesulfonate	200 ppm
							N-Nitro-o-toluidine	200 ppm
							N-Nitrosodi-n-butylamine	200 ppm
							N-Nitrosodiethylamine	200 ppm
							N-Nitrosomethylethylamine	200 ppm
							N-Nitrosomorpholine	200 ppm
							N-Nitrosopiperidine	200 ppm
							N-Nitrosopyrrolidine	200 ppm
							p-Dimethylamino azobenzene	200 ppm
							Pentachlorobenzene	200 ppm
							Pentachloronitrobenzene	200 ppm
							Phenacetin	200 ppm
							Safrole, Total	200 ppm
							trans-Diallate	52 ppm
					MSS_CR8270_7_00004	2500 uL	1,4-Dioxane	200 ppm
							1-Methylnaphthalene	200 ppm
							1-Naphthylamine	200 ppm
							2-Naphthylamine	200 ppm
							2-Picoline	200 ppm
							2-Toluidine	200 ppm
							7,12-Dimethylbenz(a)anthracene	200 ppm
							Aniline	200 ppm
							Phenyl ether	200 ppm
							Pyridine	200 ppm
...MSS_8270_SURR_00002	04/30/23		Sigma- Aldrich, Lot LRAC6081		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	4000 ug/mL
							2-Fluorobiphenyl (Surr)	4000 ug/mL
							2-Fluorophenol (Surr)	4000 ug/mL
							Nitrobenzene-d5 (Surr)	4000 ug/mL
							p-Terphenyl-d14 (Surr)	4000 ug/mL
							Phenol-d5 (Surr)	4000 ug/mL
...MSS_AB_BZIDIN_00004	01/29/23		Absolute, Lot 012920		(Purchased Reagent)		Benzidine	5000 ug/mL
...MSS_CR8270_1_00004	10/31/22		Restek, Lot A0154042		(Purchased Reagent)		N-Nitrosodiphenylamine	5000 ug/mL
...MSS_CR8270_10_00004	06/30/21		Restek, Lot A0156085		(Purchased Reagent)		1,4-Naphthoquinone	2000 ug/mL
							1-Chloronaphthalene	2000 ug/mL
							6-Methylchrysene	2000 ug/mL
							Chlorobenzilate	2000 ug/mL
							Dibenz[a,h]acridine	2000 ug/mL
							Dibenz[a,j]acridine	2000 ug/mL
							Dimethoate	2000 ug/mL
							Ethyl Parathion	2000 ug/mL
							Isodrin	2000 ug/mL

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Methyl parathion	2000 ug/mL
							o,o',o''-Triethylphosphorothioate	2000 ug/mL
							Phorate	2000 ug/mL
							Pronamide	2000 ug/mL
							Quinoline	2000 ug/mL
							Sulfotepp	2000 ug/mL
							Thionazin	2000 ug/mL
...MSS_CR8270_2_00007	02/28/22		Restek, Lot A0146253		(Purchased Reagent)		1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	1000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	1000 ug/mL
							4-Bromophenyl-phenylether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl-phenyl ether	1000 ug/mL
							4-Methylphenol	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	1000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Anthracene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butylbenzylphthalate	1000 ug/mL

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	1000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
...MSS_CR8270_3_00004	09/30/21		Restek, Lot A0130858		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							3,3'-Dimethylbenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
...MSS_CR8270_4_00004	12/31/20		Restek, Lot A0150344		(Purchased Reagent)		1,2,4,5-Tetrachlorobenzene	2000 ug/mL
							1,3-Dinitrobenzene	2000 ug/mL
							1,4-Dinitrobenzene	2000 ug/mL
							2,3,4,6-Tetrachlorophenol	2000 ug/mL
							2,6-Dichlorophenol	2000 ug/mL
							2-Acetylaminofluorene	2000 ug/mL
							3-Methylcholanthrene	2000 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	2000 ug/mL
							4-Aminobiphenyl	2000 ug/mL
							4-Nitroquinoline-1-oxide	2000 ug/mL
							cis-Diallate	1480 ug/mL
							Dinoseb	2000 ug/mL
							Ethyl methanesulfonate	2000 ug/mL
							Hexachloropropene	2000 ug/mL
							Isosafrole Peak 1	320 ug/mL
							Isosafrole Peak 2	1680 ug/mL
							Methyl methanesulfonate	2000 ug/mL
							N-Nitro-o-toluidine	2000 ug/mL
							N-Nitrosodi-n-butylamine	2000 ug/mL
							N-Nitrosodiethylamine	2000 ug/mL

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							N-Nitrosomethylethylamine	2000 ug/mL
							N-Nitrosomorpholine	2000 ug/mL
							N-Nitrosopiperidine	2000 ug/mL
							N-Nitrosopyrrolidine	2000 ug/mL
							p-Dimethylamino azobenzene	2000 ug/mL
							Pentachlorobenzene	2000 ug/mL
							Pentachloronitrobenzene	2000 ug/mL
							Phenacetin	2000 ug/mL
							Safrole, Total	2000 ug/mL
							trans-Diallate	520 ug/mL
...MSS_CR8270_7_00004	11/30/22		Restek, Lot A0155157		(Purchased Reagent)		1,4-Dioxane	2000 ug/mL
							1-Methylnaphthalene	2000 ug/mL
							1-Naphthylamine	2000 ug/mL
							2-Naphthylamine	2000 ug/mL
							2-Picoline	2000 ug/mL
							2-Toluidine	2000 ug/mL
							7,12-Dimethylbenz(a)anthracene	2000 ug/mL
							Aniline	2000 ug/mL
							Phenyl ether	2000 ug/mL
							Pyridine	2000 ug/mL
MSS_RV8270_4_00007	12/30/20	07/28/20	MeCl2, Lot 201838	3 mL	MSS_FV8270_4_00008	750 uL	2,4-Dinitrophenol	7.5 ppm
							Benzyl alcohol	3.75 ppm
							Indene	3.75 ppm
							Octachlorostyrene	3.75 ppm
							Benzoic acid	7.5 ppm
							1,1'-Biphenyl	3.75 ppm
							Acetophenone	3.75 ppm
							Atrazine	3.75 ppm
							Benzaldehyde	3.75 ppm
							Caprolactam	3.75 ppm
							1,4-Dichlorobenzene-d4	5 ppm
							Acenaphthene-d10	5 ppm
							Naphthalene-d8	5 ppm
							Perylene-d12	5 ppm
							Phenanthrene-d10	5 ppm
							Pyrene-d10 (IS)	5 ppm
							2,4,6-Tribromophenol (Surr)	7.5 ppm
							2-Fluorobiphenyl (Surr)	7.5 ppm
							2-Fluorophenol (Surr)	7.5 ppm
							Nitrobenzene-d5 (Surr)	7.5 ppm
							p-Terphenyl-d14 (Surr)	7.5 ppm
							Phenol-d5 (Surr)	7.5 ppm
							Benzidine	11.25 ppm
							N-Nitrosodiphenylamine	3.75 ppm
							1,4-Naphthoquinone	3.75 ppm
							1-Chloronaphthalene	3.75 ppm
							6-Methylchrysene	3.75 ppm

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chlorobenzilate	3.75 ppm
							Dibenz[a,h]acridine	3.75 ppm
							Dibenz[a,j]acridine	3.75 ppm
							Dimethoate	3.75 ppm
							Ethyl Parathion	3.75 ppm
							Isodrin	3.75 ppm
							Methyl parathion	3.75 ppm
							o,o',o''-Triethylphosphorothioate	3.75 ppm
							Phorate	3.75 ppm
							Pronamide	3.75 ppm
							Quinoline	3.75 ppm
							Sulfotepp	3.75 ppm
							Thionazin	3.75 ppm
							1,2,4-Trichlorobenzene	3.75 ppm
							1,2-Dichlorobenzene	3.75 ppm
							1,2-Diphenylhydrazine	3.75 ppm
							1,3-Dichlorobenzene	3.75 ppm
							1,4-Dichlorobenzene	3.75 ppm
							2,2'-oxybis[1-chloropropane]	3.75 ppm
							2,4,5-Trichlorophenol	3.75 ppm
							2,4,6-Trichlorophenol	3.75 ppm
							2,4-Dichlorophenol	3.75 ppm
							2,4-Dimethylphenol	3.75 ppm
							2,4-Dinitrotoluene	3.75 ppm
							2,6-Dinitrotoluene	3.75 ppm
							2-Chloronaphthalene	3.75 ppm
							2-Chlorophenol	3.75 ppm
							2-Methylnaphthalene	3.75 ppm
							2-Methylphenol	3.75 ppm
							2-Nitroaniline	3.75 ppm
							2-Nitrophenol	3.75 ppm
							3-Nitroaniline	3.75 ppm
							4,6-Dinitro-2-methylphenol	3.75 ppm
							4-Bromophenyl-phenylether	3.75 ppm
							4-Chloro-3-methylphenol	3.75 ppm
							4-Chloroaniline	3.75 ppm
							4-Chlorophenyl-phenyl ether	3.75 ppm
							4-Methylphenol	3.75 ppm
							4-Nitroaniline	3.75 ppm
							4-Nitrophenol	3.75 ppm
							Acenaphthene	3.75 ppm
							Acenaphthylene	3.75 ppm
							Anthracene	3.75 ppm
							Benzo[a]anthracene	3.75 ppm
							Benzo[a]pyrene	3.75 ppm
							Benzo[b]fluoranthene	3.75 ppm
							Benzo[g,h,i]perylene	3.75 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[k]fluoranthene	3.75 ppm
							Bis(2-chloroethoxy)methane	3.75 ppm
							Bis(2-chloroethyl)ether	3.75 ppm
							Bis(2-ethylhexyl) phthalate	3.75 ppm
							Butylbenzylphthalate	3.75 ppm
							Carbazole	3.75 ppm
							Chrysene	3.75 ppm
							Di-n-butyl phthalate	3.75 ppm
							Di-n-octyl phthalate	3.75 ppm
							Dibenz(a,h)anthracene	3.75 ppm
							Dibenzofuran	3.75 ppm
							Diethyl phthalate	3.75 ppm
							Dimethyl phthalate	3.75 ppm
							Fluoranthene	3.75 ppm
							Fluorene	3.75 ppm
							Hexachlorobenzene	3.75 ppm
							Hexachlorobutadiene	3.75 ppm
							Hexachlorocyclopentadiene	3.75 ppm
							Hexachloroethane	3.75 ppm
							Indeno[1,2,3-cd]pyrene	3.75 ppm
							Isophorone	3.75 ppm
							N-Nitrosodi-n-propylamine	3.75 ppm
							N-Nitrosodimethylamine	3.75 ppm
							Naphthalene	3.75 ppm
							Nitrobenzene	3.75 ppm
							Pentachlorophenol	3.75 ppm
							Phenanthrene	3.75 ppm
							Phenol	3.75 ppm
							Pyrene	3.75 ppm
							3,3'-Dichlorobenzidine	3.75 ppm
							3,3'-Dimethylbenzidine	3.75 ppm
							1,2,4,5-Tetrachlorobenzene	3.75 ppm
							1,3-Dinitrobenzene	3.75 ppm
							1,4-Dinitrobenzene	3.75 ppm
							2,3,4,6-Tetrachlorophenol	3.75 ppm
							2,6-Dichlorophenol	3.75 ppm
							2-Acetylaminofluorene	3.75 ppm
							3-Methylcholanthrene	3.75 ppm
							4,4'-Methylene bis(2-chloroaniline)	3.75 ppm
							4-Aminobiphenyl	3.75 ppm
							4-Nitroquinoline-1-oxide	3.75 ppm
							cis-Diallate	2.775 ppm
							Dinoseb	3.75 ppm
							Ethyl methanesulfonate	3.75 ppm
							Hexachloropropene	3.75 ppm
							Isosafrole Peak 1	0.6 ppm
							Isosafrole Peak 2	3.15 ppm

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Methyl methanesulfonate	3.75 ppm
							N-Nitro-o-toluidine	3.75 ppm
							N-Nitrosodi-n-butylamine	3.75 ppm
							N-Nitrosodiethylamine	3.75 ppm
							N-Nitrosomethylethylamine	3.75 ppm
							N-Nitrosomorpholine	3.75 ppm
							N-Nitrosopiperidine	3.75 ppm
							N-Nitrosopyrrolidine	3.75 ppm
							p-Dimethylamino azobenzene	3.75 ppm
							Pentachlorobenzene	3.75 ppm
							Pentachloronitrobenzene	3.75 ppm
							Phenacetin	3.75 ppm
							Safrole, Total	3.75 ppm
							trans-Diallate	0.975 ppm
							1,4-Dioxane	3.75 ppm
							1-Methylnaphthalene	3.75 ppm
							1-Naphthylamine	3.75 ppm
							2-Naphthylamine	3.75 ppm
							2-Picoline	3.75 ppm
							2-Toluidine	3.75 ppm
							7,12-Dimethylbenz(a)anthracene	3.75 ppm
							Aniline	3.75 ppm
							Phenyl ether	3.75 ppm
							Pyridine	3.75 ppm
.MSS_FV8270_4_00008	12/30/20	07/28/20	MeCl2, Lot 201838	2 mL	MSS_AB_24DNP_00003	30 uL	2,4-Dinitrophenol	30 ppm
					MSS_CR#9_DL_00005	30 uL	Benzyl alcohol	15 ppm
							Indene	15 ppm
							Octachlorostyrene	15 ppm
					MSS_CR8270_6_00005	30 uL	Benzoic acid	30 ppm
					MSS_CR8270_8_00002	15 uL	1,1'-Biphenyl	15 ppm
							Acetophenone	15 ppm
							Atrazine	15 ppm
							Benzaldehyde	15 ppm
							Caprolactam	15 ppm
					MSS_FV8270_IS_00002	40 uL	1,4-Dichlorobenzene-d4	20 ppm
							Acenaphthene-d10	20 ppm
							Naphthalene-d8	20 ppm
							Perylene-d12	20 ppm
							Phenanthrene-d10	20 ppm
							Pyrene-d10 (IS)	20 ppm
					MSS_FV8270_WS_00005	150 uL	2,4,6-Tribromophenol (Surr)	30 ppm
							2-Fluorobiphenyl (Surr)	30 ppm
							2-Fluorophenol (Surr)	30 ppm
							Nitrobenzene-d5 (Surr)	30 ppm
							p-Terphenyl-d14 (Surr)	30 ppm
							Phenol-d5 (Surr)	30 ppm
							Benzidine	45 ppm
							N-Nitrosodiphenylamine	15 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,4-Naphthoquinone	15 ppm
							1-Chloronaphthalene	15 ppm
							6-Methylchrysene	15 ppm
							Chlorobenzilate	15 ppm
							Dibenz[a,h]acridine	15 ppm
							Dibenz[a,j]acridine	15 ppm
							Dimethoate	15 ppm
							Ethyl Parathion	15 ppm
							Isodrin	15 ppm
							Methyl parathion	15 ppm
							o,o',o''-Triethylphosphorothioate	15 ppm
							Phorate	15 ppm
							Pronamide	15 ppm
							Quinoline	15 ppm
							Sulfotepp	15 ppm
							Thionazin	15 ppm
							1,2,4-Trichlorobenzene	15 ppm
							1,2-Dichlorobenzene	15 ppm
							1,2-Diphenylhydrazine	15 ppm
							1,3-Dichlorobenzene	15 ppm
							1,4-Dichlorobenzene	15 ppm
							2,2'-oxybis[1-chloropropane]	15 ppm
							2,4,5-Trichlorophenol	15 ppm
							2,4,6-Trichlorophenol	15 ppm
							2,4-Dichlorophenol	15 ppm
							2,4-Dimethylphenol	15 ppm
							2,4-Dinitrophenol	30 ppm
							2,4-Dinitrotoluene	15 ppm
							2,6-Dinitrotoluene	15 ppm
							2-Chloronaphthalene	15 ppm
							2-Chlorophenol	15 ppm
							2-Methylnaphthalene	15 ppm
							2-Methylphenol	15 ppm
							2-Nitroaniline	15 ppm
							2-Nitrophenol	15 ppm
							3-Nitroaniline	15 ppm
							4,6-Dinitro-2-methylphenol	15 ppm
							4-Bromophenyl-phenylether	15 ppm
							4-Chloro-3-methylphenol	15 ppm
							4-Chloroaniline	15 ppm
							4-Chlorophenyl-phenyl ether	15 ppm
							4-Methylphenol	15 ppm
							4-Nitroaniline	15 ppm
							4-Nitrophenol	15 ppm
							Acenaphthene	15 ppm
							Acenaphthylene	15 ppm
							Anthracene	15 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[a]anthracene	15 ppm
							Benzo[a]pyrene	15 ppm
							Benzo[b]fluoranthene	15 ppm
							Benzo[g,h,i]perylene	15 ppm
							Benzo[k]fluoranthene	15 ppm
							Bis(2-chloroethoxy)methane	15 ppm
							Bis(2-chloroethyl)ether	15 ppm
							Bis(2-ethylhexyl) phthalate	15 ppm
							Butylbenzylphthalate	15 ppm
							Carbazole	15 ppm
							Chrysene	15 ppm
							Di-n-butyl phthalate	15 ppm
							Di-n-octyl phthalate	15 ppm
							Dibenz(a,h)anthracene	15 ppm
							Dibenzofuran	15 ppm
							Diethyl phthalate	15 ppm
							Dimethyl phthalate	15 ppm
							Fluoranthene	15 ppm
							Fluorene	15 ppm
							Hexachlorobenzene	15 ppm
							Hexachlorobutadiene	15 ppm
							Hexachlorocyclopentadiene	15 ppm
							Hexachloroethane	15 ppm
							Indeno[1,2,3-cd]pyrene	15 ppm
							Isophorone	15 ppm
							N-Nitrosodi-n-propylamine	15 ppm
							N-Nitrosodimethylamine	15 ppm
							Naphthalene	15 ppm
							Nitrobenzene	15 ppm
							Pentachlorophenol	15 ppm
							Phenanthrene	15 ppm
							Phenol	15 ppm
							Pyrene	15 ppm
							3,3'-Dichlorobenzidine	15 ppm
							3,3'-Dimethylbenzidine	15 ppm
							1,2,4,5-Tetrachlorobenzene	15 ppm
							1,3-Dinitrobenzene	15 ppm
							1,4-Dinitrobenzene	15 ppm
							2,3,4,6-Tetrachlorophenol	15 ppm
							2,6-Dichlorophenol	15 ppm
							2-Acetylaminofluorene	15 ppm
							3-Methylcholanthrene	15 ppm
							4,4'-Methylene bis(2-chloroaniline)	15 ppm
							4-Aminobiphenyl	15 ppm
							4-Nitroquinoline-1-oxide	15 ppm
							cis-Diallate	11.1 ppm
							Dinoseb	15 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Ethyl methanesulfonate	15 ppm
							Hexachloropropene	15 ppm
							Isosafrole Peak 1	2.4 ppm
							Isosafrole Peak 2	12.6 ppm
							Methyl methanesulfonate	15 ppm
							N-Nitro-o-toluidine	15 ppm
							N-Nitrosodi-n-butylamine	15 ppm
							N-Nitrosodiethylamine	15 ppm
							N-Nitrosomethylethylamine	15 ppm
							N-Nitrosomorpholine	15 ppm
							N-Nitrosopiperidine	15 ppm
							N-Nitrosopyrrolidine	15 ppm
							p-Dimethylamino azobenzene	15 ppm
							Pentachlorobenzene	15 ppm
							Pentachloronitrobenzene	15 ppm
							Phenacetin	15 ppm
							Safrole, Total	15 ppm
							trans-Diallate	3.9 ppm
							1,4-Dioxane	15 ppm
							1-Methylnaphthalene	15 ppm
							1-Naphthylamine	15 ppm
							2-Naphthylamine	15 ppm
							2-Picoline	15 ppm
							2-Toluidine	15 ppm
							7,12-Dimethylbenz(a)anthracene	15 ppm
							Aniline	15 ppm
							Phenyl ether	15 ppm
							Pyridine	15 ppm
..MSS_AB_24DNP_00003	09/05/23		Absolute, Lot 090518		(Purchased Reagent)		2,4-Dinitrophenol	1000 ug/mL
..MSS_CR#9_DL_00005	09/30/21	07/21/20	MeCl2, Lot 200018	5 mL	MSS_CR8270_9_00003	1000 uL	Benzyl alcohol	1000 ppm
							Indene	1000 ppm
							Octachlorostyrene	1000 ppm
...MSS_CR8270_9_00003	09/30/21		Restek, Lot A0131112		(Purchased Reagent)		Benzyl alcohol	5000 ug/mL
							Indene	5000 ug/mL
							Octachlorostyrene	5000 ug/mL
..MSS_CR8270_6_00005	02/28/21		Restek, Lot A0146280		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MSS_CR8270_8_00002	02/28/21		Restek, Lot A0146313		(Purchased Reagent)		1,1'-Biphenyl	2000 ug/mL
							Acetophenone	2000 ug/mL
							Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..MSS_FV8270_IS_00002	02/28/21		Restek, Lot A0134880		(Purchased Reagent)		1,4-Dichlorobenzene-d4	1000 ug/mL
							Acenaphthene-d10	1000 ug/mL
							Naphthalene-d8	1000 ug/mL
							Perylene-d12	1000 ug/mL
							Phenanthrene-d10	1000 ug/mL
							Pyrene-d10 (IS)	1000 ug/mL
..MSS_FV8270_WS_00005	12/30/20	07/13/20	MeCl2, Lot 200018	25 mL	MSS_8270_SURR_00002	2500 uL	2,4,6-Tribromophenol (Surr)	400 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Fluorobiphenyl (Surr)	400 ppm
							2-Fluorophenol (Surr)	400 ppm
							Nitrobenzene-d5 (Surr)	400 ppm
							p-Terphenyl-d14 (Surr)	400 ppm
							Phenol-d5 (Surr)	400 ppm
					MSS_AB_BZIDIN_00004	2000 uL	Benzidine	600 ppm
					MSS_CR8270_1_00004	1000 uL	N-Nitrosodiphenylamine	200 ppm
					MSS_CR8270_10_00004	2500 uL	1,4-Naphthoquinone	200 ppm
							1-Chloronaphthalene	200 ppm
							6-Methylchrysene	200 ppm
							Chlorobenzilate	200 ppm
							Dibenz[a,h]acridine	200 ppm
							Dibenz[a,j]acridine	200 ppm
							Dimethoate	200 ppm
							Ethyl Parathion	200 ppm
							Isodrin	200 ppm
							Methyl parathion	200 ppm
							o,o',o''-Triethylphosphorothioate	200 ppm
							Phorate	200 ppm
							Pronamide	200 ppm
							Quinoline	200 ppm
							Sulfotepp	200 ppm
							Thionazin	200 ppm
					MSS_CR8270_2_00007	5000 uL	1,2,4-Trichlorobenzene	200 ppm
							1,2-Dichlorobenzene	200 ppm
							1,2-Diphenylhydrazine	200 ppm
							1,3-Dichlorobenzene	200 ppm
							1,4-Dichlorobenzene	200 ppm
							2,2'-oxybis[1-chloropropane]	200 ppm
							2,4,5-Trichlorophenol	200 ppm
							2,4,6-Trichlorophenol	200 ppm
							2,4-Dichlorophenol	200 ppm
							2,4-Dimethylphenol	200 ppm
							2,4-Dinitrophenol	200 ppm
							2,4-Dinitrotoluene	200 ppm
							2,6-Dinitrotoluene	200 ppm
							2-Chloronaphthalene	200 ppm
							2-Chlorophenol	200 ppm
							2-Methylnaphthalene	200 ppm
							2-Methylphenol	200 ppm
							2-Nitroaniline	200 ppm
							2-Nitrophenol	200 ppm
							3-Nitroaniline	200 ppm
							4,6-Dinitro-2-methylphenol	200 ppm
							4-Bromophenyl-phenylether	200 ppm
							4-Chloro-3-methylphenol	200 ppm
							4-Chloroaniline	200 ppm

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Chlorophenyl-phenyl ether	200 ppm
							4-Methylphenol	200 ppm
							4-Nitroaniline	200 ppm
							4-Nitrophenol	200 ppm
							Acenaphthene	200 ppm
							Acenaphthylene	200 ppm
							Anthracene	200 ppm
							Benzo[a]anthracene	200 ppm
							Benzo[a]pyrene	200 ppm
							Benzo[b]fluoranthene	200 ppm
							Benzo[g,h,i]perylene	200 ppm
							Benzo[k]fluoranthene	200 ppm
							Bis(2-chloroethoxy)methane	200 ppm
							Bis(2-chloroethyl)ether	200 ppm
							Bis(2-ethylhexyl) phthalate	200 ppm
							Butylbenzylphthalate	200 ppm
							Carbazole	200 ppm
							Chrysene	200 ppm
							Di-n-butyl phthalate	200 ppm
							Di-n-octyl phthalate	200 ppm
							Dibenz(a,h)anthracene	200 ppm
							Dibenzofuran	200 ppm
							Diethyl phthalate	200 ppm
							Dimethyl phthalate	200 ppm
							Fluoranthene	200 ppm
							Fluorene	200 ppm
							Hexachlorobenzene	200 ppm
							Hexachlorobutadiene	200 ppm
							Hexachlorocyclopentadiene	200 ppm
							Hexachloroethane	200 ppm
							Indeno[1,2,3-cd]pyrene	200 ppm
							Isophorone	200 ppm
							N-Nitrosodi-n-propylamine	200 ppm
							N-Nitrosodimethylamine	200 ppm
							Naphthalene	200 ppm
							Nitrobenzene	200 ppm
							Pentachlorophenol	200 ppm
							Phenanthrene	200 ppm
							Phenol	200 ppm
							Pyrene	200 ppm
					MSS_CR8270_3_00004	2500 uL	3,3'-Dichlorobenzidine	200 ppm
							3,3'-Dimethylbenzidine	200 ppm
							Benzidine	600 ppm
					MSS_CR8270_4_00004	2500 uL	1,2,4,5-Tetrachlorobenzene	200 ppm
							1,3-Dinitrobenzene	200 ppm
							1,4-Dinitrobenzene	200 ppm
							2,3,4,6-Tetrachlorophenol	200 ppm
							2,6-Dichlorophenol	200 ppm

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Acetylaminofluorene	200 ppm
							3-Methylcholanthrene	200 ppm
							4,4'-Methylene bis(2-chloroaniline)	200 ppm
							4-Aminobiphenyl	200 ppm
							4-Nitroquinoline-1-oxide	200 ppm
							cis-Diallate	148 ppm
							Dinoseb	200 ppm
							Ethyl methanesulfonate	200 ppm
							Hexachloropropene	200 ppm
							Isosafrole Peak 1	32 ppm
							Isosafrole Peak 2	168 ppm
							Methyl methanesulfonate	200 ppm
							N-Nitro-o-toluidine	200 ppm
							N-Nitrosodi-n-butylamine	200 ppm
							N-Nitrosodiethylamine	200 ppm
							N-Nitrosomethylethylamine	200 ppm
							N-Nitrosomorpholine	200 ppm
							N-Nitrosopiperidine	200 ppm
							N-Nitrosopyrrolidine	200 ppm
							p-Dimethylamino azobenzene	200 ppm
							Pentachlorobenzene	200 ppm
							Pentachloronitrobenzene	200 ppm
							Phenacetin	200 ppm
							Safrole, Total	200 ppm
							trans-Diallate	52 ppm
					MSS_CR8270_7_00004	2500 uL	1,4-Dioxane	200 ppm
							1-Methylnaphthalene	200 ppm
							1-Naphthylamine	200 ppm
							2-Naphthylamine	200 ppm
							2-Picoline	200 ppm
							2-Toluidine	200 ppm
							7,12-Dimethylbenz(a)anthracene	200 ppm
							Aniline	200 ppm
							Phenyl ether	200 ppm
							Pyridine	200 ppm
...MSS_8270_SURR_00002	04/30/23	Sigma- Aldrich, Lot LRAC6081			(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	4000 ug/mL
							2-Fluorobiphenyl (Surr)	4000 ug/mL
							2-Fluorophenol (Surr)	4000 ug/mL
							Nitrobenzene-d5 (Surr)	4000 ug/mL
							p-Terphenyl-d14 (Surr)	4000 ug/mL
							Phenol-d5 (Surr)	4000 ug/mL
...MSS_AB_BZIDIN_00004	01/29/23	Absolute, Lot 012920			(Purchased Reagent)		Benzidine	5000 ug/mL
...MSS_CR8270_1_00004	10/31/22	Restek, Lot A0154042			(Purchased Reagent)		N-Nitrosodiphenylamine	5000 ug/mL
...MSS_CR8270_10_00004	06/30/21	Restek, Lot A0156085			(Purchased Reagent)		1,4-Naphthoquinone	2000 ug/mL
							1-Chloronaphthalene	2000 ug/mL
							6-Methylchrysene	2000 ug/mL
							Chlorobenzilate	2000 ug/mL

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dibenz[a,h]acridine	2000 ug/mL
							Dibenz[a,j]acridine	2000 ug/mL
							Dimethoate	2000 ug/mL
							Ethyl Parathion	2000 ug/mL
							Isodrin	2000 ug/mL
							Methyl parathion	2000 ug/mL
							o,o',o''-Triethylphosphorothioate	2000 ug/mL
							Phorate	2000 ug/mL
							Pronamide	2000 ug/mL
							Quinoline	2000 ug/mL
							Sulfotepp	2000 ug/mL
							Thionazin	2000 ug/mL
...MSS_CR8270_2_00007	02/28/22		Restek, Lot A0146253		(Purchased Reagent)		1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	1000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	1000 ug/mL
							4-Bromophenyl-phenylether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl-phenyl ether	1000 ug/mL
							4-Methylphenol	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	1000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Anthracene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzo[k]fluoranthene	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butylbenzylphthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	1000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
...MSS_CR8270_3_00004	09/30/21		Restek, Lot A0130858		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							3,3'-Dimethylbenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
...MSS_CR8270_4_00004	12/31/20		Restek, Lot A0150344		(Purchased Reagent)		1,2,4,5-Tetrachlorobenzene	2000 ug/mL
							1,3-Dinitrobenzene	2000 ug/mL
							1,4-Dinitrobenzene	2000 ug/mL
							2,3,4,6-Tetrachlorophenol	2000 ug/mL
							2,6-Dichlorophenol	2000 ug/mL
							2-Acetylaminofluorene	2000 ug/mL
							3-Methylcholanthrene	2000 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	2000 ug/mL
							4-Aminobiphenyl	2000 ug/mL
							4-Nitroquinoline-1-oxide	2000 ug/mL
							cis-Diallate	1480 ug/mL
							Dinoseb	2000 ug/mL
							Ethyl methanesulfonate	2000 ug/mL
							Hexachloropropene	2000 ug/mL
							Isosafrole Peak 1	320 ug/mL

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added	Isosafrole Peak 2	1680 ug/mL
							Methyl methanesulfonate	2000 ug/mL
							N-Nitro-o-toluidine	2000 ug/mL
							N-Nitrosodi-n-butylamine	2000 ug/mL
							N-Nitrosodiethylamine	2000 ug/mL
							N-Nitrosomethylethylamine	2000 ug/mL
							N-Nitrosomorpholine	2000 ug/mL
							N-Nitrosopiperidine	2000 ug/mL
							N-Nitrosopyrrolidine	2000 ug/mL
							p-Dimethylamino azobenzene	2000 ug/mL
							Pentachlorobenzene	2000 ug/mL
							Pentachloronitrobenzene	2000 ug/mL
							Phenacetin	2000 ug/mL
							Safrole, Total	2000 ug/mL
							trans-Diallate	520 ug/mL
...MSS_CR8270_7_00004	11/30/22		Restek, Lot A0155157		(Purchased Reagent)		1,4-Dioxane	2000 ug/mL
							1-Methylnaphthalene	2000 ug/mL
							1-Naphthylamine	2000 ug/mL
							2-Naphthylamine	2000 ug/mL
							2-Picoline	2000 ug/mL
							2-Toluidine	2000 ug/mL
							7,12-Dimethylbenz(a)anthracene	2000 ug/mL
							Aniline	2000 ug/mL
							Phenyl ether	2000 ug/mL
							Pyridine	2000 ug/mL
MSS_RV8270_5_00007	12/30/20	07/28/20	MeCl2, Lot 201838	5 mL	MSS_FV8270_5_00008	1250 uL	2,4-Dinitrophenol	10 ppm
							Benzyl alcohol	7.5 ppm
							Indene	7.5 ppm
							Octachlorostyrene	7.5 ppm
							Benzoic acid	10 ppm
							1,1'-Biphenyl	7.5 ppm
							Acetophenone	7.5 ppm
							Atrazine	7.5 ppm
							Benzaldehyde	7.5 ppm
							Caprolactam	7.5 ppm
							1,4-Dichlorobenzene-d4	5 ppm
							Acenaphthene-d10	5 ppm
							Naphthalene-d8	5 ppm
							Perylene-d12	5 ppm
							Phenanthrene-d10	5 ppm
							Pyrene-d10 (IS)	5 ppm
							2,4,6-Tribromophenol (Surr)	15 ppm
							2-Fluorobiphenyl (Surr)	15 ppm
							2-Fluorophenol (Surr)	15 ppm
							Nitrobenzene-d5 (Surr)	15 ppm
							p-Terphenyl-d14 (Surr)	15 ppm
							Phenol-d5 (Surr)	15 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzidine	22.5 ppm
							N-Nitrosodiphenylamine	7.5 ppm
							1,4-Naphthoquinone	7.5 ppm
							1-Chloronaphthalene	7.5 ppm
							6-Methylchrysene	7.5 ppm
							Chlorobenzilate	7.5 ppm
							Dibenz[a,h]acridine	7.5 ppm
							Dibenz[a,j]acridine	7.5 ppm
							Dimethoate	7.5 ppm
							Ethyl Parathion	7.5 ppm
							Isodrin	7.5 ppm
							Methyl parathion	7.5 ppm
							o,o',o''-Triethylphosphorothioate	7.5 ppm
							Phorate	7.5 ppm
							Pronamide	7.5 ppm
							Quinoline	7.5 ppm
							Sulfotepp	7.5 ppm
							Thionazin	7.5 ppm
							1,2,4-Trichlorobenzene	7.5 ppm
							1,2-Dichlorobenzene	7.5 ppm
							1,2-Diphenylhydrazine	7.5 ppm
							1,3-Dichlorobenzene	7.5 ppm
							1,4-Dichlorobenzene	7.5 ppm
							2,2'-oxybis[1-chloropropane]	7.5 ppm
							2,4,5-Trichlorophenol	7.5 ppm
							2,4,6-Trichlorophenol	7.5 ppm
							2,4-Dichlorophenol	7.5 ppm
							2,4-Dimethylphenol	7.5 ppm
							2,4-Dinitrotoluene	7.5 ppm
							2,6-Dinitrotoluene	7.5 ppm
							2-Chloronaphthalene	7.5 ppm
							2-Chlorophenol	7.5 ppm
							2-Methylnaphthalene	7.5 ppm
							2-Methylphenol	7.5 ppm
							2-Nitroaniline	7.5 ppm
							2-Nitrophenol	7.5 ppm
							3-Nitroaniline	7.5 ppm
							4,6-Dinitro-2-methylphenol	7.5 ppm
							4-Bromophenyl-phenylether	7.5 ppm
							4-Chloro-3-methylphenol	7.5 ppm
							4-Chloroaniline	7.5 ppm
							4-Chlorophenyl-phenyl ether	7.5 ppm
							4-Methylphenol	7.5 ppm
							4-Nitroaniline	7.5 ppm
							4-Nitrophenol	7.5 ppm
							Acenaphthene	7.5 ppm
							Acenaphthylene	7.5 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Anthracene	7.5 ppm
							Benzo[a]anthracene	7.5 ppm
							Benzo[a]pyrene	7.5 ppm
							Benzo[b]fluoranthene	7.5 ppm
							Benzo[g,h,i]perylene	7.5 ppm
							Benzo[k]fluoranthene	7.5 ppm
							Bis(2-chloroethoxy)methane	7.5 ppm
							Bis(2-chloroethyl)ether	7.5 ppm
							Bis(2-ethylhexyl) phthalate	7.5 ppm
							Butylbenzylphthalate	7.5 ppm
							Carbazole	7.5 ppm
							Chrysene	7.5 ppm
							Di-n-butyl phthalate	7.5 ppm
							Di-n-octyl phthalate	7.5 ppm
							Dibenz(a,h)anthracene	7.5 ppm
							Dibenzofuran	7.5 ppm
							Diethyl phthalate	7.5 ppm
							Dimethyl phthalate	7.5 ppm
							Fluoranthene	7.5 ppm
							Fluorene	7.5 ppm
							Hexachlorobenzene	7.5 ppm
							Hexachlorobutadiene	7.5 ppm
							Hexachlorocyclopentadiene	7.5 ppm
							Hexachloroethane	7.5 ppm
							Indeno[1,2,3-cd]pyrene	7.5 ppm
							Isophorone	7.5 ppm
							N-Nitrosodi-n-propylamine	7.5 ppm
							N-Nitrosodimethylamine	7.5 ppm
							Naphthalene	7.5 ppm
							Nitrobenzene	7.5 ppm
							Pentachlorophenol	7.5 ppm
							Phenanthrene	7.5 ppm
							Phenol	7.5 ppm
							Pyrene	7.5 ppm
							3,3'-Dichlorobenzidine	7.5 ppm
							3,3'-Dimethylbenzidine	7.5 ppm
							1,2,4,5-Tetrachlorobenzene	7.5 ppm
							1,3-Dinitrobenzene	7.5 ppm
							1,4-Dinitrobenzene	7.5 ppm
							2,3,4,6-Tetrachlorophenol	7.5 ppm
							2,6-Dichlorophenol	7.5 ppm
							2-Acetylaminofluorene	7.5 ppm
							3-Methylcholanthrene	7.5 ppm
							4,4'-Methylene bis(2-chloroaniline)	7.5 ppm
							4-Aminobiphenyl	7.5 ppm
							4-Nitroquinoline-1-oxide	7.5 ppm
							cis-Diallate	5.55 ppm

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Dinoseb	7.5 ppm
							Ethyl methanesulfonate	7.5 ppm
							Hexachloropropene	7.5 ppm
							Isosafrole Peak 1	1.2 ppm
							Isosafrole Peak 2	6.3 ppm
							Methyl methanesulfonate	7.5 ppm
							N-Nitro-o-toluidine	7.5 ppm
							N-Nitrosodi-n-butylamine	7.5 ppm
							N-Nitrosodiethylamine	7.5 ppm
							N-Nitrosomethylethylamine	7.5 ppm
							N-Nitrosomorpholine	7.5 ppm
							N-Nitrosopiperidine	7.5 ppm
							N-Nitrosopyrrolidine	7.5 ppm
							p-Dimethylamino azobenzene	7.5 ppm
							Pentachlorobenzene	7.5 ppm
							Pentachloronitrobenzene	7.5 ppm
							Phenacetin	7.5 ppm
							Safrole, Total	7.5 ppm
							trans-Diallate	1.95 ppm
							1,4-Dioxane	7.5 ppm
							1-Methylnaphthalene	7.5 ppm
							1-Naphthylamine	7.5 ppm
							2-Naphthylamine	7.5 ppm
							2-Picoline	7.5 ppm
							2-Toluidine	7.5 ppm
							7,12-Dimethylbenz(a)anthracene	7.5 ppm
							Aniline	7.5 ppm
							Phenyl ether	7.5 ppm
							Pyridine	7.5 ppm
.MSS_FV8270_5_00008	12/30/20	07/28/20	MeCl2, Lot 201838	5 mL	MSS_AB_24DNP_00003	50 uL	2,4-Dinitrophenol	40 ppm
					MSS_CR#9_DL_00005	150 uL	Benzyl alcohol	30 ppm
							Indene	30 ppm
							Octachlorostyrene	30 ppm
					MSS_CR8270_6_00005	100 uL	Benzoic acid	40 ppm
					MSS_CR8270_8_00002	75 uL	1,1'-Biphenyl	30 ppm
							Acetophenone	30 ppm
							Atrazine	30 ppm
							Benzaldehyde	30 ppm
							Caprolactam	30 ppm
					MSS_FV8270_IS_00002	100 uL	1,4-Dichlorobenzene-d4	20 ppm
							Acenaphthene-d10	20 ppm
							Naphthalene-d8	20 ppm
							Perylene-d12	20 ppm
							Phenanthrene-d10	20 ppm
							Pyrene-d10 (IS)	20 ppm
					MSS_FV8270_WS_00005	750 uL	2,4,6-Tribromophenol (Surr)	60 ppm
							2-Fluorobiphenyl (Surr)	60 ppm
							2-Fluorophenol (Surr)	60 ppm

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Nitrobenzene-d5 (Surr)	60 ppm
							p-Terphenyl-d14 (Surr)	60 ppm
							Phenol-d5 (Surr)	60 ppm
							Benzidine	90 ppm
							N-Nitrosodiphenylamine	30 ppm
							1,4-Naphthoquinone	30 ppm
							1-Chloronaphthalene	30 ppm
							6-Methylchrysene	30 ppm
							Chlorobenzilate	30 ppm
							Dibenz[a,h]acridine	30 ppm
							Dibenz[a,j]acridine	30 ppm
							Dimethoate	30 ppm
							Ethyl Parathion	30 ppm
							Isodrin	30 ppm
							Methyl parathion	30 ppm
							o,o',o''-Triethylphosphorothioate	30 ppm
							Phorate	30 ppm
							Pronamide	30 ppm
							Quinoline	30 ppm
							Sulfotepp	30 ppm
							Thionazin	30 ppm
							1,2,4-Trichlorobenzene	30 ppm
							1,2-Dichlorobenzene	30 ppm
							1,2-Diphenylhydrazine	30 ppm
							1,3-Dichlorobenzene	30 ppm
							1,4-Dichlorobenzene	30 ppm
							2,2'-oxybis[1-chloropropane]	30 ppm
							2,4,5-Trichlorophenol	30 ppm
							2,4,6-Trichlorophenol	30 ppm
							2,4-Dichlorophenol	30 ppm
							2,4-Dimethylphenol	30 ppm
							2,4-Dinitrophenol	40 ppm
							2,4-Dinitrotoluene	30 ppm
							2,6-Dinitrotoluene	30 ppm
							2-Chloronaphthalene	30 ppm
							2-Chlorophenol	30 ppm
							2-Methylnaphthalene	30 ppm
							2-Methylphenol	30 ppm
							2-Nitroaniline	30 ppm
							2-Nitrophenol	30 ppm
							3-Nitroaniline	30 ppm
							4,6-Dinitro-2-methylphenol	30 ppm
							4-Bromophenyl-phenylether	30 ppm
							4-Chloro-3-methylphenol	30 ppm
							4-Chloroaniline	30 ppm
							4-Chlorophenyl-phenyl ether	30 ppm
							4-Methylphenol	30 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Nitroaniline	30 ppm
							4-Nitrophenol	30 ppm
							Acenaphthene	30 ppm
							Acenaphthylene	30 ppm
							Anthracene	30 ppm
							Benzo[a]anthracene	30 ppm
							Benzo[a]pyrene	30 ppm
							Benzo[b]fluoranthene	30 ppm
							Benzo[g,h,i]perylene	30 ppm
							Benzo[k]fluoranthene	30 ppm
							Bis(2-chloroethoxy)methane	30 ppm
							Bis(2-chloroethyl)ether	30 ppm
							Bis(2-ethylhexyl) phthalate	30 ppm
							Butylbenzylphthalate	30 ppm
							Carbazole	30 ppm
							Chrysene	30 ppm
							Di-n-butyl phthalate	30 ppm
							Di-n-octyl phthalate	30 ppm
							Dibenz(a,h)anthracene	30 ppm
							Dibenzofuran	30 ppm
							Diethyl phthalate	30 ppm
							Dimethyl phthalate	30 ppm
							Fluoranthene	30 ppm
							Fluorene	30 ppm
							Hexachlorobenzene	30 ppm
							Hexachlorobutadiene	30 ppm
							Hexachlorocyclopentadiene	30 ppm
							Hexachloroethane	30 ppm
							Indeno[1,2,3-cd]pyrene	30 ppm
							Isophorone	30 ppm
							N-Nitrosodi-n-propylamine	30 ppm
							N-Nitrosodimethylamine	30 ppm
							Naphthalene	30 ppm
							Nitrobenzene	30 ppm
							Pentachlorophenol	30 ppm
							Phenanthrene	30 ppm
							Phenol	30 ppm
							Pyrene	30 ppm
							3,3'-Dichlorobenzidine	30 ppm
							3,3'-Dimethylbenzidine	30 ppm
							1,2,4,5-Tetrachlorobenzene	30 ppm
							1,3-Dinitrobenzene	30 ppm
							1,4-Dinitrobenzene	30 ppm
							2,3,4,6-Tetrachlorophenol	30 ppm
							2,6-Dichlorophenol	30 ppm
							2-Acetylaminofluorene	30 ppm
							3-Methylcholanthrene	30 ppm

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4,4'-Methylene bis(2-chloroaniline)	30 ppm
							4-Aminobiphenyl	30 ppm
							4-Nitroquinoline-1-oxide	30 ppm
							cis-Diallate	22.2 ppm
							Dinoseb	30 ppm
							Ethyl methanesulfonate	30 ppm
							Hexachloropropene	30 ppm
							Isosafrole Peak 1	4.8 ppm
							Isosafrole Peak 2	25.2 ppm
							Methyl methanesulfonate	30 ppm
							N-Nitro-o-toluidine	30 ppm
							N-Nitrosodi-n-butylamine	30 ppm
							N-Nitrosodiethylamine	30 ppm
							N-Nitrosomethylethylamine	30 ppm
							N-Nitrosomorpholine	30 ppm
							N-Nitrosopiperidine	30 ppm
							N-Nitrosopyrrolidine	30 ppm
							p-Dimethylamino azobenzene	30 ppm
							Pentachlorobenzene	30 ppm
							Pentachloronitrobenzene	30 ppm
							Phenacetin	30 ppm
							Safrole, Total	30 ppm
							trans-Diallate	7.8 ppm
							1,4-Dioxane	30 ppm
							1-Methylnaphthalene	30 ppm
							1-Naphthylamine	30 ppm
							2-Naphthylamine	30 ppm
							2-Picoline	30 ppm
							2-Toluidine	30 ppm
							7,12-Dimethylbenz(a)anthracene	30 ppm
							Aniline	30 ppm
							Phenyl ether	30 ppm
							Pyridine	30 ppm
..MSS_AB_24DNP_00003	09/05/23		Absolute, Lot 090518		(Purchased Reagent)		2,4-Dinitrophenol	1000 ug/mL
..MSS_CR#9_DL_00005	09/30/21	07/21/20	MeCl2, Lot 200018	5 mL	MSS_CR8270_9_00003	1000 uL	Benzyl alcohol	1000 ppm
							Indene	1000 ppm
							Octachlorostyrene	1000 ppm
...MSS_CR8270_9_00003	09/30/21		Restek, Lot A0131112		(Purchased Reagent)		Benzyl alcohol	5000 ug/mL
							Indene	5000 ug/mL
							Octachlorostyrene	5000 ug/mL
..MSS_CR8270_6_00005	02/28/21		Restek, Lot A0146280		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MSS_CR8270_8_00002	02/28/21		Restek, Lot A0146313		(Purchased Reagent)		1,1'-Biphenyl	2000 ug/mL
							Acetophenone	2000 ug/mL
							Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..MSS_FV8270_IS_00002	02/28/21		Restek, Lot A0134880		(Purchased Reagent)		1,4-Dichlorobenzene-d4	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acenaphthene-d10	1000 ug/mL
							Naphthalene-d8	1000 ug/mL
							Perylene-d12	1000 ug/mL
							Phenanthrene-d10	1000 ug/mL
							Pyrene-d10 (IS)	1000 ug/mL
..MSS_FV8270_WS_00005	12/30/20	07/13/20	MeCl2, Lot 200018	25 mL	MSS_8270_SURR_00002	2500 uL	2,4,6-Tribromophenol (Surr)	400 ppm
							2-Fluorobiphenyl (Surr)	400 ppm
							2-Fluorophenol (Surr)	400 ppm
							Nitrobenzene-d5 (Surr)	400 ppm
							p-Terphenyl-d14 (Surr)	400 ppm
							Phenol-d5 (Surr)	400 ppm
					MSS_AB_BZIDIN_00004	2000 uL	Benzidine	600 ppm
					MSS_CR8270_1_00004	1000 uL	N-Nitrosodiphenylamine	200 ppm
					MSS_CR8270_10_00004	2500 uL	1,4-Naphthoquinone	200 ppm
							1-Chloronaphthalene	200 ppm
							6-Methylchrysene	200 ppm
							Chlorobenzilate	200 ppm
							Dibenz[a,h]acridine	200 ppm
							Dibenz[a,j]acridine	200 ppm
							Dimethoate	200 ppm
							Ethyl Parathion	200 ppm
							Isodrin	200 ppm
							Methyl parathion	200 ppm
							o,o',o''-Triethylphosphorothioate	200 ppm
							Phorate	200 ppm
							Pronamide	200 ppm
							Quinoline	200 ppm
							Sulfotepp	200 ppm
							Thionazin	200 ppm
					MSS_CR8270_2_00007	5000 uL	1,2,4-Trichlorobenzene	200 ppm
							1,2-Dichlorobenzene	200 ppm
							1,2-Diphenylhydrazine	200 ppm
							1,3-Dichlorobenzene	200 ppm
							1,4-Dichlorobenzene	200 ppm
							2,2'-oxybis[1-chloropropane]	200 ppm
							2,4,5-Trichlorophenol	200 ppm
							2,4,6-Trichlorophenol	200 ppm
							2,4-Dichlorophenol	200 ppm
							2,4-Dimethylphenol	200 ppm
							2,4-Dinitrophenol	200 ppm
							2,4-Dinitrotoluene	200 ppm
							2,6-Dinitrotoluene	200 ppm
							2-Chloronaphthalene	200 ppm
							2-Chlorophenol	200 ppm
							2-Methylnaphthalene	200 ppm
							2-Methylphenol	200 ppm
							2-Nitroaniline	200 ppm

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Nitrophenol	200 ppm
							3-Nitroaniline	200 ppm
							4,6-Dinitro-2-methylphenol	200 ppm
							4-Bromophenyl-phenylether	200 ppm
							4-Chloro-3-methylphenol	200 ppm
							4-Chloroaniline	200 ppm
							4-Chlorophenyl-phenyl ether	200 ppm
							4-Methylphenol	200 ppm
							4-Nitroaniline	200 ppm
							4-Nitrophenol	200 ppm
							Acenaphthene	200 ppm
							Acenaphthylene	200 ppm
							Anthracene	200 ppm
							Benzo[a]anthracene	200 ppm
							Benzo[a]pyrene	200 ppm
							Benzo[b]fluoranthene	200 ppm
							Benzo[g,h,i]perylene	200 ppm
							Benzo[k]fluoranthene	200 ppm
							Bis(2-chloroethoxy)methane	200 ppm
							Bis(2-chloroethyl)ether	200 ppm
							Bis(2-ethylhexyl) phthalate	200 ppm
							Butylbenzylphthalate	200 ppm
							Carbazole	200 ppm
							Chrysene	200 ppm
							Di-n-butyl phthalate	200 ppm
							Di-n-octyl phthalate	200 ppm
							Dibenz(a,h)anthracene	200 ppm
							Dibenzofuran	200 ppm
							Diethyl phthalate	200 ppm
							Dimethyl phthalate	200 ppm
							Fluoranthene	200 ppm
							Fluorene	200 ppm
							Hexachlorobenzene	200 ppm
							Hexachlorobutadiene	200 ppm
							Hexachlorocyclopentadiene	200 ppm
							Hexachloroethane	200 ppm
							Indeno[1,2,3-cd]pyrene	200 ppm
							Isophorone	200 ppm
							N-Nitrosodi-n-propylamine	200 ppm
							N-Nitrosodimethylamine	200 ppm
							Naphthalene	200 ppm
							Nitrobenzene	200 ppm
							Pentachlorophenol	200 ppm
							Phenanthrene	200 ppm
							Phenol	200 ppm
							Pyrene	200 ppm
					MSS_CR8270_3_00004	2500 uL	3,3'-Dichlorobenzidine	200 ppm
							3,3'-Dimethylbenzidine	200 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzidine	600 ppm
					MSS_CR8270_4_00004	2500 uL	1,2,4,5-Tetrachlorobenzene	200 ppm
							1,3-Dinitrobenzene	200 ppm
							1,4-Dinitrobenzene	200 ppm
							2,3,4,6-Tetrachlorophenol	200 ppm
							2,6-Dichlorophenol	200 ppm
							2-Acetylaminofluorene	200 ppm
							3-Methylcholanthrene	200 ppm
							4,4'-Methylene bis(2-chloroaniline)	200 ppm
							4-Aminobiphenyl	200 ppm
							4-Nitroquinoline-1-oxide	200 ppm
							cis-Diallate	148 ppm
							Dinoseb	200 ppm
							Ethyl methanesulfonate	200 ppm
							Hexachloropropene	200 ppm
							Isosafrole Peak 1	32 ppm
							Isosafrole Peak 2	168 ppm
							Methyl methanesulfonate	200 ppm
							N-Nitro-o-toluidine	200 ppm
							N-Nitrosodi-n-butylamine	200 ppm
							N-Nitrosodiethylamine	200 ppm
							N-Nitrosomethylethylamine	200 ppm
							N-Nitrosomorpholine	200 ppm
							N-Nitrosopiperidine	200 ppm
							N-Nitrosopyrrolidine	200 ppm
							p-Dimethylamino azobenzene	200 ppm
							Pentachlorobenzene	200 ppm
							Pentachloronitrobenzene	200 ppm
							Phenacetin	200 ppm
							Safrole, Total	200 ppm
							trans-Diallate	52 ppm
					MSS_CR8270_7_00004	2500 uL	1,4-Dioxane	200 ppm
							1-Methylnaphthalene	200 ppm
							1-Naphthylamine	200 ppm
							2-Naphthylamine	200 ppm
							2-Picoline	200 ppm
							2-Toluidine	200 ppm
							7,12-Dimethylbenz(a)anthracene	200 ppm
							Aniline	200 ppm
							Phenyl ether	200 ppm
							Pyridine	200 ppm
...MSS_8270_SURR_00002	04/30/23	Sigma- Aldrich, Lot LRAC6081			(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	4000 ug/mL
							2-Fluorobiphenyl (Surr)	4000 ug/mL
							2-Fluorophenol (Surr)	4000 ug/mL
							Nitrobenzene-d5 (Surr)	4000 ug/mL
							p-Terphenyl-d14 (Surr)	4000 ug/mL
							Phenol-d5 (Surr)	4000 ug/mL

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
...MSS_AB_BZIDIN_00004	01/29/23		Absolute, Lot 012920		(Purchased Reagent)		Benzidine	5000 ug/mL
...MSS_CR8270_1_00004	10/31/22		Restek, Lot A0154042		(Purchased Reagent)		N-Nitrosodiphenylamine	5000 ug/mL
...MSS_CR8270_10_00004	06/30/21		Restek, Lot A0156085		(Purchased Reagent)		1,4-Naphthoquinone	2000 ug/mL
							1-Chloronaphthalene	2000 ug/mL
							6-Methylchrysene	2000 ug/mL
							Chlorobenzilate	2000 ug/mL
							Dibenz[a,h]acridine	2000 ug/mL
							Dibenz[a,j]acridine	2000 ug/mL
							Dimethoate	2000 ug/mL
							Ethyl Parathion	2000 ug/mL
							Isodrin	2000 ug/mL
							Methyl parathion	2000 ug/mL
							o,o',o''-Triethylphosphorothioate	2000 ug/mL
							Phorate	2000 ug/mL
							Pronamide	2000 ug/mL
							Quinoline	2000 ug/mL
							Sulfotepp	2000 ug/mL
							Thionazin	2000 ug/mL
...MSS_CR8270_2_00007	02/28/22		Restek, Lot A0146253		(Purchased Reagent)		1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	1000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	1000 ug/mL
							4-Bromophenyl-phenylether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl-phenyl ether	1000 ug/mL
							4-Methylphenol	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	1000 ug/mL
							Acenaphthene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acenaphthylene	1000 ug/mL
							Anthracene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butylbenzylphthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	1000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
...MSS_CR8270_3_00004	09/30/21		Restek, Lot A0130858		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							3,3'-Dimethylbenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
...MSS_CR8270_4_00004	12/31/20		Restek, Lot A0150344		(Purchased Reagent)		1,2,4,5-Tetrachlorobenzene	2000 ug/mL
							1,3-Dinitrobenzene	2000 ug/mL
							1,4-Dinitrobenzene	2000 ug/mL
							2,3,4,6-Tetrachlorophenol	2000 ug/mL
							2,6-Dichlorophenol	2000 ug/mL
							2-Acetylaminofluorene	2000 ug/mL
							3-Methylcholanthrene	2000 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	2000 ug/mL
							4-Aminobiphenyl	2000 ug/mL

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Nitroquinoline-1-oxide	2000 ug/mL
							cis-Diallate	1480 ug/mL
							Dinoseb	2000 ug/mL
							Ethyl methanesulfonate	2000 ug/mL
							Hexachloropropene	2000 ug/mL
							Isosafrole Peak 1	320 ug/mL
							Isosafrole Peak 2	1680 ug/mL
							Methyl methanesulfonate	2000 ug/mL
							N-Nitro-o-toluidine	2000 ug/mL
							N-Nitrosodi-n-butylamine	2000 ug/mL
							N-Nitrosodiethylamine	2000 ug/mL
							N-Nitrosomethylethylamine	2000 ug/mL
							N-Nitrosomorpholine	2000 ug/mL
							N-Nitrosopiperidine	2000 ug/mL
							N-Nitrosopyrrolidine	2000 ug/mL
							p-Dimethylamino azobenzene	2000 ug/mL
							Pentachlorobenzene	2000 ug/mL
							Pentachloronitrobenzene	2000 ug/mL
							Phenacetin	2000 ug/mL
							Safrole, Total	2000 ug/mL
							trans-Diallate	520 ug/mL
...MSS_CR8270_7_00004	11/30/22		Restek, Lot A0155157		(Purchased Reagent)		1,4-Dioxane	2000 ug/mL
							1-Methylnaphthalene	2000 ug/mL
							1-Naphthylamine	2000 ug/mL
							2-Naphthylamine	2000 ug/mL
							2-Picoline	2000 ug/mL
							2-Toluidine	2000 ug/mL
							7,12-Dimethylbenz(a)anthracene	2000 ug/mL
							Aniline	2000 ug/mL
							Phenyl ether	2000 ug/mL
							Pyridine	2000 ug/mL
MSS_RV8270_6_00007	12/30/20	07/28/20	MeCl2, Lot 201838	5 mL	MSS_FV8270_6_00012	1250 uL	Benzyl alcohol	12.5 ppm
							Indene	12.5 ppm
							Octachlorostyrene	12.5 ppm
							Benzoic acid	12.5 ppm
							1,1'-Biphenyl	12.5 ppm
							Acetophenone	12.5 ppm
							Atrazine	12.5 ppm
							Benzaldehyde	12.5 ppm
							Caprolactam	12.5 ppm
							1,4-Dichlorobenzene-d4	5 ppm
							Acenaphthene-d10	5 ppm
							Naphthalene-d8	5 ppm
							Perylene-d12	5 ppm
							Phenanthrene-d10	5 ppm
							Pyrene-d10 (IS)	5 ppm
							2,4,6-Tribromophenol (Surr)	25 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Fluorobiphenyl (Surr)	25 ppm
							2-Fluorophenol (Surr)	25 ppm
							Nitrobenzene-d5 (Surr)	25 ppm
							p-Terphenyl-d14 (Surr)	25 ppm
							Phenol-d5 (Surr)	25 ppm
							Benzidine	37.5 ppm
							N-Nitrosodiphenylamine	12.5 ppm
							1,4-Naphthoquinone	12.5 ppm
							1-Chloronaphthalene	12.5 ppm
							6-Methylchrysene	12.5 ppm
							Chlorobenzilate	12.5 ppm
							Dibenz[a,h]acridine	12.5 ppm
							Dibenz[a,j]acridine	12.5 ppm
							Dimethoate	12.5 ppm
							Ethyl Parathion	12.5 ppm
							Isodrin	12.5 ppm
							Methyl parathion	12.5 ppm
							o,o',o''-Triethylphosphorothioate	12.5 ppm
							Phorate	12.5 ppm
							Pronamide	12.5 ppm
							Quinoline	12.5 ppm
							Sulfotepp	12.5 ppm
							Thionazin	12.5 ppm
							1,2,4-Trichlorobenzene	12.5 ppm
							1,2-Dichlorobenzene	12.5 ppm
							1,2-Diphenylhydrazine	12.5 ppm
							1,3-Dichlorobenzene	12.5 ppm
							1,4-Dichlorobenzene	12.5 ppm
							2,2'-oxybis[1-chloropropane]	12.5 ppm
							2,4,5-Trichlorophenol	12.5 ppm
							2,4,6-Trichlorophenol	12.5 ppm
							2,4-Dichlorophenol	12.5 ppm
							2,4-Dimethylphenol	12.5 ppm
							2,4-Dinitrophenol	12.5 ppm
							2,4-Dinitrotoluene	12.5 ppm
							2,6-Dinitrotoluene	12.5 ppm
							2-Chloronaphthalene	12.5 ppm
							2-Chlorophenol	12.5 ppm
							2-Methylnaphthalene	12.5 ppm
							2-Methylphenol	12.5 ppm
							2-Nitroaniline	12.5 ppm
							2-Nitrophenol	12.5 ppm
							3-Nitroaniline	12.5 ppm
							4,6-Dinitro-2-methylphenol	12.5 ppm
							4-Bromophenyl-phenylether	12.5 ppm
							4-Chloro-3-methylphenol	12.5 ppm
							4-Chloroaniline	12.5 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Chlorophenyl-phenyl ether	12.5 ppm
							4-Methylphenol	12.5 ppm
							4-Nitroaniline	12.5 ppm
							4-Nitrophenol	12.5 ppm
							Acenaphthene	12.5 ppm
							Acenaphthylene	12.5 ppm
							Anthracene	12.5 ppm
							Benzo[a]anthracene	12.5 ppm
							Benzo[a]pyrene	12.5 ppm
							Benzo[b]fluoranthene	12.5 ppm
							Benzo[g,h,i]perylene	12.5 ppm
							Benzo[k]fluoranthene	12.5 ppm
							Bis(2-chloroethoxy)methane	12.5 ppm
							Bis(2-chloroethyl)ether	12.5 ppm
							Bis(2-ethylhexyl) phthalate	12.5 ppm
							Butylbenzylphthalate	12.5 ppm
							Carbazole	12.5 ppm
							Chrysene	12.5 ppm
							Di-n-butyl phthalate	12.5 ppm
							Di-n-octyl phthalate	12.5 ppm
							Dibenz(a,h)anthracene	12.5 ppm
							Dibenzofuran	12.5 ppm
							Diethyl phthalate	12.5 ppm
							Dimethyl phthalate	12.5 ppm
							Fluoranthene	12.5 ppm
							Fluorene	12.5 ppm
							Hexachlorobenzene	12.5 ppm
							Hexachlorobutadiene	12.5 ppm
							Hexachlorocyclopentadiene	12.5 ppm
							Hexachloroethane	12.5 ppm
							Indeno[1,2,3-cd]pyrene	12.5 ppm
							Isophorone	12.5 ppm
							N-Nitrosodi-n-propylamine	12.5 ppm
							N-Nitrosodimethylamine	12.5 ppm
							Naphthalene	12.5 ppm
							Nitrobenzene	12.5 ppm
							Pentachlorophenol	12.5 ppm
							Phenanthrene	12.5 ppm
							Phenol	12.5 ppm
							Pyrene	12.5 ppm
							3,3'-Dichlorobenzidine	12.5 ppm
							3,3'-Dimethylbenzidine	12.5 ppm
							1,2,4,5-Tetrachlorobenzene	12.5 ppm
							1,3-Dinitrobenzene	12.5 ppm
							1,4-Dinitrobenzene	12.5 ppm
							2,3,4,6-Tetrachlorophenol	12.5 ppm
							2,6-Dichlorophenol	12.5 ppm
							2-Acetylaminofluorene	12.5 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							3-Methylcholanthrene	12.5 ppm
							4,4'-Methylene bis(2-chloroaniline)	12.5 ppm
							4-Aminobiphenyl	12.5 ppm
							4-Nitroquinoline-1-oxide	12.5 ppm
							cis-Diallate	9.25 ppm
							Dinoseb	12.5 ppm
							Ethyl methanesulfonate	12.5 ppm
							Hexachloropropene	12.5 ppm
							Isosafrole Peak 1	2 ppm
							Isosafrole Peak 2	10.5 ppm
							Methyl methanesulfonate	12.5 ppm
							N-Nitro-o-toluidine	12.5 ppm
							N-Nitrosodi-n-butylamine	12.5 ppm
							N-Nitrosodiethylamine	12.5 ppm
							N-Nitrosomethylethylamine	12.5 ppm
							N-Nitrosomorpholine	12.5 ppm
							N-Nitrosopiperidine	12.5 ppm
							N-Nitrosopyrrolidine	12.5 ppm
							p-Dimethylamino azobenzene	12.5 ppm
							Pentachlorobenzene	12.5 ppm
							Pentachloronitrobenzene	12.5 ppm
							Phenacetin	12.5 ppm
							Safrole, Total	12.5 ppm
							trans-Diallate	3.25 ppm
							1,4-Dioxane	12.5 ppm
							1-Methylnaphthalene	12.5 ppm
							1-Naphthylamine	12.5 ppm
							2-Naphthylamine	12.5 ppm
							2-Picoline	12.5 ppm
							2-Toluidine	12.5 ppm
							7,12-Dimethylbenz(a)anthracene	12.5 ppm
							Aniline	12.5 ppm
							Phenyl ether	12.5 ppm
							Pyridine	12.5 ppm
.MSS_FV8270_6_00012	12/30/20	07/28/20	MeCl2, Lot 201838	5 mL	MSS_CR#9_DL_00005	250 uL	Benzyl alcohol	50 ppm
							Indene	50 ppm
							Octachlorostyrene	50 ppm
					MSS_CR8270_6_00005	125 uL	Benzoic acid	50 ppm
					MSS_CR8270_8_00002	125 uL	1,1'-Biphenyl	50 ppm
							Acetophenone	50 ppm
							Atrazine	50 ppm
							Benzaldehyde	50 ppm
							Caprolactam	50 ppm
					MSS_FV8270_IS_00002	100 uL	1,4-Dichlorobenzene-d4	20 ppm
							Acenaphthene-d10	20 ppm
							Naphthalene-d8	20 ppm
							Perylene-d12	20 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene-d10	20 ppm
							Pyrene-d10 (IS)	20 ppm
					MSS_FV8270_WS_00005	1250 uL	2,4,6-Tribromophenol (Surr)	100 ppm
							2-Fluorobiphenyl (Surr)	100 ppm
							2-Fluorophenol (Surr)	100 ppm
							Nitrobenzene-d5 (Surr)	100 ppm
							p-Terphenyl-d14 (Surr)	100 ppm
							Phenol-d5 (Surr)	100 ppm
							Benzidine	150 ppm
							N-Nitrosodiphenylamine	50 ppm
							1,4-Naphthoquinone	50 ppm
							1-Chloronaphthalene	50 ppm
							6-Methylchrysene	50 ppm
							Chlorobenzilate	50 ppm
							Dibenz[a,h]acridine	50 ppm
							Dibenz[a,j]acridine	50 ppm
							Dimethoate	50 ppm
							Ethyl Parathion	50 ppm
							Isodrin	50 ppm
							Methyl parathion	50 ppm
							o,o',o''-Triethylphosphorothioate	50 ppm
							Phorate	50 ppm
							Pronamide	50 ppm
							Quinoline	50 ppm
							Sulfotepp	50 ppm
							Thionazin	50 ppm
							1,2,4-Trichlorobenzene	50 ppm
							1,2-Dichlorobenzene	50 ppm
							1,2-Diphenylhydrazine	50 ppm
							1,3-Dichlorobenzene	50 ppm
							1,4-Dichlorobenzene	50 ppm
							2,2'-oxybis[1-chloropropane]	50 ppm
							2,4,5-Trichlorophenol	50 ppm
							2,4,6-Trichlorophenol	50 ppm
							2,4-Dichlorophenol	50 ppm
							2,4-Dimethylphenol	50 ppm
							2,4-Dinitrophenol	50 ppm
							2,4-Dinitrotoluene	50 ppm
							2,6-Dinitrotoluene	50 ppm
							2-Chloronaphthalene	50 ppm
							2-Chlorophenol	50 ppm
							2-Methylnaphthalene	50 ppm
							2-Methylphenol	50 ppm
							2-Nitroaniline	50 ppm
							2-Nitrophenol	50 ppm
							3-Nitroaniline	50 ppm
							4,6-Dinitro-2-methylphenol	50 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Bromophenyl-phenylether	50 ppm
							4-Chloro-3-methylphenol	50 ppm
							4-Chloroaniline	50 ppm
							4-Chlorophenyl-phenyl ether	50 ppm
							4-Methylphenol	50 ppm
							4-Nitroaniline	50 ppm
							4-Nitrophenol	50 ppm
							Acenaphthene	50 ppm
							Acenaphthylene	50 ppm
							Anthracene	50 ppm
							Benzo[a]anthracene	50 ppm
							Benzo[a]pyrene	50 ppm
							Benzo[b]fluoranthene	50 ppm
							Benzo[g,h,i]perylene	50 ppm
							Benzo[k]fluoranthene	50 ppm
							Bis(2-chloroethoxy)methane	50 ppm
							Bis(2-chloroethyl)ether	50 ppm
							Bis(2-ethylhexyl) phthalate	50 ppm
							Butylbenzylphthalate	50 ppm
							Carbazole	50 ppm
							Chrysene	50 ppm
							Di-n-butyl phthalate	50 ppm
							Di-n-octyl phthalate	50 ppm
							Dibenz(a,h)anthracene	50 ppm
							Dibenzofuran	50 ppm
							Diethyl phthalate	50 ppm
							Dimethyl phthalate	50 ppm
							Fluoranthene	50 ppm
							Fluorene	50 ppm
							Hexachlorobenzene	50 ppm
							Hexachlorobutadiene	50 ppm
							Hexachlorocyclopentadiene	50 ppm
							Hexachloroethane	50 ppm
							Indeno[1,2,3-cd]pyrene	50 ppm
							Isophorone	50 ppm
							N-Nitrosodi-n-propylamine	50 ppm
							N-Nitrosodimethylamine	50 ppm
							Naphthalene	50 ppm
							Nitrobenzene	50 ppm
							Pentachlorophenol	50 ppm
							Phenanthrene	50 ppm
							Phenol	50 ppm
							Pyrene	50 ppm
							3,3'-Dichlorobenzidine	50 ppm
							3,3'-Dimethylbenzidine	50 ppm
							1,2,4,5-Tetrachlorobenzene	50 ppm
							1,3-Dinitrobenzene	50 ppm
							1,4-Dinitrobenzene	50 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,3,4,6-Tetrachlorophenol	50 ppm
							2,6-Dichlorophenol	50 ppm
							2-Acetylaminofluorene	50 ppm
							3-Methylcholanthrene	50 ppm
							4,4'-Methylene bis(2-chloroaniline)	50 ppm
							4-Aminobiphenyl	50 ppm
							4-Nitroquinoline-1-oxide	50 ppm
							cis-Diallate	37 ppm
							Dinoseb	50 ppm
							Ethyl methanesulfonate	50 ppm
							Hexachloropropene	50 ppm
							Isosafrole Peak 1	8 ppm
							Isosafrole Peak 2	42 ppm
							Methyl methanesulfonate	50 ppm
							N-Nitro-o-toluidine	50 ppm
							N-Nitrosodi-n-butylamine	50 ppm
							N-Nitrosodiethylamine	50 ppm
							N-Nitrosomethylethylamine	50 ppm
							N-Nitrosomorpholine	50 ppm
							N-Nitrosopiperidine	50 ppm
							N-Nitrosopyrrolidine	50 ppm
							p-Dimethylamino azobenzene	50 ppm
							Pentachlorobenzene	50 ppm
							Pentachloronitrobenzene	50 ppm
							Phenacetin	50 ppm
							Safrole, Total	50 ppm
							trans-Diallate	13 ppm
							1,4-Dioxane	50 ppm
							1-Methylnaphthalene	50 ppm
							1-Naphthylamine	50 ppm
							2-Naphthylamine	50 ppm
							2-Picoline	50 ppm
							2-Toluidine	50 ppm
							7,12-Dimethylbenz(a)anthracene	50 ppm
							Aniline	50 ppm
							Phenyl ether	50 ppm
							Pyridine	50 ppm
..MSS_CR#9_DL_00005	09/30/21	07/21/20	MeCl2, Lot 200018	5 mL	MSS_CR8270_9_00003	1000 uL	Benzyl alcohol	1000 ppm
							Indene	1000 ppm
							Octachlorostyrene	1000 ppm
...MSS_CR8270_9_00003	09/30/21		Restek, Lot A0131112		(Purchased Reagent)		Benzyl alcohol	5000 ug/mL
							Indene	5000 ug/mL
							Octachlorostyrene	5000 ug/mL
..MSS_CR8270_6_00005	02/28/21		Restek, Lot A0146280		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MSS_CR8270_8_00002	02/28/21		Restek, Lot A0146313		(Purchased Reagent)		1,1'-Biphenyl	2000 ug/mL
							Acetophenone	2000 ug/mL
							Atrazine	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..MSS_FV8270_IS_00002	02/28/21		Restek, Lot A0134880		(Purchased Reagent)		1,4-Dichlorobenzene-d4	1000 ug/mL
							Acenaphthene-d10	1000 ug/mL
							Naphthalene-d8	1000 ug/mL
							Perylene-d12	1000 ug/mL
							Phenanthrene-d10	1000 ug/mL
							Pyrene-d10 (IS)	1000 ug/mL
..MSS_FV8270_WS_00005	12/30/20	07/13/20	MeCl2, Lot 200018	25 mL	MSS_8270_SURR_00002	2500 uL	2,4,6-Tribromophenol (Surr)	400 ppm
							2-Fluorobiphenyl (Surr)	400 ppm
							2-Fluorophenol (Surr)	400 ppm
							Nitrobenzene-d5 (Surr)	400 ppm
							p-Terphenyl-d14 (Surr)	400 ppm
							Phenol-d5 (Surr)	400 ppm
					MSS_AB_BZIDIN_00004	2000 uL	Benzidine	600 ppm
					MSS_CR8270_1_00004	1000 uL	N-Nitrosodiphenylamine	200 ppm
					MSS_CR8270_10_00004	2500 uL	1,4-Naphthoquinone	200 ppm
							1-Chloronaphthalene	200 ppm
							6-Methylchrysene	200 ppm
							Chlorobenzilate	200 ppm
							Dibenz[a,h]acridine	200 ppm
							Dibenz[a,j]acridine	200 ppm
							Dimethoate	200 ppm
							Ethyl Parathion	200 ppm
							Isodrin	200 ppm
							Methyl parathion	200 ppm
							o,o',o''-Triethylphosphorothioate	200 ppm
							Phorate	200 ppm
							Pronamide	200 ppm
							Quinoline	200 ppm
							Sulfotepp	200 ppm
							Thionazin	200 ppm
					MSS_CR8270_2_00007	5000 uL	1,2,4-Trichlorobenzene	200 ppm
							1,2-Dichlorobenzene	200 ppm
							1,2-Diphenylhydrazine	200 ppm
							1,3-Dichlorobenzene	200 ppm
							1,4-Dichlorobenzene	200 ppm
							2,2'-oxybis[1-chloropropane]	200 ppm
							2,4,5-Trichlorophenol	200 ppm
							2,4,6-Trichlorophenol	200 ppm
							2,4-Dichlorophenol	200 ppm
							2,4-Dimethylphenol	200 ppm
							2,4-Dinitrophenol	200 ppm
							2,4-Dinitrotoluene	200 ppm
							2,6-Dinitrotoluene	200 ppm
							2-Chloronaphthalene	200 ppm
							2-Chlorophenol	200 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Methylnaphthalene	200 ppm
							2-Methylphenol	200 ppm
							2-Nitroaniline	200 ppm
							2-Nitrophenol	200 ppm
							3-Nitroaniline	200 ppm
							4,6-Dinitro-2-methylphenol	200 ppm
							4-Bromophenyl-phenylether	200 ppm
							4-Chloro-3-methylphenol	200 ppm
							4-Chloroaniline	200 ppm
							4-Chlorophenyl-phenyl ether	200 ppm
							4-Methylphenol	200 ppm
							4-Nitroaniline	200 ppm
							4-Nitrophenol	200 ppm
							Acenaphthene	200 ppm
							Acenaphthylene	200 ppm
							Anthracene	200 ppm
							Benzo[a]anthracene	200 ppm
							Benzo[a]pyrene	200 ppm
							Benzo[b]fluoranthene	200 ppm
							Benzo[g,h,i]perylene	200 ppm
							Benzo[k]fluoranthene	200 ppm
							Bis(2-chloroethoxy)methane	200 ppm
							Bis(2-chloroethyl)ether	200 ppm
							Bis(2-ethylhexyl) phthalate	200 ppm
							Butylbenzylphthalate	200 ppm
							Carbazole	200 ppm
							Chrysene	200 ppm
							Di-n-butyl phthalate	200 ppm
							Di-n-octyl phthalate	200 ppm
							Dibenz(a,h)anthracene	200 ppm
							Dibenzofuran	200 ppm
							Diethyl phthalate	200 ppm
							Dimethyl phthalate	200 ppm
							Fluoranthene	200 ppm
							Fluorene	200 ppm
							Hexachlorobenzene	200 ppm
							Hexachlorobutadiene	200 ppm
							Hexachlorocyclopentadiene	200 ppm
							Hexachloroethane	200 ppm
							Indeno[1,2,3-cd]pyrene	200 ppm
							Isophorone	200 ppm
							N-Nitrosodi-n-propylamine	200 ppm
							N-Nitrosodimethylamine	200 ppm
							Naphthalene	200 ppm
							Nitrobenzene	200 ppm
							Pentachlorophenol	200 ppm
							Phenanthrene	200 ppm
							Phenol	200 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pyrene	200 ppm
					MSS_CR8270_3_00004	2500 uL	3,3'-Dichlorobenzidine	200 ppm
							3,3'-Dimethylbenzidine	200 ppm
							Benzidine	600 ppm
					MSS_CR8270_4_00004	2500 uL	1,2,4,5-Tetrachlorobenzene	200 ppm
							1,3-Dinitrobenzene	200 ppm
							1,4-Dinitrobenzene	200 ppm
							2,3,4,6-Tetrachlorophenol	200 ppm
							2,6-Dichlorophenol	200 ppm
							2-Acetylaminofluorene	200 ppm
							3-Methylcholanthrene	200 ppm
							4,4'-Methylene bis(2-chloroaniline)	200 ppm
							4-Aminobiphenyl	200 ppm
							4-Nitroquinoline-1-oxide	200 ppm
							cis-Diallate	148 ppm
							Dinoseb	200 ppm
							Ethyl methanesulfonate	200 ppm
							Hexachloropropene	200 ppm
							Isosafrole Peak 1	32 ppm
							Isosafrole Peak 2	168 ppm
							Methyl methanesulfonate	200 ppm
							N-Nitro-o-toluidine	200 ppm
							N-Nitrosodi-n-butylamine	200 ppm
							N-Nitrosodiethylamine	200 ppm
							N-Nitrosomethylethylamine	200 ppm
							N-Nitrosomorpholine	200 ppm
							N-Nitrosopiperidine	200 ppm
							N-Nitrosopyrrolidine	200 ppm
							p-Dimethylamino azobenzene	200 ppm
							Pentachlorobenzene	200 ppm
							Pentachloronitrobenzene	200 ppm
							Phenacetin	200 ppm
							Safrole, Total	200 ppm
							trans-Diallate	52 ppm
					MSS_CR8270_7_00004	2500 uL	1,4-Dioxane	200 ppm
							1-Methylnaphthalene	200 ppm
							1-Naphthylamine	200 ppm
							2-Naphthylamine	200 ppm
							2-Picoline	200 ppm
							2-Toluidine	200 ppm
							7,12-Dimethylbenz(a)anthracene	200 ppm
							Aniline	200 ppm
							Phenyl ether	200 ppm
							Pyridine	200 ppm
...MSS_8270_SURR_00002	04/30/23		Sigma- Aldrich, Lot LRAC6081		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	4000 ug/mL
							2-Fluorobiphenyl (Surr)	4000 ug/mL
							2-Fluorophenol (Surr)	4000 ug/mL

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Nitrobenzene-d5 (Surr)	4000 ug/mL
							p-Terphenyl-d14 (Surr)	4000 ug/mL
							Phenol-d5 (Surr)	4000 ug/mL
...MSS_AB_BZIDIN_00004	01/29/23		Absolute, Lot 012920		(Purchased Reagent)		Benzidine	5000 ug/mL
...MSS_CR8270_1_00004	10/31/22		Restek, Lot A0154042		(Purchased Reagent)		N-Nitrosodiphenylamine	5000 ug/mL
...MSS_CR8270_10_00004	06/30/21		Restek, Lot A0156085		(Purchased Reagent)		1,4-Naphthoquinone	2000 ug/mL
							1-Chloronaphthalene	2000 ug/mL
							6-Methylchrysene	2000 ug/mL
							Chlorobenzilate	2000 ug/mL
							Dibenz[a,h]acridine	2000 ug/mL
							Dibenz[a,j]acridine	2000 ug/mL
							Dimethoate	2000 ug/mL
							Ethyl Parathion	2000 ug/mL
							Isodrin	2000 ug/mL
							Methyl parathion	2000 ug/mL
							o,o',o''-Triethylphosphorothioate	2000 ug/mL
							Phorate	2000 ug/mL
							Pronamide	2000 ug/mL
							Quinoline	2000 ug/mL
							Sulfotepp	2000 ug/mL
							Thionazin	2000 ug/mL
...MSS_CR8270_2_00007	02/28/22		Restek, Lot A0146253		(Purchased Reagent)		1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	1000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	1000 ug/mL
							4-Bromophenyl-phenylether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl-phenyl ether	1000 ug/mL
							4-Methylphenol	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	1000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Anthracene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butylbenzylphthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	1000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
...MSS_CR8270_3_00004	09/30/21		Restek, Lot A0130858		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							3,3'-Dimethylbenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
...MSS_CR8270_4_00004	12/31/20		Restek, Lot A0150344		(Purchased Reagent)		1,2,4,5-Tetrachlorobenzene	2000 ug/mL
							1,3-Dinitrobenzene	2000 ug/mL
							1,4-Dinitrobenzene	2000 ug/mL
							2,3,4,6-Tetrachlorophenol	2000 ug/mL
							2,6-Dichlorophenol	2000 ug/mL
							2-Acetylaminofluorene	2000 ug/mL
							3-Methylcholanthrene	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4,4'-Methylene bis(2-chloroaniline)	2000 ug/mL
							4-Aminobiphenyl	2000 ug/mL
							4-Nitroquinoline-1-oxide	2000 ug/mL
							cis-Diallate	1480 ug/mL
							Dinoseb	2000 ug/mL
							Ethyl methanesulfonate	2000 ug/mL
							Hexachloropropene	2000 ug/mL
							Isosafrole Peak 1	320 ug/mL
							Isosafrole Peak 2	1680 ug/mL
							Methyl methanesulfonate	2000 ug/mL
							N-Nitro-o-toluidine	2000 ug/mL
							N-Nitrosodi-n-butylamine	2000 ug/mL
							N-Nitrosodiethylamine	2000 ug/mL
							N-Nitrosomethylethylamine	2000 ug/mL
							N-Nitrosomorpholine	2000 ug/mL
							N-Nitrosopiperidine	2000 ug/mL
							N-Nitrosopyrrolidine	2000 ug/mL
							p-Dimethylamino azobenzene	2000 ug/mL
							Pentachlorobenzene	2000 ug/mL
							Pentachloronitrobenzene	2000 ug/mL
							Phenacetin	2000 ug/mL
							Safrole, Total	2000 ug/mL
							trans-Diallate	520 ug/mL
...MSS_CR8270_7_00004	11/30/22		Restek, Lot A0155157		(Purchased Reagent)		1,4-Dioxane	2000 ug/mL
							1-Methylnaphthalene	2000 ug/mL
							1-Naphthylamine	2000 ug/mL
							2-Naphthylamine	2000 ug/mL
							2-Picoline	2000 ug/mL
							2-Toluidine	2000 ug/mL
							7,12-Dimethylbenz(a)anthracene	2000 ug/mL
							Aniline	2000 ug/mL
							Phenyl ether	2000 ug/mL
							Pyridine	2000 ug/mL
MSS_RV8270_7_00007	12/30/20	07/28/20	MeCl2, Lot 201838	2 mL	MSS_FV8270_7_00009	500 uL	Benzyl alcohol	20 ppm
							Indene	20 ppm
							Octachlorostyrene	20 ppm
							Benzoic acid	20 ppm
							1,1'-Biphenyl	20 ppm
							Acetophenone	20 ppm
							Atrazine	20 ppm
							Benzaldehyde	20 ppm
							Caprolactam	20 ppm
							1,4-Dichlorobenzene-d4	5 ppm
							Acenaphthene-d10	5 ppm
							Naphthalene-d8	5 ppm
							Perylene-d12	5 ppm
							Phenanthrene-d10	5 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pyrene-d10 (IS)	5 ppm
							2,4,6-Tribromophenol (Surr)	40 ppm
							2-Fluorobiphenyl (Surr)	40 ppm
							2-Fluorophenol (Surr)	40 ppm
							Nitrobenzene-d5 (Surr)	40 ppm
							p-Terphenyl-d14 (Surr)	40 ppm
							Phenol-d5 (Surr)	40 ppm
							Benzidine	60 ppm
							N-Nitrosodiphenylamine	20 ppm
							1,4-Naphthoquinone	20 ppm
							1-Chloronaphthalene	20 ppm
							6-Methylchrysene	20 ppm
							Chlorobenzilate	20 ppm
							Dibenz[a,h]acridine	20 ppm
							Dibenz[a,j]acridine	20 ppm
							Dimethoate	20 ppm
							Ethyl Parathion	20 ppm
							Isodrin	20 ppm
							Methyl parathion	20 ppm
							o,o',o''-Triethylphosphorothioate	20 ppm
							Phorate	20 ppm
							Pronamide	20 ppm
							Quinoline	20 ppm
							Sulfotepp	20 ppm
							Thionazin	20 ppm
							1,2,4-Trichlorobenzene	20 ppm
							1,2-Dichlorobenzene	20 ppm
							1,2-Diphenylhydrazine	20 ppm
							1,3-Dichlorobenzene	20 ppm
							1,4-Dichlorobenzene	20 ppm
							2,2'-oxybis[1-chloropropane]	20 ppm
							2,4,5-Trichlorophenol	20 ppm
							2,4,6-Trichlorophenol	20 ppm
							2,4-Dichlorophenol	20 ppm
							2,4-Dimethylphenol	20 ppm
							2,4-Dinitrophenol	20 ppm
							2,4-Dinitrotoluene	20 ppm
							2,6-Dinitrotoluene	20 ppm
							2-Chloronaphthalene	20 ppm
							2-Chlorophenol	20 ppm
							2-Methylnaphthalene	20 ppm
							2-Methylphenol	20 ppm
							2-Nitroaniline	20 ppm
							2-Nitrophenol	20 ppm
							3-Nitroaniline	20 ppm
							4,6-Dinitro-2-methylphenol	20 ppm
							4-Bromophenyl-phenylether	20 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Chloro-3-methylphenol	20 ppm
							4-Chloroaniline	20 ppm
							4-Chlorophenyl-phenyl ether	20 ppm
							4-Methylphenol	20 ppm
							4-Nitroaniline	20 ppm
							4-Nitrophenol	20 ppm
							Acenaphthene	20 ppm
							Acenaphthylene	20 ppm
							Anthracene	20 ppm
							Benzo[a]anthracene	20 ppm
							Benzo[a]pyrene	20 ppm
							Benzo[b]fluoranthene	20 ppm
							Benzo[g,h,i]perylene	20 ppm
							Benzo[k]fluoranthene	20 ppm
							Bis(2-chloroethoxy)methane	20 ppm
							Bis(2-chloroethyl)ether	20 ppm
							Bis(2-ethylhexyl) phthalate	20 ppm
							Butylbenzylphthalate	20 ppm
							Carbazole	20 ppm
							Chrysene	20 ppm
							Di-n-butyl phthalate	20 ppm
							Di-n-octyl phthalate	20 ppm
							Dibenz(a,h)anthracene	20 ppm
							Dibenzofuran	20 ppm
							Diethyl phthalate	20 ppm
							Dimethyl phthalate	20 ppm
							Fluoranthene	20 ppm
							Fluorene	20 ppm
							Hexachlorobenzene	20 ppm
							Hexachlorobutadiene	20 ppm
							Hexachlorocyclopentadiene	20 ppm
							Hexachloroethane	20 ppm
							Indeno[1,2,3-cd]pyrene	20 ppm
							Isophorone	20 ppm
							N-Nitrosodi-n-propylamine	20 ppm
							N-Nitrosodimethylamine	20 ppm
							Naphthalene	20 ppm
							Nitrobenzene	20 ppm
							Pentachlorophenol	20 ppm
							Phenanthrene	20 ppm
							Phenol	20 ppm
							Pyrene	20 ppm
							3,3'-Dichlorobenzidine	20 ppm
							3,3'-Dimethylbenzidine	20 ppm
							1,2,4,5-Tetrachlorobenzene	20 ppm
							1,3-Dinitrobenzene	20 ppm
							1,4-Dinitrobenzene	20 ppm
							2,3,4,6-Tetrachlorophenol	20 ppm

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,6-Dichlorophenol	20 ppm
							2-Acetylaminofluorene	20 ppm
							3-Methylcholanthrene	20 ppm
							4,4'-Methylene bis(2-chloroaniline)	20 ppm
							4-Aminobiphenyl	20 ppm
							4-Nitroquinoline-1-oxide	20 ppm
							cis-Diallate	14.8 ppm
							Dinoseb	20 ppm
							Ethyl methanesulfonate	20 ppm
							Hexachloropropene	20 ppm
							Isosafrole Peak 1	3.2 ppm
							Isosafrole Peak 2	16.8 ppm
							Methyl methanesulfonate	20 ppm
							N-Nitro-o-toluidine	20 ppm
							N-Nitrosodi-n-butylamine	20 ppm
							N-Nitrosodiethylamine	20 ppm
							N-Nitrosomethylethylamine	20 ppm
							N-Nitrosomorpholine	20 ppm
							N-Nitrosopiperidine	20 ppm
							N-Nitrosopyrrolidine	20 ppm
							p-Dimethylamino azobenzene	20 ppm
							Pentachlorobenzene	20 ppm
							Pentachloronitrobenzene	20 ppm
							Phenacetin	20 ppm
							Safrole, Total	20 ppm
							trans-Diallate	5.2 ppm
							1,4-Dioxane	20 ppm
							1-Methylnaphthalene	20 ppm
							1-Naphthylamine	20 ppm
							2-Naphthylamine	20 ppm
							2-Picoline	20 ppm
							2-Toluidine	20 ppm
							7,12-Dimethylbenz(a)anthracene	20 ppm
							Aniline	20 ppm
							Phenyl ether	20 ppm
							Pyridine	20 ppm
.MSS_FV8270_7_00009	12/30/20	07/28/20	MeCl2, Lot 201838	2 mL	MSS_CR#9_DL_00005	160 uL	Benzyl alcohol	80 ppm
							Indene	80 ppm
							Octachlorostyrene	80 ppm
					MSS_CR8270_6_00005	80 uL	Benzoic acid	80 ppm
					MSS_CR8270_8_00002	80 uL	1,1'-Biphenyl	80 ppm
							Acetophenone	80 ppm
							Atrazine	80 ppm
							Benzaldehyde	80 ppm
							Caprolactam	80 ppm
					MSS_FV8270_IS_00002	40 uL	1,4-Dichlorobenzene-d4	20 ppm
							Acenaphthene-d10	20 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Naphthalene-d8	20 ppm
							Perylene-d12	20 ppm
							Phenanthrene-d10	20 ppm
							Pyrene-d10 (IS)	20 ppm
					MSS_FV8270_WS_00005	800 uL	2,4,6-Tribromophenol (Surr)	160 ppm
							2-Fluorobiphenyl (Surr)	160 ppm
							2-Fluorophenol (Surr)	160 ppm
							Nitrobenzene-d5 (Surr)	160 ppm
							p-Terphenyl-d14 (Surr)	160 ppm
							Phenol-d5 (Surr)	160 ppm
							Benzidine	240 ppm
							N-Nitrosodiphenylamine	80 ppm
							1,4-Naphthoquinone	80 ppm
							1-Chloronaphthalene	80 ppm
							6-Methylchrysene	80 ppm
							Chlorobenzilate	80 ppm
							Dibenz[a,h]acridine	80 ppm
							Dibenz[a,j]acridine	80 ppm
							Dimethoate	80 ppm
							Ethyl Parathion	80 ppm
							Isodrin	80 ppm
							Methyl parathion	80 ppm
							o,o',o''-Triethylphosphorothioate	80 ppm
							Phorate	80 ppm
							Pronamide	80 ppm
							Quinoline	80 ppm
							Sulfotepp	80 ppm
							Thionazin	80 ppm
							1,2,4-Trichlorobenzene	80 ppm
							1,2-Dichlorobenzene	80 ppm
							1,2-Diphenylhydrazine	80 ppm
							1,3-Dichlorobenzene	80 ppm
							1,4-Dichlorobenzene	80 ppm
							2,2'-oxybis[1-chloropropane]	80 ppm
							2,4,5-Trichlorophenol	80 ppm
							2,4,6-Trichlorophenol	80 ppm
							2,4-Dichlorophenol	80 ppm
							2,4-Dimethylphenol	80 ppm
							2,4-Dinitrophenol	80 ppm
							2,4-Dinitrotoluene	80 ppm
							2,6-Dinitrotoluene	80 ppm
							2-Chloronaphthalene	80 ppm
							2-Chlorophenol	80 ppm
							2-Methylnaphthalene	80 ppm
							2-Methylphenol	80 ppm
							2-Nitroaniline	80 ppm
							2-Nitrophenol	80 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							3-Nitroaniline	80 ppm
							4,6-Dinitro-2-methylphenol	80 ppm
							4-Bromophenyl-phenylether	80 ppm
							4-Chloro-3-methylphenol	80 ppm
							4-Chloroaniline	80 ppm
							4-Chlorophenyl-phenyl ether	80 ppm
							4-Methylphenol	80 ppm
							4-Nitroaniline	80 ppm
							4-Nitrophenol	80 ppm
							Acenaphthene	80 ppm
							Acenaphthylene	80 ppm
							Anthracene	80 ppm
							Benzo[a]anthracene	80 ppm
							Benzo[a]pyrene	80 ppm
							Benzo[b]fluoranthene	80 ppm
							Benzo[g,h,i]perylene	80 ppm
							Benzo[k]fluoranthene	80 ppm
							Bis(2-chloroethoxy)methane	80 ppm
							Bis(2-chloroethyl)ether	80 ppm
							Bis(2-ethylhexyl) phthalate	80 ppm
							Butylbenzylphthalate	80 ppm
							Carbazole	80 ppm
							Chrysene	80 ppm
							Di-n-butyl phthalate	80 ppm
							Di-n-octyl phthalate	80 ppm
							Dibenz(a,h)anthracene	80 ppm
							Dibenzofuran	80 ppm
							Diethyl phthalate	80 ppm
							Dimethyl phthalate	80 ppm
							Fluoranthene	80 ppm
							Fluorene	80 ppm
							Hexachlorobenzene	80 ppm
							Hexachlorobutadiene	80 ppm
							Hexachlorocyclopentadiene	80 ppm
							Hexachloroethane	80 ppm
							Indeno[1,2,3-cd]pyrene	80 ppm
							Isophorone	80 ppm
							N-Nitrosodi-n-propylamine	80 ppm
							N-Nitrosodimethylamine	80 ppm
							Naphthalene	80 ppm
							Nitrobenzene	80 ppm
							Pentachlorophenol	80 ppm
							Phenanthrene	80 ppm
							Phenol	80 ppm
							Pyrene	80 ppm
							3,3'-Dichlorobenzidine	80 ppm
							3,3'-Dimethylbenzidine	80 ppm
							1,2,4,5-Tetrachlorobenzene	80 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,3-Dinitrobenzene	80 ppm
							1,4-Dinitrobenzene	80 ppm
							2,3,4,6-Tetrachlorophenol	80 ppm
							2,6-Dichlorophenol	80 ppm
							2-Acetylaminofluorene	80 ppm
							3-Methylcholanthrene	80 ppm
							4,4'-Methylene bis(2-chloroaniline)	80 ppm
							4-Aminobiphenyl	80 ppm
							4-Nitroquinoline-1-oxide	80 ppm
							cis-Diallate	59.2 ppm
							Dinoseb	80 ppm
							Ethyl methanesulfonate	80 ppm
							Hexachloropropene	80 ppm
							Isosafrole Peak 1	12.8 ppm
							Isosafrole Peak 2	67.2 ppm
							Methyl methanesulfonate	80 ppm
							N-Nitro-o-toluidine	80 ppm
							N-Nitrosodi-n-butylamine	80 ppm
							N-Nitrosodiethylamine	80 ppm
							N-Nitrosomethylethylamine	80 ppm
							N-Nitrosomorpholine	80 ppm
							N-Nitrosopiperidine	80 ppm
							N-Nitrosopyrrolidine	80 ppm
							p-Dimethylamino azobenzene	80 ppm
							Pentachlorobenzene	80 ppm
							Pentachloronitrobenzene	80 ppm
							Phenacetin	80 ppm
							Safrole, Total	80 ppm
							trans-Diallate	20.8 ppm
							1,4-Dioxane	80 ppm
							1-Methylnaphthalene	80 ppm
							1-Naphthylamine	80 ppm
							2-Naphthylamine	80 ppm
							2-Picoline	80 ppm
							2-Toluidine	80 ppm
							7,12-Dimethylbenz(a)anthracene	80 ppm
							Aniline	80 ppm
							Phenyl ether	80 ppm
							Pyridine	80 ppm
..MSS_CR#9_DL_00005	09/30/21	07/21/20	MeCl2, Lot 200018	5 mL	MSS_CR8270_9_00003	1000 uL	Benzyl alcohol	1000 ppm
							Indene	1000 ppm
							Octachlorostyrene	1000 ppm
...MSS_CR8270_9_00003	09/30/21		Restek, Lot A0131112		(Purchased Reagent)		Benzyl alcohol	5000 ug/mL
							Indene	5000 ug/mL
							Octachlorostyrene	5000 ug/mL
..MSS_CR8270_6_00005	02/28/21		Restek, Lot A0146280		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MSS_CR8270_8_00002	02/28/21		Restek, Lot A0146313		(Purchased Reagent)		1,1'-Biphenyl	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Acetophenone	2000 ug/mL
							Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..MSS_FV8270_IS_00002	02/28/21		Restek, Lot A0134880		(Purchased Reagent)		1,4-Dichlorobenzene-d4	1000 ug/mL
							Acenaphthene-d10	1000 ug/mL
							Naphthalene-d8	1000 ug/mL
							Perylene-d12	1000 ug/mL
							Phenanthrene-d10	1000 ug/mL
							Pyrene-d10 (IS)	1000 ug/mL
..MSS_FV8270_WS_00005	12/30/20	07/13/20	MeCl2, Lot 200018	25 mL	MSS_8270_SURR_00002	2500 uL	2,4,6-Tribromophenol (Surr)	400 ppm
							2-Fluorobiphenyl (Surr)	400 ppm
							2-Fluorophenol (Surr)	400 ppm
							Nitrobenzene-d5 (Surr)	400 ppm
							p-Terphenyl-d14 (Surr)	400 ppm
							Phenol-d5 (Surr)	400 ppm
					MSS_AB_BZIDIN_00004	2000 uL	Benzidine	600 ppm
					MSS_CR8270_1_00004	1000 uL	N-Nitrosodiphenylamine	200 ppm
					MSS_CR8270_10_00004	2500 uL	1,4-Naphthoquinone	200 ppm
							1-Chloronaphthalene	200 ppm
							6-Methylchrysene	200 ppm
							Chlorobenzilate	200 ppm
							Dibenz[a,h]acridine	200 ppm
							Dibenz[a,j]acridine	200 ppm
							Dimethoate	200 ppm
							Ethyl Parathion	200 ppm
							Isodrin	200 ppm
							Methyl parathion	200 ppm
							o,o',o''-Triethylphosphorothioate	200 ppm
							Phorate	200 ppm
							Pronamide	200 ppm
							Quinoline	200 ppm
							Sulfotepp	200 ppm
							Thionazin	200 ppm
					MSS_CR8270_2_00007	5000 uL	1,2,4-Trichlorobenzene	200 ppm
							1,2-Dichlorobenzene	200 ppm
							1,2-Diphenylhydrazine	200 ppm
							1,3-Dichlorobenzene	200 ppm
							1,4-Dichlorobenzene	200 ppm
							2,2'-oxybis[1-chloropropane]	200 ppm
							2,4,5-Trichlorophenol	200 ppm
							2,4,6-Trichlorophenol	200 ppm
							2,4-Dichlorophenol	200 ppm
							2,4-Dimethylphenol	200 ppm
							2,4-Dinitrophenol	200 ppm
							2,4-Dinitrotoluene	200 ppm
							2,6-Dinitrotoluene	200 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Chloronaphthalene	200 ppm
							2-Chlorophenol	200 ppm
							2-Methylnaphthalene	200 ppm
							2-Methylphenol	200 ppm
							2-Nitroaniline	200 ppm
							2-Nitrophenol	200 ppm
							3-Nitroaniline	200 ppm
							4,6-Dinitro-2-methylphenol	200 ppm
							4-Bromophenyl-phenylether	200 ppm
							4-Chloro-3-methylphenol	200 ppm
							4-Chloroaniline	200 ppm
							4-Chlorophenyl-phenyl ether	200 ppm
							4-Methylphenol	200 ppm
							4-Nitroaniline	200 ppm
							4-Nitrophenol	200 ppm
							Acenaphthene	200 ppm
							Acenaphthylene	200 ppm
							Anthracene	200 ppm
							Benzo[a]anthracene	200 ppm
							Benzo[a]pyrene	200 ppm
							Benzo[b]fluoranthene	200 ppm
							Benzo[g,h,i]perylene	200 ppm
							Benzo[k]fluoranthene	200 ppm
							Bis(2-chloroethoxy)methane	200 ppm
							Bis(2-chloroethyl)ether	200 ppm
							Bis(2-ethylhexyl) phthalate	200 ppm
							Butylbenzylphthalate	200 ppm
							Carbazole	200 ppm
							Chrysene	200 ppm
							Di-n-butyl phthalate	200 ppm
							Di-n-octyl phthalate	200 ppm
							Dibenz(a,h)anthracene	200 ppm
							Dibenzofuran	200 ppm
							Diethyl phthalate	200 ppm
							Dimethyl phthalate	200 ppm
							Fluoranthene	200 ppm
							Fluorene	200 ppm
							Hexachlorobenzene	200 ppm
							Hexachlorobutadiene	200 ppm
							Hexachlorocyclopentadiene	200 ppm
							Hexachloroethane	200 ppm
							Indeno[1,2,3-cd]pyrene	200 ppm
							Isophorone	200 ppm
							N-Nitrosodi-n-propylamine	200 ppm
							N-Nitrosodimethylamine	200 ppm
							Naphthalene	200 ppm
							Nitrobenzene	200 ppm
							Pentachlorophenol	200 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene	200 ppm
							Phenol	200 ppm
							Pyrene	200 ppm
					MSS_CR8270_3_00004	2500 uL	3,3'-Dichlorobenzidine	200 ppm
							3,3'-Dimethylbenzidine	200 ppm
							Benzidine	600 ppm
					MSS_CR8270_4_00004	2500 uL	1,2,4,5-Tetrachlorobenzene	200 ppm
							1,3-Dinitrobenzene	200 ppm
							1,4-Dinitrobenzene	200 ppm
							2,3,4,6-Tetrachlorophenol	200 ppm
							2,6-Dichlorophenol	200 ppm
							2-Acetylaminofluorene	200 ppm
							3-Methylcholanthrene	200 ppm
							4,4'-Methylene bis(2-chloroaniline)	200 ppm
							4-Aminobiphenyl	200 ppm
							4-Nitroquinoline-1-oxide	200 ppm
							cis-Diallate	148 ppm
							Dinoseb	200 ppm
							Ethyl methanesulfonate	200 ppm
							Hexachloropropene	200 ppm
							Isosafrole Peak 1	32 ppm
							Isosafrole Peak 2	168 ppm
							Methyl methanesulfonate	200 ppm
							N-Nitro-o-toluidine	200 ppm
							N-Nitrosodi-n-butylamine	200 ppm
							N-Nitrosodiethylamine	200 ppm
							N-Nitrosomethylethylamine	200 ppm
							N-Nitrosomorpholine	200 ppm
							N-Nitrosopiperidine	200 ppm
							N-Nitrosopyrrolidine	200 ppm
							p-Dimethylamino azobenzene	200 ppm
							Pentachlorobenzene	200 ppm
							Pentachloronitrobenzene	200 ppm
							Phenacetin	200 ppm
							Safrole, Total	200 ppm
							trans-Diallate	52 ppm
					MSS_CR8270_7_00004	2500 uL	1,4-Dioxane	200 ppm
							1-Methylnaphthalene	200 ppm
							1-Naphthylamine	200 ppm
							2-Naphthylamine	200 ppm
							2-Picoline	200 ppm
							2-Toluidine	200 ppm
							7,12-Dimethylbenz(a)anthracene	200 ppm
							Aniline	200 ppm
							Phenyl ether	200 ppm
							Pyridine	200 ppm
...MSS_8270_SURR_00002	04/30/23		Sigma- Aldrich, Lot LRAC6081		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	4000 ug/mL

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Fluorobiphenyl (Surr)	4000 ug/mL
							2-Fluorophenol (Surr)	4000 ug/mL
							Nitrobenzene-d5 (Surr)	4000 ug/mL
							p-Terphenyl-d14 (Surr)	4000 ug/mL
							Phenol-d5 (Surr)	4000 ug/mL
...MSS_AB_BZIDIN_00004	01/29/23		Absolute, Lot 012920		(Purchased Reagent)		Benzidine	5000 ug/mL
...MSS_CR8270_1_00004	10/31/22		Restek, Lot A0154042		(Purchased Reagent)		N-Nitrosodiphenylamine	5000 ug/mL
...MSS_CR8270_10_00004	06/30/21		Restek, Lot A0156085		(Purchased Reagent)		1,4-Naphthoquinone	2000 ug/mL
							1-Chloronaphthalene	2000 ug/mL
							6-Methylchrysene	2000 ug/mL
							Chlorobenzilate	2000 ug/mL
							Dibenz[a,h]acridine	2000 ug/mL
							Dibenz[a,j]acridine	2000 ug/mL
							Dimethoate	2000 ug/mL
							Ethyl Parathion	2000 ug/mL
							Isodrin	2000 ug/mL
							Methyl parathion	2000 ug/mL
							o,o',o''-Triethylphosphorothioate	2000 ug/mL
							Phorate	2000 ug/mL
							Pronamide	2000 ug/mL
							Quinoline	2000 ug/mL
							Sulfotepp	2000 ug/mL
							Thionazin	2000 ug/mL
...MSS_CR8270_2_00007	02/28/22		Restek, Lot A0146253		(Purchased Reagent)		1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	1000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	1000 ug/mL
							4-Bromophenyl-phenylether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Chlorophenyl-phenyl ether	1000 ug/mL
							4-Methylphenol	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	1000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Anthracene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butylbenzylphthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	1000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
...MSS_CR8270_3_00004	09/30/21		Restek, Lot A0130858		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							3,3'-Dimethylbenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
...MSS_CR8270_4_00004	12/31/20		Restek, Lot A0150344		(Purchased Reagent)		1,2,4,5-Tetrachlorobenzene	2000 ug/mL
							1,3-Dinitrobenzene	2000 ug/mL
							1,4-Dinitrobenzene	2000 ug/mL
							2,3,4,6-Tetrachlorophenol	2000 ug/mL
							2,6-Dichlorophenol	2000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Acetylaminofluorene	2000 ug/mL
							3-Methylcholanthrene	2000 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	2000 ug/mL
							4-Aminobiphenyl	2000 ug/mL
							4-Nitroquinoline-1-oxide	2000 ug/mL
							cis-Diallate	1480 ug/mL
							Dinoseb	2000 ug/mL
							Ethyl methanesulfonate	2000 ug/mL
							Hexachloropropene	2000 ug/mL
							Isosafrole Peak 1	320 ug/mL
							Isosafrole Peak 2	1680 ug/mL
							Methyl methanesulfonate	2000 ug/mL
							N-Nitro-o-toluidine	2000 ug/mL
							N-Nitrosodi-n-butylamine	2000 ug/mL
							N-Nitrosodiethylamine	2000 ug/mL
							N-Nitrosomethylethylamine	2000 ug/mL
							N-Nitrosomorpholine	2000 ug/mL
							N-Nitrosopiperidine	2000 ug/mL
							N-Nitrosopyrrolidine	2000 ug/mL
							p-Dimethylamino azobenzene	2000 ug/mL
							Pentachlorobenzene	2000 ug/mL
							Pentachloronitrobenzene	2000 ug/mL
							Phenacetin	2000 ug/mL
							Safrole, Total	2000 ug/mL
							trans-Diallate	520 ug/mL
...MSS_CR8270_7_00004	11/30/22		Restek, Lot A0155157		(Purchased Reagent)		1,4-Dioxane	2000 ug/mL
							1-Methylnaphthalene	2000 ug/mL
							1-Naphthylamine	2000 ug/mL
							2-Naphthylamine	2000 ug/mL
							2-Picoline	2000 ug/mL
							2-Toluidine	2000 ug/mL
							7,12-Dimethylbenz(a)anthracene	2000 ug/mL
							Aniline	2000 ug/mL
							Phenyl ether	2000 ug/mL
							Pyridine	2000 ug/mL
MSS_RV8270_8_00007	12/30/20	07/28/20	MeCl2, Lot 201838	2 mL	MSS_FV8270_8_00009	500 uL	Benzyl alcohol	30 ppm
							Indene	30 ppm
							Octachlorostyrene	30 ppm
							Benzoic acid	30 ppm
							1,1'-Biphenyl	30 ppm
							Acetophenone	30 ppm
							Atrazine	30 ppm
							Benzaldehyde	30 ppm
							Caprolactam	30 ppm
							1,4-Dichlorobenzene-d4	5 ppm
							Acenaphthene-d10	5 ppm
							Naphthalene-d8	5 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Perylene-d12	5 ppm
							Phenanthrene-d10	5 ppm
							Pyrene-d10 (IS)	5 ppm
							2,4,6-Tribromophenol (Surr)	60 ppm
							2-Fluorobiphenyl (Surr)	60 ppm
							2-Fluorophenol (Surr)	60 ppm
							Nitrobenzene-d5 (Surr)	60 ppm
							p-Terphenyl-d14 (Surr)	60 ppm
							Phenol-d5 (Surr)	60 ppm
							Benzidine	90 ppm
							N-Nitrosodiphenylamine	30 ppm
							1,4-Naphthoquinone	30 ppm
							1-Chloronaphthalene	30 ppm
							6-Methylchrysene	30 ppm
							Chlorobenzilate	30 ppm
							Dibenz[a,h]acridine	30 ppm
							Dibenz[a,j]acridine	30 ppm
							Dimethoate	30 ppm
							Ethyl Parathion	30 ppm
							Isodrin	30 ppm
							Methyl parathion	30 ppm
							o,o',o''-Triethylphosphorothioate	30 ppm
							Phorate	30 ppm
							Pronamide	30 ppm
							Quinoline	30 ppm
							Sulfotepp	30 ppm
							Thionazin	30 ppm
							1,2,4-Trichlorobenzene	30 ppm
							1,2-Dichlorobenzene	30 ppm
							1,2-Diphenylhydrazine	30 ppm
							1,3-Dichlorobenzene	30 ppm
							1,4-Dichlorobenzene	30 ppm
							2,2'-oxybis[1-chloropropane]	30 ppm
							2,4,5-Trichlorophenol	30 ppm
							2,4,6-Trichlorophenol	30 ppm
							2,4-Dichlorophenol	30 ppm
							2,4-Dimethylphenol	30 ppm
							2,4-Dinitrophenol	30 ppm
							2,4-Dinitrotoluene	30 ppm
							2,6-Dinitrotoluene	30 ppm
							2-Chloronaphthalene	30 ppm
							2-Chlorophenol	30 ppm
							2-Methylnaphthalene	30 ppm
							2-Methylphenol	30 ppm
							2-Nitroaniline	30 ppm
							2-Nitrophenol	30 ppm
							3-Nitroaniline	30 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4,6-Dinitro-2-methylphenol	30 ppm
							4-Bromophenyl-phenylether	30 ppm
							4-Chloro-3-methylphenol	30 ppm
							4-Chloroaniline	30 ppm
							4-Chlorophenyl-phenyl ether	30 ppm
							4-Methylphenol	30 ppm
							4-Nitroaniline	30 ppm
							4-Nitrophenol	30 ppm
							Acenaphthene	30 ppm
							Acenaphthylene	30 ppm
							Anthracene	30 ppm
							Benzo[a]anthracene	30 ppm
							Benzo[a]pyrene	30 ppm
							Benzo[b]fluoranthene	30 ppm
							Benzo[g,h,i]perylene	30 ppm
							Benzo[k]fluoranthene	30 ppm
							Bis(2-chloroethoxy)methane	30 ppm
							Bis(2-chloroethyl)ether	30 ppm
							Bis(2-ethylhexyl) phthalate	30 ppm
							Butylbenzylphthalate	30 ppm
							Carbazole	30 ppm
							Chrysene	30 ppm
							Di-n-butyl phthalate	30 ppm
							Di-n-octyl phthalate	30 ppm
							Dibenz(a,h)anthracene	30 ppm
							Dibenzofuran	30 ppm
							Diethyl phthalate	30 ppm
							Dimethyl phthalate	30 ppm
							Fluoranthene	30 ppm
							Fluorene	30 ppm
							Hexachlorobenzene	30 ppm
							Hexachlorobutadiene	30 ppm
							Hexachlorocyclopentadiene	30 ppm
							Hexachloroethane	30 ppm
							Indeno[1,2,3-cd]pyrene	30 ppm
							Isophorone	30 ppm
							N-Nitrosodi-n-propylamine	30 ppm
							N-Nitrosodimethylamine	30 ppm
							Naphthalene	30 ppm
							Nitrobenzene	30 ppm
							Pentachlorophenol	30 ppm
							Phenanthrene	30 ppm
							Phenol	30 ppm
							Pyrene	30 ppm
							3,3'-Dichlorobenzidine	30 ppm
							3,3'-Dimethylbenzidine	30 ppm
							1,2,4,5-Tetrachlorobenzene	30 ppm
							1,3-Dinitrobenzene	30 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,4-Dinitrobenzene	30 ppm
							2,3,4,6-Tetrachlorophenol	30 ppm
							2,6-Dichlorophenol	30 ppm
							2-Acetylaminofluorene	30 ppm
							3-Methylcholanthrene	30 ppm
							4,4'-Methylene bis(2-chloroaniline)	30 ppm
							4-Aminobiphenyl	30 ppm
							4-Nitroquinoline-1-oxide	30 ppm
							cis-Diallate	22.2 ppm
							Dinoseb	30 ppm
							Ethyl methanesulfonate	30 ppm
							Hexachloropropene	30 ppm
							Isosafrole Peak 1	4.8 ppm
							Isosafrole Peak 2	25.2 ppm
							Methyl methanesulfonate	30 ppm
							N-Nitro-o-toluidine	30 ppm
							N-Nitrosodi-n-butylamine	30 ppm
							N-Nitrosodiethylamine	30 ppm
							N-Nitrosomethylethylamine	30 ppm
							N-Nitrosomorpholine	30 ppm
							N-Nitrosopiperidine	30 ppm
							N-Nitrosopyrrolidine	30 ppm
							p-Dimethylamino azobenzene	30 ppm
							Pentachlorobenzene	30 ppm
							Pentachloronitrobenzene	30 ppm
							Phenacetin	30 ppm
							Safrole, Total	30 ppm
							trans-Diallate	7.8 ppm
							1,4-Dioxane	30 ppm
							1-Methylnaphthalene	30 ppm
							1-Naphthylamine	30 ppm
							2-Naphthylamine	30 ppm
							2-Picoline	30 ppm
							2-Toluidine	30 ppm
							7,12-Dimethylbenz(a)anthracene	30 ppm
							Aniline	30 ppm
							Phenyl ether	30 ppm
							Pyridine	30 ppm
.MSS_FV8270_8_00009	12/30/20	07/28/20	MeCl2, Lot 201838	2 mL	MSS_CR#9_DL_00005	240 uL	Benzyl alcohol	120 ppm
							Indene	120 ppm
							Octachlorostyrene	120 ppm
					MSS_CR8270_6_00005	120 uL	Benzoic acid	120 ppm
					MSS_CR8270_8_00002	120 uL	1,1'-Biphenyl	120 ppm
							Acetophenone	120 ppm
							Atrazine	120 ppm
							Benzaldehyde	120 ppm
							Caprolactam	120 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					MSS_FV8270_IS_00002	40 uL	1,4-Dichlorobenzene-d4	20 ppm
							Acenaphthene-d10	20 ppm
							Naphthalene-d8	20 ppm
							Perylene-d12	20 ppm
							Phenanthrene-d10	20 ppm
							Pyrene-d10 (IS)	20 ppm
					MSS_FV8270_WS_00005	1200 uL	2,4,6-Tribromophenol (Surr)	240 ppm
							2-Fluorobiphenyl (Surr)	240 ppm
							2-Fluorophenol (Surr)	240 ppm
							Nitrobenzene-d5 (Surr)	240 ppm
							p-Terphenyl-d14 (Surr)	240 ppm
							Phenol-d5 (Surr)	240 ppm
							Benzidine	360 ppm
							N-Nitrosodiphenylamine	120 ppm
							1,4-Naphthoquinone	120 ppm
							1-Chloronaphthalene	120 ppm
							6-Methylchrysene	120 ppm
							Chlorobenzilate	120 ppm
							Dibenz[a,h]acridine	120 ppm
							Dibenz[a,j]acridine	120 ppm
							Dimethoate	120 ppm
							Ethyl Parathion	120 ppm
							Isodrin	120 ppm
							Methyl parathion	120 ppm
							o,o',o''-Triethylphosphorothioate	120 ppm
							Phorate	120 ppm
							Pronamide	120 ppm
							Quinoline	120 ppm
							Sulfotepp	120 ppm
							Thionazin	120 ppm
							1,2,4-Trichlorobenzene	120 ppm
							1,2-Dichlorobenzene	120 ppm
							1,2-Diphenylhydrazine	120 ppm
							1,3-Dichlorobenzene	120 ppm
							1,4-Dichlorobenzene	120 ppm
							2,2'-oxybis[1-chloropropane]	120 ppm
							2,4,5-Trichlorophenol	120 ppm
							2,4,6-Trichlorophenol	120 ppm
							2,4-Dichlorophenol	120 ppm
							2,4-Dimethylphenol	120 ppm
							2,4-Dinitrophenol	120 ppm
							2,4-Dinitrotoluene	120 ppm
							2,6-Dinitrotoluene	120 ppm
							2-Chloronaphthalene	120 ppm
							2-Chlorophenol	120 ppm
							2-Methylnaphthalene	120 ppm
							2-Methylphenol	120 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Nitroaniline	120 ppm
							2-Nitrophenol	120 ppm
							3-Nitroaniline	120 ppm
							4,6-Dinitro-2-methylphenol	120 ppm
							4-Bromophenyl-phenylether	120 ppm
							4-Chloro-3-methylphenol	120 ppm
							4-Chloroaniline	120 ppm
							4-Chlorophenyl-phenyl ether	120 ppm
							4-Methylphenol	120 ppm
							4-Nitroaniline	120 ppm
							4-Nitrophenol	120 ppm
							Acenaphthene	120 ppm
							Acenaphthylene	120 ppm
							Anthracene	120 ppm
							Benzo[a]anthracene	120 ppm
							Benzo[a]pyrene	120 ppm
							Benzo[b]fluoranthene	120 ppm
							Benzo[g,h,i]perylene	120 ppm
							Benzo[k]fluoranthene	120 ppm
							Bis(2-chloroethoxy)methane	120 ppm
							Bis(2-chloroethyl)ether	120 ppm
							Bis(2-ethylhexyl) phthalate	120 ppm
							Butylbenzylphthalate	120 ppm
							Carbazole	120 ppm
							Chrysene	120 ppm
							Di-n-butyl phthalate	120 ppm
							Di-n-octyl phthalate	120 ppm
							Dibenz(a,h)anthracene	120 ppm
							Dibenzofuran	120 ppm
							Diethyl phthalate	120 ppm
							Dimethyl phthalate	120 ppm
							Fluoranthene	120 ppm
							Fluorene	120 ppm
							Hexachlorobenzene	120 ppm
							Hexachlorobutadiene	120 ppm
							Hexachlorocyclopentadiene	120 ppm
							Hexachloroethane	120 ppm
							Indeno[1,2,3-cd]pyrene	120 ppm
							Isophorone	120 ppm
							N-Nitrosodi-n-propylamine	120 ppm
							N-Nitrosodimethylamine	120 ppm
							Naphthalene	120 ppm
							Nitrobenzene	120 ppm
							Pentachlorophenol	120 ppm
							Phenanthrene	120 ppm
							Phenol	120 ppm
							Pyrene	120 ppm
							3,3'-Dichlorobenzidine	120 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							3,3'-Dimethylbenzidine	120 ppm
							1,2,4,5-Tetrachlorobenzene	120 ppm
							1,3-Dinitrobenzene	120 ppm
							1,4-Dinitrobenzene	120 ppm
							2,3,4,6-Tetrachlorophenol	120 ppm
							2,6-Dichlorophenol	120 ppm
							2-Acetylaminofluorene	120 ppm
							3-Methylcholanthrene	120 ppm
							4,4'-Methylene bis(2-chloroaniline)	120 ppm
							4-Aminobiphenyl	120 ppm
							4-Nitroquinoline-1-oxide	120 ppm
							cis-Diallate	88.8 ppm
							Dinoseb	120 ppm
							Ethyl methanesulfonate	120 ppm
							Hexachloropropene	120 ppm
							Isosafrole Peak 1	19.2 ppm
							Isosafrole Peak 2	100.8 ppm
							Methyl methanesulfonate	120 ppm
							N-Nitro-o-toluidine	120 ppm
							N-Nitrosodi-n-butylamine	120 ppm
							N-Nitrosodiethylamine	120 ppm
							N-Nitrosomethylethylamine	120 ppm
							N-Nitrosomorpholine	120 ppm
							N-Nitrosopiperidine	120 ppm
							N-Nitrosopyrrolidine	120 ppm
							p-Dimethylamino azobenzene	120 ppm
							Pentachlorobenzene	120 ppm
							Pentachloronitrobenzene	120 ppm
							Phenacetin	120 ppm
							Safrole, Total	120 ppm
							trans-Diallate	31.2 ppm
							1,4-Dioxane	120 ppm
							1-Methylnaphthalene	120 ppm
							1-Naphthylamine	120 ppm
							2-Naphthylamine	120 ppm
							2-Picoline	120 ppm
							2-Toluidine	120 ppm
							7,12-Dimethylbenz(a)anthracene	120 ppm
							Aniline	120 ppm
							Phenyl ether	120 ppm
							Pyridine	120 ppm
..MSS_CR#9_DL_00005	09/30/21	07/21/20	MeCl2, Lot 200018	5 mL	MSS_CR8270_9_00003	1000 uL	Benzyl alcohol	1000 ppm
							Indene	1000 ppm
							Octachlorostyrene	1000 ppm
...MSS_CR8270_9_00003	09/30/21	Restek, Lot A0131112			(Purchased Reagent)		Benzyl alcohol	5000 ug/mL
							Indene	5000 ug/mL
							Octachlorostyrene	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..MSS_CR8270_6_00005	02/28/21		Restek, Lot A0146280		(Purchased Reagent)		Benzoic acid	2000 ug/mL
..MSS_CR8270_8_00002	02/28/21		Restek, Lot A0146313		(Purchased Reagent)		1,1'-Biphenyl	2000 ug/mL
							Acetophenone	2000 ug/mL
							Atrazine	2000 ug/mL
							Benzaldehyde	2000 ug/mL
							Caprolactam	2000 ug/mL
..MSS_FV8270_IS_00002	02/28/21		Restek, Lot A0134880		(Purchased Reagent)		1,4-Dichlorobenzene-d4	1000 ug/mL
							Acenaphthene-d10	1000 ug/mL
							Naphthalene-d8	1000 ug/mL
							Perylene-d12	1000 ug/mL
							Phenanthrene-d10	1000 ug/mL
							Pyrene-d10 (IS)	1000 ug/mL
..MSS_FV8270_WS_00005	12/30/20	07/13/20	MeCl2, Lot 200018	25 mL	MSS_8270_SURR_00002	2500 uL	2,4,6-Tribromophenol (Surr)	400 ppm
							2-Fluorobiphenyl (Surr)	400 ppm
							2-Fluorophenol (Surr)	400 ppm
							Nitrobenzene-d5 (Surr)	400 ppm
							p-Terphenyl-d14 (Surr)	400 ppm
							Phenol-d5 (Surr)	400 ppm
					MSS_AB_BZIDIN_00004	2000 uL	Benzidine	600 ppm
					MSS_CR8270_1_00004	1000 uL	N-Nitrosodiphenylamine	200 ppm
					MSS_CR8270_10_00004	2500 uL	1,4-Naphthoquinone	200 ppm
							1-Chloronaphthalene	200 ppm
							6-Methylchrysene	200 ppm
							Chlorobenzilate	200 ppm
							Dibenz[a,h]acridine	200 ppm
							Dibenz[a,j]acridine	200 ppm
							Dimethoate	200 ppm
							Ethyl Parathion	200 ppm
							Isodrin	200 ppm
							Methyl parathion	200 ppm
							o,o',o''-Triethylphosphorothioate	200 ppm
							Phorate	200 ppm
							Pronamide	200 ppm
							Quinoline	200 ppm
							Sulfotepp	200 ppm
							Thionazin	200 ppm
					MSS_CR8270_2_00007	5000 uL	1,2,4-Trichlorobenzene	200 ppm
							1,2-Dichlorobenzene	200 ppm
							1,2-Diphenylhydrazine	200 ppm
							1,3-Dichlorobenzene	200 ppm
							1,4-Dichlorobenzene	200 ppm
							2,2'-oxybis[1-chloropropane]	200 ppm
							2,4,5-Trichlorophenol	200 ppm
							2,4,6-Trichlorophenol	200 ppm
							2,4-Dichlorophenol	200 ppm
							2,4-Dimethylphenol	200 ppm
							2,4-Dinitrophenol	200 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,4-Dinitrotoluene	200 ppm
							2,6-Dinitrotoluene	200 ppm
							2-Chloronaphthalene	200 ppm
							2-Chlorophenol	200 ppm
							2-Methylnaphthalene	200 ppm
							2-Methylphenol	200 ppm
							2-Nitroaniline	200 ppm
							2-Nitrophenol	200 ppm
							3-Nitroaniline	200 ppm
							4,6-Dinitro-2-methylphenol	200 ppm
							4-Bromophenyl-phenylether	200 ppm
							4-Chloro-3-methylphenol	200 ppm
							4-Chloroaniline	200 ppm
							4-Chlorophenyl-phenyl ether	200 ppm
							4-Methylphenol	200 ppm
							4-Nitroaniline	200 ppm
							4-Nitrophenol	200 ppm
							Acenaphthene	200 ppm
							Acenaphthylene	200 ppm
							Anthracene	200 ppm
							Benzo[a]anthracene	200 ppm
							Benzo[a]pyrene	200 ppm
							Benzo[b]fluoranthene	200 ppm
							Benzo[g,h,i]perylene	200 ppm
							Benzo[k]fluoranthene	200 ppm
							Bis(2-chloroethoxy)methane	200 ppm
							Bis(2-chloroethyl)ether	200 ppm
							Bis(2-ethylhexyl) phthalate	200 ppm
							Butylbenzylphthalate	200 ppm
							Carbazole	200 ppm
							Chrysene	200 ppm
							Di-n-butyl phthalate	200 ppm
							Di-n-octyl phthalate	200 ppm
							Dibenz(a,h)anthracene	200 ppm
							Dibenzofuran	200 ppm
							Diethyl phthalate	200 ppm
							Dimethyl phthalate	200 ppm
							Fluoranthene	200 ppm
							Fluorene	200 ppm
							Hexachlorobenzene	200 ppm
							Hexachlorobutadiene	200 ppm
							Hexachlorocyclopentadiene	200 ppm
							Hexachloroethane	200 ppm
							Indeno[1,2,3-cd]pyrene	200 ppm
							Isophorone	200 ppm
							N-Nitrosodi-n-propylamine	200 ppm
							N-Nitrosodimethylamine	200 ppm
							Naphthalene	200 ppm

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Nitrobenzene	200 ppm
							Pentachlorophenol	200 ppm
							Phenanthrene	200 ppm
							Phenol	200 ppm
							Pyrene	200 ppm
					MSS_CR8270_3_00004	2500 uL	3,3'-Dichlorobenzidine	200 ppm
							3,3'-Dimethylbenzidine	200 ppm
							Benzidine	600 ppm
					MSS_CR8270_4_00004	2500 uL	1,2,4,5-Tetrachlorobenzene	200 ppm
							1,3-Dinitrobenzene	200 ppm
							1,4-Dinitrobenzene	200 ppm
							2,3,4,6-Tetrachlorophenol	200 ppm
							2,6-Dichlorophenol	200 ppm
							2-Acetylaminofluorene	200 ppm
							3-Methylcholanthrene	200 ppm
							4,4'-Methylene bis(2-chloroaniline)	200 ppm
							4-Aminobiphenyl	200 ppm
							4-Nitroquinoline-1-oxide	200 ppm
							cis-Diallate	148 ppm
							Dinoseb	200 ppm
							Ethyl methanesulfonate	200 ppm
							Hexachloropropene	200 ppm
							Isosafrole Peak 1	32 ppm
							Isosafrole Peak 2	168 ppm
							Methyl methanesulfonate	200 ppm
							N-Nitro-o-toluidine	200 ppm
							N-Nitrosodi-n-butylamine	200 ppm
							N-Nitrosodiethylamine	200 ppm
							N-Nitrosomethylethylamine	200 ppm
							N-Nitrosomorpholine	200 ppm
							N-Nitrosopiperidine	200 ppm
							N-Nitrosopyrrolidine	200 ppm
							p-Dimethylamino azobenzene	200 ppm
							Pentachlorobenzene	200 ppm
							Pentachloronitrobenzene	200 ppm
							Phenacetin	200 ppm
							Safrole, Total	200 ppm
							trans-Diallate	52 ppm
					MSS_CR8270_7_00004	2500 uL	1,4-Dioxane	200 ppm
							1-Methylnaphthalene	200 ppm
							1-Naphthylamine	200 ppm
							2-Naphthylamine	200 ppm
							2-Picoline	200 ppm
							2-Toluidine	200 ppm
							7,12-Dimethylbenz(a)anthracene	200 ppm
							Aniline	200 ppm
							Phenyl ether	200 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pyridine	200 ppm
...MSS_8270_SURR_00002	04/30/23		Sigma- Aldrich, Lot LRAC6081		(Purchased Reagent)		2,4,6-Tribromophenol (Surr)	4000 ug/mL
							2-Fluorobiphenyl (Surr)	4000 ug/mL
							2-Fluorophenol (Surr)	4000 ug/mL
							Nitrobenzene-d5 (Surr)	4000 ug/mL
							p-Terphenyl-d14 (Surr)	4000 ug/mL
							Phenol-d5 (Surr)	4000 ug/mL
...MSS_AB_BZIDIN_00004	01/29/23		Absolute, Lot 012920		(Purchased Reagent)		Benzidine	5000 ug/mL
...MSS_CR8270_1_00004	10/31/22		Restek, Lot A0154042		(Purchased Reagent)		N-Nitrosodiphenylamine	5000 ug/mL
...MSS_CR8270_10_00004	06/30/21		Restek, Lot A0156085		(Purchased Reagent)		1,4-Naphthoquinone	2000 ug/mL
							1-Chloronaphthalene	2000 ug/mL
							6-Methylchrysene	2000 ug/mL
							Chlorobenzilate	2000 ug/mL
							Dibenz[a,h]acridine	2000 ug/mL
							Dibenz[a,j]acridine	2000 ug/mL
							Dimethoate	2000 ug/mL
							Ethyl Parathion	2000 ug/mL
							Isodrin	2000 ug/mL
							Methyl parathion	2000 ug/mL
							o,o',o''-Triethylphosphorothioate	2000 ug/mL
							Phorate	2000 ug/mL
							Pronamide	2000 ug/mL
							Quinoline	2000 ug/mL
							Sulfotepp	2000 ug/mL
							Thionazin	2000 ug/mL
...MSS_CR8270_2_00007	02/28/22		Restek, Lot A0146253		(Purchased Reagent)		1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Diphenylhydrazine	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	1000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	1000 ug/mL
							4-Bromophenyl-phenylether	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl-phenyl ether	1000 ug/mL
							4-Methylphenol	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	1000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Anthracene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butylbenzylphthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	1000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodimethylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	1000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
...MSS_CR8270_3_00004	09/30/21		Restek, Lot A0130858		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
							3,3'-Dimethylbenzidine	2000 ug/mL
							Benzidine	2000 ug/mL
...MSS_CR8270_4_00004	12/31/20		Restek, Lot A0150344		(Purchased Reagent)		1,2,4,5-Tetrachlorobenzene	2000 ug/mL
							1,3-Dinitrobenzene	2000 ug/mL
							1,4-Dinitrobenzene	2000 ug/mL

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,3,4,6-Tetrachlorophenol	2000 ug/mL
							2,6-Dichlorophenol	2000 ug/mL
							2-Acetylaminofluorene	2000 ug/mL
							3-Methylcholanthrene	2000 ug/mL
							4,4'-Methylene bis(2-chloroaniline)	2000 ug/mL
							4-Aminobiphenyl	2000 ug/mL
							4-Nitroquinoline-1-oxide	2000 ug/mL
							cis-Diallate	1480 ug/mL
							Dinoseb	2000 ug/mL
							Ethyl methanesulfonate	2000 ug/mL
							Hexachloropropene	2000 ug/mL
							Isosafrole Peak 1	320 ug/mL
							Isosafrole Peak 2	1680 ug/mL
							Methyl methanesulfonate	2000 ug/mL
							N-Nitro-o-toluidine	2000 ug/mL
							N-Nitrosodi-n-butylamine	2000 ug/mL
							N-Nitrosodiethylamine	2000 ug/mL
							N-Nitrosomethylethylamine	2000 ug/mL
							N-Nitrosomorpholine	2000 ug/mL
							N-Nitrosopiperidine	2000 ug/mL
							N-Nitrosopyrrolidine	2000 ug/mL
							p-Dimethylamino azobenzene	2000 ug/mL
							Pentachlorobenzene	2000 ug/mL
							Pentachloronitrobenzene	2000 ug/mL
							Phenacetin	2000 ug/mL
							Safrole, Total	2000 ug/mL
							trans-Diallate	520 ug/mL
...MSS_CR8270_7_00004	11/30/22		Restek, Lot A0155157		(Purchased Reagent)		1,4-Dioxane	2000 ug/mL
							1-Methylnaphthalene	2000 ug/mL
							1-Naphthylamine	2000 ug/mL
							2-Naphthylamine	2000 ug/mL
							2-Picoline	2000 ug/mL
							2-Toluidine	2000 ug/mL
							7,12-Dimethylbenz(a)anthracene	2000 ug/mL
							Aniline	2000 ug/mL
							Phenyl ether	2000 ug/mL
							Pyridine	2000 ug/mL
MSS_RV8270_IS_00012	01/10/21	07/10/20	MeCl2, Lot 200018	25 mL	MSS_FV8270_IS_00002	6250 uL	1,4-Dichlorobenzene-d4	250 ppm
							Acenaphthene-d10	250 ppm
							Naphthalene-d8	250 ppm
							Perylene-d12	250 ppm
							Phenanthrene-d10	250 ppm
							Pyrene-d10 (IS)	250 ppm
.MSS_FV8270_IS_00002	02/28/21		Restek, Lot A0134880		(Purchased Reagent)		1,4-Dichlorobenzene-d4	1000 ug/mL
							Acenaphthene-d10	1000 ug/mL
							Naphthalene-d8	1000 ug/mL
							Perylene-d12	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene-d10	1000 ug/mL
							Pyrene-d10 (IS)	1000 ug/mL
MSS_RV8270ICV_00004	08/27/20	04/13/20	MeCl2, Lot 200017	3 mL	MSS_FV8270ICV_00002	750 uL	1,4-Dichlorobenzene-d4	5 ppm
							Acenaphthene-d10	5 ppm
							Naphthalene-d8	5 ppm
							Perylene-d12	5 ppm
							Phenanthrene-d10	5 ppm
							Pyrene-d10 (IS)	5 ppm
.MSS_FV8270ICV_00002	08/27/20	04/07/20	MeCl2, Lot 197809	5 mL	MSS_FV8270_IS_00002	100 uL	1,4-Dichlorobenzene-d4	20 ppm
							Acenaphthene-d10	20 ppm
							Naphthalene-d8	20 ppm
							Perylene-d12	20 ppm
							Phenanthrene-d10	20 ppm
							Pyrene-d10 (IS)	20 ppm
..MSS_FV8270_IS_00002	02/28/21		Restek, Lot A0134880		(Purchased Reagent)		1,4-Dichlorobenzene-d4	1000 ug/mL
							Acenaphthene-d10	1000 ug/mL
							Naphthalene-d8	1000 ug/mL
							Perylene-d12	1000 ug/mL
							Phenanthrene-d10	1000 ug/mL
							Pyrene-d10 (IS)	1000 ug/mL
MSS_RV8270ICV_00004	08/27/20	04/13/20	MeCl2, Lot 200017	3 mL	MSS_FV8270ICV_00002	750 uL	1,1'-Biphenyl	12.5 ppm
							2,2'-oxybis[1-chloropropane]	12.5 ppm
							2,4,5-Trichlorophenol	12.5 ppm
							2,4,6-Trichlorophenol	12.5 ppm
							2,4-Dichlorophenol	12.5 ppm
							2,4-Dimethylphenol	12.5 ppm
							2,4-Dinitrophenol	25 ppm
							2,4-Dinitrotoluene	12.5 ppm
							2,6-Dinitrotoluene	12.5 ppm
							2-Chloronaphthalene	12.5 ppm
							2-Chlorophenol	12.5 ppm
							2-Methylnaphthalene	12.5 ppm
							2-Methylphenol	12.5 ppm
							2-Nitroaniline	12.5 ppm
							2-Nitrophenol	12.5 ppm
							3-Nitroaniline	12.5 ppm
							4,6-Dinitro-2-methylphenol	12.5 ppm
							4-Bromophenyl-phenylether	12.5 ppm
							4-Chloro-3-methylphenol	12.5 ppm
							4-Chloroaniline	12.5 ppm
							4-Chlorophenyl-phenyl ether	12.5 ppm
							4-Methylphenol	12.5 ppm
							4-Nitroaniline	12.5 ppm
							4-Nitrophenol	12.5 ppm
							Acenaphthene	12.5 ppm
							Acenaphthylene	12.5 ppm
							Acetophenone	12.5 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Anthracene	12.5 ppm
							Benzo[a]anthracene	12.5 ppm
							Benzo[a]pyrene	12.5 ppm
							Benzo[b]fluoranthene	12.5 ppm
							Benzo[g,h,i]perylene	12.5 ppm
							Benzo[k]fluoranthene	12.5 ppm
							Bis(2-chloroethoxy)methane	12.5 ppm
							Bis(2-chloroethyl)ether	12.5 ppm
							Bis(2-ethylhexyl) phthalate	12.5 ppm
							Butylbenzylphthalate	12.5 ppm
							Carbazole	12.5 ppm
							Chrysene	12.5 ppm
							Di-n-butyl phthalate	12.5 ppm
							Di-n-octyl phthalate	12.5 ppm
							Dibenz(a,h)anthracene	12.5 ppm
							Dibenzofuran	12.5 ppm
							Diethyl phthalate	12.5 ppm
							Dimethyl phthalate	12.5 ppm
							Fluoranthene	12.5 ppm
							Fluorene	12.5 ppm
							Hexachlorobenzene	12.5 ppm
							Hexachlorobutadiene	12.5 ppm
							Hexachlorocyclopentadiene	25 ppm
							Hexachloroethane	12.5 ppm
							Indeno[1,2,3-cd]pyrene	12.5 ppm
							Isophorone	12.5 ppm
							N-Nitrosodi-n-propylamine	12.5 ppm
							N-Nitrosodiphenylamine	12.5 ppm
							Naphthalene	12.5 ppm
							Nitrobenzene	12.5 ppm
							Pentachlorophenol	12.5 ppm
							Phenanthrene	12.5 ppm
							Phenol	12.5 ppm
							Pyrene	12.5 ppm
							3,3'-Dichlorobenzidine	12.5 ppm
.MSS_FV8270ICV_00002	08/27/20	04/07/20	MeCl2, Lot 197809	5 mL	MSS_REVLCS_1_00002	250 uL	1,1'-Biphenyl	50 ppm
							2,2'-oxybis[1-chloropropane]	50 ppm
							2,4,5-Trichlorophenol	50 ppm
							2,4,6-Trichlorophenol	50 ppm
							2,4-Dichlorophenol	50 ppm
							2,4-Dimethylphenol	50 ppm
							2,4-Dinitrophenol	100 ppm
							2,4-Dinitrotoluene	50 ppm
							2,6-Dinitrotoluene	50 ppm
							2-Chloronaphthalene	50 ppm
							2-Chlorophenol	50 ppm
							2-Methylnaphthalene	50 ppm
							2-Methylphenol	50 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2-Nitroaniline	50 ppm
							2-Nitrophenol	50 ppm
							3-Nitroaniline	50 ppm
							4,6-Dinitro-2-methylphenol	50 ppm
							4-Bromophenyl-phenylether	50 ppm
							4-Chloro-3-methylphenol	50 ppm
							4-Chloroaniline	50 ppm
							4-Chlorophenyl-phenyl ether	50 ppm
							4-Methylphenol	50 ppm
							4-Nitroaniline	50 ppm
							4-Nitrophenol	50 ppm
							Acenaphthene	50 ppm
							Acenaphthylene	50 ppm
							Acetophenone	50 ppm
							Anthracene	50 ppm
							Benzo[a]anthracene	50 ppm
							Benzo[a]pyrene	50 ppm
							Benzo[b]fluoranthene	50 ppm
							Benzo[g,h,i]perylene	50 ppm
							Benzo[k]fluoranthene	50 ppm
							Bis(2-chloroethoxy)methane	50 ppm
							Bis(2-chloroethyl)ether	50 ppm
							Bis(2-ethylhexyl) phthalate	50 ppm
							Butylbenzylphthalate	50 ppm
							Carbazole	50 ppm
							Chrysene	50 ppm
							Di-n-butyl phthalate	50 ppm
							Di-n-octyl phthalate	50 ppm
							Dibenz(a,h)anthracene	50 ppm
							Dibenzofuran	50 ppm
							Diethyl phthalate	50 ppm
							Dimethyl phthalate	50 ppm
							Fluoranthene	50 ppm
							Fluorene	50 ppm
							Hexachlorobenzene	50 ppm
							Hexachlorobutadiene	50 ppm
							Hexachlorocyclopentadiene	100 ppm
							Hexachloroethane	50 ppm
							Indeno[1,2,3-cd]pyrene	50 ppm
							Isophorone	50 ppm
							N-Nitrosodi-n-propylamine	50 ppm
							N-Nitrosodiphenylamine	50 ppm
							Naphthalene	50 ppm
							Nitrobenzene	50 ppm
							Pentachlorophenol	50 ppm
							Phenanthrene	50 ppm
							Phenol	50 ppm
							Pyrene	50 ppm

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					MSS_REVLCS_3_00002	125 uL	3,3'-Dichlorobenzidine	50 ppm
..MSS_REVLCS_1_00002	10/31/20		Restek, Lot A0148568		(Purchased Reagent)		1,1'-Biphenyl	1000 ug/mL
							2,2'-oxybis[1-chloropropane]	1000 ug/mL
							2,4,5-Trichlorophenol	1000 ug/mL
							2,4,6-Trichlorophenol	1000 ug/mL
							2,4-Dichlorophenol	1000 ug/mL
							2,4-Dimethylphenol	1000 ug/mL
							2,4-Dinitrophenol	2000 ug/mL
							2,4-Dinitrotoluene	1000 ug/mL
							2,6-Dinitrotoluene	1000 ug/mL
							2-Chloronaphthalene	1000 ug/mL
							2-Chlorophenol	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							2-Methylphenol	1000 ug/mL
							2-Nitroaniline	1000 ug/mL
							2-Nitrophenol	1000 ug/mL
							3-Nitroaniline	1000 ug/mL
							4,6-Dinitro-2-methylphenol	1000 ug/mL
							4-Bromophenyl-phenylether	1000 ug/mL
							4-Chloro-3-methylphenol	1000 ug/mL
							4-Chloroaniline	1000 ug/mL
							4-Chlorophenyl-phenyl ether	1000 ug/mL
							4-Methylphenol	1000 ug/mL
							4-Nitroaniline	1000 ug/mL
							4-Nitrophenol	1000 ug/mL
							Acenaphthene	1000 ug/mL
							Acenaphthylene	1000 ug/mL
							Acetophenone	1000 ug/mL
							Anthracene	1000 ug/mL
							Benzo[a]anthracene	1000 ug/mL
							Benzo[a]pyrene	1000 ug/mL
							Benzo[b]fluoranthene	1000 ug/mL
							Benzo[g,h,i]perylene	1000 ug/mL
							Benzo[k]fluoranthene	1000 ug/mL
							Bis(2-chloroethoxy)methane	1000 ug/mL
							Bis(2-chloroethyl)ether	1000 ug/mL
							Bis(2-ethylhexyl) phthalate	1000 ug/mL
							Butylbenzylphthalate	1000 ug/mL
							Carbazole	1000 ug/mL
							Chrysene	1000 ug/mL
							Di-n-butyl phthalate	1000 ug/mL
							Di-n-octyl phthalate	1000 ug/mL
							Dibenz(a,h)anthracene	1000 ug/mL
							Dibenzofuran	1000 ug/mL
							Diethyl phthalate	1000 ug/mL
							Dimethyl phthalate	1000 ug/mL
							Fluoranthene	1000 ug/mL
							Fluorene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Hexachlorobenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Hexachlorocyclopentadiene	2000 ug/mL
							Hexachloroethane	1000 ug/mL
							Indeno[1,2,3-cd]pyrene	1000 ug/mL
							Isophorone	1000 ug/mL
							N-Nitrosodi-n-propylamine	1000 ug/mL
							N-Nitrosodiphenylamine	1000 ug/mL
							Naphthalene	1000 ug/mL
							Nitrobenzene	1000 ug/mL
							Pentachlorophenol	1000 ug/mL
							Phenanthrene	1000 ug/mL
							Phenol	1000 ug/mL
							Pyrene	1000 ug/mL
..MSS_REVLCS_3_00002	07/31/21		Restek, Lot A0150593		(Purchased Reagent)		3,3'-Dichlorobenzidine	2000 ug/mL
MSS_RVDFTPP_00004							4,4'-DDD	
							4,4'-DDE	
							Aramite, Total	
							Diallate	
							Isosafrole	
							Tentatively Identified Compound	
							Total Cresols	
					MSS_AB_DFTPP_00005	625 uL	4,4'-DDT	12.5 ppm
							Benzidine_T	12.5 ppm
							DFTPP	12.5 ppm
							Pentachlorophenol_T	12.5 ppm
.MSS_AB_DFTPP_00005	11/25/22		Absolute, Lot 112519		(Purchased Reagent)		4,4'-DDT	500 ug/mL
							Benzidine_T	500 ug/mL
							DFTPP	500 ug/mL
							Pentachlorophenol_T	500 ug/mL
MSS_RVHCPICV_00005	12/23/20	06/29/20	MeCl2, Lot 200018	1 mL	MSS_RV8270_IS_00011	20 uL	1,4-Dichlorobenzene-d4	5 ppm
							Acenaphthene-d10	5 ppm
							Naphthalene-d8	5 ppm
							Perylene-d12	5 ppm
							Phenanthrene-d10	5 ppm
							Pyrene-d10 (IS)	5 ppm
.MSS_RV8270_IS_00011	12/23/20	06/23/20	MeCl2, Lot 200018	25 mL	MSS_FV8270_IS_00002	6250 uL	1,4-Dichlorobenzene-d4	250 ppm
							Acenaphthene-d10	250 ppm
							Naphthalene-d8	250 ppm
							Perylene-d12	250 ppm
							Phenanthrene-d10	250 ppm
							Pyrene-d10 (IS)	250 ppm
..MSS_FV8270_IS_00002	02/28/21		Restek, Lot A0134880		(Purchased Reagent)		1,4-Dichlorobenzene-d4	1000 ug/mL
							Acenaphthene-d10	1000 ug/mL
							Naphthalene-d8	1000 ug/mL
							Perylene-d12	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene-d10	1000 ug/mL
							Pyrene-d10 (IS)	1000 ug/mL
MSS_RVHCPICV_00005	12/23/20	06/29/20	MeCl2, Lot 200018	1 mL	MSS_AB_HCCPD_00002	25 uL	Hexachlorocyclopentadiene	25 ppm
.MSS_AB_HCCPD_00002	04/26/22		Absolute, Lot 042617		(Purchased Reagent)		Hexachlorocyclopentadiene	1000 ug/mL
MSS_RVICV_DMP_00001	09/12/20	04/26/20	MeCl2, Lot 197807	2 mL	MSS_FVICV_DMP_00002	500 uL	1,4-Dichlorobenzene-d4	5 ppm
							Acenaphthene-d10	5 ppm
							Naphthalene-d8	5 ppm
							Perylene-d12	5 ppm
							Phenanthrene-d10	5 ppm
							Pyrene-d10 (IS)	5 ppm
.MSS_FVICV_DMP_00002	09/12/20	04/26/20	MeCl2, Lot 197807	2 mL	MSS_FV8270_IS_00001	40 uL	1,4-Dichlorobenzene-d4	20 ppm
							Acenaphthene-d10	20 ppm
							Naphthalene-d8	20 ppm
							Perylene-d12	20 ppm
							Phenanthrene-d10	20 ppm
							Pyrene-d10 (IS)	20 ppm
..MSS_FV8270_IS_00001	10/01/20		Restek, Lot A0134880		(Purchased Reagent)		1,4-Dichlorobenzene-d4	1000 ug/mL
							Acenaphthene-d10	1000 ug/mL
							Naphthalene-d8	1000 ug/mL
							Perylene-d12	1000 ug/mL
							Phenanthrene-d10	1000 ug/mL
							Pyrene-d10 (IS)	1000 ug/mL
MSS_RVICV_DMP_00001	09/12/20	04/26/20	MeCl2, Lot 197807	2 mL	MSS_FVICV_DMP_00002	500 uL	2,4-Dimethylphenol	12.5 ppm
.MSS_FVICV_DMP_00002	09/12/20	04/26/20	MeCl2, Lot 197807	2 mL	MSS_AB_24DMP_00001	100 uL	2,4-Dimethylphenol	50 ppm
..MSS_AB_24DMP_00001	09/09/20		Absolute, Lot 011818		(Purchased Reagent)		2,4-Dimethylphenol	1000 ppm
MSV_4ppbEE_00037	07/17/20	07/13/20	DI Water, Lot 12232019	1000 mL	MSV_DCFM_00017	2 uL	Dichlorofluoromethane	0.004 ug/mL
					MSV_V_2CEVE_00086	4 uL	2-Chloroethyl vinyl ether	0.004 ug/mL
					MSV_V_EE_00003	4 uL	Ethyl ether	0.0039994 ug/mL
					MSV_V_Gas_00107	2 uL	Bromomethane	0.004 ug/mL
							Chloroethane	0.004 ug/mL
							Chloromethane	0.004 ug/mL
							Dichlorodifluoromethane	0.004 ug/mL
							Trichlorofluoromethane	0.004 ug/mL
							Vinyl chloride	0.004 ug/mL
					MSV_V_VOA1_00074	4 uL	1,1,1,2-Tetrachloroethane	0.004 ug/mL
							1,1,1-Trichloroethane	0.004 ug/mL
							1,1,2,2-Tetrachloroethane	0.004 ug/mL
							1,1,2-Trichloroethane	0.004 ug/mL
							1,1-Dichloroethane	0.004 ug/mL
							1,1-Dichloroethene	0.004 ug/mL
							1,1-Dichloropropene	0.004 ug/mL
							1,2,3-Trichlorobenzene	0.004 ug/mL
							1,2,3-Trichloropropane	0.004 ug/mL
							1,2,4-Trichlorobenzene	0.004 ug/mL
							1,2,4-Trimethylbenzene	0.004 ug/mL
							1,2-Dibromo-3-Chloropropane	0.004 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dibromoethane	0.004 ug/mL
							1,2-Dichlorobenzene	0.004 ug/mL
							1,2-Dichloroethane	0.004 ug/mL
							1,2-Dichloropropane	0.004 ug/mL
							1,3,5-Trichlorobenzene	0.004 ug/mL
							1,3,5-Trimethylbenzene	0.004 ug/mL
							1,3-Dichlorobenzene	0.004 ug/mL
							1,3-Dichloropropane	0.004 ug/mL
							1,4-Dichlorobenzene	0.004 ug/mL
							1-Chlorohexane	0.004 ug/mL
							2,2-Dichloropropane	0.004 ug/mL
							2-Chlorotoluene	0.004 ug/mL
							4-Chlorotoluene	0.004 ug/mL
							4-Isopropyltoluene	0.004 ug/mL
							Benzene	0.004 ug/mL
							Bromobenzene	0.004 ug/mL
							Bromodichloromethane	0.004 ug/mL
							Bromoform	0.004 ug/mL
							Carbon tetrachloride	0.004 ug/mL
							Chlorobenzene	0.004 ug/mL
							Chloroform	0.004 ug/mL
							cis-1,2-Dichloroethene	0.004 ug/mL
							cis-1,3-Dichloropropene	0.004 ug/mL
							Dibromochloromethane	0.004 ug/mL
							Dibromomethane	0.004 ug/mL
							Ethylbenzene	0.004 ug/mL
							Hexachlorobutadiene	0.004 ug/mL
							Isopropylbenzene	0.004 ug/mL
							m-Xylene & p-Xylene	0.008 ug/mL
							Methylene Chloride	0.004 ug/mL
							n-Butylbenzene	0.004 ug/mL
							N-Propylbenzene	0.004 ug/mL
							Naphthalene	0.004 ug/mL
							o-Xylene	0.004 ug/mL
							sec-Butylbenzene	0.004 ug/mL
							Styrene	0.004 ug/mL
							tert-Butylbenzene	0.004 ug/mL
							Tetrachloroethene	0.004 ug/mL
							Toluene	0.004 ug/mL
							trans-1,2-Dichloroethene	0.004 ug/mL
							trans-1,3-Dichloropropene	0.004 ug/mL
							Trichloroethene	0.004 ug/mL
							1,4-Dioxane	0.05 ug/mL
							2-Methyl-2-propanol	0.02 ug/mL
							Isobutyl alcohol	0.05 ug/mL
							Isopropyl alcohol	0.02 ug/mL
							Methacrylonitrile	0.01 ug/mL
							n-Butanol	0.1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Propionitrile	0.02 ug/mL
							trans-1,4-Dichloro-2-butene	0.01 ug/mL
							1,2-Dichloro-1,1,2-trifluoroethane	0.004 ug/mL
							2-Chloro-1,3-butadiene	0.004 ug/mL
							2-ethoxy-2-methyl butane	0.004 ug/mL
							Benzyl chloride	0.004 ug/mL
							Butadiene	0.004 ug/mL
							Carbon disulfide	0.004 ug/mL
							Cyclohexane	0.004 ug/mL
							Ethyl methacrylate	0.004 ug/mL
							Freon 113	0.004 ug/mL
							Hexane	0.004 ug/mL
							Iodomethane	0.004 ug/mL
							Isopropyl ether	0.004 ug/mL
							Methyl methacrylate	0.004 ug/mL
							Methyl tertiary butyl ether	0.004 ug/mL
							n-Heptane	0.004 ug/mL
							Pentane	0.004 ug/mL
							Tert-amyl methyl ether	0.004 ug/mL
							Tert-butyl ethyl ether	0.004 ug/mL
					MSV_V_VOA3_00036	1.6 uL	2-Butanone	0.008 ug/mL
							2-Hexanone	0.008 ug/mL
							2-Nitropropane	0.008 ug/mL
							4-Methyl-2-pentanone	0.008 ug/mL
							Acetone	0.008 ug/mL
							Acrylonitrile	0.004 ug/mL
							Tetrahydrofuran	0.008 ug/mL
							Acrolein	0.0399993 ug/mL
					MSV_V_VOA6_00043	4 uL	1,2,3-Trimethylbenzene	0.004 ug/mL
							1,3-Diethylbenzene	0.004 ug/mL
							2-Methylnaphthalene	0.004 ug/mL
							3-Chloro-1-propene	0.004 ug/mL
							Chlorobromomethane	0.004 ug/mL
							Methyl acetate	0.004 ug/mL
							Methylcyclohexane	0.004 ug/mL
							o-diethylbenzene	0.004 ug/mL
							p-Diethylbenzene	0.004 ug/mL
							Pentachloroethane	0.004 ug/mL
					MSV_VCYC_00002	32 uL	Cyclohexanone	0.200005 ug/mL
.MSV_DCFM_00017	07/19/20	AccuStandard, Lot 219051360			(Purchased Reagent)		Dichlorofluoromethane	2000 ug/mL
.MSV_V_2CEVE_00086	08/12/20	07/13/20	Methanol, Lot DX212	5 mL	MSV_V1B_2CEVE_00057	1 mL	2-Chloroethyl vinyl ether	1000 ug/mL
..MSV_V1B_2CEVE_00057	03/31/23	Restek, Lot A0158674			(Purchased Reagent)		2-Chloroethyl vinyl ether	5000 ug/mL
.MSV_V_EE_00003	10/28/20	04/28/20	Methanol, Lot DX212	100 mL	MSV_EE_MISCSK_00004	2.059 mL	Ethyl ether	999.85 ug/mL
..MSV_EE_MISCSK_00004	10/28/20	04/28/20	Methanol, Lot DX212	10 mL	MSV_EE_Neat_00002	0.4856 g	Ethyl ether	48560 ug/mL
...MSV_EE_Neat_00002	11/30/21	Chem Service, Lot 7967000			(Purchased Reagent)		Ethyl ether	1 g/g

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MSV_V_Gas_00107	07/20/20		Restek, Lot A0150705		(Purchased Reagent)		Bromomethane	2000 ug/mL
							Chloroethane	2000 ug/mL
							Chloromethane	2000 ug/mL
							Dichlorodifluoromethane	2000 ug/mL
							Trichlorofluoromethane	2000 ug/mL
							Vinyl chloride	2000 ug/mL
.MSV_V_VOA1_00074	08/12/20	07/13/20	Methanol, Lot DX212	5 mL	MSV_V#1B_00087	1 mL	1,1,1,2-Tetrachloroethane	1000 ug/mL
							1,1,1-Trichloroethane	1000 ug/mL
							1,1,2,2-Tetrachloroethane	1000 ug/mL
							1,1,2-Trichloroethane	1000 ug/mL
							1,1-Dichloroethane	1000 ug/mL
							1,1-Dichloroethene	1000 ug/mL
							1,1-Dichloropropene	1000 ug/mL
							1,2,3-Trichlorobenzene	1000 ug/mL
							1,2,3-Trichloropropane	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2,4-Trimethylbenzene	1000 ug/mL
							1,2-Dibromo-3-Chloropropane	1000 ug/mL
							1,2-Dibromoethane	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Dichloroethane	1000 ug/mL
							1,2-Dichloropropane	1000 ug/mL
							1,3,5-Trichlorobenzene	1000 ug/mL
							1,3,5-Trimethylbenzene	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dichloropropane	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1-Chlorohexane	1000 ug/mL
							2,2-Dichloropropane	1000 ug/mL
							2-Chlorotoluene	1000 ug/mL
							4-Chlorotoluene	1000 ug/mL
							4-Isopropyltoluene	1000 ug/mL
							Benzene	1000 ug/mL
							Bromobenzene	1000 ug/mL
							Bromodichloromethane	1000 ug/mL
							Bromoform	1000 ug/mL
							Carbon tetrachloride	1000 ug/mL
							Chlorobenzene	1000 ug/mL
							Chloroform	1000 ug/mL
							cis-1,2-Dichloroethene	1000 ug/mL
							cis-1,3-Dichloropropene	1000 ug/mL
							Dibromochloromethane	1000 ug/mL
							Dibromomethane	1000 ug/mL
							Ethylbenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Isopropylbenzene	1000 ug/mL
							m-Xylene & p-Xylene	2000 ug/mL
							Methylene Chloride	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							n-Butylbenzene	1000 ug/mL
							N-Propylbenzene	1000 ug/mL
							Naphthalene	1000 ug/mL
							o-Xylene	1000 ug/mL
							sec-Butylbenzene	1000 ug/mL
							Styrene	1000 ug/mL
							tert-Butylbenzene	1000 ug/mL
							Tetrachloroethene	1000 ug/mL
							Toluene	1000 ug/mL
							trans-1,2-Dichloroethene	1000 ug/mL
							trans-1,3-Dichloropropene	1000 ug/mL
							Trichloroethene	1000 ug/mL
					MSV_V#2B_00099	1 mL	1,4-Dioxane	12500 ug/mL
							2-Methyl-2-propanol	5000 ug/mL
							Isobutyl alcohol	12500 ug/mL
							Isopropyl alcohol	5000 ug/mL
							Methacrylonitrile	2500 ug/mL
							n-Butanol	25000 ug/mL
							Propionitrile	5000 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
					MSV_V#4C_00068	1 mL	1,2-Dichloro-1,1,2-trifluoroethane	1000 ug/mL
							2-Chloro-1,3-butadiene	1000 ug/mL
							2-ethoxy-2-methyl butane	1000 ug/mL
							Benzyl chloride	1000 ug/mL
							Butadiene	1000 ug/mL
							Carbon disulfide	1000 ug/mL
							Cyclohexane	1000 ug/mL
							Ethyl methacrylate	1000 ug/mL
							Freon 113	1000 ug/mL
							Hexane	1000 ug/mL
							Iodomethane	1000 ug/mL
							Isopropyl ether	1000 ug/mL
							Methyl methacrylate	1000 ug/mL
							Methyl tertiary butyl ether	1000 ug/mL
							n-Heptane	1000 ug/mL
							Pentane	1000 ug/mL
							Tert-amyl methyl ether	1000 ug/mL
							Tert-butyl ethyl ether	1000 ug/mL
..MSV_V#1B_00087	08/12/20		Restek, Lot A0137321		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	5000 ug/mL
							1,1,1-Trichloroethane	5000 ug/mL
							1,1,2,2-Tetrachloroethane	5000 ug/mL
							1,1,2-Trichloroethane	5000 ug/mL
							1,1-Dichloroethane	5000 ug/mL
							1,1-Dichloroethene	5000 ug/mL
							1,1-Dichloropropene	5000 ug/mL
							1,2,3-Trichlorobenzene	5000 ug/mL
							1,2,3-Trichloropropane	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,4-Trichlorobenzene	5000 ug/mL
							1,2,4-Trimethylbenzene	5000 ug/mL
							1,2-Dibromo-3-Chloropropane	5000 ug/mL
							1,2-Dibromoethane	5000 ug/mL
							1,2-Dichlorobenzene	5000 ug/mL
							1,2-Dichloroethane	5000 ug/mL
							1,2-Dichloropropane	5000 ug/mL
							1,3,5-Trichlorobenzene	5000 ug/mL
							1,3,5-Trimethylbenzene	5000 ug/mL
							1,3-Dichlorobenzene	5000 ug/mL
							1,3-Dichloropropane	5000 ug/mL
							1,4-Dichlorobenzene	5000 ug/mL
							1-Chlorohexane	5000 ug/mL
							2,2-Dichloropropane	5000 ug/mL
							2-Chlorotoluene	5000 ug/mL
							4-Chlorotoluene	5000 ug/mL
							4-Isopropyltoluene	5000 ug/mL
							Benzene	5000 ug/mL
							Bromobenzene	5000 ug/mL
							Bromodichloromethane	5000 ug/mL
							Bromoform	5000 ug/mL
							Carbon tetrachloride	5000 ug/mL
							Chlorobenzene	5000 ug/mL
							Chloroform	5000 ug/mL
							cis-1,2-Dichloroethene	5000 ug/mL
							cis-1,3-Dichloropropene	5000 ug/mL
							Dibromochloromethane	5000 ug/mL
							Dibromomethane	5000 ug/mL
							Ethylbenzene	5000 ug/mL
							Hexachlorobutadiene	5000 ug/mL
							Isopropylbenzene	5000 ug/mL
							m-Xylene & p-Xylene	10000 ug/mL
							Methylene Chloride	5000 ug/mL
							n-Butylbenzene	5000 ug/mL
							N-Propylbenzene	5000 ug/mL
							Naphthalene	5000 ug/mL
							o-Xylene	5000 ug/mL
							sec-Butylbenzene	5000 ug/mL
							Styrene	5000 ug/mL
							tert-Butylbenzene	5000 ug/mL
							Tetrachloroethene	5000 ug/mL
							Toluene	5000 ug/mL
							trans-1,2-Dichloroethene	5000 ug/mL
							trans-1,3-Dichloropropene	5000 ug/mL
							Trichloroethene	5000 ug/mL
..MSV_V#2B_00099	08/12/20		Restek, Lot A0147800		(Purchased Reagent)		1,4-Dioxane	62500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							Isobutyl alcohol	62500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Isopropyl alcohol	25000 ug/mL
							Methacrylonitrile	12500 ug/mL
							n-Butanol	125000 ug/mL
							Propionitrile	25000 ug/mL
							trans-1,4-Dichloro-2-butene	12500 ug/mL
..MSV_V#4C_00068	08/12/20	Restek, Lot A0158660			(Purchased Reagent)		1,2-Dichloro-1,1,2-trifluoroethane	5000 ug/mL
							2-Chloro-1,3-butadiene	5000 ug/mL
							2-ethoxy-2-methyl butane	5000 ug/mL
							Benzyl chloride	5000 ug/mL
							Butadiene	5000 ug/mL
							Carbon disulfide	5000 ug/mL
							Cyclohexane	5000 ug/mL
							Ethyl methacrylate	5000 ug/mL
							Freon 113	5000 ug/mL
							Hexane	5000 ug/mL
							Iodomethane	5000 ug/mL
							Isopropyl ether	5000 ug/mL
							Methyl methacrylate	5000 ug/mL
							Methyl tertiary butyl ether	5000 ug/mL
							n-Heptane	5000 ug/mL
							Pentane	5000 ug/mL
							Tert-amyl methyl ether	5000 ug/mL
							Tert-butyl ethyl ether	5000 ug/mL
.MSV_V_VOA3_00036	08/01/20	07/13/20	Methanol, Lot DX212	5 mL	MSV_V#3B_00042	1 mL	2-Butanone	5000 ug/mL
							2-Hexanone	5000 ug/mL
							2-Nitropropane	5000 ug/mL
							4-Methyl-2-pentanone	5000 ug/mL
							Acetone	5000 ug/mL
							Acrylonitrile	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
					MSV_VACR_00008	1 mL	Acrolein	24999.6 ug/mL
..MSV_V#3B_00042	08/12/20	Restek, Lot A0158677			(Purchased Reagent)		2-Butanone	25000 ug/mL
							2-Hexanone	25000 ug/mL
							2-Nitropropane	25000 ug/mL
							4-Methyl-2-pentanone	25000 ug/mL
							Acetone	25000 ug/mL
							Acrylonitrile	12500 ug/mL
							Tetrahydrofuran	25000 ug/mL
..MSV_VACR_00008	08/01/20	06/02/20	Methanol, Lot DX212	10 mL	MSV_VACR_STK_00008	9.079 mL	Acrolein	124998 ug/mL
...MSV_VACR_STK_00008	08/01/20	06/02/20	Methanol, Lot DX212	10 mL	MSV_ACROLEIN_00005	1.46 g	Acrolein	137678 ug/mL
....MSV_ACROLEIN_00005	12/31/20	Chem Service, Lot 97170000			(Purchased Reagent)		Acrolein	0.943 g/g
.MSV_V_VOA6_00043	08/08/20	07/09/20	Methanol, Lot DX212	5 mL	MSV_V#6_00025	1 mL	1,2,3-Trimethylbenzene	1000 ug/mL
							1,3-Diethylbenzene	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							3-Chloro-1-propene	1000 ug/mL
							Chlorobromomethane	1000 ug/mL
							Methyl acetate	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Methylcyclohexane	1000 ug/mL
							o-diethylbenzene	1000 ug/mL
							p-Diethylbenzene	1000 ug/mL
							Pentachloroethane	1000 ug/mL
..MSV_V#6_00025	08/08/20		Restek, Lot A0158625		(Purchased Reagent)		1,2,3-Trimethylbenzene	5000 ug/mL
							1,3-Diethylbenzene	5000 ug/mL
							2-Methylnaphthalene	5000 ug/mL
							3-Chloro-1-propene	5000 ug/mL
							Chlorobromomethane	5000 ug/mL
							Methyl acetate	5000 ug/mL
							Methylcyclohexane	5000 ug/mL
							o-diethylbenzene	5000 ug/mL
							p-Diethylbenzene	5000 ug/mL
							Pentachloroethane	5000 ug/mL
.MSV_VCYC_00002	08/28/20	02/28/20	50/50 MeOH/Water, Lot DX212	200 mL	MSV_VCYC_STK_00002	4.155 mL	Cyclohexanone	6250.16 ug/mL
..MSV_VCYC_STK_00002	08/28/20	02/28/20	50/50 MeOH/Water, Lot DX212	10 mL	MSV_CYC_00002	3.0085 g	Cyclohexanone	300850 ug/mL
...MSV_CYC_00002	05/31/23		Chem Service, Lot 9219800		(Purchased Reagent)		Cyclohexanone	1 g/g
MSV_DCFM_00018	08/08/20		AccuStandard, Lot 219051360		(Purchased Reagent)		Dichlorofluoromethane	2000 ug/mL
MSV_HP20_ISSS_00016	12/01/20	06/01/20	Methanol, Lot DX212	10 mL	MSV_8260_SS_00132	1 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL
							Toluene-d8 (Surr)	250 ug/mL
					MSV_Cus826_IS_00077	1 mL	1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5 (IS)	250 ug/mL
							Fluorobenzene (IS)	250 ug/mL
							t-Butyl alcohol-d10 (IS)	1250 ug/mL
.MSV_8260_SS_00132	03/31/22		Restek, Lot A0146938		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
.MSV_Cus826_IS_00077	05/31/21		Restek, Lot A0138205		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2500 ug/mL
							Chlorobenzene-d5 (IS)	2500 ug/mL
							Fluorobenzene (IS)	2500 ug/mL
							t-Butyl alcohol-d10 (IS)	12500 ug/mL
MSV_HP20_ISSS_00023	02/18/21	08/18/20	Methanol, Lot DX212	10 mL	MSV_Cus826_IS_00128	1 mL	1,4-Dichlorobenzene-d4	250 ug/mL
							Chlorobenzene-d5 (IS)	250 ug/mL
							Fluorobenzene (IS)	250 ug/mL
							t-Butyl alcohol-d10 (IS)	1250 ug/mL
.MSV_Cus826_IS_00128	05/31/21		Restek, Lot A0138205		(Purchased Reagent)		1,4-Dichlorobenzene-d4	2500 ug/mL
							Chlorobenzene-d5 (IS)	2500 ug/mL
							Fluorobenzene (IS)	2500 ug/mL
							t-Butyl alcohol-d10 (IS)	12500 ug/mL
MSV_HP20_ISSS_00023	02/18/21	08/18/20	Methanol, Lot DX212	10 mL	MSV_8260_SS_00175	1 mL	1,2-Dichloroethane-d4 (Surr)	250 ug/mL
							4-Bromofluorobenzene (Surr)	250 ug/mL
							Dibromofluoromethane (Surr)	250 ug/mL

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Toluene-d8 (Surr)	250 ug/mL
.MSV_8260_SS_00175	03/31/22		Restek, Lot A0146938		(Purchased Reagent)		1,2-Dichloroethane-d4 (Surr)	2500 ug/mL
							4-Bromofluorobenzene (Surr)	2500 ug/mL
							Dibromofluoromethane (Surr)	2500 ug/mL
							Toluene-d8 (Surr)	2500 ug/mL
MSV_Q_QGases_00067	07/20/20	07/13/20	Methanol, Lot DX212	25 mL	MSV_502QGas_00072	0.5 mL	Bromomethane	40 ug/mL
							Chloroethane	40 ug/mL
							Chloromethane	40 ug/mL
							Dichlorodifluoromethane	40 ug/mL
							Trichlorofluoromethane	40 ug/mL
							Vinyl chloride	40 ug/mL
.MSV_502QGas_00072	07/20/20		Restek, Lot A0155823		(Purchased Reagent)		Bromomethane	2000 ug/mL
							Chloroethane	2000 ug/mL
							Chloromethane	2000 ug/mL
							Dichlorodifluoromethane	2000 ug/mL
							Trichlorofluoromethane	2000 ug/mL
							Vinyl chloride	2000 ug/mL
MSV_Q_QGases_00076	08/20/20	08/13/20	Methanol, Lot DX212	25 mL	MSV_502QGas_00083	0.5 mL	Bromomethane	40 ug/mL
							Chloroethane	40 ug/mL
							Chloromethane	40 ug/mL
							Dichlorodifluoromethane	40 ug/mL
							Trichlorofluoromethane	40 ug/mL
							Vinyl chloride	40 ug/mL
.MSV_502QGas_00083	08/20/20		Restek, Lot A0155823		(Purchased Reagent)		Bromomethane	2000 ug/mL
							Chloroethane	2000 ug/mL
							Chloromethane	2000 ug/mL
							Dichlorodifluoromethane	2000 ug/mL
							Trichlorofluoromethane	2000 ug/mL
							Vinyl chloride	2000 ug/mL
MSV_Q_QGases_00078	08/27/20	08/20/20	Methanol, Lot DX212	25 mL	MSV_502QGas_00086	0.5 mL	Bromomethane	40 ug/mL
							Chloroethane	40 ug/mL
							Chloromethane	40 ug/mL
							Dichlorodifluoromethane	40 ug/mL
							Trichlorofluoromethane	40 ug/mL
							Vinyl chloride	40 ug/mL
.MSV_502QGas_00086	08/27/20		Restek, Lot A0155823		(Purchased Reagent)		Bromomethane	2000 ug/mL
							Chloroethane	2000 ug/mL
							Chloromethane	2000 ug/mL
							Dichlorodifluoromethane	2000 ug/mL
							Trichlorofluoromethane	2000 ug/mL
							Vinyl chloride	2000 ug/mL
MSV_Q_QVOA1_00037	08/12/20	07/13/20	Methanol, Lot DX212	25 mL	MSV_Q#1B_00045	1 mL	1,1,1-Trichloroethane	40 mg/L
							1,1,2,2-Tetrachloroethane	40 mg/L
							1,1,2-Trichloroethane	40 mg/L
							1,1-Dichloroethane	40 mg/L
							1,1-Dichloroethene	40 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2,4-Trichlorobenzene	40 mg/L
							1,2-Dibromo-3-Chloropropane	40 mg/L
							1,2-Dibromoethane	40 mg/L
							1,2-Dichlorobenzene	40 mg/L
							1,2-Dichloroethane	40 mg/L
							1,2-Dichloropropane	40 mg/L
							1,3-Dichlorobenzene	40 mg/L
							1,4-Dichlorobenzene	40 mg/L
							Benzene	40 mg/L
							Bromodichloromethane	40 mg/L
							Bromoform	40 mg/L
							Carbon tetrachloride	40 mg/L
							Chlorobenzene	40 mg/L
							Chloroform	40 mg/L
							cis-1,2-Dichloroethene	40 mg/L
							cis-1,3-Dichloropropene	40 mg/L
							Dibromochloromethane	40 mg/L
							Ethylbenzene	40 mg/L
							Isopropylbenzene	40 mg/L
							Methylene Chloride	40 mg/L
							Styrene	40 mg/L
							Tetrachloroethene	40 mg/L
							Toluene	40 mg/L
							trans-1,2-Dichloroethene	40 mg/L
							trans-1,3-Dichloropropene	40 mg/L
							Trichloroethene	40 mg/L
					MSV_Q#3B_00039	1 mL	2-Butanone	300 mg/L
							2-Hexanone	200 mg/L
							4-Methyl-2-pentanone	200 mg/L
							Acetone	300 mg/L
					MSV_Q#4C_00044	1 mL	Carbon disulfide	40 mg/L
							Cyclohexane	40 mg/L
							Freon 113	40 mg/L
							Methyl tertiary butyl ether	40 mg/L
.MSV_Q#1B_00045	04/30/22		Restek, Lot A0148625		(Purchased Reagent)		1,1,1-Trichloroethane	1000 ug/mL
							1,1,2,2-Tetrachloroethane	1000 ug/mL
							1,1,2-Trichloroethane	1000 ug/mL
							1,1-Dichloroethane	1000 ug/mL
							1,1-Dichloroethene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dibromo-3-Chloropropane	1000 ug/mL
							1,2-Dibromoethane	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Dichloroethane	1000 ug/mL
							1,2-Dichloropropane	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							Benzene	1000 ug/mL

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Bromodichloromethane	1000 ug/mL
							Bromoform	1000 ug/mL
							Carbon tetrachloride	1000 ug/mL
							Chlorobenzene	1000 ug/mL
							Chloroform	1000 ug/mL
							cis-1,2-Dichloroethene	1000 ug/mL
							cis-1,3-Dichloropropene	1000 ug/mL
							Dibromochloromethane	1000 ug/mL
							Ethylbenzene	1000 ug/mL
							Isopropylbenzene	1000 ug/mL
							Methylene Chloride	1000 ug/mL
							Styrene	1000 ug/mL
							Tetrachloroethene	1000 ug/mL
							Toluene	1000 ug/mL
							trans-1,2-Dichloroethene	1000 ug/mL
							trans-1,3-Dichloropropene	1000 ug/mL
							Trichloroethene	1000 ug/mL
.MSV_Q#3B_00039	09/30/21		Restek, Lot A0158722		(Purchased Reagent)		2-Butanone	7500 ug/mL
							2-Hexanone	5000 ug/mL
							4-Methyl-2-pentanone	5000 ug/mL
							Acetone	7500 ug/mL
.MSV_Q#4C_00044	03/31/21		Restek, Lot A0158704		(Purchased Reagent)		Carbon disulfide	1000 ug/mL
							Cyclohexane	1000 ug/mL
							Freon 113	1000 ug/mL
							Methyl tertiary butyl ether	1000 ug/mL
MSV_Q_QVOA1_00042	09/16/20	08/17/20	Methanol, Lot DX212	25 mL	MSV_Q#1B_00051	1 mL	1,1,1-Trichloroethane	40 mg/L
							1,1,2,2-Tetrachloroethane	40 mg/L
							1,1,2-Trichloroethane	40 mg/L
							1,1-Dichloroethane	40 mg/L
							1,1-Dichloroethene	40 mg/L
							1,2,4-Trichlorobenzene	40 mg/L
							1,2-Dibromo-3-Chloropropane	40 mg/L
							1,2-Dibromoethane	40 mg/L
							1,2-Dichlorobenzene	40 mg/L
							1,2-Dichloroethane	40 mg/L
							1,2-Dichloropropane	40 mg/L
							1,3-Dichlorobenzene	40 mg/L
							1,4-Dichlorobenzene	40 mg/L
							Benzene	40 mg/L
							Bromodichloromethane	40 mg/L
							Bromoform	40 mg/L
							Carbon tetrachloride	40 mg/L
							Chlorobenzene	40 mg/L
							Chloroform	40 mg/L
							cis-1,2-Dichloroethene	40 mg/L
							cis-1,3-Dichloropropene	40 mg/L
							Dibromochloromethane	40 mg/L

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Ethylbenzene	40 mg/L
							Isopropylbenzene	40 mg/L
							Methylene Chloride	40 mg/L
							Styrene	40 mg/L
							Tetrachloroethene	40 mg/L
							Toluene	40 mg/L
							trans-1,2-Dichloroethene	40 mg/L
							trans-1,3-Dichloropropene	40 mg/L
							Trichloroethene	40 mg/L
					MSV_Q#3B_00050	1 mL	2-Butanone	300 mg/L
							2-Hexanone	200 mg/L
							4-Methyl-2-pentanone	200 mg/L
							Acetone	300 mg/L
					MSV_Q#4C_00050	1 mL	Carbon disulfide	40 mg/L
							Cyclohexane	40 mg/L
							Freon 113	40 mg/L
							Methyl tertiary butyl ether	40 mg/L
.MSV_Q#1B_00051	04/30/22		Restek, Lot A0148625		(Purchased Reagent)		1,1,1-Trichloroethane	1000 ug/mL
							1,1,2,2-Tetrachloroethane	1000 ug/mL
							1,1,2-Trichloroethane	1000 ug/mL
							1,1-Dichloroethane	1000 ug/mL
							1,1-Dichloroethene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dibromo-3-Chloropropane	1000 ug/mL
							1,2-Dibromoethane	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Dichloroethane	1000 ug/mL
							1,2-Dichloropropane	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							Benzene	1000 ug/mL
							Bromodichloromethane	1000 ug/mL
							Bromoform	1000 ug/mL
							Carbon tetrachloride	1000 ug/mL
							Chlorobenzene	1000 ug/mL
							Chloroform	1000 ug/mL
							cis-1,2-Dichloroethene	1000 ug/mL
							cis-1,3-Dichloropropene	1000 ug/mL
							Dibromochloromethane	1000 ug/mL
							Ethylbenzene	1000 ug/mL
							Isopropylbenzene	1000 ug/mL
							Methylene Chloride	1000 ug/mL
							Styrene	1000 ug/mL
							Tetrachloroethene	1000 ug/mL
							Toluene	1000 ug/mL
							trans-1,2-Dichloroethene	1000 ug/mL
							trans-1,3-Dichloropropene	1000 ug/mL
							Trichloroethene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MSV_Q#3B_00050	09/30/21		Restek, Lot A0158722		(Purchased Reagent)		2-Butanone	7500 ug/mL
							2-Hexanone	5000 ug/mL
							4-Methyl-2-pentanone	5000 ug/mL
							Acetone	7500 ug/mL
.MSV_Q#4C_00050	03/31/21		Restek, Lot A0158704		(Purchased Reagent)		Carbon disulfide	1000 ug/mL
							Cyclohexane	1000 ug/mL
							Freon 113	1000 ug/mL
							Methyl tertiary butyl ether	1000 ug/mL
MSV_Q_QVOA6_00034	08/08/20	07/09/20	Methanol, Lot DX212	25 mL	MSV_QCS#6Std_00039	1 mL	Methyl acetate	40 ug/mL
							Methylcyclohexane	40 ug/mL
.MSV_QCS#6Std_00039	09/30/21		Restek, Lot A0158906		(Purchased Reagent)		Methyl acetate	1000 ug/mL
							Methylcyclohexane	1000 ug/mL
MSV_Q_QVOA6_00039	09/12/20	08/13/20	Methanol, Lot DX212	25 mL	MSV_QCS#6Std_00046	1 mL	Methyl acetate	40 ug/mL
							Methylcyclohexane	40 ug/mL
.MSV_QCS#6Std_00046	09/30/21		Restek, Lot A0158906		(Purchased Reagent)		Methyl acetate	1000 ug/mL
							Methylcyclohexane	1000 ug/mL
MSV_Q_QVOA6_00040	09/19/20	08/20/20	Methanol, Lot DX212	25 mL	MSV_QCS#6Std_00048	1 mL	Methyl acetate	40 ug/mL
							Methylcyclohexane	40 ug/mL
.MSV_QCS#6Std_00048	09/30/21		Restek, Lot A0158906		(Purchased Reagent)		Methyl acetate	1000 ug/mL
							Methylcyclohexane	1000 ug/mL
MSV_V_2CEVE_00086	08/12/20	07/13/20	Methanol, Lot DX212	5 mL	MSV_V1B_2CEVE_00057	1 mL	2-Chloroethyl vinyl ether	1000 ug/mL
.MSV_V1B_2CEVE_00057	03/31/23		Restek, Lot A0158674		(Purchased Reagent)		2-Chloroethyl vinyl ether	5000 ug/mL
MSV_V_BFB_00002							1,2-Dichloroethene, Total	
							1,3-Dichloropropene, Total	
							divinyl benzene	
							Tentatively Identified Compound	
							Total Diethylbenzene	
							Xylenes, Total	
					MSV_VBFB_STK_00002	0.117 mL	BFB	49.8701 ug/mL
.MSV_VBFB_STK_00002	07/28/20	01/28/20	Methanol, Lot DX212	10 mL	MSV_4BFB_NEAT_00001	1.0656 g	BFB	106560 ug/mL
..MSV_4BFB_NEAT_00001	01/31/21		Chem Service, Lot 8995800		(Purchased Reagent)		BFB	1 g/g
MSV_V_BFB_00003							1,2-Dichloroethene, Total	
							1,3-Dichlorobutene-2(total)	
							1,3-Dichloropropene, Total	
							divinyl benzene	
							Tentatively Identified Compound	
							Total Diethylbenzene	
							Xylenes, Total	
					MSV_VBFB_STK_00004	0.117 mL	BFB	50.0245 ug/mL
.MSV_VBFB_STK_00004	01/22/21	07/22/20	Methanol, Lot DX212	10 mL	MSV_4BFB_NEAT_00002	1.0689 g	BFB	106890 ug/mL
..MSV_4BFB_NEAT_00002	01/31/21		Chem Service, Lot 8601300		(Purchased Reagent)		BFB	1 g/g
MSV_V_EE_00003	10/28/20	04/28/20	Methanol, Lot DX212	100 mL	MSV_EE_MISCSK_00004	2.059 mL	Ethyl ether	999.85 ug/mL
.MSV_EE_MISCSK_00004	10/28/20	04/28/20	Methanol, Lot DX212	10 mL	MSV_EE_Neat_00002	0.4856 g	Ethyl ether	48560 ug/mL
..MSV_EE_Neat_00002	11/30/21		Chem Service, Lot 7967000		(Purchased Reagent)		Ethyl ether	1 g/g

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
MSV_V_Gas_00108	07/21/20		Restek, Lot A0150705		(Purchased Reagent)		Bromomethane	2000 ug/mL
							Chloroethane	2000 ug/mL
							Chloromethane	2000 ug/mL
							Dichlorodifluoromethane	2000 ug/mL
							Trichlorofluoromethane	2000 ug/mL
							Vinyl chloride	2000 ug/mL
MSV_V_Gas_00130	08/25/20		Restek, Lot A0159812		(Purchased Reagent)		Bromomethane	2000 ug/mL
							Chloroethane	2000 ug/mL
							Chloromethane	2000 ug/mL
							Dichlorodifluoromethane	2000 ug/mL
							Trichlorofluoromethane	2000 ug/mL
							Vinyl chloride	2000 ug/mL
MSV_V_Gas_00131	08/27/20		Restek, Lot A0159812		(Purchased Reagent)		Bromomethane	2000 ug/mL
							Chloroethane	2000 ug/mL
							Chloromethane	2000 ug/mL
							Dichlorodifluoromethane	2000 ug/mL
							Trichlorofluoromethane	2000 ug/mL
							Vinyl chloride	2000 ug/mL
MSV_V_VOA1_00074	08/12/20	07/13/20	Methanol, Lot DX212	5 mL	MSV_V#1B_00087	1 mL	1,1,1,2-Tetrachloroethane	1000 ug/mL
							1,1,1-Trichloroethane	1000 ug/mL
							1,1,2,2-Tetrachloroethane	1000 ug/mL
							1,1,2-Trichloroethane	1000 ug/mL
							1,1-Dichloroethane	1000 ug/mL
							1,1-Dichloroethene	1000 ug/mL
							1,1-Dichloropropene	1000 ug/mL
							1,2,3-Trichlorobenzene	1000 ug/mL
							1,2,3-Trichloropropane	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2,4-Trimethylbenzene	1000 ug/mL
							1,2-Dibromo-3-Chloropropane	1000 ug/mL
							1,2-Dibromoethane	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Dichloroethane	1000 ug/mL
							1,2-Dichloropropane	1000 ug/mL
							1,3,5-Trichlorobenzene	1000 ug/mL
							1,3,5-Trimethylbenzene	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,3-Dichloropropane	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							1-Chlorohexane	1000 ug/mL
							2,2-Dichloropropane	1000 ug/mL
							2-Chlorotoluene	1000 ug/mL
							4-Chlorotoluene	1000 ug/mL
							4-Isopropyltoluene	1000 ug/mL
							Benzene	1000 ug/mL
							Bromobenzene	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Bromodichloromethane	1000 ug/mL
							Bromoform	1000 ug/mL
							Carbon tetrachloride	1000 ug/mL
							Chlorobenzene	1000 ug/mL
							Chloroform	1000 ug/mL
							cis-1,2-Dichloroethene	1000 ug/mL
							cis-1,3-Dichloropropene	1000 ug/mL
							Dibromochloromethane	1000 ug/mL
							Dibromomethane	1000 ug/mL
							Ethylbenzene	1000 ug/mL
							Hexachlorobutadiene	1000 ug/mL
							Isopropylbenzene	1000 ug/mL
							m-Xylene & p-Xylene	2000 ug/mL
							Methylene Chloride	1000 ug/mL
							n-Butylbenzene	1000 ug/mL
							N-Propylbenzene	1000 ug/mL
							Naphthalene	1000 ug/mL
							o-Xylene	1000 ug/mL
							sec-Butylbenzene	1000 ug/mL
							Styrene	1000 ug/mL
							tert-Butylbenzene	1000 ug/mL
							Tetrachloroethene	1000 ug/mL
							Toluene	1000 ug/mL
							trans-1,2-Dichloroethene	1000 ug/mL
							trans-1,3-Dichloropropene	1000 ug/mL
							Trichloroethene	1000 ug/mL
					MSV_V#2B_00099	1 mL	1,4-Dioxane	12500 ug/mL
							2-Methyl-2-propanol	5000 ug/mL
							Isobutyl alcohol	12500 ug/mL
							Isopropyl alcohol	5000 ug/mL
							Methacrylonitrile	2500 ug/mL
							n-Butanol	25000 ug/mL
							Propionitrile	5000 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
					MSV_V#4C_00068	1 mL	1,2-Dichloro-1,1,2-trifluoroethane	1000 ug/mL
							2-Chloro-1,3-butadiene	1000 ug/mL
							2-ethoxy-2-methyl butane	1000 ug/mL
							Benzyl chloride	1000 ug/mL
							Butadiene	1000 ug/mL
							Carbon disulfide	1000 ug/mL
							Cyclohexane	1000 ug/mL
							Ethyl methacrylate	1000 ug/mL
							Freon 113	1000 ug/mL
							Hexane	1000 ug/mL
							Iodomethane	1000 ug/mL
							Isopropyl ether	1000 ug/mL
							Methyl methacrylate	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Methyl tertiary butyl ether	1000 ug/mL
							n-Heptane	1000 ug/mL
							Pentane	1000 ug/mL
							Tert-amyl methyl ether	1000 ug/mL
							Tert-butyl ethyl ether	1000 ug/mL
.MSV_V#1B_00087	08/12/20		Restek, Lot A0137321		(Purchased Reagent)		1,1,1,2-Tetrachloroethane	5000 ug/mL
							1,1,1-Trichloroethane	5000 ug/mL
							1,1,2,2-Tetrachloroethane	5000 ug/mL
							1,1,2-Trichloroethane	5000 ug/mL
							1,1-Dichloroethane	5000 ug/mL
							1,1-Dichloroethene	5000 ug/mL
							1,1-Dichloropropene	5000 ug/mL
							1,2,3-Trichlorobenzene	5000 ug/mL
							1,2,3-Trichloropropane	5000 ug/mL
							1,2,4-Trichlorobenzene	5000 ug/mL
							1,2,4-Trimethylbenzene	5000 ug/mL
							1,2-Dibromo-3-Chloropropane	5000 ug/mL
							1,2-Dibromoethane	5000 ug/mL
							1,2-Dichlorobenzene	5000 ug/mL
							1,2-Dichloroethane	5000 ug/mL
							1,2-Dichloropropane	5000 ug/mL
							1,3,5-Trichlorobenzene	5000 ug/mL
							1,3,5-Trimethylbenzene	5000 ug/mL
							1,3-Dichlorobenzene	5000 ug/mL
							1,3-Dichloropropane	5000 ug/mL
							1,4-Dichlorobenzene	5000 ug/mL
							1-Chlorohexane	5000 ug/mL
							2,2-Dichloropropane	5000 ug/mL
							2-Chlorotoluene	5000 ug/mL
							4-Chlorotoluene	5000 ug/mL
							4-Isopropyltoluene	5000 ug/mL
							Benzene	5000 ug/mL
							Bromobenzene	5000 ug/mL
							Bromodichloromethane	5000 ug/mL
							Bromoform	5000 ug/mL
							Carbon tetrachloride	5000 ug/mL
							Chlorobenzene	5000 ug/mL
							Chloroform	5000 ug/mL
							cis-1,2-Dichloroethene	5000 ug/mL
							cis-1,3-Dichloropropene	5000 ug/mL
							Dibromochloromethane	5000 ug/mL
							Dibromomethane	5000 ug/mL
							Ethylbenzene	5000 ug/mL
							Hexachlorobutadiene	5000 ug/mL
							Isopropylbenzene	5000 ug/mL
							m-Xylene & p-Xylene	10000 ug/mL
							Methylene Chloride	5000 ug/mL
							n-Butylbenzene	5000 ug/mL

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							N-Propylbenzene	5000 ug/mL
							Naphthalene	5000 ug/mL
							o-Xylene	5000 ug/mL
							sec-Butylbenzene	5000 ug/mL
							Styrene	5000 ug/mL
							tert-Butylbenzene	5000 ug/mL
							Tetrachloroethene	5000 ug/mL
							Toluene	5000 ug/mL
							trans-1,2-Dichloroethene	5000 ug/mL
							trans-1,3-Dichloropropene	5000 ug/mL
							Trichloroethene	5000 ug/mL
.MSV_V#2B_00099	08/12/20		Restek, Lot A0147800		(Purchased Reagent)		1,4-Dioxane	62500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Isopropyl alcohol	25000 ug/mL
							Methacrylonitrile	12500 ug/mL
							n-Butanol	125000 ug/mL
							Propionitrile	25000 ug/mL
							trans-1,4-Dichloro-2-butene	12500 ug/mL
.MSV_V#4C_00068	08/12/20		Restek, Lot A0158660		(Purchased Reagent)		1,2-Dichloro-1,1,2-trifluoroethane	5000 ug/mL
							2-Chloro-1,3-butadiene	5000 ug/mL
							2-ethoxy-2-methyl butane	5000 ug/mL
							Benzyl chloride	5000 ug/mL
							Butadiene	5000 ug/mL
							Carbon disulfide	5000 ug/mL
							Cyclohexane	5000 ug/mL
							Ethyl methacrylate	5000 ug/mL
							Freon 113	5000 ug/mL
							Hexane	5000 ug/mL
							Iodomethane	5000 ug/mL
							Isopropyl ether	5000 ug/mL
							Methyl methacrylate	5000 ug/mL
							Methyl tertiary butyl ether	5000 ug/mL
							n-Heptane	5000 ug/mL
							Pentane	5000 ug/mL
							Tert-amyl methyl ether	5000 ug/mL
							Tert-butyl ethyl ether	5000 ug/mL
MSV_V_VOA1_00084	09/16/20	08/17/20	Methanol, Lot DX212	5 mL	MSV_V#1B_00097	1 mL	1,1,1-Trichloroethane	1000 ug/mL
							1,1,2,2-Tetrachloroethane	1000 ug/mL
							1,1,2-Trichloroethane	1000 ug/mL
							1,1-Dichloroethane	1000 ug/mL
							1,1-Dichloroethene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dibromo-3-Chloropropane	1000 ug/mL
							1,2-Dibromoethane	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Dichloroethane	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1,2-Dichloropropane	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							Benzene	1000 ug/mL
							Bromodichloromethane	1000 ug/mL
							Bromoform	1000 ug/mL
							Carbon tetrachloride	1000 ug/mL
							Chlorobenzene	1000 ug/mL
							Chloroform	1000 ug/mL
							cis-1,2-Dichloroethene	1000 ug/mL
							cis-1,3-Dichloropropene	1000 ug/mL
							Dibromochloromethane	1000 ug/mL
							Ethylbenzene	1000 ug/mL
							Isopropylbenzene	1000 ug/mL
							Methylene Chloride	1000 ug/mL
							Styrene	1000 ug/mL
							Tetrachloroethene	1000 ug/mL
							Toluene	1000 ug/mL
							trans-1,2-Dichloroethene	1000 ug/mL
							trans-1,3-Dichloropropene	1000 ug/mL
							Trichloroethene	1000 ug/mL
					MSV_V#4C_00078	1 mL	Carbon disulfide	1000 ug/mL
							Cyclohexane	1000 ug/mL
							Freon 113	1000 ug/mL
							Methyl tertiary butyl ether	1000 ug/mL
.MSV_V#1B_00097	09/16/20		Restek, Lot A0158586		(Purchased Reagent)		1,1,1-Trichloroethane	5000 ug/mL
							1,1,2,2-Tetrachloroethane	5000 ug/mL
							1,1,2-Trichloroethane	5000 ug/mL
							1,1-Dichloroethane	5000 ug/mL
							1,1-Dichloroethene	5000 ug/mL
							1,2,4-Trichlorobenzene	5000 ug/mL
							1,2-Dibromo-3-Chloropropane	5000 ug/mL
							1,2-Dibromoethane	5000 ug/mL
							1,2-Dichlorobenzene	5000 ug/mL
							1,2-Dichloroethane	5000 ug/mL
							1,2-Dichloropropane	5000 ug/mL
							1,3-Dichlorobenzene	5000 ug/mL
							1,4-Dichlorobenzene	5000 ug/mL
							Benzene	5000 ug/mL
							Bromodichloromethane	5000 ug/mL
							Bromoform	5000 ug/mL
							Carbon tetrachloride	5000 ug/mL
							Chlorobenzene	5000 ug/mL
							Chloroform	5000 ug/mL
							cis-1,2-Dichloroethene	5000 ug/mL
							cis-1,3-Dichloropropene	5000 ug/mL
							Dibromochloromethane	5000 ug/mL
							Ethylbenzene	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Isopropylbenzene	5000 ug/mL
							Methylene Chloride	5000 ug/mL
							Styrene	5000 ug/mL
							Tetrachloroethene	5000 ug/mL
							Toluene	5000 ug/mL
							trans-1,2-Dichloroethene	5000 ug/mL
							trans-1,3-Dichloropropene	5000 ug/mL
							Trichloroethene	5000 ug/mL
.MSV_V#4C_00078	09/16/20		Restek, Lot A0158660		(Purchased Reagent)		Carbon disulfide	5000 ug/mL
							Cyclohexane	5000 ug/mL
							Freon 113	5000 ug/mL
							Methyl tertiary butyl ether	5000 ug/mL
MSV_V_VOA1_00085	09/19/20	08/20/20	Methanol, Lot DX212	5 mL	MSV_V#1B_00098	1 mL	1,1,1-Trichloroethane	1000 ug/mL
							1,1,2,2-Tetrachloroethane	1000 ug/mL
							1,1,2-Trichloroethane	1000 ug/mL
							1,1-Dichloroethane	1000 ug/mL
							1,1-Dichloroethene	1000 ug/mL
							1,2,4-Trichlorobenzene	1000 ug/mL
							1,2-Dibromo-3-Chloropropane	1000 ug/mL
							1,2-Dibromoethane	1000 ug/mL
							1,2-Dichlorobenzene	1000 ug/mL
							1,2-Dichloroethane	1000 ug/mL
							1,2-Dichloropropane	1000 ug/mL
							1,3-Dichlorobenzene	1000 ug/mL
							1,4-Dichlorobenzene	1000 ug/mL
							Benzene	1000 ug/mL
							Bromodichloromethane	1000 ug/mL
							Bromoform	1000 ug/mL
							Carbon tetrachloride	1000 ug/mL
							Chlorobenzene	1000 ug/mL
							Chloroform	1000 ug/mL
							cis-1,2-Dichloroethene	1000 ug/mL
							cis-1,3-Dichloropropene	1000 ug/mL
							Dibromochloromethane	1000 ug/mL
							Ethylbenzene	1000 ug/mL
							Isopropylbenzene	1000 ug/mL
							Methylene Chloride	1000 ug/mL
							Styrene	1000 ug/mL
							Tetrachloroethene	1000 ug/mL
							Toluene	1000 ug/mL
							trans-1,2-Dichloroethene	1000 ug/mL
							trans-1,3-Dichloropropene	1000 ug/mL
							Trichloroethene	1000 ug/mL
					MSV_V#4C_00079	1 mL	Carbon disulfide	1000 ug/mL
							Cyclohexane	1000 ug/mL
							Freon 113	1000 ug/mL
							Methyl tertiary butyl ether	1000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MSV_V#1B_00098	09/19/20		Restek, Lot A0158586		(Purchased Reagent)		1,1,1-Trichloroethane	5000 ug/mL
							1,1,2,2-Tetrachloroethane	5000 ug/mL
							1,1,2-Trichloroethane	5000 ug/mL
							1,1-Dichloroethane	5000 ug/mL
							1,1-Dichloroethene	5000 ug/mL
							1,2,4-Trichlorobenzene	5000 ug/mL
							1,2-Dibromo-3-Chloropropane	5000 ug/mL
							1,2-Dibromoethane	5000 ug/mL
							1,2-Dichlorobenzene	5000 ug/mL
							1,2-Dichloroethane	5000 ug/mL
							1,2-Dichloropropane	5000 ug/mL
							1,3-Dichlorobenzene	5000 ug/mL
							1,4-Dichlorobenzene	5000 ug/mL
							Benzene	5000 ug/mL
							Bromodichloromethane	5000 ug/mL
							Bromoform	5000 ug/mL
							Carbon tetrachloride	5000 ug/mL
							Chlorobenzene	5000 ug/mL
							Chloroform	5000 ug/mL
							cis-1,2-Dichloroethene	5000 ug/mL
							cis-1,3-Dichloropropene	5000 ug/mL
							Dibromochloromethane	5000 ug/mL
							Ethylbenzene	5000 ug/mL
							Isopropylbenzene	5000 ug/mL
							Methylene Chloride	5000 ug/mL
							Styrene	5000 ug/mL
							Tetrachloroethene	5000 ug/mL
							Toluene	5000 ug/mL
							trans-1,2-Dichloroethene	5000 ug/mL
							trans-1,3-Dichloropropene	5000 ug/mL
							Trichloroethene	5000 ug/mL
.MSV_V#4C_00079	09/19/20		Restek, Lot A0158660		(Purchased Reagent)		Carbon disulfide	5000 ug/mL
							Cyclohexane	5000 ug/mL
							Freon 113	5000 ug/mL
							Methyl tertiary butyl ether	5000 ug/mL
MSV_V_VOA2_00039	08/12/20	07/13/20	Methanol, Lot DX212	5 mL	MSV_V#2B_00100	1 mL	1,4-Dioxane	12500 ug/mL
							2-Methyl-2-propanol	5000 ug/mL
							Isobutyl alcohol	12500 ug/mL
							Isopropyl alcohol	5000 ug/mL
							Methacrylonitrile	2500 ug/mL
							n-Butanol	25000 ug/mL
							Propionitrile	5000 ug/mL
							trans-1,4-Dichloro-2-butene	2500 ug/mL
.MSV_V#2B_00100	08/12/20		Restek, Lot A0159694		(Purchased Reagent)		1,4-Dioxane	62500 ug/mL
							2-Methyl-2-propanol	25000 ug/mL
							Isobutyl alcohol	62500 ug/mL
							Isopropyl alcohol	25000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Methacrylonitrile	12500 ug/mL
							n-Butanol	125000 ug/mL
							Propionitrile	25000 ug/mL
							trans-1,4-Dichloro-2-butene	12500 ug/mL
MSV_V_VOA3_00036	08/01/20	07/13/20	Methanol, Lot DX212	5 mL	MSV_V#3B_00042	1 mL	2-Butanone	5000 ug/mL
							2-Hexanone	5000 ug/mL
							2-Nitropropane	5000 ug/mL
							4-Methyl-2-pentanone	5000 ug/mL
							Acetone	5000 ug/mL
							Acrylonitrile	2500 ug/mL
							Tetrahydrofuran	5000 ug/mL
					MSV_VACR_00008	1 mL	Acrolein	24999.6 ug/mL
.MSV_V#3B_00042	08/12/20		Restek, Lot A0158677		(Purchased Reagent)		2-Butanone	25000 ug/mL
							2-Hexanone	25000 ug/mL
							2-Nitropropane	25000 ug/mL
							4-Methyl-2-pentanone	25000 ug/mL
							Acetone	25000 ug/mL
							Acrylonitrile	12500 ug/mL
							Tetrahydrofuran	25000 ug/mL
.MSV_VACR_00008	08/01/20	06/02/20	Methanol, Lot DX212	10 mL	MSV_VACR_STK_00008	9.079 mL	Acrolein	124998 ug/mL
..MSV_VACR_STK_00008	08/01/20	06/02/20	Methanol, Lot DX212	10 mL	MSV_ACROLEIN_00005	1.46 g	Acrolein	137678 ug/mL
...MSV_ACROLEIN_00005	12/31/20		Chem Service, Lot 97170000		(Purchased Reagent)		Acrolein	0.943 g/g
MSV_V_VOA3_00041	09/16/20	08/17/20	Methanol, Lot DX212	5 mL	MSV_V#3B_00048	1 mL	2-Butanone	5000 ug/mL
							2-Hexanone	5000 ug/mL
							4-Methyl-2-pentanone	5000 ug/mL
							Acetone	5000 ug/mL
.MSV_V#3B_00048	09/16/20		Restek, Lot A0158677		(Purchased Reagent)		2-Butanone	25000 ug/mL
							2-Hexanone	25000 ug/mL
							4-Methyl-2-pentanone	25000 ug/mL
							Acetone	25000 ug/mL
MSV_V_VOA6_00043	08/08/20	07/09/20	Methanol, Lot DX212	5 mL	MSV_V#6_00025	1 mL	1,2,3-Trimethylbenzene	1000 ug/mL
							1,3-Diethylbenzene	1000 ug/mL
							2-Methylnaphthalene	1000 ug/mL
							3-Chloro-1-propene	1000 ug/mL
							Chlorobromomethane	1000 ug/mL
							Methyl acetate	1000 ug/mL
							Methylcyclohexane	1000 ug/mL
							o-diethylbenzene	1000 ug/mL
							p-Diethylbenzene	1000 ug/mL
							Pentachloroethane	1000 ug/mL
.MSV_V#6_00025	08/08/20		Restek, Lot A0158625		(Purchased Reagent)		1,2,3-Trimethylbenzene	5000 ug/mL
							1,3-Diethylbenzene	5000 ug/mL
							2-Methylnaphthalene	5000 ug/mL
							3-Chloro-1-propene	5000 ug/mL
							Chlorobromomethane	5000 ug/mL
							Methyl acetate	5000 ug/mL
							Methylcyclohexane	5000 ug/mL

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							o-diethylbenzene	5000 ug/mL
							p-Diethylbenzene	5000 ug/mL
							Pentachloroethane	5000 ug/mL
MSV_V_VOA6_00048	09/12/20	08/13/20	Methanol, Lot DX212	5 mL	MSV_V#6_00030	1 mL	Methyl acetate	1000 ug/mL
							Methylcyclohexane	1000 ug/mL
.MSV_V#6_00030	09/12/20		Restek, Lot A0158625		(Purchased Reagent)		Methyl acetate	5000 ug/mL
							Methylcyclohexane	5000 ug/mL
MSV_V_VOA6_00049	09/19/20	08/20/20	Methanol, Lot DX212	5 mL	MSV_V#6_00031	1 mL	Methyl acetate	1000 ug/mL
							Methylcyclohexane	1000 ug/mL
.MSV_V#6_00031	09/19/20		Restek, Lot A0158625		(Purchased Reagent)		Methyl acetate	5000 ug/mL
							Methylcyclohexane	5000 ug/mL
MSV_VCYC_00002	08/28/20	02/28/20	50/50 MeOH/Water, Lot DX212	200 mL	MSV_VCYC_STK_00002	4.155 mL	Cyclohexanone	6250.16 ug/mL
.MSV_VCYC_STK_00002	08/28/20	02/28/20	50/50 MeOH/Water, Lot DX212	10 mL	MSV_CYC_00002	3.0085 g	Cyclohexanone	300850 ug/mL
..MSV_CYC_00002	05/31/23		Chem Service, Lot 9219800		(Purchased Reagent)		Cyclohexanone	1 g/g
MT_HNO3_JT_00003	06/09/24		J.T.Baker, Lot 0000234822		(Purchased Reagent)		Nitric acid	69.8 %
MT_IA_CCV_00077	10/02/20	09/02/20	A_1% HNO3 5% HCL, Lot 384056	1000 mL	MT_S_901S1_VH_00006	5 mL	Calcium	25 ug/mL
							Iron	25.02 ug/mL
							Magnesium	25.005 ug/mL
							Potassium	25 ug/mL
							Sodium	25 ug/mL
.MT_S_901S1_VH_00006	03/04/21		VHG Labs, Lot 10037608-30		(Purchased Reagent)		Calcium	5000 ug/mL
							Iron	5004 ug/mL
							Magnesium	5001 ug/mL
							Potassium	5000 ug/mL
							Sodium	5000 ug/mL
MT_IA_CCV_00078	10/04/20	09/04/20	A_1% HNO3 5% HCL, Lot 384056	1000 mL	MT_S_901S1_VH_00006	5 mL	Calcium	25 ug/mL
							Iron	25.02 ug/mL
							Magnesium	25.005 ug/mL
							Potassium	25 ug/mL
							Sodium	25 ug/mL
.MT_S_901S1_VH_00006	03/04/21		VHG Labs, Lot 10037608-30		(Purchased Reagent)		Calcium	5000 ug/mL
							Iron	5004 ug/mL
							Magnesium	5001 ug/mL
							Potassium	5000 ug/mL
							Sodium	5000 ug/mL
MT_IA_CCV_00079	10/08/20	09/08/20	A_1% HNO3 5% HCL, Lot 384056	1000 mL	MT_S_901S1_VH_00006	5 mL	Calcium	25 ug/mL
							Iron	25.02 ug/mL
							Magnesium	25.005 ug/mL
							Potassium	25 ug/mL
							Sodium	25 ug/mL
.MT_S_901S1_VH_00006	03/04/21		VHG Labs, Lot 10037608-30		(Purchased Reagent)		Calcium	5000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Iron	5004 ug/mL
							Magnesium	5001 ug/mL
							Potassium	5000 ug/mL
							Sodium	5000 ug/mL
MT_IA_ICSA_00023	09/17/20	08/18/20	A_1% HNO3 5% HCL, Lot 313903	1000 mL	MT_S_INF1_SC_00014	100 mL	Aluminum	501.5 ug/mL
							Calcium	505.7 ug/mL
							Iron	202.3 ug/mL
							Magnesium	500.3 ug/mL
.MT_S_INF1_SC_00014	04/30/21	SCP Science, Lot s200417023			(Purchased Reagent)		Aluminum	5015 ug/mL
							Calcium	5057 ug/mL
							Iron	2023 ug/mL
							Magnesium	5003 ug/mL
MT_IA_ICSAB_00025	09/17/20	08/18/20	A_1% HNO3 5% HCL, Lot 313903	1000 mL	MT_S_INF1_SC_00014	100 mL	Aluminum	501.5 ug/mL
							Calcium	505.7 ug/mL
							Iron	202.3 ug/mL
							Magnesium	500.3 ug/mL
					MT_S_LAN13_IV_00003	10 mL	Antimony	0.599 ug/mL
							Arsenic	0.1 ug/mL
							Barium	0.4997 ug/mL
							Beryllium	0.4998 ug/mL
							Cadmium	1 ug/mL
							Chromium	0.4995 ug/mL
							Cobalt	0.5001 ug/mL
							Copper	0.4997 ug/mL
							Lead	0.5496 ug/mL
							Manganese	0.4997 ug/mL
							Nickel	1 ug/mL
							Selenium	0.5494 ug/mL
							Silver	0.2 ug/mL
							Thallium	0.1001 ug/mL
							Vanadium	0.4997 ug/mL
							Zinc	1 ug/mL
.MT_S_INF1_SC_00014	04/30/21	SCP Science, Lot s200417023			(Purchased Reagent)		Aluminum	5015 ug/mL
							Calcium	5057 ug/mL
							Iron	2023 ug/mL
							Magnesium	5003 ug/mL
.MT_S_LAN13_IV_00003	02/12/21	Inorganic Ventures, Lot P2-MEB687710			(Purchased Reagent)		Antimony	59.9 ug/mL
							Arsenic	10 ug/mL
							Barium	49.97 ug/mL
							Beryllium	49.98 ug/mL
							Cadmium	100 ug/mL
							Chromium	49.95 ug/mL
							Cobalt	50.01 ug/mL
							Copper	49.97 ug/mL
							Lead	54.96 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Manganese	49.97 ug/mL
							Nickel	100 ug/mL
							Selenium	54.94 ug/mL
							Silver	20 ug/mL
							Thallium	10.01 ug/mL
							Vanadium	49.97 ug/mL
							Zinc	100 ug/mL
MT_IA_ICV_00043	10/04/20	09/04/20	A_1% HNO3 5% HCL, Lot 384056	1000 mL	MT_S_CCV1_SCP_00004	6 mL	Calcium	30.402 ug/mL
							Iron	29.958 ug/mL
							Magnesium	29.79 ug/mL
							Potassium	30.102 ug/mL
							Sodium	30.042 ug/mL
.MT_S_CCV1_SCP_00004	08/31/21	SCP Science, Lot S200727002			(Purchased Reagent)		Calcium	5067 ug/mL
							Iron	4993 ug/mL
							Magnesium	4965 ug/mL
							Potassium	5017 ug/mL
							Sodium	5007 ug/mL
MT_IA_LLC_00026	10/08/20	09/08/20	A_1% HNO3 5% HCL, Lot 384056	1000 mL	MT_ICPSPK_SCP_00001	2 mL	Calcium	0.2002 ug/mL
							Iron	0.2012 ug/mL
							Magnesium	0.1 ug/mL
							Potassium	0.3008 ug/mL
							Sodium	0.9996 ug/mL
.MT_ICPSPK_SCP_00001	05/31/21	SCP Science, Lot S200507010			(Purchased Reagent)		Calcium	100.1 ug/mL
							Iron	100.6 ug/mL
							Magnesium	50 ug/mL
							Potassium	150.4 ug/mL
							Sodium	499.8 ug/mL
MT_IA_LRS4_00030	10/03/20	09/03/20	A_1% HNO3 5% HCL, Lot 384056	200 mL	MT_S_SOL2A_IV_00003	10 mL	Calcium	500 ug/mL
							Iron	300 ug/mL
							Magnesium	500 ug/mL
							Potassium	500 ug/mL
							Sodium	500 ug/mL
.MT_S_SOL2A_IV_00003	05/20/21	Inorganic Ventures, Lot P2-MEB678442			(Purchased Reagent)		Calcium	10000 ug/mL
							Iron	6000 ug/mL
							Magnesium	10000 ug/mL
							Potassium	10000 ug/mL
							Sodium	10000 ug/mL
MT_IA_LRS5_00029	09/18/20	08/19/20	A_1% HNO3 5% HCL, Lot 338309	200 mL	MT_S_SOL2A_IV_00003	5 mL	Calcium	250 ug/mL
							Iron	150 ug/mL
							Magnesium	250 ug/mL
							Potassium	250 ug/mL
							Sodium	250 ug/mL
.MT_S_SOL2A_IV_00003	05/20/21	Inorganic Ventures, Lot P2-MEB678442			(Purchased Reagent)		Calcium	10000 ug/mL

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Iron	6000 ug/mL
							Magnesium	10000 ug/mL
							Potassium	10000 ug/mL
							Sodium	10000 ug/mL
MT_IA_LRS5_00030	10/03/20	09/03/20	A_1% HNO3 5% HCL, Lot 384056	200 mL	MT_S_SOL2A_IV_00003	5 mL	Calcium	250 ug/mL
							Iron	150 ug/mL
							Magnesium	250 ug/mL
							Potassium	250 ug/mL
							Sodium	250 ug/mL
.MT_S_SOL2A_IV_00003	05/20/21	Inorganic Ventures, Lot P2-MEB678442			(Purchased Reagent)		Calcium	10000 ug/mL
							Iron	6000 ug/mL
							Magnesium	10000 ug/mL
							Potassium	10000 ug/mL
							Sodium	10000 ug/mL
MT_IC_CCV_00020	09/29/20	08/29/20	B_10% HNO3 4% HCL, Lot 330200	1000 mL	MT_S_901S1_VH_00006	5 mL	Calcium	25 ug/mL
							Iron	25.02 ug/mL
							Magnesium	25.005 ug/mL
							Potassium	25 ug/mL
							Sodium	25 ug/mL
.MT_S_901S1_VH_00006	03/04/21	VHG Labs, Lot 10037608-30			(Purchased Reagent)		Calcium	5000 ug/mL
							Iron	5004 ug/mL
							Magnesium	5001 ug/mL
							Potassium	5000 ug/mL
							Sodium	5000 ug/mL
MT_IC_ICSA_00008	09/05/20	08/05/20	C_6% HNO3 4% HCL, Lot 197530	1000 mL	MT_S_INF1_SC_00008	100 mL	Aluminum	501.2 ug/mL
							Calcium	505.3 ug/mL
							Iron	201.2 ug/mL
							Magnesium	501.2 ug/mL
.MT_S_INF1_SC_00008	02/28/21	SCP Science, Lot S200217031			(Purchased Reagent)		Aluminum	5012 ug/mL
							Calcium	5053 ug/mL
							Iron	2012 ug/mL
							Magnesium	5012 ug/mL
MT_IC_ICSAB_00010	09/05/20	08/06/20	C_6% HNO3 4% HCL, Lot 197530	1000 mL	MT_S_INF1_SC_00014	100 mL	Aluminum	501.5 ug/mL
							Calcium	505.7 ug/mL
							Iron	202.3 ug/mL
							Magnesium	500.3 ug/mL
					MT_S_LAN13_IV_00003	10 mL	Antimony	0.599 ug/mL
							Barium	0.4997 ug/mL
							Beryllium	0.4998 ug/mL
							Cadmium	1 ug/mL
							Chromium	0.4995 ug/mL
							Cobalt	0.5001 ug/mL
							Copper	0.4997 ug/mL

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Lead	0.5496 ug/mL
							Manganese	0.4997 ug/mL
							Nickel	1 ug/mL
							Selenium	0.5494 ug/mL
							Silver	0.2 ug/mL
							Thallium	0.1001 ug/mL
							Vanadium	0.4997 ug/mL
							Zinc	1 ug/mL
.MT_S_INF1_SC_00014	04/30/21	SCP Science, Lot s200417023			(Purchased Reagent)		Aluminum	5015 ug/mL
							Calcium	5057 ug/mL
							Iron	2023 ug/mL
							Magnesium	5003 ug/mL
.MT_S_LAN13_IV_00003	02/12/21	Inorganic Ventures, Lot P2-MEB687710			(Purchased Reagent)		Antimony	59.9 ug/mL
							Barium	49.97 ug/mL
							Beryllium	49.98 ug/mL
							Cadmium	100 ug/mL
							Chromium	49.95 ug/mL
							Cobalt	50.01 ug/mL
							Copper	49.97 ug/mL
							Lead	54.96 ug/mL
							Manganese	49.97 ug/mL
							Nickel	100 ug/mL
							Selenium	54.94 ug/mL
							Silver	20 ug/mL
							Thallium	10.01 ug/mL
							Vanadium	49.97 ug/mL
							Zinc	100 ug/mL
MT_IC_ICV_00012	09/05/20	08/06/20	C_6% HNO3 4% HCL, Lot 197530	1000 mL	MT_S_CCV1_HP_00004	6 mL	Calcium	30 ug/mL
							Iron	30 ug/mL
							Magnesium	30 ug/mL
							Potassium	30 ug/mL
							Sodium	30 ug/mL
.MT_S_CCV1_HP_00004	03/04/21	High-Purity Standards, Lot 2005711			(Purchased Reagent)		Calcium	5000 ug/mL
							Iron	5000 ug/mL
							Magnesium	5000 ug/mL
							Potassium	5000 ug/mL
							Sodium	5000 ug/mL
MT_IC_LLC_00013	09/29/20	08/30/20	C_6% HNO3 4% HCL, Lot 330200	1000 mL	MT_ICPSPK_SCP_00001	2 mL	Calcium	0.2002 ug/mL
							Iron	0.2012 ug/mL
							Magnesium	0.1 ug/mL
							Potassium	0.3008 ug/mL
							Sodium	0.9996 ug/mL
.MT_ICPSPK_SCP_00001	05/31/21	SCP Science, Lot S200507010			(Purchased Reagent)		Calcium	100.1 ug/mL
							Iron	100.6 ug/mL
							Magnesium	50 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Potassium	150.4 ug/mL
							Sodium	499.8 ug/mL
MT_IC_LRS4_00015	09/20/20	08/21/20	C_6% HNO3 4% HCL, Lot 330200	200 mL	MT_S_SOL2A_IV_00003	10 mL	Calcium	500 ug/mL
							Iron	300 ug/mL
							Magnesium	500 ug/mL
							Potassium	500 ug/mL
							Sodium	500 ug/mL
.MT_S_SOL2A_IV_00003	05/20/21	Inorganic Ventures, Lot P2-MEB678442			(Purchased Reagent)		Calcium	10000 ug/mL
							Iron	6000 ug/mL
							Magnesium	10000 ug/mL
							Potassium	10000 ug/mL
							Sodium	10000 ug/mL
MT_IC_LRS5_00014	09/20/20	08/21/20	C_6% HNO3 4% HCL, Lot 330200	200 mL	MT_S_SOL2A_IV_00003	5 mL	Calcium	250 ug/mL
							Iron	150 ug/mL
							Magnesium	250 ug/mL
							Potassium	250 ug/mL
							Sodium	250 ug/mL
.MT_S_SOL2A_IV_00003	05/20/21	Inorganic Ventures, Lot P2-MEB678442			(Purchased Reagent)		Calcium	10000 ug/mL
							Iron	6000 ug/mL
							Magnesium	10000 ug/mL
							Potassium	10000 ug/mL
							Sodium	10000 ug/mL
MT_ICPSPK_SCP_00002	05/31/21	SCP Science, Lot S200507010			(Purchased Reagent)		Aluminum	100.2 ug/mL
							Antimony	25.27 ug/mL
							Arsenic	15 ug/mL
							B	15.13 ug/mL
							Barium	2.5 ug/mL
							Beryllium	2.48 ug/mL
							Cadmium	2.49 ug/mL
							Calcium	100.1 ug/mL
							Chromium	7.5 ug/mL
							Cobalt	2.5 ug/mL
							Copper	9.96 ug/mL
							Iron	100.6 ug/mL
							Lead	7.49 ug/mL
							Li	24.92 ug/mL
							Magnesium	50 ug/mL
							Manganese	4.99 ug/mL
							Mo	4.96 ug/mL
							Nickel	5.03 ug/mL
							P	50.2 ug/mL
							Potassium	150.4 ug/mL
							Selenium	25.21 ug/mL
							Si	253.4 ug/mL
							Silver	4.99 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Sn	25.33 ug/mL
							Sodium	499.8 ug/mL
							Sr	2.49 ug/mL
							Sulfur	250.3 ug/mL
							Thallium	15.24 ug/mL
							Ti	4.97 ug/mL
							Vanadium	4.99 ug/mL
							W	15 ug/mL
							Zinc	10.02 ug/mL
							Zr	24.89 ug/mL
MT_KNiZn_IV_00009	06/10/24	Inorganic Ventures, Lot R2-MEB693773			(Purchased Reagent)		Nickel	200 ug/mL
							Potassium	499.9 ug/mL
							Zinc	39.96 ug/mL
MT_KNiZn_IV_00011	09/08/21	Inorganic Ventures, Lot R2-MEB693773			(Purchased Reagent)		Nickel	200 ug/mL
							Potassium	499.9 ug/mL
							Zinc	39.96 ug/mL
MT_MD_CCV_00034	09/16/20	08/17/20	D_6% HNO3 0% HCL, Lot 226166	500 mL	MT_S_901S1_VH_00003	0.5 mL	Aluminum	5 ug/mL
					MT_S_C1001_SC_00002	0.75 mL	Antimony	0.030105 ug/mL
							Arsenic	0.29835 ug/mL
							Barium	0.29985 ug/mL
							Beryllium	0.029925 ug/mL
							Cadmium	0.029745 ug/mL
							Chromium	0.30015 ug/mL
							Cobalt	0.29895 ug/mL
							Copper	0.3003 ug/mL
							Lead	0.029955 ug/mL
							Manganese	0.30015 ug/mL
							Nickel	0.2988 ug/mL
							Selenium	0.02991 ug/mL
							Silver	0.03006 ug/mL
							Thallium	0.02982 ug/mL
							Vanadium	0.3003 ug/mL
							Zinc	0.29955 ug/mL
.MT_S_901S1_VH_00003	10/24/20	VHG Labs, Lot 10037608-30			(Purchased Reagent)		Aluminum	5000 ug/mL
.MT_S_C1001_SC_00002	04/30/21	SCP Science, Lot S200325039			(Purchased Reagent)		Antimony	20.07 ug/mL
							Arsenic	198.9 ug/mL
							Barium	199.9 ug/mL
							Beryllium	19.95 ug/mL
							Cadmium	19.83 ug/mL
							Chromium	200.1 ug/mL
							Cobalt	199.3 ug/mL
							Copper	200.2 ug/mL

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Lead	19.97 ug/mL
							Manganese	200.1 ug/mL
							Nickel	199.2 ug/mL
							Selenium	19.94 ug/mL
							Silver	20.04 ug/mL
							Thallium	19.88 ug/mL
							Vanadium	200.2 ug/mL
							Zinc	199.7 ug/mL
MT_MD_CTS1_00011	08/29/20	08/03/20	D_6% HNO3 0% HCL, Lot 226166	200 mL	MT_MD_S1_00013	50 mL	Aluminum	2.5 ug/mL
							Antimony	0.0250875 ug/mL
							Arsenic	0.248625 ug/mL
							Barium	0.249875 ug/mL
							Beryllium	0.0249375 ug/mL
							Cadmium	0.0247875 ug/mL
							Chromium	0.250125 ug/mL
							Cobalt	0.249125 ug/mL
							Copper	0.25025 ug/mL
							Lead	0.0249625 ug/mL
							Manganese	0.250125 ug/mL
							Nickel	0.249 ug/mL
							Selenium	0.024925 ug/mL
							Silver	0.02505 ug/mL
							Thallium	0.02485 ug/mL
							Vanadium	0.25025 ug/mL
							Zinc	0.249625 ug/mL
.MT_MD_S1_00013	07/29/20	06/29/20	D_6% HNO3 0% HCL, Lot 139697	500 mL	MT_S_901S1_VH_00003	1 mL	Aluminum	10 ug/mL
					MT_S_C1001_SC_00002	2.5 mL	Antimony	0.10035 ug/mL
							Arsenic	0.9945 ug/mL
							Barium	0.9995 ug/mL
							Beryllium	0.09975 ug/mL
							Cadmium	0.09915 ug/mL
							Chromium	1.0005 ug/mL
							Cobalt	0.9965 ug/mL
							Copper	1.001 ug/mL
							Lead	0.09985 ug/mL
							Manganese	1.0005 ug/mL

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Nickel	0.996 ug/mL
							Selenium	0.0997 ug/mL
							Silver	0.1002 ug/mL
							Thallium	0.0994 ug/mL
							Vanadium	1.001 ug/mL
							Zinc	0.9985 ug/mL
..MT_S_901S1_VH_00003	10/24/20		VHG Labs, Lot 10037608-30		(Purchased Reagent)		Aluminum	5000 ug/mL
..MT_S_C1001_SC_00002	04/30/21		SCP Science, Lot S200325039		(Purchased Reagent)		Antimony	20.07 ug/mL
							Arsenic	198.9 ug/mL
							Barium	199.9 ug/mL
							Beryllium	19.95 ug/mL
							Cadmium	19.83 ug/mL
							Chromium	200.1 ug/mL
							Cobalt	199.3 ug/mL
							Copper	200.2 ug/mL
							Lead	19.97 ug/mL
							Manganese	200.1 ug/mL
							Nickel	199.2 ug/mL
							Selenium	19.94 ug/mL
							Silver	20.04 ug/mL
							Thallium	19.88 ug/mL
							Vanadium	200.2 ug/mL
							Zinc	199.7 ug/mL
MT_MD_CTS2_00007	09/02/20	08/03/20	D_6% HNO3 0% HCL, Lot 226166	200 mL	MT_S_901S1_VH_00003	0.2 mL	Aluminum	5 ug/mL
					MT_S_C1001_SC_00002	0.5 mL	Antimony	0.050175 ug/mL
							Arsenic	0.49725 ug/mL
							Barium	0.49975 ug/mL
							Beryllium	0.049875 ug/mL
							Cadmium	0.049575 ug/mL
							Chromium	0.50025 ug/mL
							Cobalt	0.49825 ug/mL
							Copper	0.5005 ug/mL
							Lead	0.049925 ug/mL
							Manganese	0.50025 ug/mL
							Nickel	0.498 ug/mL
							Selenium	0.04985 ug/mL
							Silver	0.0501 ug/mL
							Thallium	0.0497 ug/mL
							Vanadium	0.5005 ug/mL
							Zinc	0.49925 ug/mL
.MT_S_901S1_VH_00003	10/24/20		VHG Labs, Lot 10037608-30		(Purchased Reagent)		Aluminum	5000 ug/mL
.MT_S_C1001_SC_00002	04/30/21		SCP Science, Lot S200325039		(Purchased Reagent)		Antimony	20.07 ug/mL
							Arsenic	198.9 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Barium	199.9 ug/mL
							Beryllium	19.95 ug/mL
							Cadmium	19.83 ug/mL
							Chromium	200.1 ug/mL
							Cobalt	199.3 ug/mL
							Copper	200.2 ug/mL
							Lead	19.97 ug/mL
							Manganese	200.1 ug/mL
							Nickel	199.2 ug/mL
							Selenium	19.94 ug/mL
							Silver	20.04 ug/mL
							Thallium	19.88 ug/mL
							Vanadium	200.2 ug/mL
							Zinc	199.7 ug/mL
MT_MD_ICSA_00015	09/04/20	08/05/20	D_6% HNO3 0% HCL, Lot 226166	500 mL	MT_S_ICS2A_HP_00008	50 mL	Antimony	0.0004 ug/mL
							Arsenic	0.0003 ug/mL
							Barium	0.0008 ug/mL
							Cadmium	0.000291 ug/mL
							Chromium	0.0007 ug/mL
							Cobalt	0.0025 ug/mL
							Copper	0.0006 ug/mL
							Lead	0.0004 ug/mL
							Manganese	0.0028 ug/mL
							Mo	2 ug/mL
							Nickel	0.0009 ug/mL
							Potassium	100 ug/mL
							Sr	0.00262 ug/mL
							Vanadium	0.0001 ug/mL
							Zinc	0.0011 ug/mL
.MT_S_ICS2A_HP_00008	06/18/21	High-Purity Standards, Lot 2005507			(Purchased Reagent)		Antimony	0.004 ug/mL
							Arsenic	0.003 ug/mL
							Barium	0.008 ug/mL
							Cadmium	0.00291 ug/mL
							Chromium	0.007 ug/mL
							Cobalt	0.025 ug/mL
							Copper	0.006 ug/mL
							Lead	0.004 ug/mL
							Manganese	0.028 ug/mL
							Mo	20 ug/mL
							Nickel	0.009 ug/mL
							Potassium	1000 ug/mL
							Sr	0.0262 ug/mL
							Vanadium	0.001 ug/mL
							Zinc	0.011 ug/mL
MT_MD_ICSAB_00015	09/04/20	08/05/20	D_6% HNO3 0% HCL, Lot 226166	500 mL	MT_S_ICS2A_HP_00008	50 mL	Aluminum	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Arsenic	0.1003 ug/mL
							Barium	0.0008 ug/mL
							Cadmium	0.100291 ug/mL
							Calcium	300 ug/mL
							Chromium	0.2007 ug/mL
							Cobalt	0.2025 ug/mL
							Copper	0.2006 ug/mL
							Iron	250 ug/mL
							Lead	0.0004 ug/mL
							Magnesium	100 ug/mL
							Manganese	0.2028 ug/mL
							Mo	2 ug/mL
							Nickel	0.2009 ug/mL
							Potassium	100 ug/mL
							Sodium	250 ug/mL
							Sr	0.00262 ug/mL
							Ti	2 ug/mL
							Vanadium	0.2001 ug/mL
							Zinc	0.1011 ug/mL
					MT_S_ICS2B_HP_00003	5 mL	Arsenic	0.1003 ug/mL
							Cadmium	0.100291 ug/mL
							Chromium	0.2007 ug/mL
							Cobalt	0.2025 ug/mL
							Copper	0.2006 ug/mL
							Manganese	0.2028 ug/mL
							Nickel	0.2009 ug/mL
							Selenium	0.1 ug/mL
							Silver	0.05 ug/mL
							Vanadium	0.2001 ug/mL
							Zinc	0.1011 ug/mL
.MT_S_ICS2A_HP_00008	06/18/21	High-Purity Standards, Lot 2005507			(Purchased Reagent)		Aluminum	1000 ug/mL
							Arsenic	0.003 ug/mL
							Barium	0.008 ug/mL
							Cadmium	0.00291 ug/mL
							Calcium	3000 ug/mL
							Chromium	0.007 ug/mL
							Cobalt	0.025 ug/mL
							Copper	0.006 ug/mL
							Iron	2500 ug/mL
							Lead	0.004 ug/mL
							Magnesium	1000 ug/mL
							Manganese	0.028 ug/mL
							Mo	20 ug/mL
							Nickel	0.009 ug/mL
							Potassium	1000 ug/mL
							Sodium	2500 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Sr	0.0262 ug/mL
							Ti	20 ug/mL
							Vanadium	0.001 ug/mL
							Zinc	0.011 ug/mL
.MT_S_ICS2B_HP_00003	09/30/20	High-Purity Standards, Lot 1811324			(Purchased Reagent)		Arsenic	10 ug/mL
							Cadmium	10 ug/mL
							Chromium	20 ug/mL
							Cobalt	20 ug/mL
							Copper	20 ug/mL
							Manganese	20 ug/mL
							Nickel	20 ug/mL
							Selenium	10 ug/mL
							Silver	5 ug/mL
							Vanadium	20 ug/mL
							Zinc	10 ug/mL
MT_MD_ICV_00018	09/16/20	08/17/20	D_6% HNO3 0% HCL, Lot 139697	500 mL	MT_S_CCV1_HP_00004	0.5 mL	Aluminum	5 ug/mL
					MT_S_MSCCV_SP_00001	0.75 mL	Antimony	0.030285 ug/mL
							Arsenic	0.3 ug/mL
							Barium	0.30075 ug/mL
							Beryllium	0.030225 ug/mL
							Cadmium	0.030045 ug/mL
							Chromium	0.30045 ug/mL
							Cobalt	0.30015 ug/mL
							Copper	0.30045 ug/mL
							Lead	0.030105 ug/mL
							Manganese	0.30195 ug/mL
							Nickel	0.30135 ug/mL
							Selenium	0.030105 ug/mL
							Silver	0.030075 ug/mL
							Thallium	0.030135 ug/mL
							Vanadium	0.3012 ug/mL
							Zinc	0.30375 ug/mL
.MT_S_CCV1_HP_00004	03/04/21	High-Purity Standards, Lot 2005711			(Purchased Reagent)		Aluminum	5000 ug/mL
.MT_S_MSCCV_SP_00001	05/26/21	SCP Science, Lot S200507006			(Purchased Reagent)		Antimony	20.19 ug/mL
							Arsenic	200 ug/mL
							Barium	200.5 ug/mL
							Beryllium	20.15 ug/mL
							Cadmium	20.03 ug/mL
							Chromium	200.3 ug/mL
							Cobalt	200.1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Copper	200.3 ug/mL
							Lead	20.07 ug/mL
							Manganese	201.3 ug/mL
							Nickel	200.9 ug/mL
							Selenium	20.07 ug/mL
							Silver	20.05 ug/mL
							Thallium	20.09 ug/mL
							Vanadium	200.8 ug/mL
							Zinc	202.5 ug/mL
MT_MD_LLC_00021	09/16/20	08/17/20	DI Water, Lot DI06292020	500 mL	MT_S_MWLLC_SC_00001	0.5 mL	Aluminum	0.02496 ug/mL
							Antimony	0.000996 ug/mL
							Arsenic	0.00201 ug/mL
							Barium	0.00199 ug/mL
							Beryllium	0.000503 ug/mL
							Cadmium	0.0005 ug/mL
							Chromium	0.002 ug/mL
							Cobalt	0.0005 ug/mL
							Copper	0.000999 ug/mL
							Lead	0.000497 ug/mL
							Manganese	0.002 ug/mL
							Nickel	0.00101 ug/mL
							Selenium	0.00101 ug/mL
							Silver	0.000499 ug/mL
							Thallium	0.000498 ug/mL
							Vanadium	0.000501 ug/mL
							Zinc	0.01 ug/mL
.MT_S_MWLLC_SC_00001	02/12/21	SCP Science, Lot S200803037			(Purchased Reagent)		Aluminum	24.96 ug/mL
							Antimony	0.996 ug/mL
							Arsenic	2.01 ug/mL
							Barium	1.99 ug/mL
							Beryllium	0.503 ug/mL
							Cadmium	0.5 ug/mL
							Chromium	2 ug/mL
							Cobalt	0.5 ug/mL
							Copper	0.999 ug/mL
							Lead	0.497 ug/mL
							Manganese	2 ug/mL
							Nickel	1.01 ug/mL
							Selenium	1.01 ug/mL
							Silver	0.499 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Thallium	0.498 ug/mL
							Vanadium	0.501 ug/mL
							Zinc	10 ug/mL
MT_MD_LRS3_00011	09/02/20	08/03/20	D_6% HNO3 0% HCL, Lot 226166	500 mL	MT_S_CCV1_HP_00004	5 mL	Aluminum	50 ug/mL
					MT_S_CCV2_HP_00005	2.5 mL	Antimony	0.5 ug/mL
							Arsenic	0.5 ug/mL
							Barium	0.5 ug/mL
							Beryllium	0.5 ug/mL
							Cadmium	0.5 ug/mL
							Chromium	0.5 ug/mL
							Cobalt	0.5 ug/mL
							Copper	0.5 ug/mL
							Lead	0.5 ug/mL
							Manganese	0.5 ug/mL
							Nickel	0.5 ug/mL
							Selenium	0.5 ug/mL
							Silver	0.5 ug/mL
							Thallium	0.5 ug/mL
							Vanadium	0.5 ug/mL
							Zinc	0.5 ug/mL
.MT_S_CCV1_HP_00004	03/04/21	High-Purity Standards, Lot 2005711			(Purchased Reagent)		Aluminum	5000 ug/mL
.MT_S_CCV2_HP_00005	03/04/21	High-Purity Standards, Lot 2005715			(Purchased Reagent)		Antimony	100 ug/mL
							Arsenic	100 ug/mL
							Barium	100 ug/mL
							Beryllium	100 ug/mL
							Cadmium	100 ug/mL
							Chromium	100 ug/mL
							Cobalt	100 ug/mL
							Copper	100 ug/mL
							Lead	100 ug/mL
							Manganese	100 ug/mL
							Nickel	100 ug/mL
							Selenium	100 ug/mL
							Silver	100 ug/mL
							Thallium	100 ug/mL
							Vanadium	100 ug/mL
							Zinc	100 ug/mL
MT_MD_S1_00016	08/29/20	07/30/20	D_6% HNO3 0% HCL, Lot 226166	500 mL	MT_S_901S1_VH_00003	1 mL	Aluminum	10 ug/mL
					MT_S_C1001_SC_00002	2.5 mL	Antimony	0.10035 ug/mL
							Arsenic	0.9945 ug/mL
							Barium	0.9995 ug/mL
							Beryllium	0.09975 ug/mL
							Cadmium	0.09915 ug/mL
							Chromium	1.0005 ug/mL
							Cobalt	0.9965 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Copper	1.001 ug/mL
							Lead	0.09985 ug/mL
							Manganese	1.0005 ug/mL
							Nickel	0.996 ug/mL
							Selenium	0.0997 ug/mL
							Silver	0.1002 ug/mL
							Thallium	0.0994 ug/mL
							Vanadium	1.001 ug/mL
							Zinc	0.9985 ug/mL
.MT_S_901S1_VH_00003	10/24/20	VHG Labs, Lot 10037608-30			(Purchased Reagent)		Aluminum	5000 ug/mL
.MT_S_C1001_SC_00002	04/30/21	SCP Science, Lot S200325039			(Purchased Reagent)		Antimony	20.07 ug/mL
							Arsenic	198.9 ug/mL
							Barium	199.9 ug/mL
							Beryllium	19.95 ug/mL
							Cadmium	19.83 ug/mL
							Chromium	200.1 ug/mL
							Cobalt	199.3 ug/mL
							Copper	200.2 ug/mL
							Lead	19.97 ug/mL
							Manganese	200.1 ug/mL
							Nickel	199.2 ug/mL
							Selenium	19.94 ug/mL
							Silver	20.04 ug/mL
							Thallium	19.88 ug/mL
							Vanadium	200.2 ug/mL
							Zinc	199.7 ug/mL
MT_MF_CCV_00023	09/08/20	08/09/20	F_1% HNO3 0.5%HCL, Lot 194314	500 mL	MT_S_901S1_VH_00003	0.5 mL	Aluminum	5 ug/mL
					MT_S_C1001_SC_00002	0.75 mL	Antimony	0.030105 ug/mL
							Arsenic	0.29835 ug/mL
							Barium	0.29985 ug/mL
							Beryllium	0.029925 ug/mL
							Cadmium	0.029745 ug/mL
							Chromium	0.30015 ug/mL
							Cobalt	0.29895 ug/mL
							Copper	0.3003 ug/mL
							Lead	0.029955 ug/mL
							Manganese	0.30015 ug/mL
							Nickel	0.2988 ug/mL
							Selenium	0.02991 ug/mL
							Silver	0.03006 ug/mL
							Thallium	0.02982 ug/mL
							Vanadium	0.3003 ug/mL
							Zinc	0.29955 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MT_S_901S1_VH_00003	10/24/20	VHG Labs, Lot 10037608-30			(Purchased Reagent)		Aluminum	5000 ug/mL
.MT_S_C1001_SC_00002	04/30/21	SCP Science, Lot S200325039			(Purchased Reagent)		Antimony	20.07 ug/mL
							Arsenic	198.9 ug/mL
							Barium	199.9 ug/mL
							Beryllium	19.95 ug/mL
							Cadmium	19.83 ug/mL
							Chromium	200.1 ug/mL
							Cobalt	199.3 ug/mL
							Copper	200.2 ug/mL
							Lead	19.97 ug/mL
							Manganese	200.1 ug/mL
							Nickel	199.2 ug/mL
							Selenium	19.94 ug/mL
							Silver	20.04 ug/mL
							Thallium	19.88 ug/mL
							Vanadium	200.2 ug/mL
							Zinc	199.7 ug/mL
MT_MF_ICS2A_00004	09/16/20	08/17/20	F_1% HNO3 0.5%HCL, Lot 305187	500 mL	MT_S_ICS2A_HP_00008	50 mL	Aluminum	100 ug/mL
							Antimony	0.0004 ug/mL
							Arsenic	0.0003 ug/mL
							Barium	0.0008 ug/mL
							Cadmium	0.000291 ug/mL
							Calcium	300 ug/mL
							Chromium	0.0007 ug/mL
							Cobalt	0.0025 ug/mL
							Copper	0.0006 ug/mL
							Iron	250 ug/mL
							Lead	0.0004 ug/mL
							Magnesium	100 ug/mL
							Manganese	0.0028 ug/mL
							Mo	2 ug/mL
							Nickel	0.0009 ug/mL
							Potassium	100 ug/mL
							Sodium	250 ug/mL
							Sr	0.00262 ug/mL
							Ti	2 ug/mL
							Vanadium	0.0001 ug/mL
							Zinc	0.0011 ug/mL
.MT_S_ICS2A_HP_00008	06/18/21	High-Purity Standards, Lot 2005507			(Purchased Reagent)		Aluminum	1000 ug/mL
							Antimony	0.004 ug/mL
							Arsenic	0.003 ug/mL
							Barium	0.008 ug/mL
							Cadmium	0.00291 ug/mL
							Calcium	3000 ug/mL
							Chromium	0.007 ug/mL
							Cobalt	0.025 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Copper	0.006 ug/mL
							Iron	2500 ug/mL
							Lead	0.004 ug/mL
							Magnesium	1000 ug/mL
							Manganese	0.028 ug/mL
							Mo	20 ug/mL
							Nickel	0.009 ug/mL
							Potassium	1000 ug/mL
							Sodium	2500 ug/mL
							Sr	0.0262 ug/mL
							Ti	20 ug/mL
							Vanadium	0.001 ug/mL
							Zinc	0.011 ug/mL
MT_MF_ICS2B_00004	09/16/20	08/17/20	F_1% HNO3 0.5%HCL, Lot 305187	500 mL	MT_S_ICS2A_HP_00008	50 mL	Aluminum	100 ug/mL
							Antimony	0.0004 ug/mL
							Arsenic	0.1003 ug/mL
							Barium	0.0008 ug/mL
							Cadmium	0.100291 ug/mL
							Calcium	300 ug/mL
							Chromium	0.2007 ug/mL
							Cobalt	0.2025 ug/mL
							Copper	0.2006 ug/mL
							Iron	250 ug/mL
							Lead	0.0004 ug/mL
							Magnesium	100 ug/mL
							Manganese	0.2028 ug/mL
							Mo	2 ug/mL
							Nickel	0.2009 ug/mL
							Potassium	100 ug/mL
							Sodium	250 ug/mL
							Sr	0.00262 ug/mL
							Ti	2 ug/mL
							Vanadium	0.2001 ug/mL
							Zinc	0.1011 ug/mL
					MT_S_ICS2B_HP_00003	5 mL	Arsenic	0.1003 ug/mL
							Cadmium	0.100291 ug/mL
							Chromium	0.2007 ug/mL
							Cobalt	0.2025 ug/mL
							Copper	0.2006 ug/mL
							Manganese	0.2028 ug/mL
							Nickel	0.2009 ug/mL
							Selenium	0.1 ug/mL
							Silver	0.05 ug/mL
							Vanadium	0.2001 ug/mL
							Zinc	0.1011 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MT_S_ICS2A_HP_00008	06/18/21	High-Purity Standards, Lot 2005507			(Purchased Reagent)		Aluminum	1000 ug/mL
							Antimony	0.004 ug/mL
							Arsenic	0.003 ug/mL
							Barium	0.008 ug/mL
							Cadmium	0.00291 ug/mL
							Calcium	3000 ug/mL
							Chromium	0.007 ug/mL
							Cobalt	0.025 ug/mL
							Copper	0.006 ug/mL
							Iron	2500 ug/mL
							Lead	0.004 ug/mL
							Magnesium	1000 ug/mL
							Manganese	0.028 ug/mL
							Mo	20 ug/mL
							Nickel	0.009 ug/mL
							Potassium	1000 ug/mL
							Sodium	2500 ug/mL
							Sr	0.0262 ug/mL
							Ti	20 ug/mL
							Vanadium	0.001 ug/mL
							Zinc	0.011 ug/mL
.MT_S_ICS2B_HP_00003	09/30/20	High-Purity Standards, Lot 1811324			(Purchased Reagent)		Arsenic	10 ug/mL
							Cadmium	10 ug/mL
							Chromium	20 ug/mL
							Cobalt	20 ug/mL
							Copper	20 ug/mL
							Manganese	20 ug/mL
							Nickel	20 ug/mL
							Selenium	10 ug/mL
							Silver	5 ug/mL
							Vanadium	20 ug/mL
							Zinc	10 ug/mL
MT_MF_ICV_00021	09/04/20	08/19/20	F_1% HNO3 0.5%HCL, Lot 194314	500 mL	MT_S_CCV1_HP_00004	0.5 mL	Aluminum	5 ug/mL
					MT_S_MSCCV_SP_00001	0.75 mL	Antimony	0.030285 ug/mL
							Arsenic	0.3 ug/mL
							Barium	0.30075 ug/mL
							Beryllium	0.030225 ug/mL
							Cadmium	0.030045 ug/mL
							Chromium	0.30045 ug/mL
							Cobalt	0.30015 ug/mL
							Copper	0.30045 ug/mL
							Lead	0.030105 ug/mL
							Manganese	0.30195 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Nickel	0.30135 ug/mL
							Selenium	0.030105 ug/mL
							Silver	0.030075 ug/mL
							Thallium	0.030135 ug/mL
							Vanadium	0.3012 ug/mL
							Zinc	0.30375 ug/mL
.MT_S_CCV1_HP_00004	03/04/21	High-Purity Standards, Lot 2005711			(Purchased Reagent)		Aluminum	5000 ug/mL
.MT_S_MSCCV_SP_00001	05/26/21	SCP Science, Lot S200507006			(Purchased Reagent)		Antimony	20.19 ug/mL
							Arsenic	200 ug/mL
							Barium	200.5 ug/mL
							Beryllium	20.15 ug/mL
							Cadmium	20.03 ug/mL
							Chromium	200.3 ug/mL
							Cobalt	200.1 ug/mL
							Copper	200.3 ug/mL
							Lead	20.07 ug/mL
							Manganese	201.3 ug/mL
							Nickel	200.9 ug/mL
							Selenium	20.07 ug/mL
							Silver	20.05 ug/mL
							Thallium	20.09 ug/mL
							Vanadium	200.8 ug/mL
							Zinc	202.5 ug/mL
MT_MF_LLC_00016	08/31/20	08/09/20	F_1% HNO3 0.5%HCL, Lot 194314	500 mL	MT_MD_5Cr_00005	0.1 mL	Chromium	0.002003 ug/mL
					MT_S_MWLLC_HP_00002	0.5 mL	Aluminum	0.025 ug/mL
							Antimony	0.001 ug/mL
							Arsenic	0.002 ug/mL
							Barium	0.002 ug/mL
							Beryllium	0.0005 ug/mL
							Cadmium	0.0005 ug/mL
							Chromium	0.002003 ug/mL
							Cobalt	0.0005 ug/mL
							Copper	0.001 ug/mL
							Lead	0.0005 ug/mL
							Manganese	0.002 ug/mL
							Nickel	0.001 ug/mL
							Selenium	0.001 ug/mL
							Silver	0.0005 ug/mL
							Thallium	0.0005 ug/mL
							Zinc	0.01 ug/mL
.MT_MD_5Cr_00005	09/06/20	08/07/20	D_6% HNO3 0% HCL, Lot 033504	10 mL	MT_S_1KCr_VH_00005	0.05 mL	Chromium	5.015 ug/mL
..MT_S_1KCr_VH_00005	09/17/20	VHG Labs, Lot 975466-43			(Purchased Reagent)		Chromium	1003 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.MT_S_MWLLC_HP_00002	08/31/20	High-Purity Standards, Lot 1922619			(Purchased Reagent)		Aluminum	25 ug/mL
							Antimony	1 ug/mL
							Arsenic	2 ug/mL
							Barium	2 ug/mL
							Beryllium	0.5 ug/mL
							Cadmium	0.5 ug/mL
							Chromium	1 ug/mL
							Cobalt	0.5 ug/mL
							Copper	1 ug/mL
							Lead	0.5 ug/mL
							Manganese	2 ug/mL
							Nickel	1 ug/mL
							Selenium	1 ug/mL
							Silver	0.5 ug/mL
							Thallium	0.5 ug/mL
							Zinc	10 ug/mL
MT_MF_LRS3_00003	09/02/20	08/03/20	F_1% HNO3 0.5%HCL, Lot 194314	500 mL	MT_S_CCV1_HP_00004	5 mL	Aluminum	50 ug/mL
					MT_S_CCV2_HP_00005	2.5 mL	Antimony	0.5 ug/mL
							Arsenic	0.5 ug/mL
							Barium	0.5 ug/mL
							Beryllium	0.5 ug/mL
							Cadmium	0.5 ug/mL
							Chromium	0.5 ug/mL
							Cobalt	0.5 ug/mL
							Copper	0.5 ug/mL
							Lead	0.5 ug/mL
							Manganese	0.5 ug/mL
							Nickel	0.5 ug/mL
							Selenium	0.5 ug/mL
							Thallium	0.5 ug/mL
							Vanadium	0.5 ug/mL
							Zinc	0.5 ug/mL
.MT_S_CCV1_HP_00004	03/04/21	High-Purity Standards, Lot 2005711			(Purchased Reagent)		Aluminum	5000 ug/mL
.MT_S_CCV2_HP_00005	03/04/21	High-Purity Standards, Lot 2005715			(Purchased Reagent)		Antimony	100 ug/mL
							Arsenic	100 ug/mL
							Barium	100 ug/mL
							Beryllium	100 ug/mL
							Cadmium	100 ug/mL
							Chromium	100 ug/mL
							Cobalt	100 ug/mL
							Copper	100 ug/mL
							Lead	100 ug/mL
							Manganese	100 ug/mL
							Nickel	100 ug/mL
							Selenium	100 ug/mL
							Thallium	100 ug/mL
							Vanadium	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Zinc	100 ug/mL
MT_MF_S1_00011	08/29/20	07/30/20	F_1% HNO3 0.5%HCL, Lot 194314	500 mL	MT_S_901S1_VH_00003	1 mL	Aluminum	10 ug/mL
					MT_S_C1001_SC_00002	2.5 mL	Antimony	0.10035 ug/mL
							Arsenic	0.9945 ug/mL
							Barium	0.9995 ug/mL
							Beryllium	0.09975 ug/mL
							Cadmium	0.09915 ug/mL
							Chromium	1.0005 ug/mL
							Cobalt	0.9965 ug/mL
							Copper	1.001 ug/mL
							Lead	0.09985 ug/mL
							Manganese	1.0005 ug/mL
							Nickel	0.996 ug/mL
							Selenium	0.0997 ug/mL
							Silver	0.1002 ug/mL
							Thallium	0.0994 ug/mL
							Vanadium	1.001 ug/mL
							Zinc	0.9985 ug/mL
.MT_S_901S1_VH_00003	10/24/20	VHG Labs, Lot 10037608-30			(Purchased Reagent)		Aluminum	5000 ug/mL
.MT_S_C1001_SC_00002	04/30/21	SCP Science, Lot S200325039			(Purchased Reagent)		Antimony	20.07 ug/mL
							Arsenic	198.9 ug/mL
							Barium	199.9 ug/mL
							Beryllium	19.95 ug/mL
							Cadmium	19.83 ug/mL
							Chromium	200.1 ug/mL
							Cobalt	199.3 ug/mL
							Copper	200.2 ug/mL
							Lead	19.97 ug/mL
							Manganese	200.1 ug/mL
							Nickel	199.2 ug/mL
							Selenium	19.94 ug/mL
							Silver	20.04 ug/mL
							Thallium	19.88 ug/mL
							Vanadium	200.2 ug/mL
							Zinc	199.7 ug/mL
MT_MJ_CCV_00003	09/23/20	08/25/20	J, Lot 360854	500 mL	MT_S_901S1_VH_00003	0.5 mL	Aluminum	5 ug/mL
					MT_S_C1001_SC_00002	0.75 mL	Antimony	0.030105 ug/mL
							Arsenic	0.29835 ug/mL
							Barium	0.29985 ug/mL
							Beryllium	0.029925 ug/mL
							Cadmium	0.029745 ug/mL
							Chromium	0.30015 ug/mL
							Cobalt	0.29895 ug/mL
							Copper	0.3003 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Lead	0.029955 ug/mL
							Manganese	0.30015 ug/mL
							Nickel	0.2988 ug/mL
							Selenium	0.02991 ug/mL
							Silver	0.03006 ug/mL
							Thallium	0.02982 ug/mL
							Vanadium	0.3003 ug/mL
							Zinc	0.29955 ug/mL
.MT_S_901S1_VH_00003	10/24/20	VHG Labs, Lot 10037608-30			(Purchased Reagent)		Aluminum	5000 ug/mL
.MT_S_C1001_SC_00002	04/30/21	SCP Science, Lot S200325039			(Purchased Reagent)		Antimony	20.07 ug/mL
							Arsenic	198.9 ug/mL
							Barium	199.9 ug/mL
							Beryllium	19.95 ug/mL
							Cadmium	19.83 ug/mL
							Chromium	200.1 ug/mL
							Cobalt	199.3 ug/mL
							Copper	200.2 ug/mL
							Lead	19.97 ug/mL
							Manganese	200.1 ug/mL
							Nickel	199.2 ug/mL
							Selenium	19.94 ug/mL
							Silver	20.04 ug/mL
							Thallium	19.88 ug/mL
							Vanadium	200.2 ug/mL
							Zinc	199.7 ug/mL
MT_MJ_CRI_00002	09/24/20	08/25/20	J, Lot 360854	500 mL	MT_S_MWLLC_SC_00001	0.5 mL	Aluminum	0.02496 ug/mL
							Antimony	0.000996 ug/mL
							Arsenic	0.00201 ug/mL
							Barium	0.00199 ug/mL
							Beryllium	0.000503 ug/mL
							Cadmium	0.0005 ug/mL
							Chromium	0.002 ug/mL
							Cobalt	0.0005 ug/mL
							Copper	0.000999 ug/mL
							Lead	0.000497 ug/mL
							Manganese	0.002 ug/mL
							Nickel	0.00101 ug/mL
							Selenium	0.00101 ug/mL
							Silver	0.000499 ug/mL
							Thallium	0.000498 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Vanadium	0.000501 ug/mL
							Zinc	0.01 ug/mL
.MT_S_MWLLC_SC_00001	02/12/21	SCP Science, Lot S200803037			(Purchased Reagent)		Aluminum	24.96 ug/mL
							Antimony	0.996 ug/mL
							Arsenic	2.01 ug/mL
							Barium	1.99 ug/mL
							Beryllium	0.503 ug/mL
							Cadmium	0.5 ug/mL
							Chromium	2 ug/mL
							Cobalt	0.5 ug/mL
							Copper	0.999 ug/mL
							Lead	0.497 ug/mL
							Manganese	2 ug/mL
							Nickel	1.01 ug/mL
							Selenium	1.01 ug/mL
							Silver	0.499 ug/mL
							Thallium	0.498 ug/mL
							Vanadium	0.501 ug/mL
							Zinc	10 ug/mL
MT_MJ_ICSA_00002	09/24/20	08/25/20	J, Lot 360854	500 mL	MT_S_ICS2A_HP_00008	50 mL	Aluminum	100 ug/mL
							Antimony	0.0004 ug/mL
							Arsenic	0.0003 ug/mL
							Barium	0.0008 ug/mL
							Cadmium	0.000291 ug/mL
							Calcium	300 ug/mL
							Chromium	0.0007 ug/mL
							Cobalt	0.0025 ug/mL
							Copper	0.0006 ug/mL
							Iron	250 ug/mL
							Lead	0.0004 ug/mL
							Magnesium	100 ug/mL
							Manganese	0.0028 ug/mL
							Mo	2 ug/mL
							Nickel	0.0009 ug/mL
							Potassium	100 ug/mL
							Sodium	250 ug/mL
							Sr	0.00262 ug/mL
							Ti	2 ug/mL
							Vanadium	0.0001 ug/mL
							Zinc	0.0011 ug/mL
.MT_S_ICS2A_HP_00008	06/18/21	High-Purity Standards, Lot 2005507			(Purchased Reagent)		Aluminum	1000 ug/mL
							Antimony	0.004 ug/mL
							Arsenic	0.003 ug/mL
							Barium	0.008 ug/mL
							Cadmium	0.00291 ug/mL
							Calcium	3000 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Chromium	0.007 ug/mL
							Cobalt	0.025 ug/mL
							Copper	0.006 ug/mL
							Iron	2500 ug/mL
							Lead	0.004 ug/mL
							Magnesium	1000 ug/mL
							Manganese	0.028 ug/mL
							Mo	20 ug/mL
							Nickel	0.009 ug/mL
							Potassium	1000 ug/mL
							Sodium	2500 ug/mL
							Sr	0.0262 ug/mL
							Ti	20 ug/mL
							Vanadium	0.001 ug/mL
							Zinc	0.011 ug/mL
MT_MJ_ICSAB_00003	09/24/20	08/25/20	J, Lot 360854	500 mL	MT_S_ICS2A_HP_00009	50 mL	Aluminum	100 ug/mL
							Antimony	0.0004 ug/mL
							Arsenic	0.1003 ug/mL
							Barium	0.0008 ug/mL
							Cadmium	0.100291 ug/mL
							Calcium	300 ug/mL
							Chromium	0.2007 ug/mL
							Cobalt	0.2025 ug/mL
							Copper	0.2006 ug/mL
							Iron	250 ug/mL
							Lead	0.0004 ug/mL
							Magnesium	100 ug/mL
							Manganese	0.2028 ug/mL
							Mo	2 ug/mL
							Nickel	0.2009 ug/mL
							Potassium	100 ug/mL
							Sodium	250 ug/mL
							Sr	0.00262 ug/mL
							Ti	2 ug/mL
							Vanadium	0.2001 ug/mL
							Zinc	0.1011 ug/mL
					MT_S_ICS2B_HP_00003	5 mL	Arsenic	0.1003 ug/mL
							Cadmium	0.100291 ug/mL
							Chromium	0.2007 ug/mL
							Cobalt	0.2025 ug/mL
							Copper	0.2006 ug/mL
							Manganese	0.2028 ug/mL
							Nickel	0.2009 ug/mL
							Selenium	0.1 ug/mL
							Silver	0.05 ug/mL
							Vanadium	0.2001 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Zinc	0.1011 ug/mL
.MT_S_ICS2A_HP_00009	06/01/21	High-Purity Standards, Lot 2005507			(Purchased Reagent)		Aluminum	1000 ug/mL
							Antimony	0.004 ug/mL
							Arsenic	0.003 ug/mL
							Barium	0.008 ug/mL
							Cadmium	0.00291 ug/mL
							Calcium	3000 ug/mL
							Chromium	0.007 ug/mL
							Cobalt	0.025 ug/mL
							Copper	0.006 ug/mL
							Iron	2500 ug/mL
							Lead	0.004 ug/mL
							Magnesium	1000 ug/mL
							Manganese	0.028 ug/mL
							Mo	20 ug/mL
							Nickel	0.009 ug/mL
							Potassium	1000 ug/mL
							Sodium	2500 ug/mL
							Sr	0.0262 ug/mL
							Ti	20 ug/mL
							Vanadium	0.001 ug/mL
							Zinc	0.011 ug/mL
.MT_S_ICS2B_HP_00003	09/30/20	High-Purity Standards, Lot 1811324			(Purchased Reagent)		Arsenic	10 ug/mL
							Cadmium	10 ug/mL
							Chromium	20 ug/mL
							Cobalt	20 ug/mL
							Copper	20 ug/mL
							Manganese	20 ug/mL
							Nickel	20 ug/mL
							Selenium	10 ug/mL
							Silver	5 ug/mL
							Vanadium	20 ug/mL
							Zinc	10 ug/mL
MT_MJ_ICV_00002	09/24/20	08/25/20	J, Lot 360854	500 mL	MT_S_CCV1_HP_00004	0.5 mL	Aluminum	5 ug/mL
					MT_S_MSCCV_SP_00001	0.75 mL	Antimony	0.030285 ug/mL
							Arsenic	0.3 ug/mL
							Barium	0.30075 ug/mL
							Beryllium	0.030225 ug/mL
							Cadmium	0.030045 ug/mL
							Chromium	0.30045 ug/mL
							Cobalt	0.30015 ug/mL
							Copper	0.30045 ug/mL
							Lead	0.030105 ug/mL
							Manganese	0.30195 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Nickel	0.30135 ug/mL
							Selenium	0.030105 ug/mL
							Silver	0.030075 ug/mL
							Thallium	0.030135 ug/mL
							Vanadium	0.3012 ug/mL
							Zinc	0.30375 ug/mL
.MT_S_CCV1_HP_00004	03/04/21	High-Purity Standards, Lot 2005711			(Purchased Reagent)		Aluminum	5000 ug/mL
.MT_S_MSCCV_SP_00001	05/26/21	SCP Science, Lot S200507006			(Purchased Reagent)		Antimony	20.19 ug/mL
							Arsenic	200 ug/mL
							Barium	200.5 ug/mL
							Beryllium	20.15 ug/mL
							Cadmium	20.03 ug/mL
							Chromium	200.3 ug/mL
							Cobalt	200.1 ug/mL
							Copper	200.3 ug/mL
							Lead	20.07 ug/mL
							Manganese	201.3 ug/mL
							Nickel	200.9 ug/mL
							Selenium	20.07 ug/mL
							Silver	20.05 ug/mL
							Thallium	20.09 ug/mL
							Vanadium	200.8 ug/mL
							Zinc	202.5 ug/mL
MT_MJ_LRC_00002	09/23/20	08/25/20	J, Lot 360854	500 mL	MT_S_CCV1_HP_00004	5 mL	Aluminum	50 ug/mL
					MT_S_CCV2_HP_00005	2.5 mL	Antimony	0.5 ug/mL
							Arsenic	0.5 ug/mL
							Barium	0.5 ug/mL
							Beryllium	0.5 ug/mL
							Cadmium	0.5 ug/mL
							Chromium	0.5 ug/mL
							Cobalt	0.5 ug/mL
							Copper	0.5 ug/mL
							Lead	0.5 ug/mL
							Manganese	0.5 ug/mL
							Nickel	0.5 ug/mL
							Selenium	0.5 ug/mL
							Silver	0.5 ug/mL
							Thallium	0.5 ug/mL
							Vanadium	0.5 ug/mL
							Zinc	0.5 ug/mL
.MT_S_CCV1_HP_00004	03/04/21	High-Purity Standards, Lot 2005711			(Purchased Reagent)		Aluminum	5000 ug/mL
.MT_S_CCV2_HP_00005	03/04/21	High-Purity Standards, Lot 2005715			(Purchased Reagent)		Antimony	100 ug/mL
							Arsenic	100 ug/mL
							Barium	100 ug/mL
							Beryllium	100 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Cadmium	100 ug/mL
							Chromium	100 ug/mL
							Cobalt	100 ug/mL
							Copper	100 ug/mL
							Lead	100 ug/mL
							Manganese	100 ug/mL
							Nickel	100 ug/mL
							Selenium	100 ug/mL
							Silver	100 ug/mL
							Thallium	100 ug/mL
							Vanadium	100 ug/mL
							Zinc	100 ug/mL
MT_MJ_S1_00003	09/23/20	08/25/20	J, Lot 360854	500 mL	MT_S_901S1_VH_00003	1 mL	Aluminum	10 ug/mL
					MT_S_C1001_SC_00002	2.5 mL	Antimony	0.10035 ug/mL
							Arsenic	0.9945 ug/mL
							Barium	0.9995 ug/mL
							Beryllium	0.09975 ug/mL
							Cadmium	0.09915 ug/mL
							Chromium	1.0005 ug/mL
							Cobalt	0.9965 ug/mL
							Copper	1.001 ug/mL
							Lead	0.09985 ug/mL
							Manganese	1.0005 ug/mL
							Nickel	0.996 ug/mL
							Selenium	0.0997 ug/mL
							Silver	0.1002 ug/mL
							Thallium	0.0994 ug/mL
							Vanadium	1.001 ug/mL
							Zinc	0.9985 ug/mL
.MT_S_901S1_VH_00003	10/24/20		VHG Labs, Lot 10037608-30		(Purchased Reagent)		Aluminum	5000 ug/mL
.MT_S_C1001_SC_00002	04/30/21		SCP Science, Lot S200325039		(Purchased Reagent)		Antimony	20.07 ug/mL
							Arsenic	198.9 ug/mL
							Barium	199.9 ug/mL
							Beryllium	19.95 ug/mL
							Cadmium	19.83 ug/mL
							Chromium	200.1 ug/mL
							Cobalt	199.3 ug/mL
							Copper	200.2 ug/mL
							Lead	19.97 ug/mL
							Manganese	200.1 ug/mL
							Nickel	199.2 ug/mL
							Selenium	19.94 ug/mL
							Silver	20.04 ug/mL
							Thallium	19.88 ug/mL
							Vanadium	200.2 ug/mL
							Zinc	199.7 ug/mL
MT_MSSPK_SCP_00008	10/31/20		SCP Science, Lot S200325060		(Purchased Reagent)		Aluminum	19.91 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Antimony	0.602 ug/mL
							Arsenic	0.989 ug/mL
							B	24.99 ug/mL
							Barium	4.96 ug/mL
							Beryllium	0.402 ug/mL
							Cadmium	0.5 ug/mL
							Calcium	403.1 ug/mL
							Chromium	5.02 ug/mL
							Cobalt	24.98 ug/mL
							Copper	5 ug/mL
							Iron	30.09 ug/mL
							Lead	0.492 ug/mL
							Li	50 ug/mL
							Magnesium	199.8 ug/mL
							Manganese	5.02 ug/mL
							Mo	4.95 ug/mL
							Nickel	5.02 ug/mL
							Potassium	996 ug/mL
							Selenium	1 ug/mL
							Si	49.4 ug/mL
							Silver	5.03 ug/mL
							Sn	5.01 ug/mL
							Sodium	998 ug/mL
							Sr	3.98 ug/mL
							Sulfur	49.95 ug/mL
							Thallium	0.2 ug/mL
							Ti	25.03 ug/mL
							Vanadium	5 ug/mL
							Zinc	50.2 ug/mL
MT_SULF_FI_00009	08/31/24	ThermoFisher Scientific, Lot 193876			(Purchased Reagent)		Sulfuric acid	96 %
OP_MINIBNA_SS_00019	11/08/20	08/12/20	Methanol, Lot 197075	1000 mL	OP_BNA_SS_00011	250 mL	1-Methylnaphthalene-d10	250 ppb
							2,4,6-Tribromophenol (Surr)	50075 ppb
							2-Fluorobiphenyl (Surr)	25075 ppb
							2-Fluorophenol (Surr)	50150 ppb
							Benzo(a)pyrene-d12 (Surr)	250 ppb
							Fluoranthene-d10 (Surr)	250 ppb
							Nitrobenzene-d5 (Surr)	25075 ppb
							p-Terphenyl-d14 (Surr)	25050 ppb
							Phenol-d5 (Surr)	50150 ppb
.OP_BNA_SS_00011	11/08/20	05/08/20	Methanol, Lot 190933	2000 mL	OP_BNA_STK_00011	2000 mL	1-Methylnaphthalene-d10	1000 ppb
							2,4,6-Tribromophenol (Surr)	200300 ppb
							2-Fluorobiphenyl (Surr)	100300 ppb
							2-Fluorophenol (Surr)	200600 ppb
							Benzo(a)pyrene-d12 (Surr)	1000 ppb
							Fluoranthene-d10 (Surr)	1000 ppb
							Nitrobenzene-d5 (Surr)	100300 ppb
							p-Terphenyl-d14 (Surr)	100200 ppb

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenol-d5 (Surr)	200600 ppb
..OP_BNA_STK_00011	11/08/20		Agilent, Lot 0006516692		(Purchased Reagent)		1-Methylnaphthalene-d10	1 ug/mL
							2,4,6-Tribromophenol (Surr)	200.3 ug/mL
							2-Fluorobiphenyl (Surr)	100.3 ug/mL
							2-Fluorophenol (Surr)	200.6 ug/mL
							Benzo(a)pyrene-d12 (Surr)	1 ug/mL
							Fluoranthene-d10 (Surr)	1 ug/mL
							Nitrobenzene-d5 (Surr)	100.3 ug/mL
							p-Terphenyl-d14 (Surr)	100.2 ug/mL
							Phenol-d5 (Surr)	200.6 ug/mL
OP_MINLCS1_MS_00033	08/29/20	08/05/20	ACETONE, Lot DY529-US	100 mL	OP_LCS1_MS_00015	25 mL	1,1'-Biphenyl	12545 ppb
							1,2,4,5-Tetrachlorobenzene	12510 ppb
							1,2,4-Trichlorobenzene	12501.3 ppb
							1,2-Dichlorobenzene	12506.3 ppb
							1,2-Dinitrobenzene	12505 ppb
							1,2-Diphenylhydrazine	12502.5 ppb
							1,3-Dichlorobenzene	12506.3 ppb
							1,3-Dinitrobenzene	12507.5 ppb
							1,4-Dichlorobenzene	12502.5 ppb
							1,4-Dinitrobenzene	12503.8 ppb
							1-Methylnaphthalene	12500 ppb
							1-Naphthylamine	25075 ppb
							1-Nitronaphthalene	12580 ppb
							2,2'-oxybis[1-chloropropane]	12555 ppb
							2,4,5-Trichlorophenol	12561.3 ppb
							2,4,6-Trichlorophenol	12517.5 ppb
							2,4-Dichlorophenol	12512.5 ppb
							2,4-Dimethylphenol	12522.5 ppb
							2,4-Dinitrophenol	25081.3 ppb
							2,4-Dinitrotoluene	12570 ppb
							2,6-Dinitrotoluene	12582.5 ppb
							2-Chloronaphthalene	12508.8 ppb
							2-Chlorophenol	12552.5 ppb
							2-Methylnaphthalene	12503.8 ppb
							2-Methylphenol	12545 ppb
							2-Naphthylamine	25165 ppb
							2-Nitroaniline	12525 ppb
							2-Nitrophenol	12521.3 ppb
							2-Picoline	12585 ppb
							2-Toluidine	12545 ppb
							3-Methylphenol	6266.25 ppb
							3-Nitroaniline	12545 ppb
							4,6-Dinitro-2-methylphenol	12507.5 ppb
							4-Bromophenyl-phenylether	12567.5 ppb
							4-Chloro-3-methylphenol	12506.3 ppb
							4-Chloroaniline	12505 ppb
							4-Chlorophenyl-phenyl ether	12558.8 ppb

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Methylphenol	12523.8 ppb
							4-Nitroaniline	12525 ppb
							4-Nitrophenol	12532.5 ppb
							7,12-Dimethylbenz(a)anthracene	12500 ppb
							Acenaphthene	12516.3 ppb
							Acenaphthylene	12537.5 ppb
							Acetophenone	12530 ppb
							Aniline	12506.3 ppb
							Anthracene	12535 ppb
							Benzo[a]anthracene	12508.8 ppb
							Benzo[a]pyrene	12542.5 ppb
							Benzo[b]fluoranthene	12536.3 ppb
							Benzo[g,h,i]perylene	12521.3 ppb
							Benzo[k]fluoranthene	12520 ppb
							Benzyl alcohol	12501.3 ppb
							Bis(2-chloroethoxy)methane	12591.3 ppb
							Bis(2-chloroethyl)ether	12578.8 ppb
							Bis(2-ethylhexyl) phthalate	12583.8 ppb
							Butylbenzylphthalate	12511.3 ppb
							Carbazole	12508.8 ppb
							Chrysene	12505 ppb
							Di(2-ethylhexyl)adipate	12501.3 ppb
							Di-n-butyl phthalate	12542.5 ppb
							Di-n-octyl phthalate	12555 ppb
							Dibenz(a,h)anthracene	12545 ppb
							Dibenzofuran	12505 ppb
							Diethyl phthalate	12522.5 ppb
							Dimethyl phthalate	12511.3 ppb
							Fluoranthene	12523.8 ppb
							Fluorene	12532.5 ppb
							Hexachlorobenzene	12516.3 ppb
							Hexachlorobutadiene	12602.5 ppb
							Hexachlorocyclopentadiene	25133.8 ppb
							Hexachloroethane	12572.5 ppb
							Indeno[1,2,3-cd]pyrene	12551.3 ppb
							Isophorone	12510 ppb
							N-Nitrosodi-n-propylamine	12501.3 ppb
							N-Nitrosodimethylamine	12507.5 ppb
							N-Nitrosodiphenylamine	12506.3 ppb
							Naphthalene	12591.3 ppb
							Nitrobenzene	12547.5 ppb
							Pentachlorophenol	12588.8 ppb
							Phenanthrene	12541.3 ppb
							Phenol	12537.5 ppb
							Pyrene	12607.5 ppb
							Pyridine	12505 ppb
							1,4-Dioxane	12502.5 ppb
							1-Chloronaphthalene	12525 ppb

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							2,3,4,6-Tetrachlorophenol	12507.5 ppb
							Benzoic acid	25007.5 ppb
							Dimethylformamide	12512.5 ppb
							Phenyl ether	12502.5 ppb
							3,3'-Dichlorobenzidine	12543.8 ppb
							3,3'-Dimethylbenzidine	25023.8 ppb
							Benzidine	62572.5 ppb
							6-Methylchrysene	12538.8 ppb
							Dibenz[a,h]acridine	12528.8 ppb
							Indene	12535 ppb
							Octachlorostyrene	12518.8 ppb
							Quinoline	12530 ppb
.OP_LCS1_MS_00015	08/29/20	07/29/20	ACETONE, Lot DY529-US	400 mL	OP_RES_LCS_1_00001	20 mL	1,1'-Biphenyl	50180 ppb
							1,2,4,5-Tetrachlorobenzene	50040 ppb
							1,2,4-Trichlorobenzene	50005 ppb
							1,2-Dichlorobenzene	50025 ppb
							1,2-Dinitrobenzene	50020 ppb
							1,2-Diphenylhydrazine	50010 ppb
							1,3-Dichlorobenzene	50025 ppb
							1,3-Dinitrobenzene	50030 ppb
							1,4-Dichlorobenzene	50010 ppb
							1,4-Dinitrobenzene	50015 ppb
							1-Methylnaphthalene	50000 ppb
							1-Naphthylamine	100300 ppb
							1-Nitronaphthalene	50320 ppb
							2,2'-oxybis[1-chloropropane]	50220 ppb
							2,4,5-Trichlorophenol	50245 ppb
							2,4,6-Trichlorophenol	50070 ppb
							2,4-Dichlorophenol	50050 ppb
							2,4-Dimethylphenol	50090 ppb
							2,4-Dinitrophenol	100325 ppb
							2,4-Dinitrotoluene	50280 ppb
							2,6-Dinitrotoluene	50330 ppb
							2-Chloronaphthalene	50035 ppb
							2-Chlorophenol	50210 ppb
							2-Methylnaphthalene	50015 ppb
							2-Methylphenol	50180 ppb
							2-Naphthylamine	100660 ppb
							2-Nitroaniline	50100 ppb
							2-Nitrophenol	50085 ppb
							2-Picoline	50340 ppb
							2-Toluidine	50180 ppb
							3-Methylphenol	25065 ppb
							3-Nitroaniline	50180 ppb
							4,6-Dinitro-2-methylphenol	50030 ppb
							4-Bromophenyl-phenylether	50270 ppb
							4-Chloro-3-methylphenol	50025 ppb
							4-Chloroaniline	50020 ppb

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Chlorophenyl-phenyl ether	50235 ppb
							4-Methylphenol	50095 ppb
							4-Nitroaniline	50100 ppb
							4-Nitrophenol	50130 ppb
							7,12-Dimethylbenz(a)anthracene	50000 ppb
							Acenaphthene	50065 ppb
							Acenaphthylene	50150 ppb
							Acetophenone	50120 ppb
							Aniline	50025 ppb
							Anthracene	50140 ppb
							Benzo[a]anthracene	50035 ppb
							Benzo[a]pyrene	50170 ppb
							Benzo[b]fluoranthene	50145 ppb
							Benzo[g,h,i]perylene	50085 ppb
							Benzo[k]fluoranthene	50080 ppb
							Benzyl alcohol	50005 ppb
							Bis(2-chloroethoxy)methane	50365 ppb
							Bis(2-chloroethyl)ether	50315 ppb
							Bis(2-ethylhexyl) phthalate	50335 ppb
							Butylbenzylphthalate	50045 ppb
							Carbazole	50035 ppb
							Chrysene	50020 ppb
							Di(2-ethylhexyl)adipate	50005 ppb
							Di-n-butyl phthalate	50170 ppb
							Di-n-octyl phthalate	50220 ppb
							Dibenz(a,h)anthracene	50180 ppb
							Dibenzofuran	50020 ppb
							Diethyl phthalate	50090 ppb
							Dimethyl phthalate	50045 ppb
							Fluoranthene	50095 ppb
							Fluorene	50130 ppb
							Hexachlorobenzene	50065 ppb
							Hexachlorobutadiene	50410 ppb
							Hexachlorocyclopentadiene	100535 ppb
							Hexachloroethane	50290 ppb
							Indeno[1,2,3-cd]pyrene	50205 ppb
							Isophorone	50040 ppb
							N-Nitrosodi-n-propylamine	50005 ppb
							N-Nitrosodimethylamine	50030 ppb
							N-Nitrosodiphenylamine	50025 ppb
							Naphthalene	50365 ppb
							Nitrobenzene	50190 ppb
							Pentachlorophenol	50355 ppb
							Phenanthrene	50165 ppb
							Phenol	50150 ppb
							Pyrene	50430 ppb
							Pyridine	50020 ppb
					OP_RES_LCS_2_00001	10 mL	1,4-Dioxane	50010 ppb

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							1-Chloronaphthalene	50100 ppb
							2,3,4,6-Tetrachlorophenol	50030 ppb
							Benzoic acid	100030 ppb
							Dimethylformamide	50050 ppb
							Phenyl ether	50010 ppb
					OP_RES_LCS_3_00001	10 mL	3,3'-Dichlorobenzidine	50175 ppb
							3,3'-Dimethylbenzidine	100095 ppb
							Benzidine	250290 ppb
					OP_RES_LCS_5_00001	20 mL	6-Methylchrysene	50155 ppb
							Dibenz[a,h]acridine	50115 ppb
							Indene	50140 ppb
							Octachlorostyrene	50075 ppb
							Quinoline	50120 ppb
..OP_RES_LCS_1_00001	12/31/20		Restek, Lot A0150132		(Purchased Reagent)		1,1'-Biphenyl	1003.6 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000.8 ug/mL
							1,2,4-Trichlorobenzene	1000.1 ug/mL
							1,2-Dichlorobenzene	1000.5 ug/mL
							1,2-Dinitrobenzene	1000.4 ug/mL
							1,2-Diphenylhydrazine	1000.2 ug/mL
							1,3-Dichlorobenzene	1000.5 ug/mL
							1,3-Dinitrobenzene	1000.6 ug/mL
							1,4-Dichlorobenzene	1000.2 ug/mL
							1,4-Dinitrobenzene	1000.3 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							1-Naphthylamine	2006 ug/mL
							1-Nitronaphthalene	1006.4 ug/mL
							2,2'-oxybis[1-chloropropane]	1004.4 ug/mL
							2,4,5-Trichlorophenol	1004.9 ug/mL
							2,4,6-Trichlorophenol	1001.4 ug/mL
							2,4-Dichlorophenol	1001 ug/mL
							2,4-Dimethylphenol	1001.8 ug/mL
							2,4-Dinitrophenol	2006.5 ug/mL
							2,4-Dinitrotoluene	1005.6 ug/mL
							2,6-Dinitrotoluene	1006.6 ug/mL
							2-Chloronaphthalene	1000.7 ug/mL
							2-Chlorophenol	1004.2 ug/mL
							2-Methylnaphthalene	1000.3 ug/mL
							2-Methylphenol	1003.6 ug/mL
							2-Naphthylamine	2013.2 ug/mL
							2-Nitroaniline	1002 ug/mL
							2-Nitrophenol	1001.7 ug/mL
							2-Picoline	1006.8 ug/mL
							2-Toluidine	1003.6 ug/mL
							3-Methylphenol	501.3 ug/mL
							3-Nitroaniline	1003.6 ug/mL
							4,6-Dinitro-2-methylphenol	1000.6 ug/mL
							4-Bromophenyl-phenylether	1005.4 ug/mL
							4-Chloro-3-methylphenol	1000.5 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Chloroaniline	1000.4 ug/mL
							4-Chlorophenyl-phenyl ether	1004.7 ug/mL
							4-Methylphenol	1001.9 ug/mL
							4-Nitroaniline	1002 ug/mL
							4-Nitrophenol	1002.6 ug/mL
							7,12-Dimethylbenz(a)anthracene	1000 ug/mL
							Acenaphthene	1001.3 ug/mL
							Acenaphthylene	1003 ug/mL
							Acetophenone	1002.4 ug/mL
							Aniline	1000.5 ug/mL
							Anthracene	1002.8 ug/mL
							Benzo[a]anthracene	1000.7 ug/mL
							Benzo[a]pyrene	1003.4 ug/mL
							Benzo[b]fluoranthene	1002.9 ug/mL
							Benzo[g,h,i]perylene	1001.7 ug/mL
							Benzo[k]fluoranthene	1001.6 ug/mL
							Benzyl alcohol	1000.1 ug/mL
							Bis(2-chloroethoxy)methane	1007.3 ug/mL
							Bis(2-chloroethyl)ether	1006.3 ug/mL
							Bis(2-ethylhexyl) phthalate	1006.7 ug/mL
							Butylbenzylphthalate	1000.9 ug/mL
							Carbazole	1000.7 ug/mL
							Chrysene	1000.4 ug/mL
							Di(2-ethylhexyl)adipate	1000.1 ug/mL
							Di-n-butyl phthalate	1003.4 ug/mL
							Di-n-octyl phthalate	1004.4 ug/mL
							Dibenz(a,h)anthracene	1003.6 ug/mL
							Dibenzofuran	1000.4 ug/mL
							Diethyl phthalate	1001.8 ug/mL
							Dimethyl phthalate	1000.9 ug/mL
							Fluoranthene	1001.9 ug/mL
							Fluorene	1002.6 ug/mL
							Hexachlorobenzene	1001.3 ug/mL
							Hexachlorobutadiene	1008.2 ug/mL
							Hexachlorocyclopentadiene	2010.7 ug/mL
							Hexachloroethane	1005.8 ug/mL
							Indeno[1,2,3-cd]pyrene	1004.1 ug/mL
							Isophorone	1000.8 ug/mL
							N-Nitrosodi-n-propylamine	1000.1 ug/mL
							N-Nitrosodimethylamine	1000.6 ug/mL
							N-Nitrosodiphenylamine	1000.5 ug/mL
							Naphthalene	1007.3 ug/mL
							Nitrobenzene	1003.8 ug/mL
							Pentachlorophenol	1007.1 ug/mL
							Phenanthrene	1003.3 ug/mL
							Phenol	1003 ug/mL
							Pyrene	1008.6 ug/mL
							Pyridine	1000.4 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
..OP_RES_LCS_2_00001	10/31/20		Restek, Lot A0148415		(Purchased Reagent)		1,4-Dioxane	2000.4 ug/mL
							1-Chloronaphthalene	2004 ug/mL
							2,3,4,6-Tetrachlorophenol	2001.2 ug/mL
							Benzoic acid	4001.2 ug/mL
							Dimethylformamide	2002 ug/mL
							Phenyl ether	2000.4 ug/mL
..OP_RES_LCS_3_00001	07/31/21		Restek, Lot A0150593		(Purchased Reagent)		3,3'-Dichlorobenzidine	2007 ug/mL
							3,3'-Dimethylbenzidine	4003.8 ug/mL
							Benzidine	10011.6 ug/mL
..OP_RES_LCS_5_00001	02/28/21		Restek, Lot A0146471		(Purchased Reagent)		6-Methylchrysene	1003.1 ug/mL
							Dibenz[a,h]acridine	1002.3 ug/mL
							Indene	1002.8 ug/mL
							Octachlorostyrene	1001.5 ug/mL
							Quinoline	1002.4 ug/mL
OP_MINLCS1_MS_00034	08/29/20	08/14/20	ACETONE, Lot DY529-US	100 mL	OP_LCS1_MS_00015	25 mL	1,1'-Biphenyl	12545 ppb
							1,2,4,5-Tetrachlorobenzene	12510 ppb
							1,2,4-Trichlorobenzene	12501.3 ppb
							1,2-Dichlorobenzene	12506.3 ppb
							1,2-Dinitrobenzene	12505 ppb
							1,2-Diphenylhydrazine	12502.5 ppb
							1,3-Dichlorobenzene	12506.3 ppb
							1,3-Dinitrobenzene	12507.5 ppb
							1,4-Dichlorobenzene	12502.5 ppb
							1,4-Dinitrobenzene	12503.8 ppb
							1-Methylnaphthalene	12500 ppb
							1-Naphthylamine	25075 ppb
							1-Nitronaphthalene	12580 ppb
							2,2'-oxybis[1-chloropropane]	12555 ppb
							2,4,5-Trichlorophenol	12561.3 ppb
							2,4,6-Trichlorophenol	12517.5 ppb
							2,4-Dichlorophenol	12512.5 ppb
							2,4-Dimethylphenol	12522.5 ppb
							2,4-Dinitrophenol	25081.3 ppb
							2,4-Dinitrotoluene	12570 ppb
							2,6-Dinitrotoluene	12582.5 ppb
							2-Chloronaphthalene	12508.8 ppb
							2-Chlorophenol	12552.5 ppb
							2-Methylnaphthalene	12503.8 ppb
							2-Methylphenol	12545 ppb
							2-Naphthylamine	25165 ppb
							2-Nitroaniline	12525 ppb
							2-Nitrophenol	12521.3 ppb
							2-Picoline	12585 ppb
							2-Toluidine	12545 ppb
							3-Methylphenol	6266.25 ppb
							3-Nitroaniline	12545 ppb
							4,6-Dinitro-2-methylphenol	12507.5 ppb

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4-Bromophenyl-phenylether	12567.5 ppb
							4-Chloro-3-methylphenol	12506.3 ppb
							4-Chloroaniline	12505 ppb
							4-Chlorophenyl-phenyl ether	12558.8 ppb
							4-Methylphenol	12523.8 ppb
							4-Nitroaniline	12525 ppb
							4-Nitrophenol	12532.5 ppb
							7,12-Dimethylbenz(a)anthracene	12500 ppb
							Acenaphthene	12516.3 ppb
							Acenaphthylene	12537.5 ppb
							Acetophenone	12530 ppb
							Aniline	12506.3 ppb
							Anthracene	12535 ppb
							Benzo[a]anthracene	12508.8 ppb
							Benzo[a]pyrene	12542.5 ppb
							Benzo[b]fluoranthene	12536.3 ppb
							Benzo[g,h,i]perylene	12521.3 ppb
							Benzo[k]fluoranthene	12520 ppb
							Benzyl alcohol	12501.3 ppb
							Bis(2-chloroethoxy)methane	12591.3 ppb
							Bis(2-chloroethyl)ether	12578.8 ppb
							Bis(2-ethylhexyl) phthalate	12583.8 ppb
							Butylbenzylphthalate	12511.3 ppb
							Carbazole	12508.8 ppb
							Chrysene	12505 ppb
							Di(2-ethylhexyl)adipate	12501.3 ppb
							Di-n-butyl phthalate	12542.5 ppb
							Di-n-octyl phthalate	12555 ppb
							Dibenz(a,h)anthracene	12545 ppb
							Dibenzofuran	12505 ppb
							Diethyl phthalate	12522.5 ppb
							Dimethyl phthalate	12511.3 ppb
							Fluoranthene	12523.8 ppb
							Fluorene	12532.5 ppb
							Hexachlorobenzene	12516.3 ppb
							Hexachlorobutadiene	12602.5 ppb
							Hexachlorocyclopentadiene	25133.8 ppb
							Hexachloroethane	12572.5 ppb
							Indeno[1,2,3-cd]pyrene	12551.3 ppb
							Isophorone	12510 ppb
							N-Nitrosodi-n-propylamine	12501.3 ppb
							N-Nitrosodimethylamine	12507.5 ppb
							N-Nitrosodiphenylamine	12506.3 ppb
							Naphthalene	12591.3 ppb
							Nitrobenzene	12547.5 ppb
							Pentachlorophenol	12588.8 ppb
							Phenanthrene	12541.3 ppb
							Phenol	12537.5 ppb

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Pyrene	12607.5 ppb
							Pyridine	12505 ppb
							1,4-Dioxane	12502.5 ppb
							1-Chloronaphthalene	12525 ppb
							2,3,4,6-Tetrachlorophenol	12507.5 ppb
							Benzoic acid	25007.5 ppb
							Dimethylformamide	12512.5 ppb
							Phenyl ether	12502.5 ppb
							3,3'-Dichlorobenzidine	12543.8 ppb
							3,3'-Dimethylbenzidine	25023.8 ppb
							Benzidine	62572.5 ppb
							6-Methylchrysene	12538.8 ppb
							Dibenz[a,h]acridine	12528.8 ppb
							Indene	12535 ppb
							Octachlorostyrene	12518.8 ppb
							Quinoline	12530 ppb
.OP_LCS1_MS_00015	08/29/20	07/29/20	ACETONE, Lot DY529-US	400 mL	OP_RES_LCS_1_00001	20 mL	1,1'-Biphenyl	50180 ppb
							1,2,4,5-Tetrachlorobenzene	50040 ppb
							1,2,4-Trichlorobenzene	50005 ppb
							1,2-Dichlorobenzene	50025 ppb
							1,2-Dinitrobenzene	50020 ppb
							1,2-Diphenylhydrazine	50010 ppb
							1,3-Dichlorobenzene	50025 ppb
							1,3-Dinitrobenzene	50030 ppb
							1,4-Dichlorobenzene	50010 ppb
							1,4-Dinitrobenzene	50015 ppb
							1-Methylnaphthalene	50000 ppb
							1-Naphthylamine	100300 ppb
							1-Nitronaphthalene	50320 ppb
							2,2'-oxybis[1-chloropropane]	50220 ppb
							2,4,5-Trichlorophenol	50245 ppb
							2,4,6-Trichlorophenol	50070 ppb
							2,4-Dichlorophenol	50050 ppb
							2,4-Dimethylphenol	50090 ppb
							2,4-Dinitrophenol	100325 ppb
							2,4-Dinitrotoluene	50280 ppb
							2,6-Dinitrotoluene	50330 ppb
							2-Chloronaphthalene	50035 ppb
							2-Chlorophenol	50210 ppb
							2-Methylnaphthalene	50015 ppb
							2-Methylphenol	50180 ppb
							2-Naphthylamine	100660 ppb
							2-Nitroaniline	50100 ppb
							2-Nitrophenol	50085 ppb
							2-Picoline	50340 ppb
							2-Toluidine	50180 ppb
							3-Methylphenol	25065 ppb
							3-Nitroaniline	50180 ppb

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							4,6-Dinitro-2-methylphenol	50030 ppb
							4-Bromophenyl-phenylether	50270 ppb
							4-Chloro-3-methylphenol	50025 ppb
							4-Chloroaniline	50020 ppb
							4-Chlorophenyl-phenyl ether	50235 ppb
							4-Methylphenol	50095 ppb
							4-Nitroaniline	50100 ppb
							4-Nitrophenol	50130 ppb
							7,12-Dimethylbenz(a)anthracene	50000 ppb
							Acenaphthene	50065 ppb
							Acenaphthylene	50150 ppb
							Acetophenone	50120 ppb
							Aniline	50025 ppb
							Anthracene	50140 ppb
							Benzo[a]anthracene	50035 ppb
							Benzo[a]pyrene	50170 ppb
							Benzo[b]fluoranthene	50145 ppb
							Benzo[g,h,i]perylene	50085 ppb
							Benzo[k]fluoranthene	50080 ppb
							Benzyl alcohol	50005 ppb
							Bis(2-chloroethoxy)methane	50365 ppb
							Bis(2-chloroethyl)ether	50315 ppb
							Bis(2-ethylhexyl) phthalate	50335 ppb
							Butylbenzylphthalate	50045 ppb
							Carbazole	50035 ppb
							Chrysene	50020 ppb
							Di(2-ethylhexyl)adipate	50005 ppb
							Di-n-butyl phthalate	50170 ppb
							Di-n-octyl phthalate	50220 ppb
							Dibenz(a,h)anthracene	50180 ppb
							Dibenzofuran	50020 ppb
							Diethyl phthalate	50090 ppb
							Dimethyl phthalate	50045 ppb
							Fluoranthene	50095 ppb
							Fluorene	50130 ppb
							Hexachlorobenzene	50065 ppb
							Hexachlorobutadiene	50410 ppb
							Hexachlorocyclopentadiene	100535 ppb
							Hexachloroethane	50290 ppb
							Indeno[1,2,3-cd]pyrene	50205 ppb
							Isophorone	50040 ppb
							N-Nitrosodi-n-propylamine	50005 ppb
							N-Nitrosodimethylamine	50030 ppb
							N-Nitrosodiphenylamine	50025 ppb
							Naphthalene	50365 ppb
							Nitrobenzene	50190 ppb
							Pentachlorophenol	50355 ppb
							Phenanthrene	50165 ppb

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenol	50150 ppb
							Pyrene	50430 ppb
							Pyridine	50020 ppb
					OP_RES_LCS_2_00001	10 mL	1,4-Dioxane	50010 ppb
							1-Chloronaphthalene	50100 ppb
							2,3,4,6-Tetrachlorophenol	50030 ppb
							Benzoic acid	100030 ppb
							Dimethylformamide	50050 ppb
							Phenyl ether	50010 ppb
					OP_RES_LCS_3_00001	10 mL	3,3'-Dichlorobenzidine	50175 ppb
							3,3'-Dimethylbenzidine	100095 ppb
							Benzidine	250290 ppb
					OP_RES_LCS_5_00001	20 mL	6-Methylchrysene	50155 ppb
							Dibenz[a,h]acridine	50115 ppb
							Indene	50140 ppb
							Octachlorostyrene	50075 ppb
							Quinoline	50120 ppb
..OP_RES_LCS_1_00001	12/31/20		Restek, Lot A0150132		(Purchased Reagent)		1,1'-Biphenyl	1003.6 ug/mL
							1,2,4,5-Tetrachlorobenzene	1000.8 ug/mL
							1,2,4-Trichlorobenzene	1000.1 ug/mL
							1,2-Dichlorobenzene	1000.5 ug/mL
							1,2-Dinitrobenzene	1000.4 ug/mL
							1,2-Diphenylhydrazine	1000.2 ug/mL
							1,3-Dichlorobenzene	1000.5 ug/mL
							1,3-Dinitrobenzene	1000.6 ug/mL
							1,4-Dichlorobenzene	1000.2 ug/mL
							1,4-Dinitrobenzene	1000.3 ug/mL
							1-Methylnaphthalene	1000 ug/mL
							1-Naphthylamine	2006 ug/mL
							1-Nitronaphthalene	1006.4 ug/mL
							2,2'-oxybis[1-chloropropane]	1004.4 ug/mL
							2,4,5-Trichlorophenol	1004.9 ug/mL
							2,4,6-Trichlorophenol	1001.4 ug/mL
							2,4-Dichlorophenol	1001 ug/mL
							2,4-Dimethylphenol	1001.8 ug/mL
							2,4-Dinitrophenol	2006.5 ug/mL
							2,4-Dinitrotoluene	1005.6 ug/mL
							2,6-Dinitrotoluene	1006.6 ug/mL
							2-Chloronaphthalene	1000.7 ug/mL
							2-Chlorophenol	1004.2 ug/mL
							2-Methylnaphthalene	1000.3 ug/mL
							2-Methylphenol	1003.6 ug/mL
							2-Naphthylamine	2013.2 ug/mL
							2-Nitroaniline	1002 ug/mL
							2-Nitrophenol	1001.7 ug/mL
							2-Picoline	1006.8 ug/mL
							2-Toluidine	1003.6 ug/mL
							3-Methylphenol	501.3 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							3-Nitroaniline	1003.6 ug/mL
							4,6-Dinitro-2-methylphenol	1000.6 ug/mL
							4-Bromophenyl-phenylether	1005.4 ug/mL
							4-Chloro-3-methylphenol	1000.5 ug/mL
							4-Chloroaniline	1000.4 ug/mL
							4-Chlorophenyl-phenyl ether	1004.7 ug/mL
							4-Methylphenol	1001.9 ug/mL
							4-Nitroaniline	1002 ug/mL
							4-Nitrophenol	1002.6 ug/mL
							7,12-Dimethylbenz(a)anthracene	1000 ug/mL
							Acenaphthene	1001.3 ug/mL
							Acenaphthylene	1003 ug/mL
							Acetophenone	1002.4 ug/mL
							Aniline	1000.5 ug/mL
							Anthracene	1002.8 ug/mL
							Benzo[a]anthracene	1000.7 ug/mL
							Benzo[a]pyrene	1003.4 ug/mL
							Benzo[b]fluoranthene	1002.9 ug/mL
							Benzo[g,h,i]perylene	1001.7 ug/mL
							Benzo[k]fluoranthene	1001.6 ug/mL
							Benzyl alcohol	1000.1 ug/mL
							Bis(2-chloroethoxy)methane	1007.3 ug/mL
							Bis(2-chloroethyl)ether	1006.3 ug/mL
							Bis(2-ethylhexyl) phthalate	1006.7 ug/mL
							Butylbenzylphthalate	1000.9 ug/mL
							Carbazole	1000.7 ug/mL
							Chrysene	1000.4 ug/mL
							Di(2-ethylhexyl)adipate	1000.1 ug/mL
							Di-n-butyl phthalate	1003.4 ug/mL
							Di-n-octyl phthalate	1004.4 ug/mL
							Dibenz(a,h)anthracene	1003.6 ug/mL
							Dibenzofuran	1000.4 ug/mL
							Diethyl phthalate	1001.8 ug/mL
							Dimethyl phthalate	1000.9 ug/mL
							Fluoranthene	1001.9 ug/mL
							Fluorene	1002.6 ug/mL
							Hexachlorobenzene	1001.3 ug/mL
							Hexachlorobutadiene	1008.2 ug/mL
							Hexachlorocyclopentadiene	2010.7 ug/mL
							Hexachloroethane	1005.8 ug/mL
							Indeno[1,2,3-cd]pyrene	1004.1 ug/mL
							Isophorone	1000.8 ug/mL
							N-Nitrosodi-n-propylamine	1000.1 ug/mL
							N-Nitrosodimethylamine	1000.6 ug/mL
							N-Nitrosodiphenylamine	1000.5 ug/mL
							Naphthalene	1007.3 ug/mL
							Nitrobenzene	1003.8 ug/mL
							Pentachlorophenol	1007.1 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
							Phenanthrene	1003.3 ug/mL
							Phenol	1003 ug/mL
							Pyrene	1008.6 ug/mL
							Pyridine	1000.4 ug/mL
..OP_RES_LCS_2_00001	10/31/20		Restek, Lot A0148415		(Purchased Reagent)		1,4-Dioxane	2000.4 ug/mL
							1-Chloronaphthalene	2004 ug/mL
							2,3,4,6-Tetrachlorophenol	2001.2 ug/mL
							Benzoic acid	4001.2 ug/mL
							Dimethylformamide	2002 ug/mL
							Phenyl ether	2000.4 ug/mL
..OP_RES_LCS_3_00001	07/31/21		Restek, Lot A0150593		(Purchased Reagent)		3,3'-Dichlorobenzidine	2007 ug/mL
							3,3'-Dimethylbenzidine	4003.8 ug/mL
							Benzidine	10011.6 ug/mL
..OP_RES_LCS_5_00001	02/28/21		Restek, Lot A0146471		(Purchased Reagent)		6-Methylchrysene	1003.1 ug/mL
							Dibenz[a,h]acridine	1002.3 ug/mL
							Indene	1002.8 ug/mL
							Octachlorostyrene	1001.5 ug/mL
							Quinoline	1002.4 ug/mL
OP_MINLCS2_MS_00019	09/06/20	08/06/20	ACETONE, Lot DY529-US	100 mL	OP_LCS 2_MS_00009	25 mL	Atrazine	12610 ppb
							Benzaldehyde	12621.3 ppb
							Caprolactam	12622.5 ppb
.OP_LCS 2_MS_00009	09/06/20	08/06/20	ACETONE, Lot DY529-US	400 mL	OP_LCS4_STK_00002	20 mL	Atrazine	50440 ppb
							Benzaldehyde	50485 ppb
							Caprolactam	50490 ppb
..OP_LCS4_STK_00002	03/31/21		Restek, Lot A0147047		(Purchased Reagent)		Atrazine	1008.8 ug/mL
							Benzaldehyde	1009.7 ug/mL
							Caprolactam	1009.8 ug/mL
WC_FL_Fe2CCV_00015	08/18/20	08/17/20	DI Water, Lot 2373	50 mL	WC_FL_Fe2QC_00017	0.5 mL	Ferrous Iron	1 mg/L
.WC_FL_Fe2QC_00017	08/18/20	08/17/20	DI Water, Lot 2373	100 mL	WC_FL_Fe+2Std_00003	10 mL	Ferrous Iron	100 mg/L
..WC_FL_Fe+2Std_00003	03/24/23		Absolute Standards, Lot 032420		(Purchased Reagent)		Ferrous Iron	1000 mg/L
WC_IC_C_Det_00006	06/02/20	06/01/20	DI Water, Lot in house	50 mL	WC_IC_C_NO2_00001	0.5 ug/mL	Nitrite as N	10 ug/mL
					WC_IC_C_NO3_00001	0.5 ug/mL	Nitrogen, Nitrate	10 ug/mL
.WC_IC_C_NO2_00001	09/03/20		Inorganic Ventures, Lot P2-NOX677313		(Purchased Reagent)		Nitrite as N	1000 ug/mL
.WC_IC_C_NO3_00001	09/05/20		Inorganic Ventures, Lot P2-NOX675324		(Purchased Reagent)		Nitrogen, Nitrate	1000 ug/mL
WC_IC_C_Det_00011	07/09/20	07/08/20	DI Water, Lot in house	50 mL	WC_IC_C_Br_00001	2.5 ug/mL	Bromide	50 ug/mL
					WC_IC_C_Cl_00001	2 ug/mL	Chloride	40 ug/mL
					WC_IC_C_F_00001	0.5 ug/mL	Fluoride	10 ug/mL
					WC_IC_C_NO2_00001	0.5 ug/mL	Nitrite as N	10 ug/mL
					WC_IC_C_NO3_00001	0.5 ug/mL	Nitrogen, Nitrate	10 ug/mL
					WC_IC_C_SO4_00001	5 ug/mL	Sulfate	100 ug/mL
.WC_IC_C_Br_00001	10/11/20		Inorganic Ventures, Lot P2-BR675946		(Purchased Reagent)		Bromide	1000 ug/mL

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
.WC_IC_C_Cl_00001	08/21/20	Inorganic Ventures, Lot P2-CL675597			(Purchased Reagent)		Chloride	1000 ug/mL
.WC_IC_C_F_00001	07/10/20	Inorganic Ventures, Lot P2-F676731			(Purchased Reagent)		Fluoride	1000 ug/mL
.WC_IC_C_NO2_00001	09/03/20	Inorganic Ventures, Lot P2-NOX677313			(Purchased Reagent)		Nitrite as N	1000 ug/mL
.WC_IC_C_NO3_00001	09/05/20	Inorganic Ventures, Lot P2-NOX675324			(Purchased Reagent)		Nitrogen, Nitrate	1000 ug/mL
.WC_IC_C_SO4_00001	10/08/20	Inorganic Ventures, Lot N2-SOX664928			(Purchased Reagent)		Sulfate	1000 ug/mL
WC_IC_C_Det_00015	07/30/20	07/29/20	DI Water, Lot in house	50 mL	WC_IC_C_Br_00001	2.5 ug/mL	Bromide	50 ug/mL
					WC_IC_C_Cl_00001	2 ug/mL	Chloride	40 ug/mL
					WC_IC_C_F_00003	0.5 ug/mL	Fluoride	10 ug/mL
					WC_IC_C_NO2_00001	0.5 ug/mL	Nitrite as N	10 ug/mL
					WC_IC_C_NO3_00001	0.5 ug/mL	Nitrogen, Nitrate	10 ug/mL
					WC_IC_C_SO4_00001	5 ug/mL	Sulfate	100 ug/mL
.WC_IC_C_Br_00001	10/11/20	Inorganic Ventures, Lot P2-BR675946			(Purchased Reagent)		Bromide	1000 ug/mL
.WC_IC_C_Cl_00001	08/21/20	Inorganic Ventures, Lot P2-CL675597			(Purchased Reagent)		Chloride	1000 ug/mL
.WC_IC_C_F_00003	07/16/21	Inorganic Ventures, Lot P2-F676731			(Purchased Reagent)		Fluoride	1000 ug/mL
.WC_IC_C_NO2_00001	09/03/20	Inorganic Ventures, Lot P2-NOX677313			(Purchased Reagent)		Nitrite as N	1000 ug/mL
.WC_IC_C_NO3_00001	09/05/20	Inorganic Ventures, Lot P2-NOX675324			(Purchased Reagent)		Nitrogen, Nitrate	1000 ug/mL
.WC_IC_C_SO4_00001	10/08/20	Inorganic Ventures, Lot N2-SOX664928			(Purchased Reagent)		Sulfate	1000 ug/mL
WC_IC_C_Int_00007	06/02/20	06/01/20	DI Water, Lot in house	50 mL	WC_IC_C_NO2_00001	0.5 ug/mL	Nitrite as N	10 ug/mL
					WC_IC_C_NO3_00001	0.5 ug/mL	Nitrogen, Nitrate	10 ug/mL
.WC_IC_C_NO2_00001	09/03/20	Inorganic Ventures, Lot P2-NOX677313			(Purchased Reagent)		Nitrite as N	1000 ug/mL
.WC_IC_C_NO3_00001	09/05/20	Inorganic Ventures, Lot P2-NOX675324			(Purchased Reagent)		Nitrogen, Nitrate	1000 ug/mL
WC_IC_C_Int_00011	07/09/20	07/08/20	DI Water, Lot in house	50 mL	WC_IC_C_Br_00001	2.5 ug/mL	Bromide	50 ug/mL
					WC_IC_C_Cl_00001	1 ug/mL	Chloride	20 ug/mL
					WC_IC_C_F_00001	0.5 ug/mL	Fluoride	10 ug/mL
					WC_IC_C_NO2_00001	0.5 ug/mL	Nitrite as N	10 ug/mL
					WC_IC_C_NO3_00001	0.5 ug/mL	Nitrogen, Nitrate	10 ug/mL
					WC_IC_C_SO4_00001	2.5 ug/mL	Sulfate	50 ug/mL
.WC_IC_C_Br_00001	10/11/20	Inorganic Ventures, Lot P2-BR675946			(Purchased Reagent)		Bromide	1000 ug/mL
.WC_IC_C_Cl_00001	08/21/20	Inorganic Ventures, Lot P2-CL675597			(Purchased Reagent)		Chloride	1000 ug/mL
.WC_IC_C_F_00001	07/10/20	Inorganic Ventures, Lot P2-F676731			(Purchased Reagent)		Fluoride	1000 ug/mL
.WC_IC_C_NO2_00001	09/03/20	Inorganic Ventures, Lot P2-NOX677313			(Purchased Reagent)		Nitrite as N	1000 ug/mL
.WC_IC_C_NO3_00001	09/05/20	Inorganic Ventures, Lot P2-NOX675324			(Purchased Reagent)		Nitrogen, Nitrate	1000 ug/mL
.WC_IC_C_SO4_00001	10/08/20	Inorganic Ventures, Lot N2-SOX664928			(Purchased Reagent)		Sulfate	1000 ug/mL
WC_IC_C_Int_00016	07/30/20	07/29/20	DI Water, Lot in house	50 mL	WC_IC_C_Br_00001	2.5 ug/mL	Bromide	50 ug/mL
					WC_IC_C_Cl_00001	1 ug/mL	Chloride	20 ug/mL

REAGENT TRACEABILITY SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Reagent ID	Exp Date	Prep Date	Dilutant Used	Reagent Final Volume	Parent Reagent		Analyte	Concentration
					Reagent ID	Volume Added		
					WC_IC_C_F_00003	0.5 ug/mL	Fluoride	10 ug/mL
					WC_IC_C_NO2_00001	0.5 ug/mL	Nitrite as N	10 ug/mL
					WC_IC_C_NO3_00001	0.5 ug/mL	Nitrogen, Nitrate	10 ug/mL
					WC_IC_C_SO4_00001	2.5 ug/mL	Sulfate	50 ug/mL
.WC_IC_C_Br_00001	10/11/20	Inorganic Ventures, Lot P2-BR675946			(Purchased Reagent)		Bromide	1000 ug/mL
.WC_IC_C_Cl_00001	08/21/20	Inorganic Ventures, Lot P2-CL675597			(Purchased Reagent)		Chloride	1000 ug/mL
.WC_IC_C_F_00003	07/16/21	Inorganic Ventures, Lot P2-F676731			(Purchased Reagent)		Fluoride	1000 ug/mL
.WC_IC_C_NO2_00001	09/03/20	Inorganic Ventures, Lot P2-NOX677313			(Purchased Reagent)		Nitrite as N	1000 ug/mL
.WC_IC_C_NO3_00001	09/05/20	Inorganic Ventures, Lot P2-NOX675324			(Purchased Reagent)		Nitrogen, Nitrate	1000 ug/mL
.WC_IC_C_SO4_00001	10/08/20	Inorganic Ventures, Lot N2-SOX664928			(Purchased Reagent)		Sulfate	1000 ug/mL
WC_IC_QC2_00079	07/09/20	07/08/20	DI Water, Lot IC	50 mL	WC_IC-Q_NO3_00003	0.25 mL	Nitrogen, Nitrate	5 ug/mL
					WC_IC_Q_SO4_00003	2.5 mL	Sulfate	50 ug/mL
.WC_IC-Q_NO3_00003	05/30/21	SPEX, Lot 5-55NO3N-2X			(Purchased Reagent)		Nitrogen, Nitrate	1000 ug/mL
.WC_IC_Q_SO4_00003	05/30/21	Spex Certiprep, Lot 4-197SO4-2X			(Purchased Reagent)		Sulfate	1000 ug/mL
WC_IC_QC2_00081	07/10/20	07/09/20	DI Water, Lot IC	50 mL	WC_IC-Q_NO3_00003	0.25 mL	Nitrogen, Nitrate	5 ug/mL
.WC_IC-Q_NO3_00003	05/30/21	SPEX, Lot 5-55NO3N-2X			(Purchased Reagent)		Nitrogen, Nitrate	1000 ug/mL
WC_IC_QC2_00105	07/30/20	07/29/20	DI Water, Lot IC	50 mL	WC_IC-Q_NO3_00003	0.25 mL	Nitrogen, Nitrate	5 ug/mL
					WC_IC_Q_SO4_00003	2.5 mL	Sulfate	50 ug/mL
.WC_IC-Q_NO3_00003	05/30/21	SPEX, Lot 5-55NO3N-2X			(Purchased Reagent)		Nitrogen, Nitrate	1000 ug/mL
.WC_IC_Q_SO4_00003	05/30/21	Spex Certiprep, Lot 4-197SO4-2X			(Purchased Reagent)		Sulfate	1000 ug/mL
WC_IC_QC2_00123	08/17/20	08/16/20	DI Water, Lot IC	50 mL	WC_IC-Q_NO3_00003	0.25 mL	Nitrogen, Nitrate	5 ug/mL
					WC_IC_Q_SO4_00003	2.5 mL	Sulfate	50 ug/mL
.WC_IC-Q_NO3_00003	05/30/21	SPEX, Lot 5-55NO3N-2X			(Purchased Reagent)		Nitrogen, Nitrate	1000 ug/mL
.WC_IC_Q_SO4_00003	05/30/21	Spex Certiprep, Lot 4-197SO4-2X			(Purchased Reagent)		Sulfate	1000 ug/mL
WC_IC_QC2_00125	08/19/20	08/18/20	DI Water, Lot IC	50 mL	WC_IC-Q_NO3_00003	0.25 mL	Nitrogen, Nitrate	5 ug/mL
					WC_IC_Q_SO4_00003	2.5 mL	Sulfate	50 ug/mL
.WC_IC-Q_NO3_00003	05/30/21	SPEX, Lot 5-55NO3N-2X			(Purchased Reagent)		Nitrogen, Nitrate	1000 ug/mL
.WC_IC_Q_SO4_00003	05/30/21	Spex Certiprep, Lot 4-197SO4-2X			(Purchased Reagent)		Sulfate	1000 ug/mL
WC_IC_QC2_00140	09/01/20	08/31/20	DI Water, Lot IC	50 mL	WC_IC_Q_SO4_00005	2.5 mL	Sulfate	50 ug/mL
.WC_IC_Q_SO4_00005	08/21/21	Spex Certiprep, Lot 5-48SO4-2X			(Purchased Reagent)		Sulfate	1000 ug/mL
WC_IC_QC2_00146	09/05/20	09/04/20	DI Water, Lot IC	50 mL	WC_IC_Q_SO4_00005	2.5 mL	Sulfate	50 ug/mL
.WC_IC_Q_SO4_00005	08/21/21	Spex Certiprep, Lot 5-48SO4-2X			(Purchased Reagent)		Sulfate	1000 ug/mL
WC_IC_QC2_00148	09/10/20	09/09/20	DI Water, Lot IC	50 mL	WC_IC_Q_SO4_00005	2.5 mL	Sulfate	50 ug/mL
.WC_IC_Q_SO4_00005	08/21/21	Spex Certiprep, Lot 5-48SO4-2X			(Purchased Reagent)		Sulfate	1000 ug/mL

Reagent

MSS_8270_SURR_00002

Certificate of Analysis

8270 SURROGATE STANDARD,1X1ML,4000UG/ML,DICHLOROMETHANE

Certified Reference Material

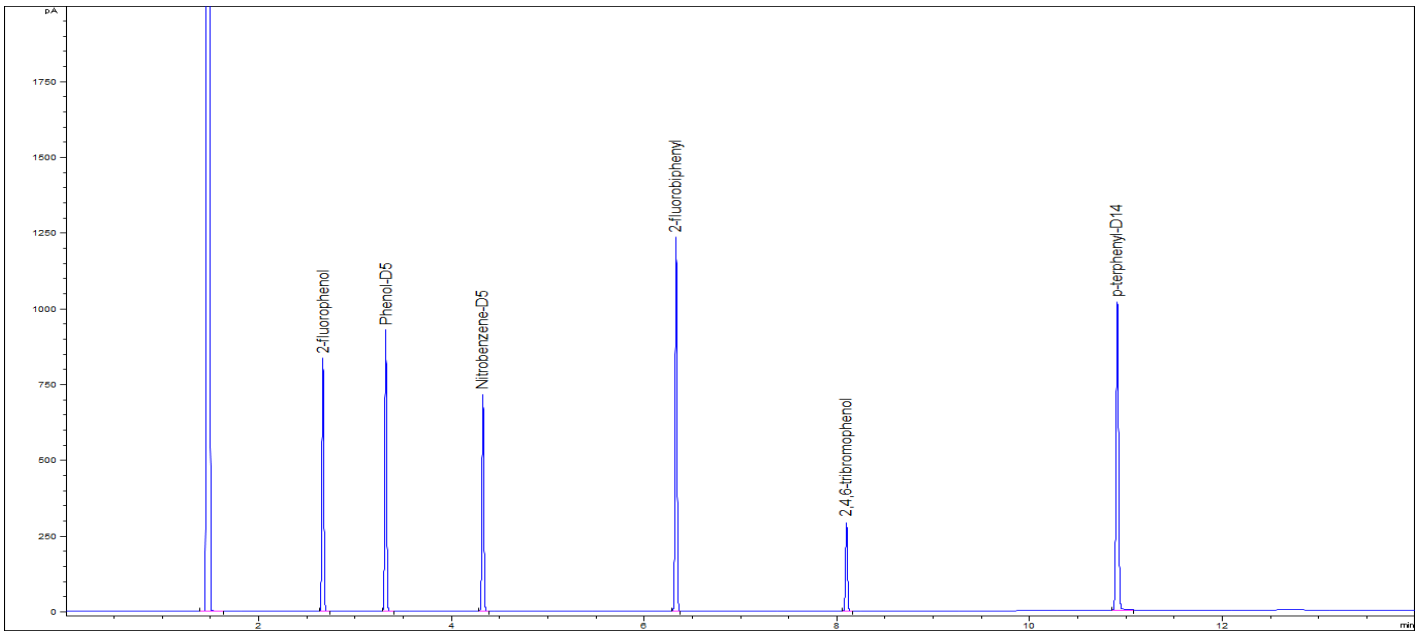
Description

Product ID CRM47960
Lot **LRAC6081**
Expiration Date April 2023
Manufacturing Date April 2020
Storage Conditions Refrigerate
Solvent/Matrix DICHLOROMETHANE

Certified Values

Analyte	*Certified Value* [1,4]	*Units*	*Raw Material Purity,%*	*Elution order*	*Raw Material Lot*	*CAS*
2-FLUOROPHENOL	4001 ± 104	µg/mL	99.9	01	LB92543	367-12-4
PHENOL-D5	4001 ± 88	µg/mL	98.0	02	MBBC4769	4165-62-2
NITROBENZENE-D5	4001 ± 66	µg/mL	99.9	03	LB83753	4165-60-0
2-FLUOROBIPHENYL	4002 ± 115	µg/mL	99.9	04	LB99948	321-60-8
2,4,6-TRIBROMOPHENOL	4001 ± 124	µg/mL	99.7	05	LB81262	118-79-6
P-TERPHENYL-D14	4002 ± 117	µg/mL	99.5	06	PR-27278/121715	1718-51-0

Informational Values



Additional Information:

Analytical Method Parameters:
Column: SPB-5, 30 m × 0.53 mm I.D., 1.5 µm film thickness (Column #215)
Carrier Gas: H2, Flow: 4.7 mL/min
Inlet Temperature: 250 °C, Injection Volume: 1.0 µL

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

SIGMA-ALDRICH®
2931 Soldier Springs Rd. Laramie, Wyoming 82070 USA
800-325-5832
TechService@milliporesigma.com www.sigma-aldrich.com

Description

Lot **LRAC6081**
Expiration Date April 2023
Manufacturing Date April 2020
Storage Conditions Refrigerate
Solvent/Matrix DICHLOROMETHANE

Injection Mode: Split, Split Ratio: 40: 1
Temperature Program: 100 °C (Hold 1 min) @ 20 °C/min to 280 °C (Hold 4 min)
Detector: FID
Detector Temperature: 330 °C

1 **Metrological traceability:** Traceable to the SI and higher order standards from NIST through an unbroken chain of comparisons. The balance used to weigh raw materials is accurate to +/-0.0001 g and calibrated regularly using mass standards traceable to NIST. All dilutions were performed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.
4 Ucrm - Uncertainty values in this document are expressed as Expanded Uncertainty (Ucrm) corresponding to the 95% confidence interval. Ucrm is derived from the combined standard uncertainty multiplied by the coverage factor k, which is obtained from a *t*-distribution and degrees of freedom. The components of combined standard uncertainty include the uncertainties due to characterization, homogeneity, long term stability, and short term stability (transport). The components due to stability are generally considered to be negligible unless otherwise indicated by stability studies. The mathematical representation of the Ucrm calculation is as follows:

$$u_{CRM} = \sqrt{u_{char}^2 + u_{\text{hom}\ ogeneity}^2 + u_{stability}^2}$$

***k*:** Coverage factor derived from a t-distribution table, based on the degrees of freedom of the data set. Assume 2.0 for a **Confidence interval = 95%**

6 Analytical Value- For QC verification of the certified value only- not to be used in calculations. Represents the analytical data obtained by comparison to a standard as analyzed by the method described in the CoA or another acceptable method. The result may differ from the certified value and UCRM based on method uncertainty as well as the uncertainty associated with the standard used for comparison.

Traceability: The standard was manufactured under an ISO/IEC 17025:2017 certified quality system. The balance used to weigh raw materials is accurate to +/- 0.0001g and calibrated regularly using mass standards traceable to NIST. All dilutions were preformed gravimetrically. Additionally, individual analytes are traceable to NIST SRMs where available and specified above.

Homogeneity: Homogeneity was assessed in accordance with ISO 17034:2016. Completed units were sampled using a random stratified sampling protocol. The results of chemical analysis were then compared using a one-way analysis of variance approach as described by TNI EL-V3-2009 Appendix A.2. See Instructions for minimum sub-sample size.

Expiration is at end of month given on certificate and label.

MSDS reports for components comprising greater than 1.0% of the solution or 0.1% for components known to be carcinogens are available upon request.

THIS PRODUCT WAS DESIGNED, PRODUCED AND VERIFIED FOR ACCURACY AND STABILITY IN ACCORDANCE WITH **ISO/IEC 17025:2017 (ANAB Cert AT-1467)** and **ISO 17034:2016 (ANAB Cert AR-1470).**

Andy Ommen - QC Manager

Mark Pooler - QA Supervisor

Certification Date April 23, 2020
Version 0-4232020

Reagent

MSS_AB_24DMP_00001

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

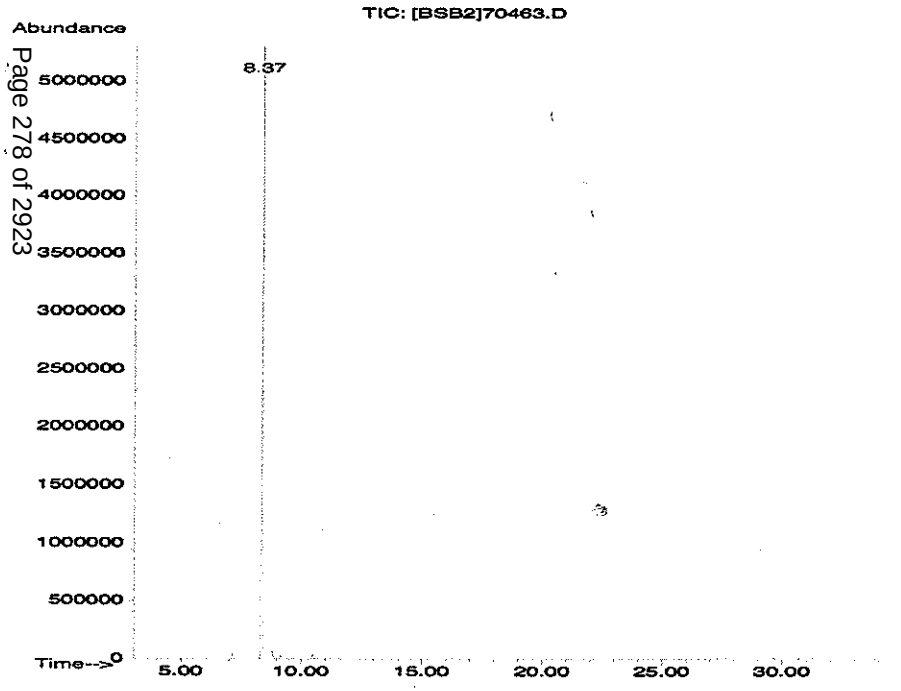
CERTIFIED WEIGHT REPORT

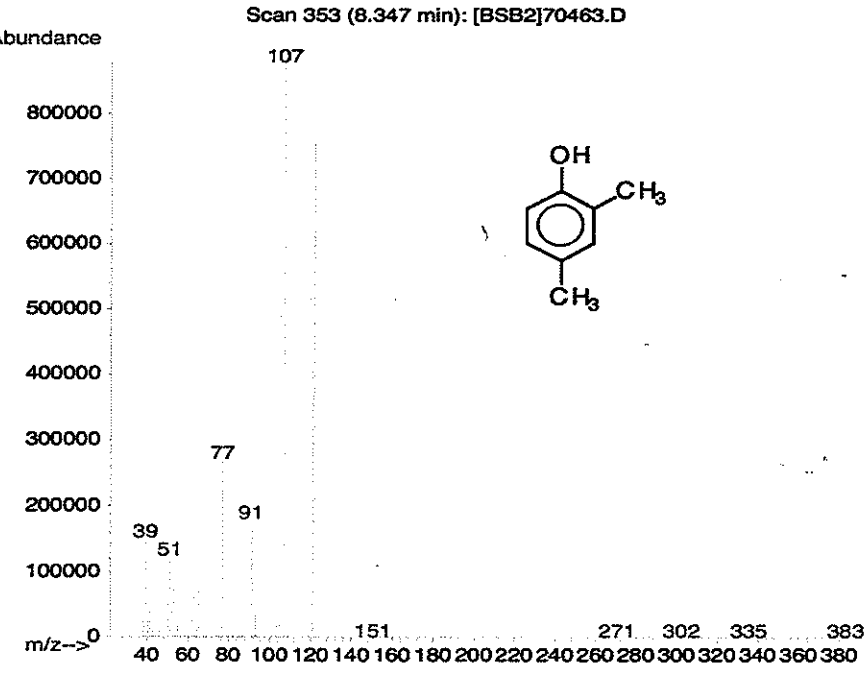
Part Number:	70463	**Solvent(s):**	**Lot#**
Lot Number:	011818	Methanol	DS286
Description:	2,4-Dimethylphenol		
Expiration Date:	011823		
Recommended Storage:	Refrigerate (4 °C)		
Nominal Concentration (µg/mL):	1000		
NIST Test ID#:	2506734D	5E-05	Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL):	100.0	0.001	Flask Uncertainty

	011818	
Formulated By:	Mario Luis	DATE
	011818	
Reviewed By:	Pedro L. Rentas	DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (g)	Actual Weight (g)	Actual Conc(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. 2,4-Dimethylphenol	463	04319MT	1000	97	0.2	0.10310	0.10328	1001.7	4.2	105-67-9	N/A	orl-rat 3200mg/kg

Method GC8MSD-3.M: Column:SPB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (9min.), Rate = 10°C/min., Injector B= 200°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Gina McLane.





- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Reagent

MSS_AB_24DNP_00003

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ISO 17034 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part Number: 70159
Lot Number: 090518
Description: 2,4-Dinitrophenol

Expiration Date: 090523
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 1000
NIST Test ID#: 2684186

Weight(s) shown below were combined and diluted to (mL): 100.0 | 5E-05 Balance Uncertainty | 0.001 Flask Uncertainty

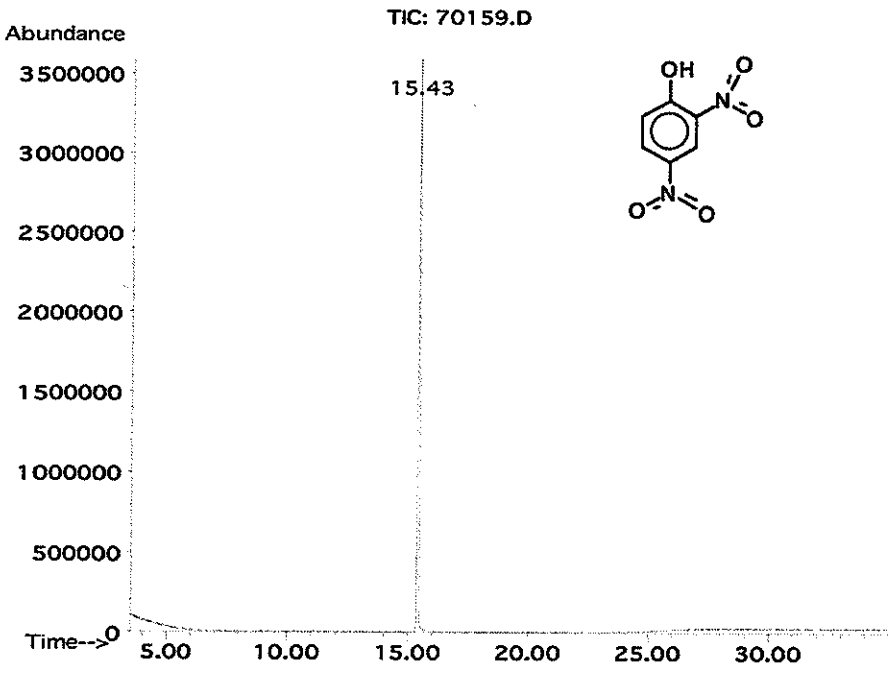
Solvent(s): Methanol **Lot#** DT140

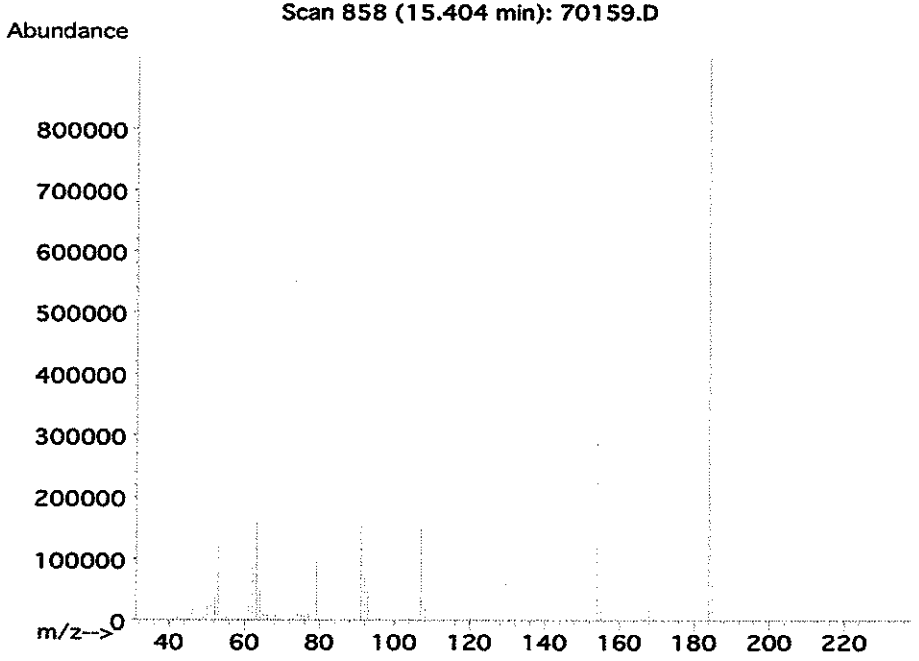
Formulated By: Eli Aliaga 090518 DATE

Reviewed By: Pedro L. Rentas 090518 DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (g)	Actual Weight (g)	Actual Conc(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. 2,4-Dinitrophenol	159	032516	1000	98	0.2	0.10205	0.10213	1000.8	4.2	51-28-5	N/A	orl-rat 30mg/kg

Method GC8MSD-3.M: Column: (30m X 0.25mm ID X 0.25µm film thickness), Temp 1 = 50°C (1min.), Temp 2 = 300°C (4 min.), Rate = 10°C/min., Injector B= 200°C, Detector B = 300°C. Analysis performed by Melissa Stonier.





- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Reagent

MSS_AB_46D2MP_00003

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

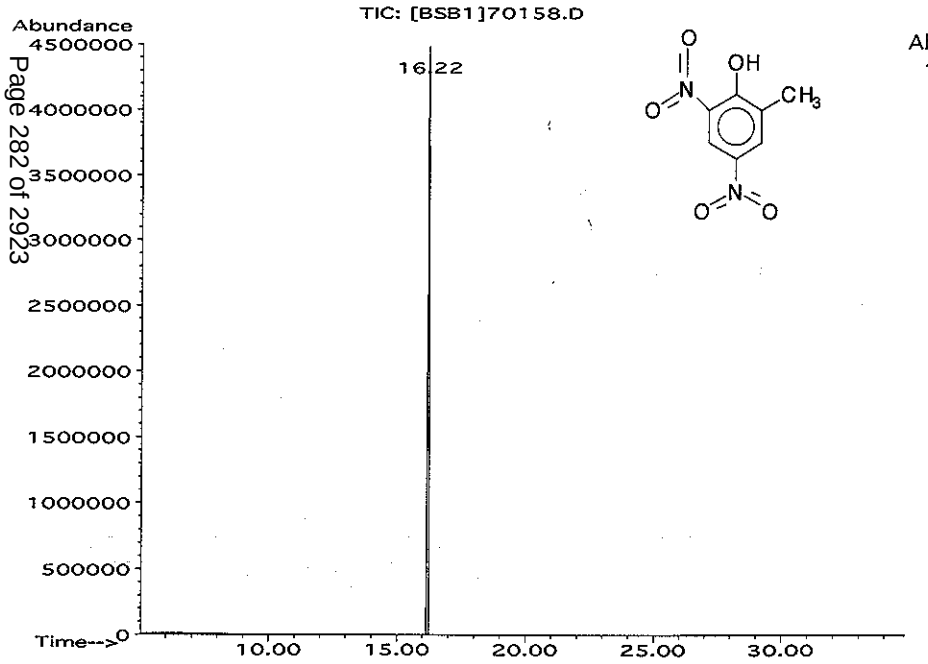
CERTIFIED WEIGHT REPORT

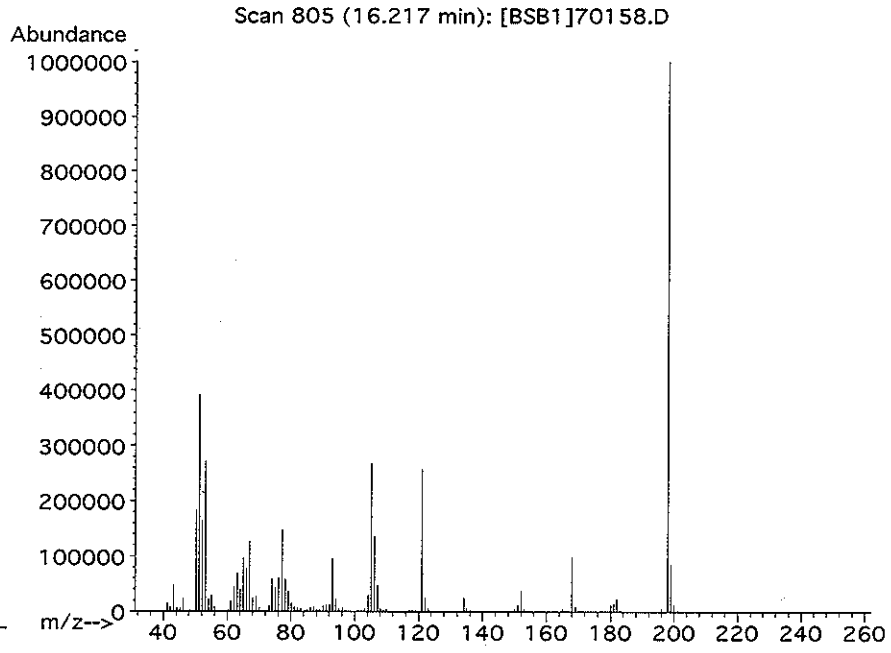
Part Number:	**70158**	**Solvent(s):**	**Lot#**	
Lot Number:	102017	Methanol	DQ538	
Description:	4,6-Dinitro-2-methylphenol			
Expiration Date:	102022			
Recommended Storage:	Refrigerate (4 °C)			
Nominal Concentration (µg/mL):	1000			
NIST Test ID#:	2506734D	5E-05	Balance Uncertainty	
Weight(s) shown below were combined and diluted to (mL):	10.0	0.002	Flask Uncertainty	

		102017
Formulated By:	Mario Luis	DATE
		102017
Reviewed By:	Pedro L. Rentas	DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (g)	Actual Weight (g)	Actual Conc(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. 4,6-Dinitro-2-methylphenol	158	LC25844V	1000	99	0.2	0.01006	0.01008	1001.7	10.7	534-52-1	N/A	N/A

Method GC8MSD1.M: Column:SPB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (9min.), Rate = 10°C/min., Injector B=200°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Melissa Stonier.



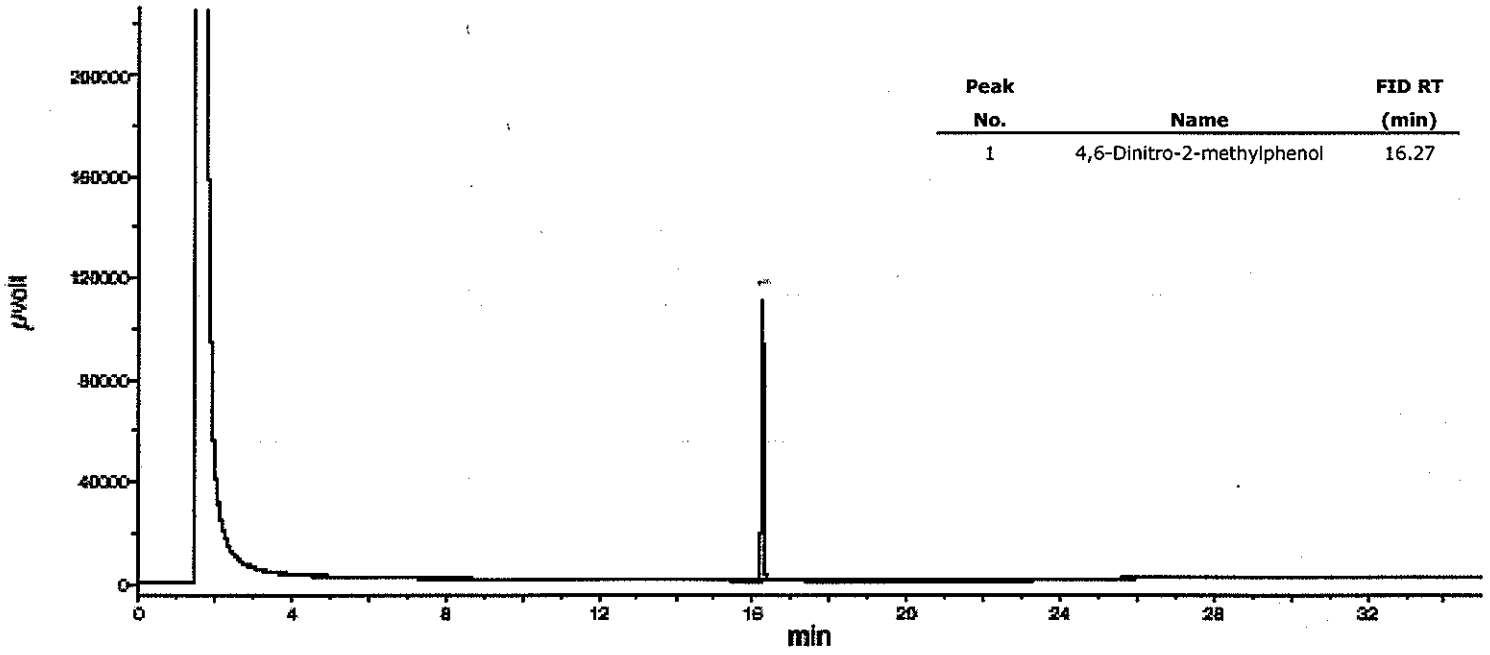


- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Run 103, "P70158 L102017 [1000µg/mL in methanol]"

Run Length: 35.00 min, 20998 points at 10 points/second.
Created: Tue, Oct 24, 2017 at 11:13:01 PM.
Sampled: Sequence "102017-GC4M1", Method "GC4-M1".
Analyzed using Method "GC4-M1".

Comments
GC4-M1 Analysis by Melissa Stonier
Column ID SPB5 L#60062-01A : 30 meter x 0.53mm x 1.5um Film Thickness
Flow rates; Total Flow = 300 ml/min, Helium (carrier) = 6.5 mL, Helium (make-up) = 25 mL, Hydrogen (detector) = 30 mL, Air (detector) =360 mL
Oven Temp 1 = 50°C (1 min), Rate = 10°C/min, Oven Temp 2 = 300°C (9 min), Total Run Time = 35 Minutes.
Injector Temp = 200°C, FID Temp = 300°C, FID Signal = eDaq Channel 1.
Gas Chromatograph = HP 5890, Auto Sampler = HP 7673, Standard Injection = 0.5 uL, Range = 3



Peak No.	Name	FID RT (min)
1	4,6-Dinitro-2-methylphenol	16.27

Reagent

MSS_AB_4NP_00001

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part Number: 70231
Lot Number: 100716
Description: 4-Nitrophenol

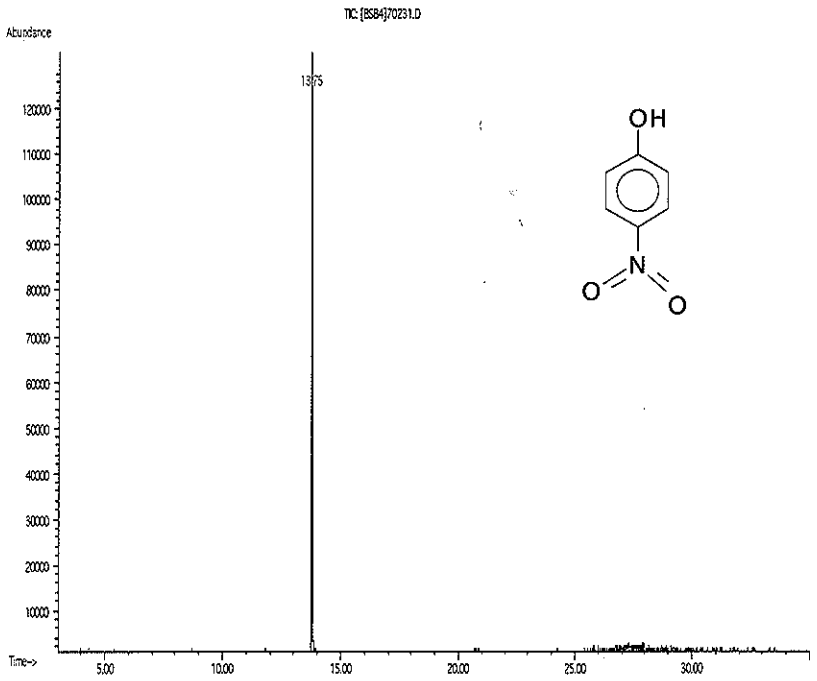
Solvent(s): Methanol **Lot#** DP303

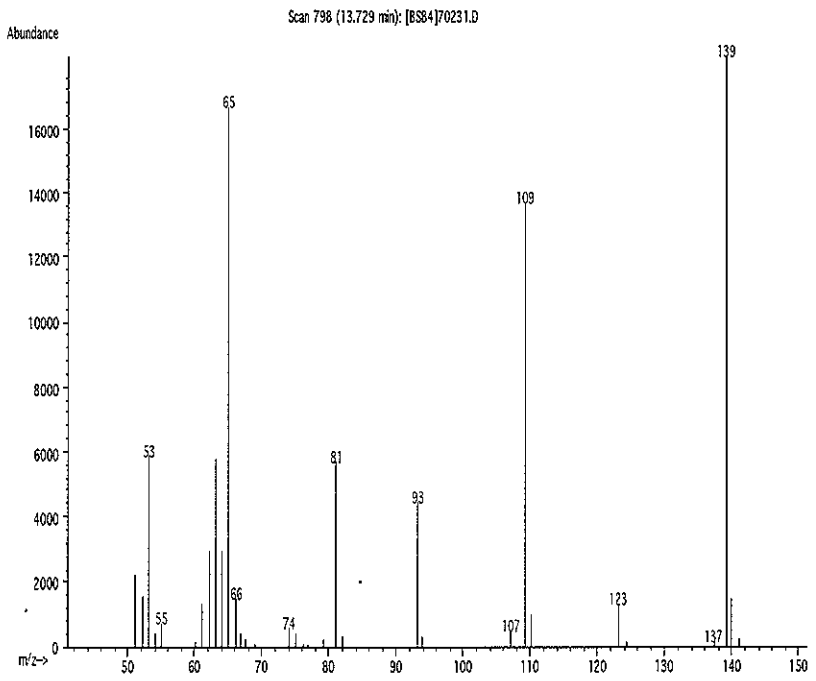
Expiration Date: 100721
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 1000
NIST Test ID#: 822-275872-11 5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 100.0 0.001 Flask Uncertainty

Paul Barron		100716
Formulated By:	Paul Barron	DATE
Pedro Rentas		100716
Reviewed By:	Pedro L. Rentas	DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. 4-Nitrophenol	231	FGM01	1000	99	0.2	0.10102	0.10125	1002.3	4.2	100-02-7	N/A	orl-rat 250mg/kg

Method GC8MSD-3.M: Column:SPB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (9min.), Rate = 10°C/min., Injector B= 200°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Candice Warren.





- **The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.**
- **Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).**
- **Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.**
- **All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.**
- **Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).**

Reagent

MSS_AB_BZIDIN_00004

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

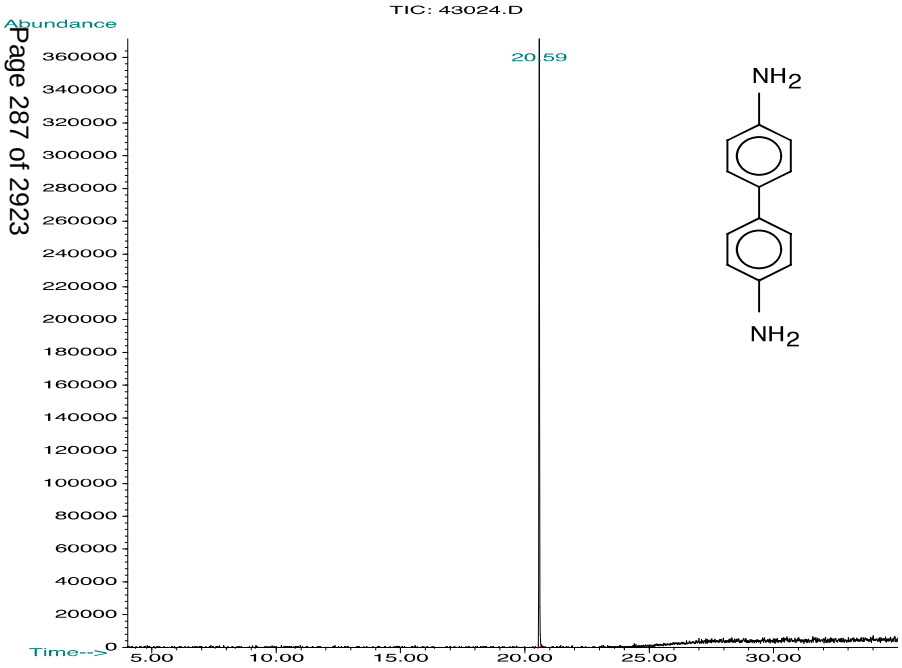
CERTIFIED WEIGHT REPORT

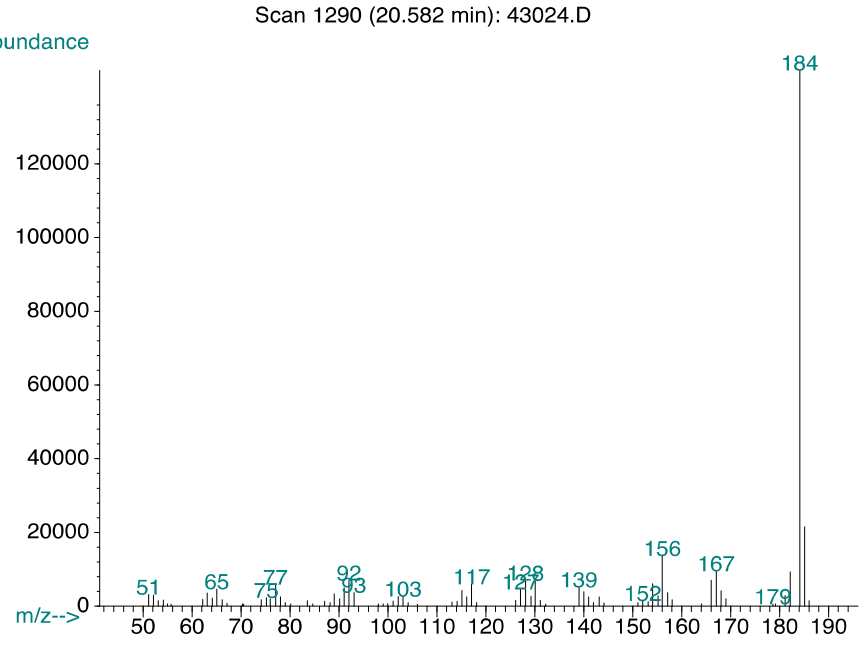
Part Number:	**43124**	**Solvent:**	**Lot#**	
Lot Number:	012920	Methylene chloride	104929	
Description:	Benzidine			
Expiration Date:	012923			
Recommended Storage:	Refrigerate (4 °C)			
Nominal Concentration (µg/mL):	5000			
NIST Test ID#:	6UTB	5E-05	Balance Uncertainty	
Weight(s) shown below were combined and diluted to (mL):	30.0	0.002	Flask Uncertainty	

Eli Aliaga		012920
Formulated By:	Eli Aliaga	DATE
Pedro Rentas		012920
Reviewed By:	Pedro L. Rentas	DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity (%)	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Benzidine	27	SLBH5327V	5000	98	0.2	0.15318	0.15320	5000.7	20.7	92-87-5	N/A	orl-rat 309mg/kg

Method GC8MSD-3.M: Column:SPB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (9min.), Rate = 10°C/min., Injector B= 200°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by Nicole Davis.





Page 287 of 2923

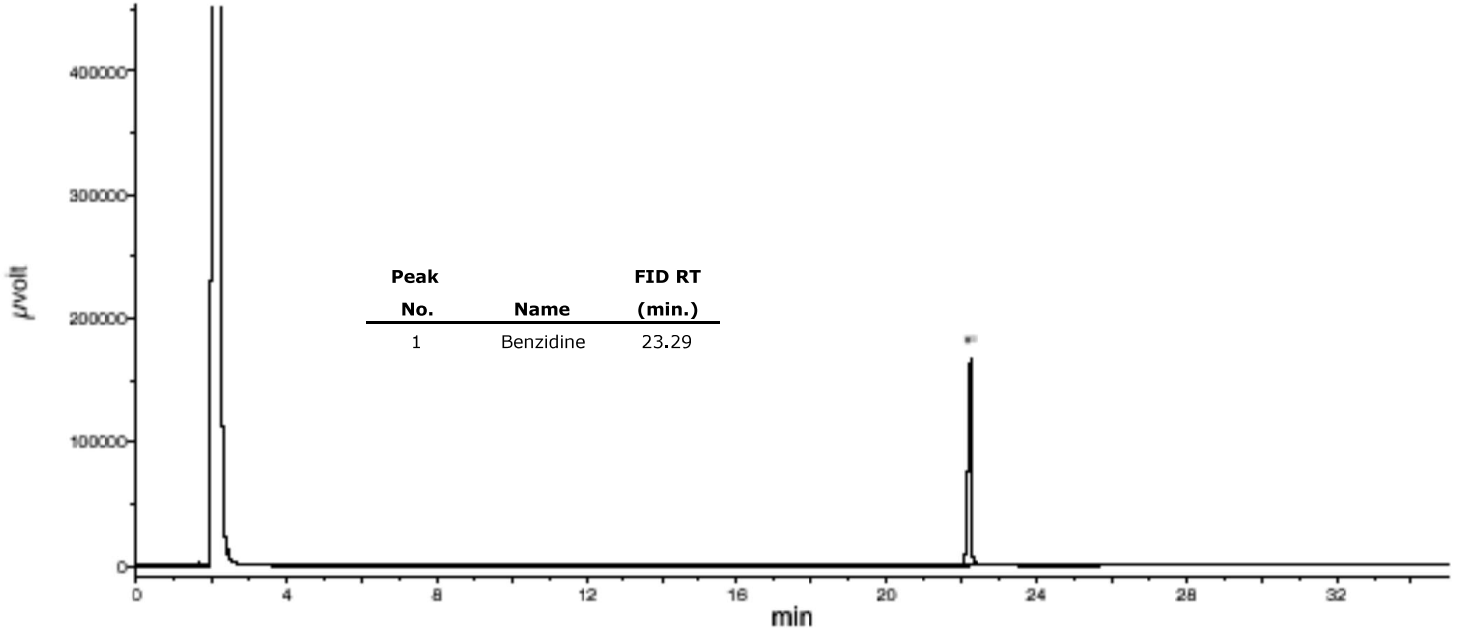
- **The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.**
- **Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).**
- **Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.**
- **All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.**
- **Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).**

Run 63, "P43124 L012920 [5000µg/mL in MeCl2]"

Run Length: 31.55 min, 18929 points at 10 points/second.
Created: Fri, Jan 31, 2020 at 11:15:27 AM.
Sampled: Sequence "012820-GC4M1", Method "GC4-M1".
Analyzed using Method "GC4-M1".

Comments

GC4-M1 Analysis by Melissa Stonier
Column ID SPB5 L#60062-01A : 30 meter x 0.53mm x 1.5um Film Thickness
Flow rates; Total Flow = 300 ml/min, Helium (carrier) = 6.5 mL, Helium (make-up) = 25 mL, Hydrogen (detector) = 30 mL, Air (detector) =360 mL
Oven Temp 1 = 50°C (1 min), Rate = 10°C/min, Oven Temp 2 = 300°C (9 min), Total Run Time = 35 Minutes.
Injector Temp = 200°C, FID Temp = 300°C, FID Signal = eDaq Channel 1.
Gas Chromatograph = HP 5890, Auto Sampler = HP 7673, Standard Injection = 0.5 uL, Range = 6



Peak No.	Name	FID RT (min.)
1	Benzidine	23.29

Reagent

MSS_AB_BZIDIN_00006

CERTIFIED WEIGHT REPORT

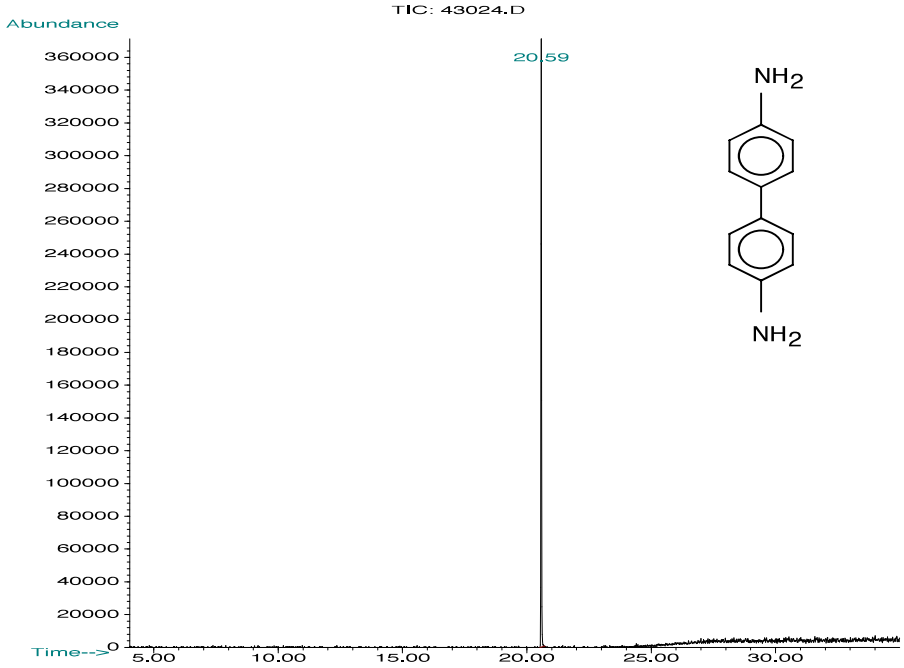
Part Number:	**43124**	**Solvent:**	**Lot#**	
Lot Number:	012920	Methylene chloride	104929	
Description:	Benzidine			
Expiration Date:	012923			
Recommended Storage:	Refrigerate (4 °C)			
Nominal Concentration (µg/mL):	5000			
NIST Test ID#:	6UTB	5E-05	Balance Uncertainty	
Weight(s) shown below were combined and diluted to (mL):	30.0	0.002	Flask Uncertainty	

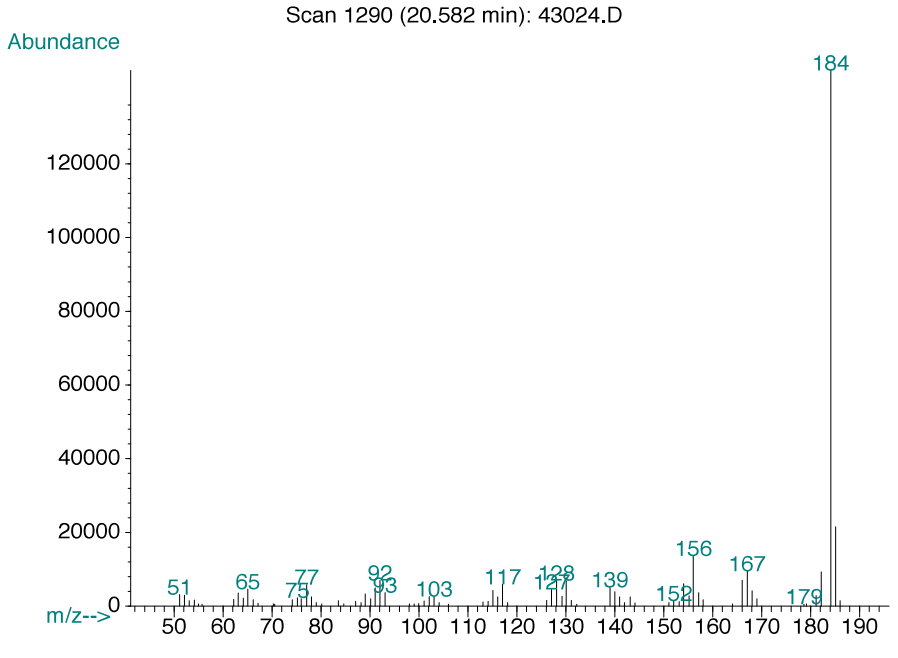
Formulated By: Eli Aliaga 012920 DATE

Reviewed By: Pedro L. Rentas 012920 DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity (%)	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Benzidine	27	SLBH5327V	5000	98	0.2	0.15318	0.15320	5000.7	20.7	92-87-5	N/A	orl-rat 309mg/kg

Method GC8MSD-3.M: Column:SPB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (9min.), Rate = 10°C/min., Injector B= 200°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by Nicole Davis.





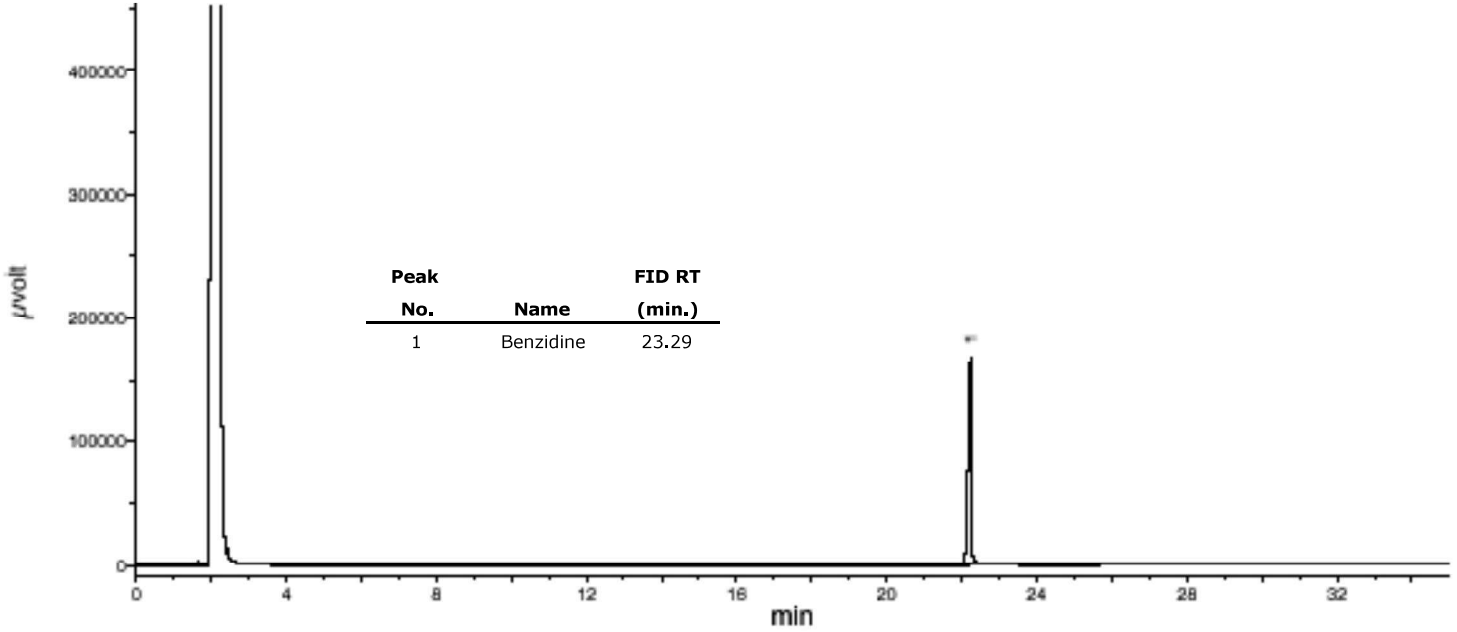
- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Run 63, "P43124 L012920 [5000µg/mL in MeCl2]"

Run Length: 31.55 min, 18929 points at 10 points/second.
Created: Fri, Jan 31, 2020 at 11:15:27 AM.
Sampled: Sequence "012820-GC4M1", Method "GC4-M1".
Analyzed using Method "GC4-M1".

Comments

GC4-M1 Analysis by Melissa Stonier
Column ID SPB5 L#60062-01A : 30 meter x 0.53mm x 1.5um Film Thickness
Flow rates; Total Flow = 300 ml/min, Helium (carrier) = 6.5 mL, Helium (make-up) = 25 mL, Hydrogen (detector) = 30 mL, Air (detector) =360 mL
Oven Temp 1 = 50°C (1 min), Rate = 10°C/min, Oven Temp 2 = 300°C (9 min), Total Run Time = 35 Minutes.
Injector Temp = 200°C, FID Temp = 300°C, FID Signal = eDaq Channel 1.
Gas Chromatograph = HP 5890, Auto Sampler = HP 7673, Standard Injection = 0.5 uL, Range = 6



Peak No.	Name	FID RT (min.)
1	Benzidine	23.29

Reagent

MSS_AB_DFTPP_00005

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT

Part Number: 43030
Lot Number: 112519
Description: CLP Semi-Volatile Tuning Standard
4 components
Expiration Date: 112522
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 500
NIST Test ID#: 6UTB

Solvent(s): Methylene chloride **Lot#** 102968

5E-05 Balance Uncertainty
0.058 Flask Uncertainty

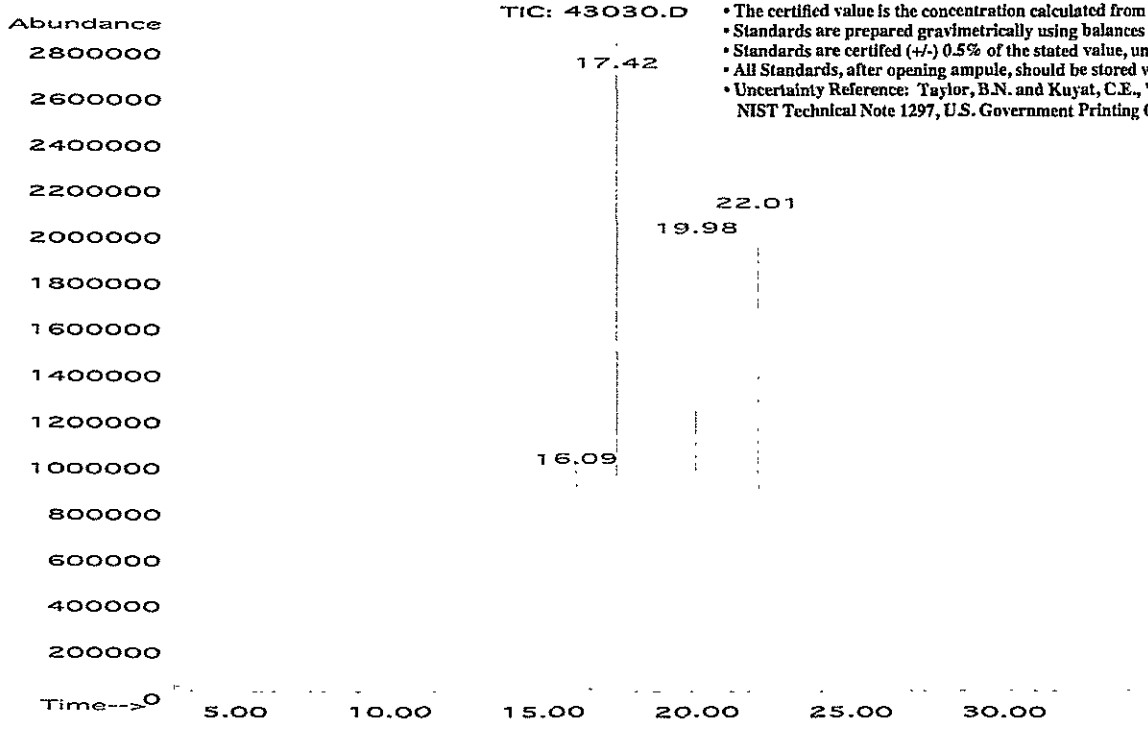
Eli Aliaga	112519
Formulated By: Eli Aliaga	DATE
Pedro Rentas	112519
Reviewed By: Pedro L. Rentas	DATE

Weight(s) shown below were combined and diluted to (mL): 200.0

CAUTION: Sonicate Before Use

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	SDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Benzidine	27	SLBH5327V	500	98	0.2	0.10205	0.10220	500.7	2.1	92-87-5	N/A	orl-rat 309mg/kg
2. 4,4'-DDT	101	04029MM	500	99	0.2	0.10102	0.10115	500.6	2.1	50-29-3	N/A	orl-rat 87mg/kg
3. Decafluorotriphenylphosphine	105	10220909	500	97	0.2	0.10311	0.10325	500.7	2.1	5074-71-5	N/A	N/A
4. Pentachlorophenol	243	06324ED	500	98	0.2	0.10205	0.10220	500.7	2.1	87-86-5	0.5mg/m3/8H (skin)	orl-rat 27mg/kg

Method GC8MSD-3.M: Column:SPB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (9min.), Rate = 10°C/min., Injector B= 200°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Gina McLane.



- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Retention Time (min.)

Pentachlorophenol	16.09
Decafluorotriphenylphosphine	17.42
Benzidine	19.98
4,4'-DDT	22.01

410-39840

Reagent

MSS_AB_HCCPD_00002

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ISO 9001 QS Registered
ISO 17025-34-35-43 Accredited
Scopes: http://AbsoluteStandards.com

CERTIFIED WEIGHT REPORT

Part Number: 79142
Lot Number: 042617
Description: Hexachlorocyclopentadiene

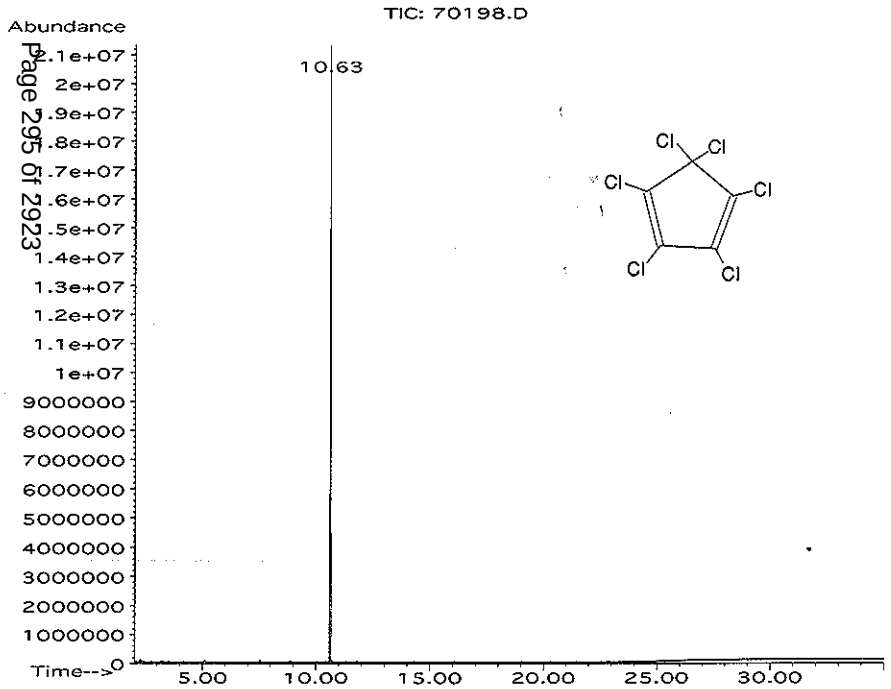
Solvent(s): **Lot#**
Acetone 81025

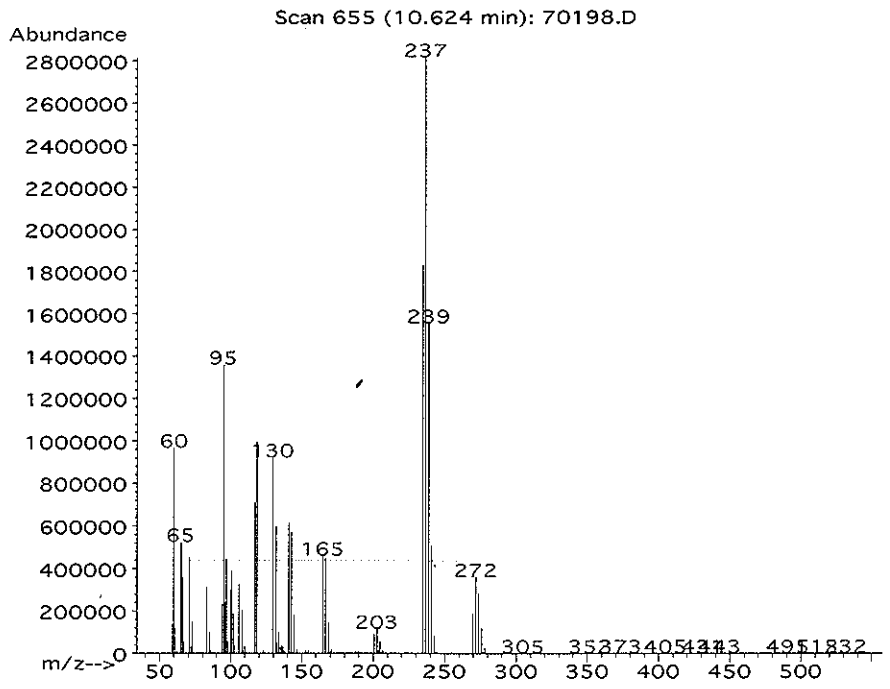
Expiration Date: 042622
Recommended Storage: Refrigerate (4 °C)
Nominal Concentration (µg/mL): 1000
NIST Test ID#: 2506734D 5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to (mL): 100.0 0.057 Flask Uncertainty

Formulated By:	Paul Barron	042617 DATE
Reviewed By:	Pedro L. Rentas	042617 DATE

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight (g)	Actual Weight (g)	Actual Conc(µg/mL)	Expanded Uncertainty (+/-) (µg/mL)	MSDS Information (Solvent Safety Info. On Attached pg.) CAS#	OSHA PEL (TWA)	LD50
1. Hexachlorocyclopentadiene	198	1270657	1000	98	0.2	0.10205	0.10214	1000.9	4.4	77-47-4	0.01 ppm (0.1mg/m3/8H)	orl-rat 1300mg/kg

Method GC8MSD-3.M: Column:SPB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (9min.), Rate = 10°C/min., Injector B= 200°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Gina McLane.



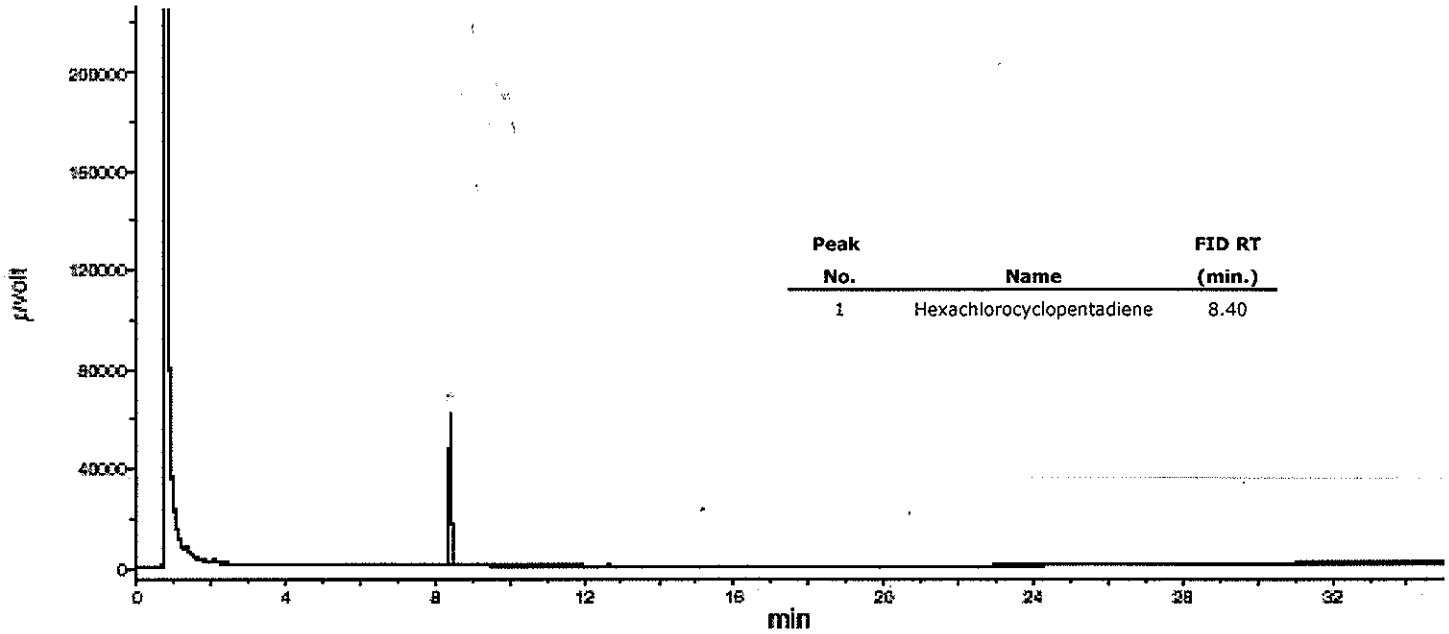


- **The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.**
- **Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).**
- **Standards are certifed (+/-) 0.5% of the stated value, unless otherwise stated.**
- **All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.**
- **Uncertainty Reference: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).**

Run 34, "P79142 L042617 [1000µg/mL in acetone]"

Run Length: 35.00 min, 20998 points at 10 points/second.
Created: Sat, Apr 29, 2017 at 1:40:15 PM.
Sampled: Sequence "042817b-GC9M1", Method "GC9-M1".
Analyzed using Method "GC9-M1".

Comments
GC9-M1 Analysis by Melissa Stonier
Column ID Rtx-5 30 meter x 0.53mm x .5um Film Thickness
Flow rates; Total Flow = 300 ml/min, Helium (carrier) = 6.5 mL, Helium (make-up) = 25 mL, Hydrogen (detector) = 30 mL, Air (detector) =360 mL
Oven Temp 1 = 50°C (1 min), Rate = 10°C/min, Oven Temp 2 = 300°C (9 min), Total Run Time = 35 Minutes.
Injector Temp = 200°C, FID Temp = 300°C, FID Signal = eDaq Channel 1.
Gas Chromatograph = HP 5890, Auto Sampler = HP 7673, Standard Injection = 0.5 uL, Range = 3



Peak No.	Name	FID RT (min.)
1	Hexachlorocyclopentadiene	8.40

Reagent

MSS_CR8270_1_00004

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 572878-1 **Lot No.:** A0154042

Description : Custom 8270 Kit Ampul #1

Custom 8270 Kit Ampul #1 5,000µg/mL, Methylene chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : October 31, 2022 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Diphenylamine	5,006.0 µg/mL	+/- 29.3780	µg/mL	Gravimetric
	CAS # 122-39-4 (Lot MKBN8295V)		+/- 59.9751	µg/mL	Unstressed
	Purity 99%		+/- 95.3214	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

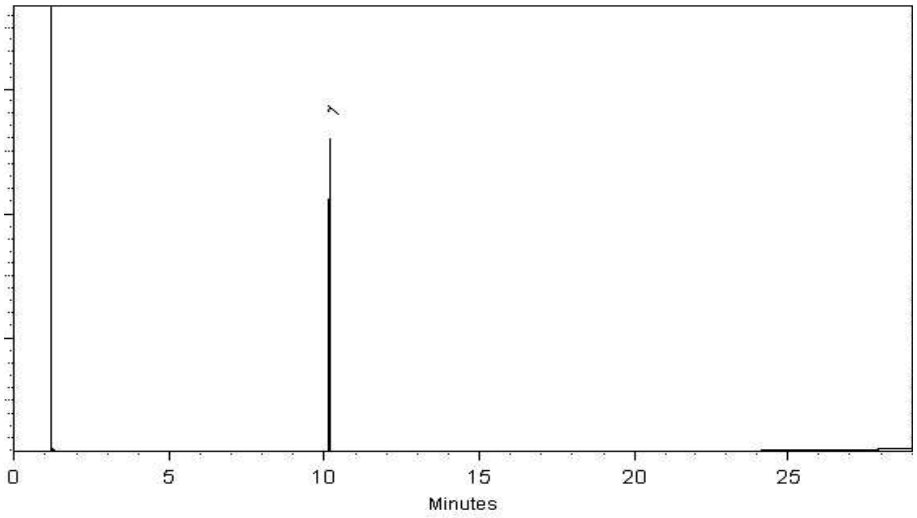
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Walker Workman - Operations Technician I

Date Mixed: 16-Oct-2019 **Balance:** 1128360905

Fang-Yun Lo - QC Analyst

Date Passed: 20-Oct-2019

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSS_CR8270_3_00004

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 572878-3 **Lot No.:** A0130858

Description : Custom 8270 Kit Ampul #3

Custom 8270 Kit Ampul #3 2,000µg/mL, Methylene chloride, 2.5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 2.5 mL

Expiration Date : September 30, 2021 **Storage:** 10°C or colder

Handling: Contains carcinogen/reproductive toxin.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Benzidine	2,011.0 µg/mL	+/- 11.8017 µg/mL	Gravimetric
	CAS # 92-87-5 (Lot 171707KJA)		+/- 24.0931 µg/mL	Unstressed
	Purity 99%		+/- 38.2923 µg/mL	Stressed
2	3,3'-Dimethylbenzidine (o-tolidine)	2,007.4 µg/mL	+/- 11.7803 µg/mL	Gravimetric
	CAS # 119-93-7 (Lot HO6DO)		+/- 24.0494 µg/mL	Unstressed
	Purity 95%		+/- 38.2228 µg/mL	Stressed
3	3,3'-Dichlorobenzidine	1,984.0 µg/mL	+/- 11.7844 µg/mL	Gravimetric
	CAS # 91-94-1 (Lot 161027KJA)		+/- 23.8391 µg/mL	Unstressed
	Purity 99%		+/- 37.8219 µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

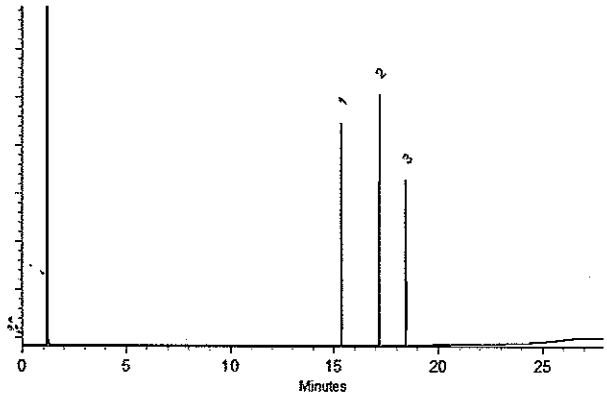
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dawn Brownson - Mix Technician

Date Mixed: 18-Sep-2017 **Balance:** 1128360905

Justine Albertson - Operations Tech-ARM QC

Date Passed: 29-Sep-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

MSS_CR8270_6_00005

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 572878-6 **Lot No.:** A0146280

Description : Custom 8270 Kit Ampul #6

Custom 8270 Kit Ampul #6 2,000µg/mL, Methylene chloride, 2.5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 2.5 mL

Expiration Date : February 28, 2021 **Storage:** 10°C or colder

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Benzoic acid	2,013.0 µg/mL	+/- 11.8134 µg/mL	Gravimetric
	CAS # 65-85-0 (Lot MKCC9722)		+/- 107.0769 µg/mL	Unstressed
	Purity 99%		+/- 107.2563 µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

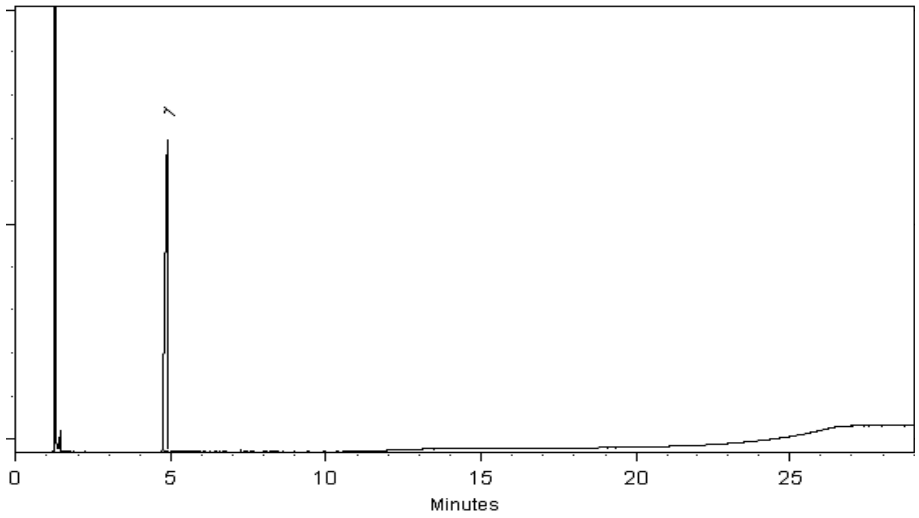
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Rebecca Sawyer

Date Mixed: 21-Feb-2019 **Balance:** B442140311

Justine Albertson - Operations Tech-ARM QC

Date Passed: 22-Feb-2019

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSS_CR8270_7_00004

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 572878-7 **Lot No.:** A0155157

Description : Custom 8270 Kit Ampul #7

Custom 8270 Kit Ampul #7 2,000µg/mL, Methylene chloride, 2.5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 2.5 mL

Expiration Date : November 30, 2022 **Storage:** 10°C or colder

Handling: Contains carcinogen/reproductive toxin.

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,4-Dioxane **CAS #** 123-91-1 (Lot SHBK6493) **Purity** 99%	2,004.0 µg/mL	+/- 11.7606 µg/mL +/- 24.0092 µg/mL +/- 38.1590 µg/mL	Gravimetric Unstressed Stressed
2	Pyridine **CAS #** 110-86-1 (Lot SHBK6453) **Purity** 99%	2,004.0 µg/mL	+/- 11.7606 µg/mL +/- 24.0092 µg/mL +/- 38.1590 µg/mL	Gravimetric Unstressed Stressed
3	2-Picoline **CAS #** 109-06-8 (Lot STBD4888V) **Purity** 99%	2,010.0 µg/mL	+/- 11.7958 µg/mL +/- 24.0811 µg/mL +/- 38.2733 µg/mL	Gravimetric Unstressed Stressed
4	Aniline **CAS #** 62-53-3 (Lot K22Z462) **Purity** 99%	2,010.0 µg/mL	+/- 11.7958 µg/mL +/- 24.0811 µg/mL +/- 38.2733 µg/mL	Gravimetric Unstressed Stressed
5	o-Toluidine **CAS #** 95-53-4 (Lot 03417PZ) **Purity** 99%	2,004.0 µg/mL	+/- 11.7606 µg/mL +/- 24.0092 µg/mL +/- 38.1590 µg/mL	Gravimetric Unstressed Stressed
6	1-Methylnaphthalene **CAS #** 90-12-0 (Lot 523400-9) **Purity** 98%	2,005.1 µg/mL	+/- 11.7669 µg/mL +/- 24.0222 µg/mL +/- 38.1796 µg/mL	Gravimetric Unstressed Stressed
7	Diphenyl ether **CAS #** 101-84-8 (Lot MKCB1958V) **Purity** 99%	2,002.0 µg/mL	+/- 11.7489 µg/mL +/- 23.9853 µg/mL +/- 38.1209 µg/mL	Gravimetric Unstressed Stressed

8	1-Naphthylamine (1-aminonaphthalene)		2,009.0	µg/mL	+/-	11.7899	µg/mL	Gravimetric
	CAS # 134-32-7	(Lot R7NAN-IP)			+/-	24.0691	µg/mL	Unstressed
	Purity 99%				+/-	38.2542	µg/mL	Stressed
9	2-Naphthylamine (2-aminonaphthalene)		2,010.0	µg/mL	+/-	11.7958	µg/mL	Gravimetric
	CAS # 91-59-8	(Lot SLBN2887V)			+/-	24.0811	µg/mL	Unstressed
	Purity 99%				+/-	38.2733	µg/mL	Stressed
10	7,12-Dimethylbenz(a)anthracene		2,002.0	µg/mL	+/-	11.7489	µg/mL	Gravimetric
	CAS # 57-97-6	(Lot VLKJI)			+/-	23.9853	µg/mL	Unstressed
	Purity 99%				+/-	38.1209	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

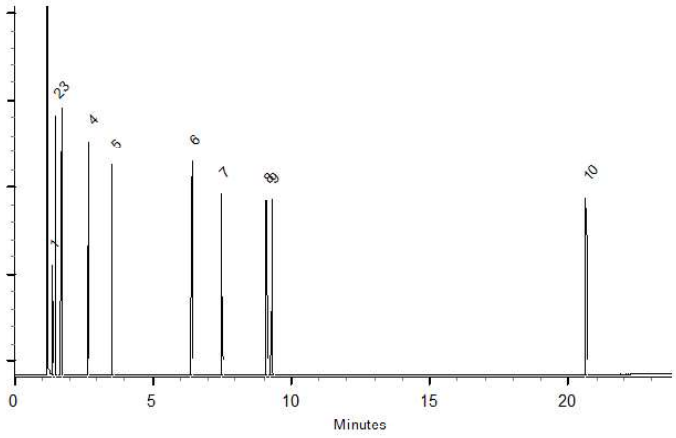
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Clara Windle - Operations Technician I

Date Mixed: 18-Nov-2019 **Balance:** B442140311

Justine Albertson - Operations Tech-ARM QC

Date Passed: 21-Nov-2019

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSS_CR8270_8_00002

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 572878-8 **Lot No.:** A0146313

Description : Custom 8270 Kit Ampul #8

Custom 8270 Kit Ampul #8 2,000µg/mL, Methylene chloride, 2.5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 2.5 mL

Expiration Date : February 28, 2021 **Storage:** 0°C or colder

Handling: This product is photosensitive.

C E R T I F I E D V A L U E S

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Benzaldehyde		2,006.0 µg/mL	+/- 11.7723	µg/mL	Gravimetric
	CAS # 100-52-7	(Lot SHBG8690V)		+/- 64.3236	µg/mL	Unstressed
	Purity 99%			+/- 74.7676	µg/mL	Stressed
2	Acetophenone		2,020.0 µg/mL	+/- 11.8545	µg/mL	Gravimetric
	CAS # 98-86-2	(Lot STBG8586)		+/- 64.7725	µg/mL	Unstressed
	Purity 99%			+/- 75.2894	µg/mL	Stressed
3	epsilon-Caprolactam		2,004.0 µg/mL	+/- 11.7606	µg/mL	Gravimetric
	CAS # 105-60-2	(Lot I16X016)		+/- 64.2594	µg/mL	Unstressed
	Purity 99%			+/- 74.6931	µg/mL	Stressed
4	Biphenyl		2,014.0 µg/mL	+/- 11.8193	µg/mL	Gravimetric
	CAS # 92-52-4	(Lot MKBV9808V)		+/- 64.5801	µg/mL	Unstressed
	Purity 99%			+/- 75.0658	µg/mL	Stressed
5	Atrazine		2,020.0 µg/mL	+/- 11.8545	µg/mL	Gravimetric
	CAS # 1912-24-9	(Lot 77P7D)		+/- 64.7725	µg/mL	Unstressed
	Purity 99%			+/- 75.2894	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

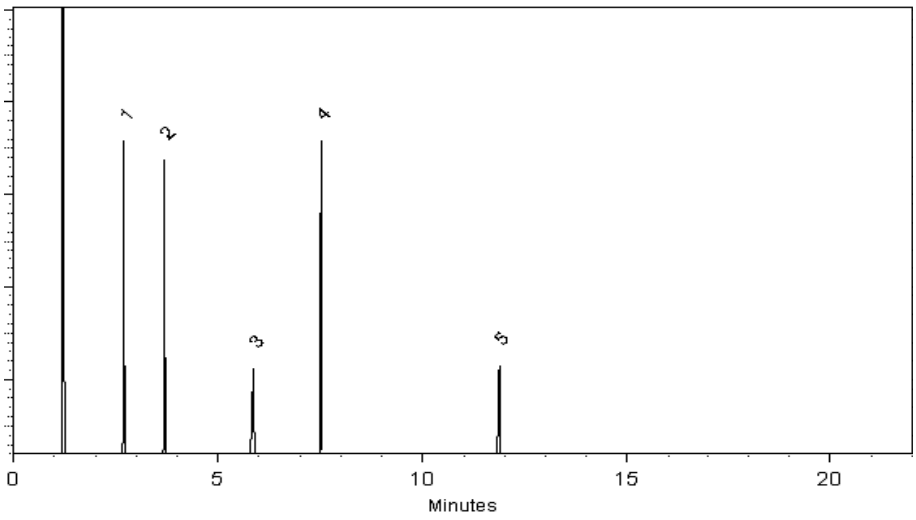
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust - Mix Technician

Date Mixed: 21-Feb-2019 **Balance:** 1128360905

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 26-Feb-2019

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSS_CR8270_9_00003

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 572878-9 **Lot No.:** A0131112

Description : Custom 8270 Kit Ampul #9

Custom 8270 Kit Ampul #9 5,000µg/mL, Methylene chloride, 2.5mL/ampul

Container Size : 5 mL **Pkg Amt:** > 2.5 mL

Expiration Date : September 30, 2021 **Storage:** 10°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	alpha-Methylstyrene		5,007.0 µg/mL	+/- 29.3839	µg/mL	Gravimetric
	CAS # 98-83-9	(Lot MKBS2502V)		+/- 107.2749	µg/mL	Unstressed
	Purity 99%			+/- 110.3893	µg/mL	Stressed
2	Benzyl alcohol		5,016.0 µg/mL	+/- 29.4367	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot SHBC1850V)		+/- 107.4677	µg/mL	Unstressed
	Purity 99%			+/- 110.5877	µg/mL	Stressed
3	Indene		5,032.3 µg/mL	+/- 29.5324	µg/mL	Gravimetric
	CAS # 95-13-6	(Lot MKBT8433V)		+/- 107.8169	µg/mL	Unstressed
	Purity 98%			+/- 110.9470	µg/mL	Stressed
4	Octachlorostyrene		5,050.0 µg/mL	+/- 29.6362	µg/mL	Gravimetric
	CAS # 29082-74-4	(Lot 35081-16)		+/- 108.1961	µg/mL	Unstressed
	Purity 99%			+/- 111.3373	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

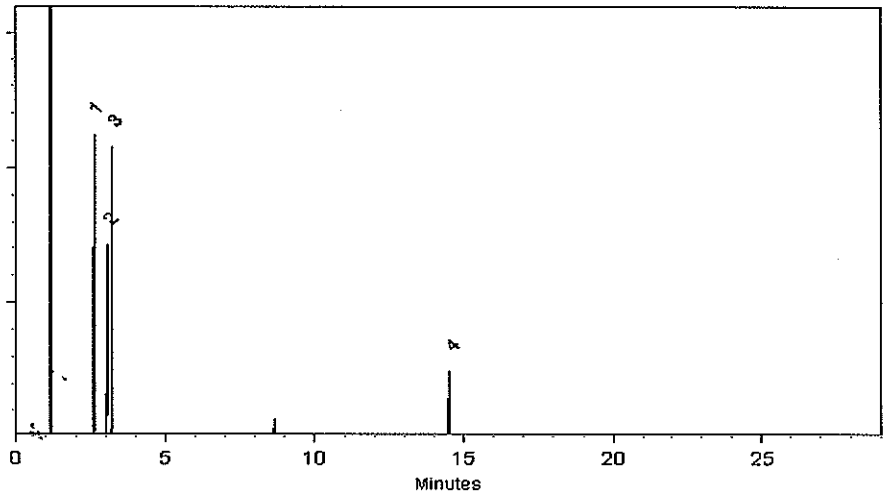
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dawn Brownson - Mix Technician **Date Mixed:** 26-Sep-2017 **Balance:** B442140311

Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 28-Sep-2017

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

MSS_FV8270_IS_00001

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Composition

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 573355 **Lot No.:** A0134880

Description : Custom Internal Standard

Custom Internal Standard 1,000µg/mL, Methylene chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2021 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	1,4-Dichlorobenzene-d4		1,000.9	µg/mL	+/- 5.8193	µg/mL	Gravimetric
	CAS # 3855-82-1	(Lot PR-18488)			+/- 45.0811	µg/mL	Unstressed
	Purity 99%				+/- 50.0231	µg/mL	Stressed
2	Naphthalene-d8		1,002.9	µg/mL	+/- 5.8307	µg/mL	Gravimetric
	CAS # 1146-65-2	(Lot PR-20449)			+/- 45.1690	µg/mL	Unstressed
	Purity 99%				+/- 50.1205	µg/mL	Stressed
3	Acenaphthene-d10		1,001.1	µg/mL	+/- 5.8205	µg/mL	Gravimetric
	CAS # 15067-26-2	(Lot PR-25444)			+/- 45.0901	µg/mL	Unstressed
	Purity 99%				+/- 50.0331	µg/mL	Stressed
4	Phenanthrene-d10		1,003.1	µg/mL	+/- 5.8318	µg/mL	Gravimetric
	CAS # 1517-22-2	(Lot PR-27621)			+/- 45.1780	µg/mL	Unstressed
	Purity 99%				+/- 50.1305	µg/mL	Stressed
5	Pyrene-d10		1,003.3	µg/mL	+/- 5.8331	µg/mL	Gravimetric
	CAS # 1718-52-1	(Lot PR-14089)			+/- 45.1881	µg/mL	Unstressed
	Purity 98%				+/- 50.1418	µg/mL	Stressed
6	Perylene-d12		1,001.7	µg/mL	+/- 5.8237	µg/mL	Gravimetric
	CAS # 1520-96-3	(Lot PR-27342)			+/- 45.1149	µg/mL	Unstressed
	Purity 99%				+/- 50.0606	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

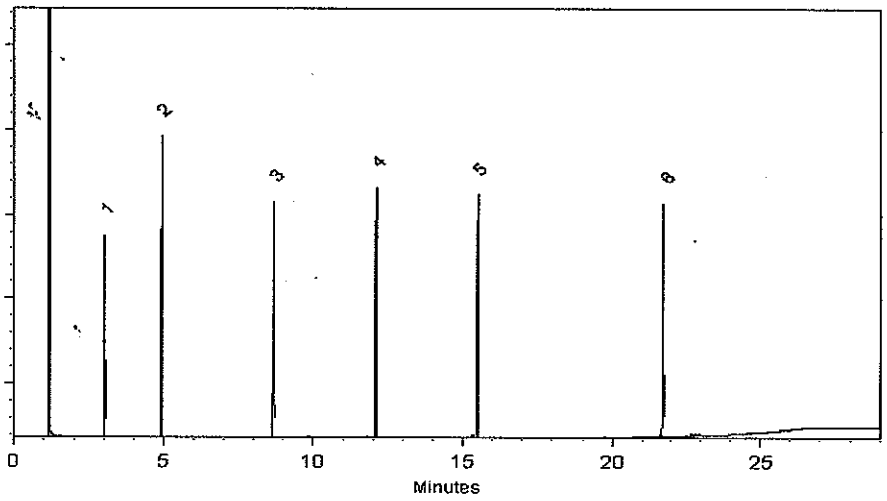
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dawn Brownson - Mix Technician **Date Mixed:** 05-Feb-2018 **Balance:** 1128360905

Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 07-Feb-2018 REVIEWED

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

MSS_FV8270_IS_00002

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Composition

ACCREDITED
ISO Guide 34 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 573355 **Lot No.:** A0134880

Description : Custom Internal Standard

Custom Internal Standard 1,000µg/mL, Methylene chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : February 28, 2021 **Storage:** 10°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	1,4-Dichlorobenzene-d4		1,000.9	µg/mL	+/- 5.8193	µg/mL	Gravimetric
	CAS # 3855-82-1	(Lot PR-18488)			+/- 45.0811	µg/mL	Unstressed
	Purity 99%				+/- 50.0231	µg/mL	Stressed
2	Naphthalene-d8		1,002.9	µg/mL	+/- 5.8307	µg/mL	Gravimetric
	CAS # 1146-65-2	(Lot PR-20449)			+/- 45.1690	µg/mL	Unstressed
	Purity 99%				+/- 50.1205	µg/mL	Stressed
3	Acenaphthene-d10		1,001.1	µg/mL	+/- 5.8205	µg/mL	Gravimetric
	CAS # 15067-26-2	(Lot PR-25444)			+/- 45.0901	µg/mL	Unstressed
	Purity 99%				+/- 50.0331	µg/mL	Stressed
4	Phenanthrene-d10		1,003.1	µg/mL	+/- 5.8318	µg/mL	Gravimetric
	CAS # 1517-22-2	(Lot PR-27621)			+/- 45.1780	µg/mL	Unstressed
	Purity 99%				+/- 50.1305	µg/mL	Stressed
5	Pyrene-d10		1,003.3	µg/mL	+/- 5.8331	µg/mL	Gravimetric
	CAS # 1718-52-1	(Lot PR-14089)			+/- 45.1881	µg/mL	Unstressed
	Purity 98%				+/- 50.1418	µg/mL	Stressed
6	Perylene-d12		1,001.7	µg/mL	+/- 5.8237	µg/mL	Gravimetric
	CAS # 1520-96-3	(Lot PR-27342)			+/- 45.1149	µg/mL	Unstressed
	Purity 99%				+/- 50.0606	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

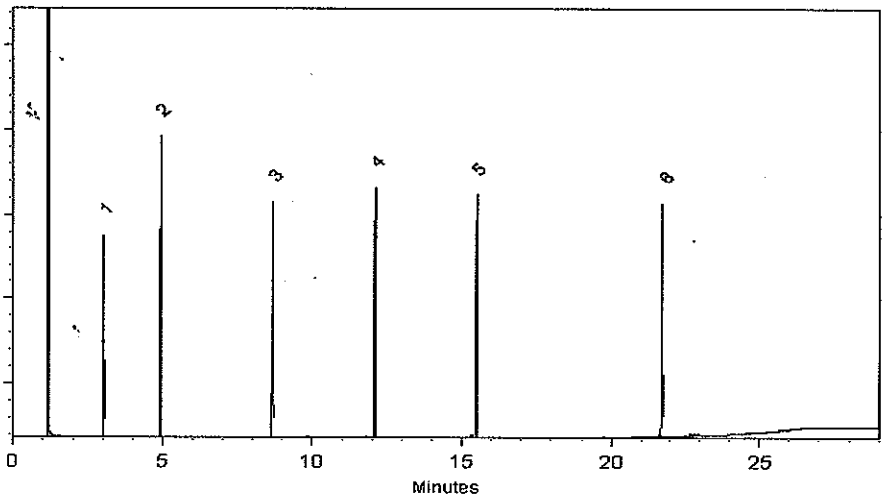
Carrier Gas:
hydrogen-constant flow 1.8 mL/min.

Temp. Program:
80°C (hold 0.1 min.) to 330°C
@ 9.6°C/min. (hold 2.86 min.)

Inj. Temp:
250°C

Det. Temp:
340°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dawn Brownson - Mix Technician **Date Mixed:** 05-Feb-2018 **Balance:** 1128360905

Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 07-Feb-2018 REVIEWED

Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

Reagent

MSS_REVLCS_1_00002

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 563246-3.SEC **Lot No.:** A0148568

Description : Revised LCS Spike Kit/ Ampule #1

Revised LCS Spike Kit/ Ampule #1 500-2,000µg/mL, Methylene chloride, 20mL/ampul

Container Size : 20 mL **Pkg Amt:** > 20 mL

Expiration Date : October 31, 2020 **Storage:** 0°C or colder

Handling: Carcinogen/reproductive toxin. Photosensitive. Sonicate.

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Pyridine	1,000.4 µg/mL	+/- 6.4337 µg/mL	Gravimetric
	CAS # 110-86-1.SEC (Lot QN8DK)		+/- 12.2707 µg/mL	Unstressed
	Purity 99%		+/- 19.2295 µg/mL	Stressed
2	N-Nitrosodimethylamine	1,000.6 µg/mL	+/- 6.4353 µg/mL	Gravimetric
	CAS # 62-75-9.SEC (Lot 71L89)		+/- 12.2738 µg/mL	Unstressed
	Purity 99%		+/- 19.2343 µg/mL	Stressed
3	2-Picoline	1,005.4 µg/mL	+/- 5.8590 µg/mL	Gravimetric
	CAS # 109-06-8.SEC (Lot PUXDM)		+/- 12.0252 µg/mL	Unstressed
	Purity 99%		+/- 19.1316 µg/mL	Stressed
4	Phenol	1,003.0 µg/mL	+/- 6.4503 µg/mL	Gravimetric
	CAS # 108-95-2.SEC (Lot EDPYN)		+/- 12.3023 µg/mL	Unstressed
	Purity 99%		+/- 19.2790 µg/mL	Stressed
5	Aniline	1,000.5 µg/mL	+/- 6.4345 µg/mL	Gravimetric
	CAS # 62-53-3.SEC (Lot ZCD3N)		+/- 12.2723 µg/mL	Unstressed
	Purity 99%		+/- 19.2319 µg/mL	Stressed
6	Bis(2-chloroethyl)ether	1,006.3 µg/mL	+/- 6.4719 µg/mL	Gravimetric
	CAS # 111-44-4.SEC (Lot FA010143)		+/- 12.3436 µg/mL	Unstressed
	Purity 99%		+/- 19.3437 µg/mL	Stressed
7	2-Chlorophenol	1,004.2 µg/mL	+/- 6.4580 µg/mL	Gravimetric
	CAS # 95-57-8.SEC (Lot GJ01)		+/- 12.3170 µg/mL	Unstressed
	Purity 99%		+/- 19.3021 µg/mL	Stressed

8	1,3-Dichlorobenzene		1,000.5	µg/mL	+/-	6.4345	µg/mL	Gravimetric
	CAS # 541-73-1.SEC	(Lot FMDFD)			+/-	12.2723	µg/mL	Unstressed
	Purity 99%				+/-	19.2319	µg/mL	Stressed
9	1,4-Dichlorobenzene		1,000.2	µg/mL	+/-	6.4325	µg/mL	Gravimetric
	CAS # 106-46-7.SEC	(Lot 4Y5DC)			+/-	12.2684	µg/mL	Unstressed
	Purity 99%				+/-	19.2259	µg/mL	Stressed
10	Benzyl alcohol		1,000.1	µg/mL	+/-	6.4321	µg/mL	Gravimetric
	CAS # 100-51-6.SEC	(Lot QZBUO)			+/-	12.2677	µg/mL	Unstressed
	Purity 99%				+/-	19.2247	µg/mL	Stressed
11	1,2-Dichlorobenzene		1,000.5	µg/mL	+/-	6.4345	µg/mL	Gravimetric
	CAS # 95-50-1.SEC	(Lot 4NRGF-OT)			+/-	12.2723	µg/mL	Unstressed
	Purity 99%				+/-	19.2319	µg/mL	Stressed
12	2-Methylphenol (o-cresol)		1,003.6	µg/mL	+/-	6.4545	µg/mL	Gravimetric
	CAS # 95-48-7.SEC	(Lot NC7HL)			+/-	12.3103	µg/mL	Unstressed
	Purity 99%				+/-	19.2915	µg/mL	Stressed
13	2,2'-oxybis(1-chloropropane)		1,004.4	µg/mL	+/-	6.4599	µg/mL	Gravimetric
	CAS # 108-60-1.SEC	(Lot 2-KMW-57-8)			+/-	12.3206	µg/mL	Unstressed
	Purity 99%				+/-	19.3076	µg/mL	Stressed
14	4-Methylphenol (p-cresol)		500.6	µg/mL	+/-	3.2195	µg/mL	Gravimetric
	CAS # 106-44-5.SEC	(Lot 65S2E)			+/-	6.1404	µg/mL	Unstressed
	Purity 99%				+/-	9.6227	µg/mL	Stressed
15	3-Methylphenol (m-cresol)		501.3	µg/mL	+/-	3.2237	µg/mL	Gravimetric
	CAS # 108-39-4.SEC	(Lot 6LHTM)			+/-	6.1484	µg/mL	Unstressed
	Purity 99%				+/-	9.6352	µg/mL	Stressed
16	Acetophenone		1,003.6	µg/mL	+/-	5.8485	µg/mL	Gravimetric
	CAS # 98-86-2.SEC	(Lot NSGTI)			+/-	12.0037	µg/mL	Unstressed
	Purity 99%				+/-	19.0973	µg/mL	Stressed
17	N-Nitroso-di-n-propylamine		1,000.1	µg/mL	+/-	6.4317	µg/mL	Gravimetric
	CAS # 621-64-7.SEC	(Lot 5939300)			+/-	12.2669	µg/mL	Unstressed
	Purity 99%				+/-	19.2235	µg/mL	Stressed
18	o-Toluidine		1,003.0	µg/mL	+/-	5.8450	µg/mL	Gravimetric
	CAS # 95-53-4.SEC	(Lot 42MPF)			+/-	11.9965	µg/mL	Unstressed
	Purity 99%				+/-	19.0859	µg/mL	Stressed
19	Hexachloroethane		1,005.8	µg/mL	+/-	6.4683	µg/mL	Gravimetric
	CAS # 67-72-1.SEC	(Lot 10173016)			+/-	12.3367	µg/mL	Unstressed
	Purity 99%				+/-	19.3329	µg/mL	Stressed
20	Nitrobenzene		1,003.8	µg/mL	+/-	6.4558	µg/mL	Gravimetric
	CAS # 98-95-3.SEC	(Lot FLYIG)			+/-	12.3129	µg/mL	Unstressed
	Purity 99%				+/-	19.2956	µg/mL	Stressed
21	Isophorone		1,000.8	µg/mL	+/-	6.4366	µg/mL	Gravimetric
	CAS # 78-59-1.SEC	(Lot XHGJI)			+/-	12.2761	µg/mL	Unstressed
	Purity 99%				+/-	19.2379	µg/mL	Stressed
22	2-Nitrophenol		1,001.7	µg/mL	+/-	6.4423	µg/mL	Gravimetric
	CAS # 88-75-5.SEC	(Lot GXJ7J)			+/-	12.2870	µg/mL	Unstressed
	Purity 99%				+/-	19.2550	µg/mL	Stressed
23	2,4-Dimethylphenol		1,001.8	µg/mL	+/-	6.4429	µg/mL	Gravimetric
	CAS # 105-67-9.SEC	(Lot MKBL3650V)			+/-	12.2882	µg/mL	Unstressed
	Purity 99%				+/-	19.2569	µg/mL	Stressed

24	Bis(2-chloroethoxy)methane		1,007.3	µg/mL	+/-	6.4784	µg/mL	Gravimetric
	CAS # 111-91-1 *	(Lot 4621000)			+/-	12.3558	µg/mL	Unstressed
	Purity 99%				+/-	19.3629	µg/mL	Stressed
25	2,4-Dichlorophenol		1,001.0	µg/mL	+/-	6.4378	µg/mL	Gravimetric
	CAS # 120-83-2.SEC	(Lot FHM01)			+/-	12.2784	µg/mL	Unstressed
	Purity 99%				+/-	19.2416	µg/mL	Stressed
26	1,2,4-Trichlorobenzene		1,000.1	µg/mL	+/-	6.4317	µg/mL	Gravimetric
	CAS # 120-82-1.SEC	(Lot OGO01)			+/-	12.2669	µg/mL	Unstressed
	Purity 99%				+/-	19.2235	µg/mL	Stressed
27	Naphthalene		1,007.3	µg/mL	+/-	6.4780	µg/mL	Gravimetric
	CAS # 91-20-3.SEC	(Lot SKZ5N)			+/-	12.3551	µg/mL	Unstressed
	Purity 99%				+/-	19.3617	µg/mL	Stressed
28	4-Chloroaniline		1,000.4	µg/mL	+/-	6.4337	µg/mL	Gravimetric
	CAS # 106-47-8.SEC	(Lot 10171860)			+/-	12.2707	µg/mL	Unstressed
	Purity 99%				+/-	19.2295	µg/mL	Stressed
29	Hexachlorobutadiene		1,008.2	µg/mL	+/-	6.4840	µg/mL	Gravimetric
	CAS # 87-68-3.SEC	(Lot 6878400)			+/-	12.3666	µg/mL	Unstressed
	Purity 97%				+/-	19.3798	µg/mL	Stressed
30	4-Chloro-3-methylphenol		1,000.5	µg/mL	+/-	6.4345	µg/mL	Gravimetric
	CAS # 59-50-7.SEC	(Lot FDO02)			+/-	12.2723	µg/mL	Unstressed
	Purity 99%				+/-	19.2319	µg/mL	Stressed
31	2-Methylnaphthalene		1,000.3	µg/mL	+/-	6.4331	µg/mL	Gravimetric
	CAS # 91-57-6.SEC	(Lot 76023-1)			+/-	12.2695	µg/mL	Unstressed
	Purity 98%				+/-	19.2276	µg/mL	Stressed
32	1-Methylnaphthalene		1,000.0	µg/mL	+/-	6.4313	µg/mL	Gravimetric
	CAS # 90-12-0.SEC	(Lot UATSA)			+/-	12.2661	µg/mL	Unstressed
	Purity 99%				+/-	19.2223	µg/mL	Stressed
33	1,2,4,5-Tetrachlorobenzene		1,003.8	µg/mL	+/-	5.8497	µg/mL	Gravimetric
	CAS # 95-94-3.SEC	(Lot AF02)			+/-	12.0061	µg/mL	Unstressed
	Purity 99%				+/-	19.1011	µg/mL	Stressed
34	Hexachlorocyclopentadiene		1,006.2	µg/mL	+/-	5.8637	µg/mL	Gravimetric
	CAS # 77-47-4.SEC	(Lot 8236100)			+/-	12.0348	µg/mL	Unstressed
	Purity 99%				+/-	19.1468	µg/mL	Stressed
35	2,4,6-Trichlorophenol		1,001.4	µg/mL	+/-	6.4404	µg/mL	Gravimetric
	CAS # 88-06-2.SEC	(Lot UUMYM)			+/-	12.2835	µg/mL	Unstressed
	Purity 98%				+/-	19.2495	µg/mL	Stressed
36	2,4,5-Trichlorophenol		1,004.9	µg/mL	+/-	6.4628	µg/mL	Gravimetric
	CAS # 95-95-4.SEC	(Lot MKBQ9937V)			+/-	12.3262	µg/mL	Unstressed
	Purity 99%				+/-	19.3165	µg/mL	Stressed
37	Biphenyl		1,004.0	µg/mL	+/-	5.8508	µg/mL	Gravimetric
	CAS # 92-52-4.SEC	(Lot 33OQE)			+/-	12.0084	µg/mL	Unstressed
	Purity 99%				+/-	19.1049	µg/mL	Stressed
38	2-Chloronaphthalene		1,000.7	µg/mL	+/-	6.4358	µg/mL	Gravimetric
	CAS # 91-58-7.SEC	(Lot 6899600)			+/-	12.2746	µg/mL	Unstressed
	Purity 99%				+/-	19.2355	µg/mL	Stressed
39	2-Nitroaniline		1,002.8	µg/mL	+/-	5.8438	µg/mL	Gravimetric
	CAS # 88-74-4.SEC	(Lot T6E7B)			+/-	11.9941	µg/mL	Unstressed
	Purity 99%				+/-	19.0821	µg/mL	Stressed

40	1,4-Dinitrobenzene		1,000.3	µg/mL	+/-	6.4329	µg/mL	Gravimetric
	CAS # 100-25-4.SEC	(Lot 3EUXH)			+/-	12.2692	µg/mL	Unstressed
	Purity 99%				+/-	19.2271	µg/mL	Stressed
41	Acenaphthylene		1,003.0	µg/mL	+/-	6.4508	µg/mL	Gravimetric
	CAS # 208-96-8.SEC	(Lot 0012014)			+/-	12.3032	µg/mL	Unstressed
	Purity 96%				+/-	19.2804	µg/mL	Stressed
42	1,3-Dinitrobenzene		1,000.6	µg/mL	+/-	6.4349	µg/mL	Gravimetric
	CAS # 99-65-0.SEC	(Lot 3XXLB)			+/-	12.2730	µg/mL	Unstressed
	Purity 99%				+/-	19.2331	µg/mL	Stressed
43	Dimethylphthalate		1,000.9	µg/mL	+/-	6.4374	µg/mL	Gravimetric
	CAS # 131-11-3.SEC	(Lot 483WC)			+/-	12.2776	µg/mL	Unstressed
	Purity 99%				+/-	19.2404	µg/mL	Stressed
44	2,6-Dinitrotoluene		1,006.6	µg/mL	+/-	6.4735	µg/mL	Gravimetric
	CAS # 606-20-2.SEC	(Lot GE01)			+/-	12.3466	µg/mL	Unstressed
	Purity 99%				+/-	19.3485	µg/mL	Stressed
45	1,2-Dinitrobenzene		1,000.4	µg/mL	+/-	6.4341	µg/mL	Gravimetric
	CAS # 528-29-0.SEC	(Lot CQEAE)			+/-	12.2715	µg/mL	Unstressed
	Purity 99%				+/-	19.2307	µg/mL	Stressed
46	Acenaphthene		1,001.3	µg/mL	+/-	6.4394	µg/mL	Gravimetric
	CAS # 83-32-9.SEC	(Lot BWZJE)			+/-	12.2815	µg/mL	Unstressed
	Purity 99%				+/-	19.2464	µg/mL	Stressed
47	3-Nitroaniline		1,006.2	µg/mL	+/-	5.8637	µg/mL	Gravimetric
	CAS # 99-09-2.SEC	(Lot FGN03)			+/-	12.0348	µg/mL	Unstressed
	Purity 99%				+/-	19.1468	µg/mL	Stressed
48	4-Nitrophenol		1,002.6	µg/mL	+/-	6.4477	µg/mL	Gravimetric
	CAS # 100-02-7.SEC	(Lot 2J5LB)			+/-	12.2974	µg/mL	Unstressed
	Purity 99%				+/-	19.2713	µg/mL	Stressed
49	2,4-Dinitrophenol		1,001.8	µg/mL	+/-	5.8380	µg/mL	Gravimetric
	CAS # 51-28-5.SEC	(Lot YTR6B)			+/-	11.9821	µg/mL	Unstressed
	Purity 99%				+/-	19.0631	µg/mL	Stressed
50	Dibenzofuran		1,000.4	µg/mL	+/-	6.4341	µg/mL	Gravimetric
	CAS # 132-64-9.SEC	(Lot 27ZGC)			+/-	12.2715	µg/mL	Unstressed
	Purity 99%				+/-	19.2307	µg/mL	Stressed
51	2,4-Dinitrotoluene		1,005.6	µg/mL	+/-	6.4675	µg/mL	Gravimetric
	CAS # 121-14-2.SEC	(Lot SHRSA)			+/-	12.3351	µg/mL	Unstressed
	Purity 99%				+/-	19.3305	µg/mL	Stressed
52	1-Naphthylamine (1-aminonaphthalene)		2,003.6	µg/mL	+/-	11.6491	µg/mL	Gravimetric
	CAS # 134-32-7.SEC	(Lot 81202156)			+/-	23.9512	µg/mL	Unstressed
	Purity 99%				+/-	38.1179	µg/mL	Stressed
53	2-Naphthylamine (2-aminonaphthalene)		2,003.4	µg/mL	+/-	11.6479	µg/mL	Gravimetric
	CAS # 91-59-8.SEC	(Lot 6732800)			+/-	23.9488	µg/mL	Unstressed
	Purity 99%				+/-	38.1141	µg/mL	Stressed
54	Fluorene		1,002.6	µg/mL	+/-	6.4482	µg/mL	Gravimetric
	CAS # 86-73-7.SEC	(Lot 6818700)			+/-	12.2983	µg/mL	Unstressed
	Purity 99%				+/-	19.2728	µg/mL	Stressed
55	4-Chlorophenyl phenyl ether		1,004.7	µg/mL	+/-	6.4615	µg/mL	Gravimetric
	CAS # 7005-72-3.SEC	(Lot P31G)			+/-	12.3236	µg/mL	Unstressed
	Purity 98%				+/-	19.3124	µg/mL	Stressed

56	Diethylphthalate		1,001.8	µg/mL	+/-	6.4430	µg/mL	Gravimetric
	CAS # 84-66-2.SEC	(Lot UMBJC)			+/-	12.2884	µg/mL	Unstressed
	Purity 99%				+/-	19.2572	µg/mL	Stressed
57	1-Nitronaphthalene		1,003.4	µg/mL	+/-	5.8473	µg/mL	Gravimetric
	CAS # 86-57-7.SEC	(Lot OGI01)			+/-	12.0013	µg/mL	Unstressed
	Purity 99%				+/-	19.0935	µg/mL	Stressed
58	4-Nitroaniline		1,002.8	µg/mL	+/-	5.8438	µg/mL	Gravimetric
	CAS # 100-01-6.SEC	(Lot 5ITRC)			+/-	11.9941	µg/mL	Unstressed
	Purity 99%				+/-	19.0821	µg/mL	Stressed
59	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		1,000.6	µg/mL	+/-	6.4349	µg/mL	Gravimetric
	CAS # 534-52-1.SEC	(Lot 6899300)			+/-	12.2729	µg/mL	Unstressed
	Purity 99%				+/-	19.2329	µg/mL	Stressed
60	Diphenylamine		1,000.5	µg/mL	+/-	6.4345	µg/mL	Gravimetric
	CAS # 122-39-4.SEC	(Lot 10164691)			+/-	12.2723	µg/mL	Unstressed
	Purity 99%				+/-	19.2319	µg/mL	Stressed
61	Azobenzene		1,000.2	µg/mL	+/-	6.4325	µg/mL	Gravimetric
	CAS # 103-33-3.SEC	(Lot JUWAG)			+/-	12.2684	µg/mL	Unstressed
	Purity 99%				+/-	19.2259	µg/mL	Stressed
62	4-Bromophenyl phenyl ether		1,005.4	µg/mL	+/-	6.4659	µg/mL	Gravimetric
	CAS # 101-55-3.SEC	(Lot 84C6D)			+/-	12.3321	µg/mL	Unstressed
	Purity 99%				+/-	19.3257	µg/mL	Stressed
63	Hexachlorobenzene		1,001.3	µg/mL	+/-	6.4394	µg/mL	Gravimetric
	CAS # 118-74-1.SEC	(Lot G137934)			+/-	12.2815	µg/mL	Unstressed
	Purity 99%				+/-	19.2464	µg/mL	Stressed
64	Pentachlorophenol		1,007.1	µg/mL	+/-	6.4770	µg/mL	Gravimetric
	CAS # 87-86-5.SEC	(Lot 6143700)			+/-	12.3532	µg/mL	Unstressed
	Purity 99%				+/-	19.3588	µg/mL	Stressed
65	Phenanthrene		1,003.3	µg/mL	+/-	6.4524	µg/mL	Gravimetric
	CAS # 85-01-8.SEC	(Lot 7248800)			+/-	12.3063	µg/mL	Unstressed
	Purity 98%				+/-	19.2853	µg/mL	Stressed
66	Anthracene		1,002.8	µg/mL	+/-	6.4490	µg/mL	Gravimetric
	CAS # 120-12-7.SEC	(Lot WDFNJ)			+/-	12.2999	µg/mL	Unstressed
	Purity 99%				+/-	19.2752	µg/mL	Stressed
67	Carbazole		1,000.7	µg/mL	+/-	6.4358	µg/mL	Gravimetric
	CAS # 86-74-8.SEC	(Lot LMIZB)			+/-	12.2746	µg/mL	Unstressed
	Purity 99%				+/-	19.2355	µg/mL	Stressed
68	Di-n-butylphthalate		1,003.4	µg/mL	+/-	6.4530	µg/mL	Gravimetric
	CAS # 84-74-2.SEC	(Lot 42FSG)			+/-	12.3075	µg/mL	Unstressed
	Purity 99%				+/-	19.2872	µg/mL	Stressed
69	Fluoranthene		1,001.9	µg/mL	+/-	6.4434	µg/mL	Gravimetric
	CAS # 206-44-0.SEC	(Lot FREGF)			+/-	12.2891	µg/mL	Unstressed
	Purity 99%				+/-	19.2584	µg/mL	Stressed
70	Pyrene		1,008.6	µg/mL	+/-	6.4864	µg/mL	Gravimetric
	CAS # 129-00-0.SEC	(Lot ROVJC)			+/-	12.3712	µg/mL	Unstressed
	Purity 99%				+/-	19.3869	µg/mL	Stressed
71	Benzyl butyl phthalate		1,000.9	µg/mL	+/-	6.4374	µg/mL	Gravimetric
	CAS # 85-68-7.SEC	(Lot GX3GL)			+/-	12.2778	µg/mL	Unstressed
	Purity 98%				+/-	19.2405	µg/mL	Stressed

72	Bis(2-ethylhexyl)adipate		1,000.1	µg/mL	+/-	6.4321	µg/mL	Gravimetric
	CAS # 103-23-1.SEC	(Lot 23UOD)			+/-	12.2677	µg/mL	Unstressed
	Purity 99%				+/-	19.2247	µg/mL	Stressed
73	Benz(a)anthracene		1,000.7	µg/mL	+/-	6.4358	µg/mL	Gravimetric
	CAS # 56-55-3.SEC	(Lot FII01)			+/-	12.2747	µg/mL	Unstressed
	Purity 98%				+/-	19.2358	µg/mL	Stressed
74	chrysene		1,000.4	µg/mL	+/-	6.4341	µg/mL	Gravimetric
	CAS # 218-01-9.SEC	(Lot NICZC)			+/-	12.2715	µg/mL	Unstressed
	Purity 99%				+/-	19.2307	µg/mL	Stressed
75	Bis(2-ethylhexyl)phthalate		1,006.7	µg/mL	+/-	6.4743	µg/mL	Gravimetric
	CAS # 117-81-7.SEC	(Lot MT8AG)			+/-	12.3482	µg/mL	Unstressed
	Purity 99%				+/-	19.3509	µg/mL	Stressed
76	Di-n-octyl phthalate		1,004.4	µg/mL	+/-	6.4595	µg/mL	Gravimetric
	CAS # 117-84-0.SEC	(Lot O8DLD)			+/-	12.3198	µg/mL	Unstressed
	Purity 99%				+/-	19.3064	µg/mL	Stressed
77	Benzo(b)fluoranthene		1,002.9	µg/mL	+/-	6.4502	µg/mL	Gravimetric
	CAS # 205-99-2.SEC	(Lot FLUSD)			+/-	12.3022	µg/mL	Unstressed
	Purity 99%				+/-	19.2788	µg/mL	Stressed
78	Benzo(k)fluoranthene		1,001.6	µg/mL	+/-	6.4418	µg/mL	Gravimetric
	CAS # 207-08-9.SEC	(Lot 6984100)			+/-	12.2861	µg/mL	Unstressed
	Purity 99%				+/-	19.2536	µg/mL	Stressed
79	7,12-Dimethylbenz(a)anthracene		1,001.6	µg/mL	+/-	5.8368	µg/mL	Gravimetric
	CAS # 57-97-6.SEC	(Lot 6287900)			+/-	11.9797	µg/mL	Unstressed
	Purity 99%				+/-	19.0593	µg/mL	Stressed
80	Benzo(a)pyrene		1,003.4	µg/mL	+/-	6.4532	µg/mL	Gravimetric
	CAS # 50-32-8.SEC	(Lot M8DFD)			+/-	12.3079	µg/mL	Unstressed
	Purity 97%				+/-	19.2878	µg/mL	Stressed
81	Indeno(1,2,3-cd)pyrene		1,004.1	µg/mL	+/-	6.4575	µg/mL	Gravimetric
	CAS # 193-39-5.SEC	(Lot 02201571)			+/-	12.3160	µg/mL	Unstressed
	Purity 99%				+/-	19.3004	µg/mL	Stressed
82	Dibenz(a,h)anthracene		1,003.6	µg/mL	+/-	6.4542	µg/mL	Gravimetric
	CAS # 53-70-3.SEC	(Lot 0012012)			+/-	12.3098	µg/mL	Unstressed
	Purity 99%				+/-	19.2908	µg/mL	Stressed
83	Benzo(g,h,i)perylene		1,001.7	µg/mL	+/-	6.4420	µg/mL	Gravimetric
	CAS # 191-24-2.SEC	(Lot 0062012)			+/-	12.2864	µg/mL	Unstressed
	Purity 95%				+/-	19.2542	µg/mL	Stressed
84	Hexachlorocyclopentadiene		1,004.3	µg/mL	+/-	6.4587	µg/mL	Gravimetric
	CAS # 77-47-4.SEC	(Lot 6900500)			+/-	12.3183	µg/mL	Unstressed
	Purity 99%				+/-	19.3040	µg/mL	Stressed
85	2,4-Dinitrophenol		1,002.5	µg/mL	+/-	6.4471	µg/mL	Gravimetric
	CAS # 51-28-5.SEC	(Lot YTR6B)			+/-	12.2962	µg/mL	Unstressed
	Purity 99%				+/-	19.2694	µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:
Hexachlorocyclopentadiene and 2,4-Dinitrophenol concentration was achieved through the use of sub-stock standard and direct addition, as a result the compound is listed twice on the certificate. Sum the two lines to attain the actual concentration.

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

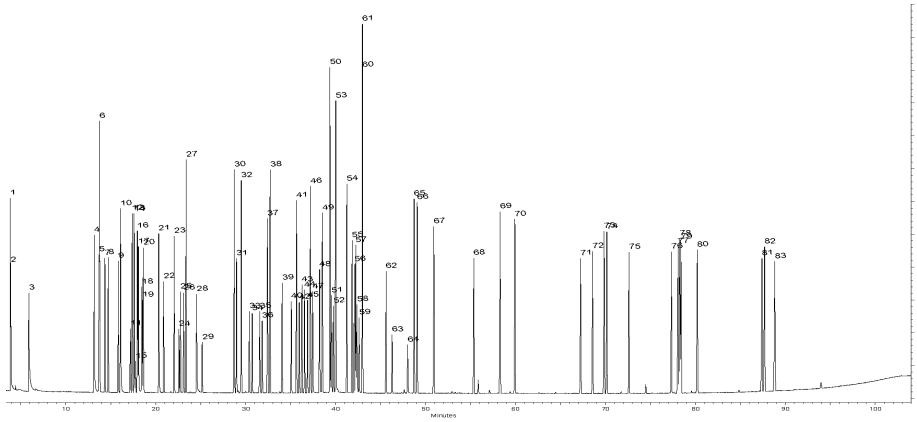
Carrier Gas:
hydrogen-constant pressure 10 psi

Temp. Program:
35°C (hold 3 min.) to 330°C
@ 3°C/min. (hold 3 min.)

Inj. Temp:
250°C

Det. Temp:
300°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dustin J Lidgett
Dustin Lidgett - Mix Technician

Date Mixed: 24-Apr-2019 **Balance:** B345965662

John Lidgett
John Lidgett - AD Chemist

Date Passed: 24-Jun-2019

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSS_REVLCS_3_00002

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 563246-5.SEC **Lot No.:** A0150593

Description : Revised LCS Spike Kit/ Ampule #3

Revised LCS Spike Kit/ Ampule #3 2,000-10,000µg/mL, Methylene chloride, 10mL/ampul

Container Size : 20 mL **Pkg Amt:** > 20 mL

Expiration Date : July 31, 2021 **Storage:** 0°C or colder

Handling: Contains carcinogen/reproductive toxin.

C E R T I F I E D V A L U E S

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Benzidine	10,011.6 µg/mL	+/- 58.2083 µg/mL	Gravimetric
	CAS # 92-87-5.SEC (Lot 8616600)		+/- 119.6793 µg/mL	Unstressed
	Purity 99%		+/- 190.4678 µg/mL	Stressed
2	3,3'-Dimethylbenzidine (o-tolidine)	4,003.8 µg/mL	+/- 23.2784 µg/mL	Gravimetric
	CAS # 119-93-7.SEC (Lot Q23F041)		+/- 47.8617 µg/mL	Unstressed
	Purity 99%		+/- 76.1711 µg/mL	Stressed
3	3,3'-Dichlorobenzidine	2,007.0 µg/mL	+/- 11.6689 µg/mL	Gravimetric
	CAS # 91-94-1.SEC (Lot 8490800)		+/- 23.9918 µg/mL	Unstressed
	Purity 99%		+/- 38.1826 µg/mL	Stressed

Solvent: Methylene chloride
CAS # 75-09-2
Purity 99%

Column:
30m x 0.25mm x 0.25µm
Rtx-5 (cat.#10223)

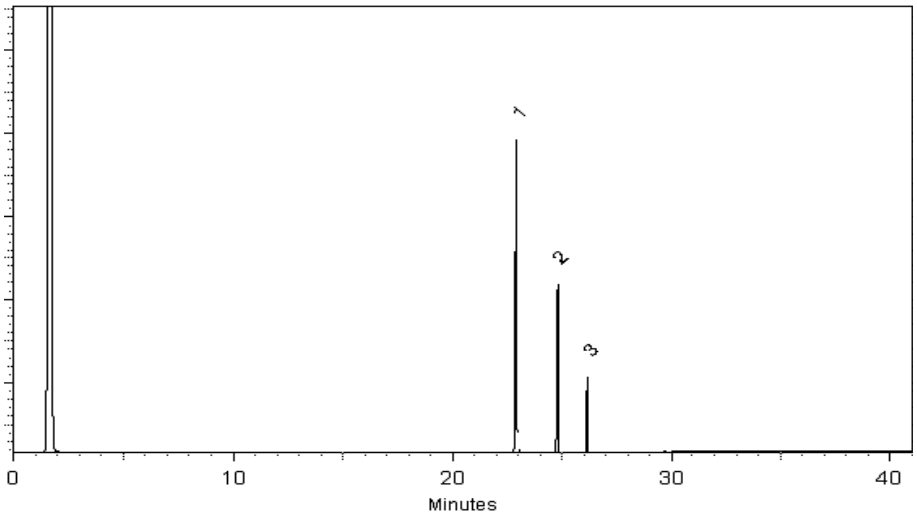
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dustin J Lidgett
Dustin Lidgett - Mix Technician

Date Mixed: 02-Jul-2019 **Balance:** B345965662

Jennifer J Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 09-Aug-2019

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_4BFB_NEAT_00002

660 Tower Lane • P.O. Box 599 • West Chester, PA 19381-0599
1-800-452-9994 • 1-610-692-3026 • Fax 1-610-692-8729
info@chemservice.com • www.chemservice.com

CERTIFICATE OF ANALYSIS

4-Bromofluorobenzene

CATALOG NUMBER	N-10809-1G
LOT NUMBER	8601300
DATE CERTIFIED	01/06/16
EXPIRATION DATE	01/31/21
CAS NUMBER	460-00-4
MOLECULAR FORMULA	C6H4BrF
MOLECULAR WEIGHT	175.00
STORAGE	Store in a cool dry place.
HANDLING	See Safety Data Sheet
INTENDED USE	For laboratory use only.
ISO GUIDE 34 CERTIFIED	[ ]

Analytical Test	Value
FT-IR SPECTROSCOPY	CONFORMS TO STRUCTURE
PHYSICAL APPEARANCE	COLORLESS LIQUID
% PURITY (GC/FID)	99.5

Chem Service, Inc. guarantees the purity to be +/- 0.5% deviation prior to the expiration date shown on the label and exclusive of any customer contamination.

Certified By:

Mary Beth O'Donnell

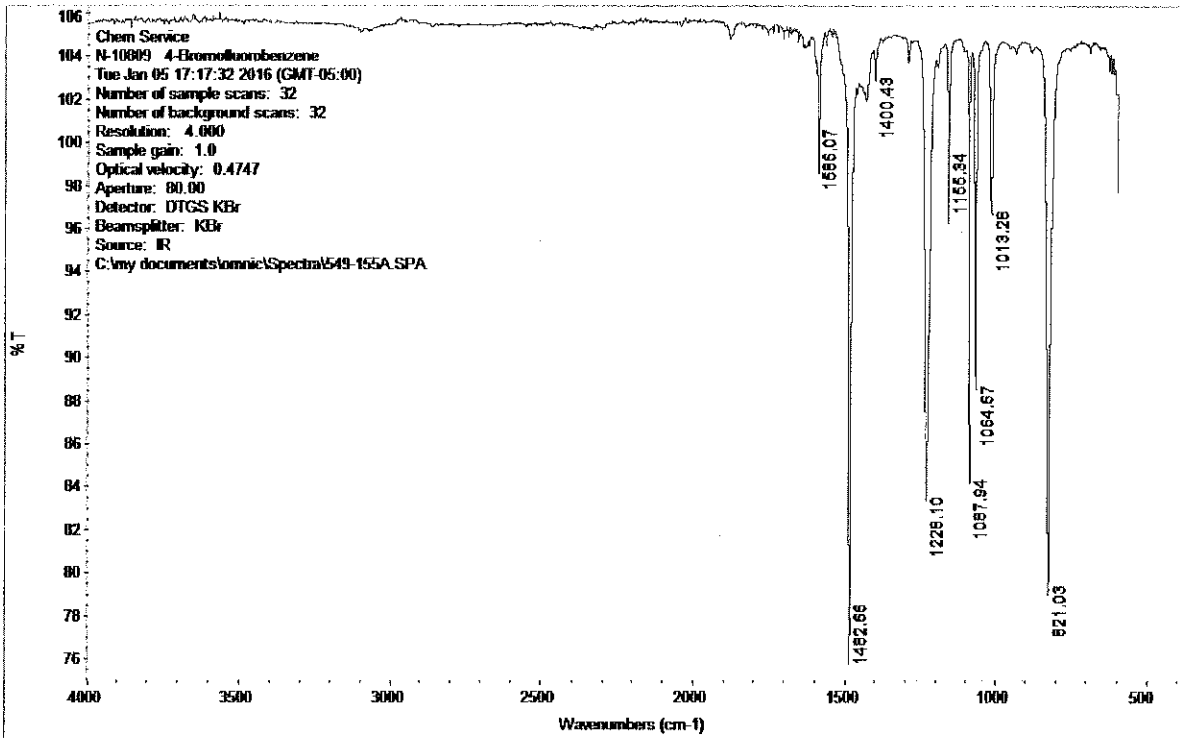
Mary Beth O'Donnell
CSM/TC

660 Tower Lane • P.O. Box 599 • West Chester, PA 19381-0599
1-800-452-9994 • 1-610-692-3026 • Fax 1-610-692-8729
info@chemservice.com • www.chemservice.com

CERTIFICATE OF ANALYSIS

Analysis Method: FTIR- Spectroscopy

Catalog Number:	N-10809-1G
Description:	4-Bromofluorobenzene
Lot Number:	8601300
Expiration Date:	01/31/21



Chem Service, Inc. is accredited to ISO Guide 34:2009, ISO/IEC 17025:2005 and certified to ISO 9001:2008

ISO/IEC 17025
Accreditation Number: 63520
ISO GUIDE 34
Accreditation Number: 63520

660 Tower Lane • P.O. Box 599 • West Chester, PA 19381-0599
1-800-452-9994 • 1-610-692-3026 • Fax 1-610-692-8729
info@chemservice.com • www.chemservice.com

CERTIFICATE OF ANALYSIS

Analysis Method:

Catalog Number:	N-10809-1G
Description:	4-Bromofluorobenzene
Lot Number:	8601300
Expiration Date:	01/31/21

Chem Service, Inc. is accredited to ISO Guide 34:2009, ISO/IEC 17025:2005 and certified to ISO 9001:2008

ISO/IEC 17025 Accreditation Number: 63520
ISO GUIDE 34 Accreditation Number 63520

660 Tower Lane • P.O. Box 599 • West Chester, PA 19381-0599
1-800-452-9994 • 1-610-692-3026 • Fax 1-610-692-8729
info@chemservice.com • www.chemservice.com

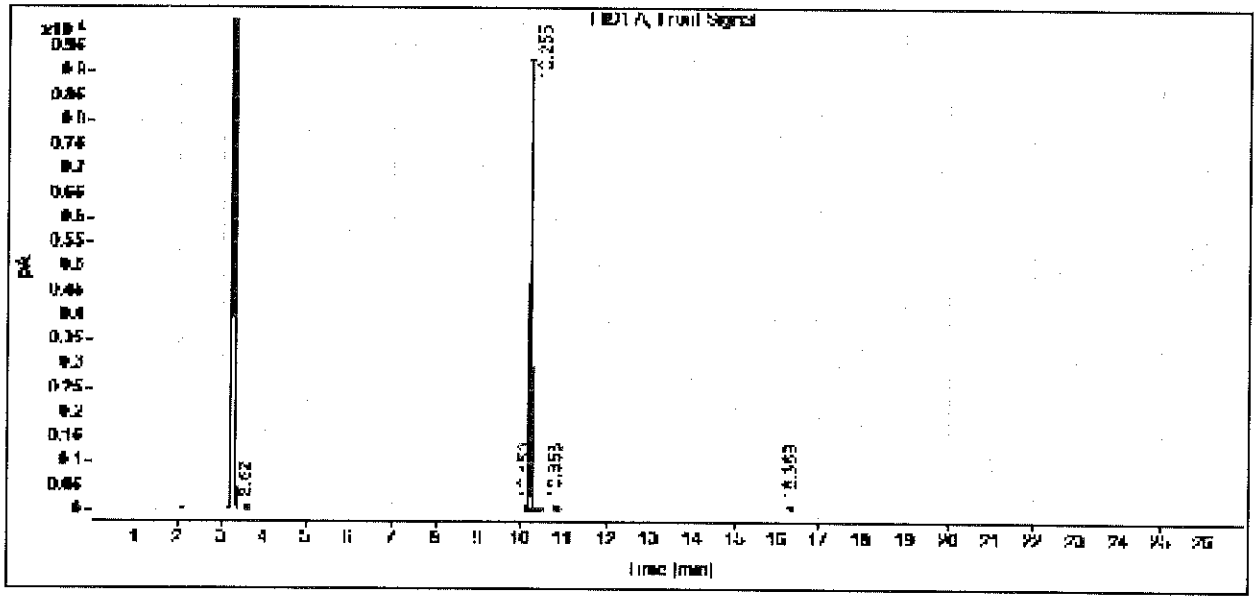
CERTIFICATE OF ANALYSIS

Gas Chromatography / Flame Ionization Detector (GC/FID)

Data file: C:\CHEM32\1\DATA\1215\SIG1007347.D

Sample name: N-10809/CH2CL2

Instrument:	GC 1	**Sample type:**	Sample
Injection date:	1/5/2016 4:20:37 PM	**Location:**	Vial 5
Acq. method:	MIX1.M	**Injection volume:**	1.0uL
Column name:	DB-624 (30m x 0.53mm x 3.0um)		



Signal: FID1 A, Front Signal

RT [min]	Type	Width [min]	Area	Height	Area%
3.620	BB	0.0403	3.8748	1.1723	0.0145
10.156	BV	0.0195	0.7424	0.4869	0.0028
10.255	VB S	0.0437	26687.6328	9172.4229	99.7795
10.853	BB	0.0583	54.3345	12.3602	0.2031
16.369	BB	0.0034	0.0123	0.0605	0.0000
		Sum	26746.5968		

Chem Service, Inc. is accredited to ISO Guide 34:2009, ISO/IEC 17025:2005 and certified to ISO 9001:2008

ISO/IEC 17025 Accreditation Number: 63520
ISO GUIDE 34 Accreditation Number 63520

Reagent

MSV_502QGas_00072

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 55669.SEC **Lot No.:** A0155823

Description : Custom 502.2 "Q" Gas Mix

Custom 502.2 "Q" Gas Mix 2,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2027 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dichlorodifluoromethane (CFC-12)	2,016.5 µg/mL	+/- 19.3550 µg/mL	Gravimetric
	CAS # 75-71-8.SEC (Lot 26165)		+/- 114.1077 µg/mL	Unstressed
	Purity 99%		+/- 116.7296 µg/mL	Stressed
2	Chloromethane (methyl chloride)	2,005.6 µg/mL	+/- 18.7428 µg/mL	Gravimetric
	CAS # 74-87-3.SEC (Lot 18343)		+/- 113.4037 µg/mL	Unstressed
	Purity 99%		+/- 116.0133 µg/mL	Stressed
3	Vinyl chloride	2,004.4 µg/mL	+/- 15.4000 µg/mL	Gravimetric
	CAS # 75-01-4.SEC (Lot MKBK6872V)		+/- 112.8325 µg/mL	Unstressed
	Purity 99%		+/- 115.4519 µg/mL	Stressed
4	Bromomethane (methyl bromide)	2,022.0 µg/mL	+/- 18.0735 µg/mL	Gravimetric
	CAS # 74-83-9.SEC (Lot Q119-46)		+/- 114.2018 µg/mL	Unstressed
	Purity 99%		+/- 116.8358 µg/mL	Stressed
5	Chloroethane (ethyl chloride)	2,013.1 µg/mL	+/- 20.5181 µg/mL	Gravimetric
	CAS # 75-00-3.SEC (Lot 00004202)		+/- 114.1209 µg/mL	Unstressed
	Purity 99%		+/- 116.7336 µg/mL	Stressed
6	Trichlorofluoromethane (CFC-11)	2,001.1 µg/mL	+/- 17.4531 µg/mL	Gravimetric
	CAS # 75-69-4.SEC (Lot 253600)		+/- 112.9531 µg/mL	Unstressed
	Purity 99%		+/- 115.5613 µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

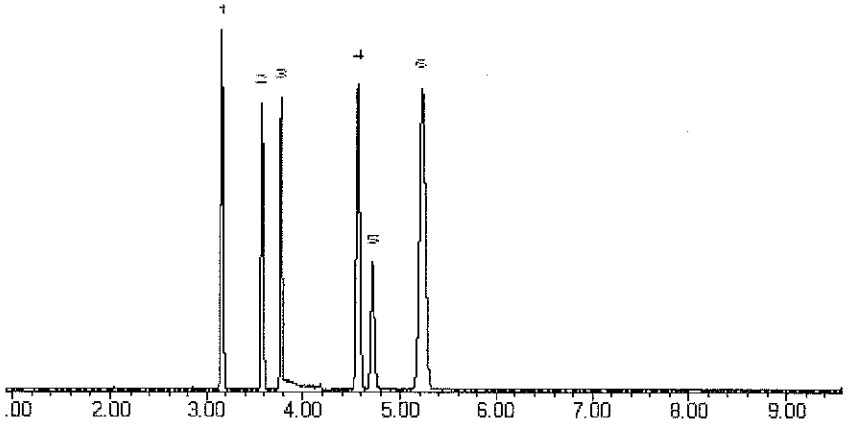
Carrier Gas:
helium-constant flow 2.0 mL/min.

Temp. Program:
40°C (hold 6 min.) to 100°C
@ 6°C/min.

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Lane Kibe - Mix Technician

Date Mixed: 16-Dec-2019 **Balance:** 1127510105

Amanda Miller - Operations Tech-ARM QC

Date Passed: 27-Dec-2019

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_502QGas_00083

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 55669.SEC **Lot No.:** A0155823

Description : Custom 502.2 "Q" Gas Mix

Custom 502.2 "Q" Gas Mix 2,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2027 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dichlorodifluoromethane (CFC-12)	2,016.5 µg/mL	+/- 19.3550 µg/mL	Gravimetric
	CAS # 75-71-8.SEC (Lot 26165)		+/- 114.1077 µg/mL	Unstressed
	Purity 99%		+/- 116.7296 µg/mL	Stressed
2	Chloromethane (methyl chloride)	2,005.6 µg/mL	+/- 18.7428 µg/mL	Gravimetric
	CAS # 74-87-3.SEC (Lot 18343)		+/- 113.4037 µg/mL	Unstressed
	Purity 99%		+/- 116.0133 µg/mL	Stressed
3	Vinyl chloride	2,004.4 µg/mL	+/- 15.4000 µg/mL	Gravimetric
	CAS # 75-01-4.SEC (Lot MKBK6872V)		+/- 112.8325 µg/mL	Unstressed
	Purity 99%		+/- 115.4519 µg/mL	Stressed
4	Bromomethane (methyl bromide)	2,022.0 µg/mL	+/- 18.0735 µg/mL	Gravimetric
	CAS # 74-83-9.SEC (Lot Q119-46)		+/- 114.2018 µg/mL	Unstressed
	Purity 99%		+/- 116.8358 µg/mL	Stressed
5	Chloroethane (ethyl chloride)	2,013.1 µg/mL	+/- 20.5181 µg/mL	Gravimetric
	CAS # 75-00-3.SEC (Lot 00004202)		+/- 114.1209 µg/mL	Unstressed
	Purity 99%		+/- 116.7336 µg/mL	Stressed
6	Trichlorofluoromethane (CFC-11)	2,001.1 µg/mL	+/- 17.4531 µg/mL	Gravimetric
	CAS # 75-69-4.SEC (Lot 253600)		+/- 112.9531 µg/mL	Unstressed
	Purity 99%		+/- 115.5613 µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

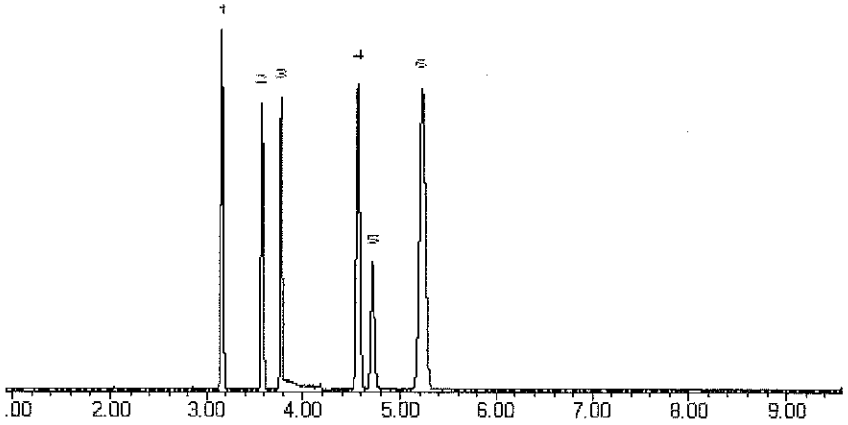
Carrier Gas:
helium-constant flow 2.0 mL/min.

Temp. Program:
40°C (hold 6 min.) to 100°C
@ 6°C/min.

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Lane Kibe - Mix Technician

Date Mixed: 16-Dec-2019 **Balance:** 1127510105

Amanda Miller - Operations Tech-ARM QC

Date Passed: 27-Dec-2019

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_502QGas_00086

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 55669.SEC **Lot No.:** A0155823

Description : Custom 502.2 "Q" Gas Mix

Custom 502.2 "Q" Gas Mix 2,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 31, 2027 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dichlorodifluoromethane (CFC-12)	2,016.5 µg/mL	+/- 19.3550 µg/mL	Gravimetric
	CAS # 75-71-8.SEC (Lot 26165)		+/- 114.1077 µg/mL	Unstressed
	Purity 99%		+/- 116.7296 µg/mL	Stressed
2	Chloromethane (methyl chloride)	2,005.6 µg/mL	+/- 18.7428 µg/mL	Gravimetric
	CAS # 74-87-3.SEC (Lot 18343)		+/- 113.4037 µg/mL	Unstressed
	Purity 99%		+/- 116.0133 µg/mL	Stressed
3	Vinyl chloride	2,004.4 µg/mL	+/- 15.4000 µg/mL	Gravimetric
	CAS # 75-01-4.SEC (Lot MKBK6872V)		+/- 112.8325 µg/mL	Unstressed
	Purity 99%		+/- 115.4519 µg/mL	Stressed
4	Bromomethane (methyl bromide)	2,022.0 µg/mL	+/- 18.0735 µg/mL	Gravimetric
	CAS # 74-83-9.SEC (Lot Q119-46)		+/- 114.2018 µg/mL	Unstressed
	Purity 99%		+/- 116.8358 µg/mL	Stressed
5	Chloroethane (ethyl chloride)	2,013.1 µg/mL	+/- 20.5181 µg/mL	Gravimetric
	CAS # 75-00-3.SEC (Lot 00004202)		+/- 114.1209 µg/mL	Unstressed
	Purity 99%		+/- 116.7336 µg/mL	Stressed
6	Trichlorofluoromethane (CFC-11)	2,001.1 µg/mL	+/- 17.4531 µg/mL	Gravimetric
	CAS # 75-69-4.SEC (Lot 253600)		+/- 112.9531 µg/mL	Unstressed
	Purity 99%		+/- 115.5613 µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

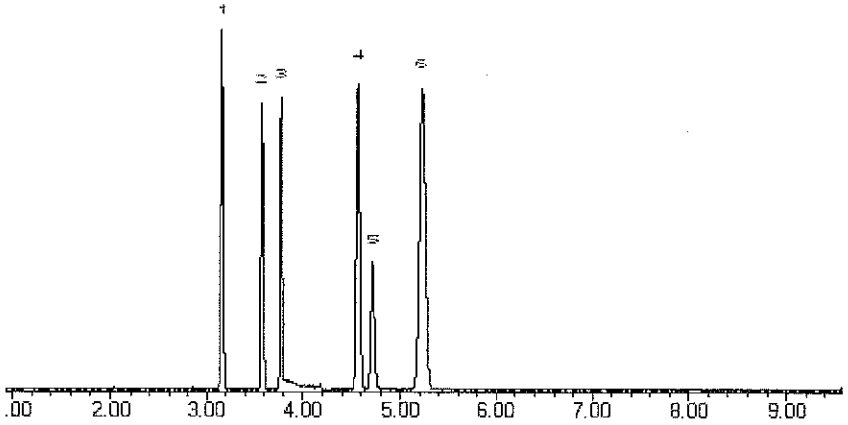
Carrier Gas:
helium-constant flow 2.0 mL/min.

Temp. Program:
40°C (hold 6 min.) to 100°C
@ 6°C/min.

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Lane Kibe - Mix Technician

Date Mixed: 16-Dec-2019 **Balance:** 1127510105

Amanda Miller - Operations Tech-ARM QC

Date Passed: 27-Dec-2019

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_8260_SS_00132

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 55671 **Lot No.:** A0146938

Description : 8260A Surrogate Mix

8260A Surrogate Mix 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Dibromofluoromethane		2,505.2 µg/mL	+/- 14.5653	µg/mL	Gravimetric
	CAS # 1868-53-7	(Lot 0012016)		+/- 140.4622	µg/mL	Unstressed
	Purity 99%			+/- 143.7488	µg/mL	Stressed
2	1,2-Dichloroethane-d4		2,517.2 µg/mL	+/- 14.6350	µg/mL	Gravimetric
	CAS # 17060-07-0	(Lot PR-26748)		+/- 141.1350	µg/mL	Unstressed
	Purity 99%			+/- 144.4374	µg/mL	Stressed
3	Toluene-d8		2,507.7 µg/mL	+/- 14.5798	µg/mL	Gravimetric
	CAS # 2037-26-5	(Lot PR-27311)		+/- 140.6024	µg/mL	Unstressed
	Purity 99%			+/- 143.8923	µg/mL	Stressed
4	1-Bromo-4-fluorobenzene (BFB)		2,507.7 µg/mL	+/- 14.5798	µg/mL	Gravimetric
	CAS # 460-00-4	(Lot 20401KO)		+/- 140.6024	µg/mL	Unstressed
	Purity 99%			+/- 143.8923	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

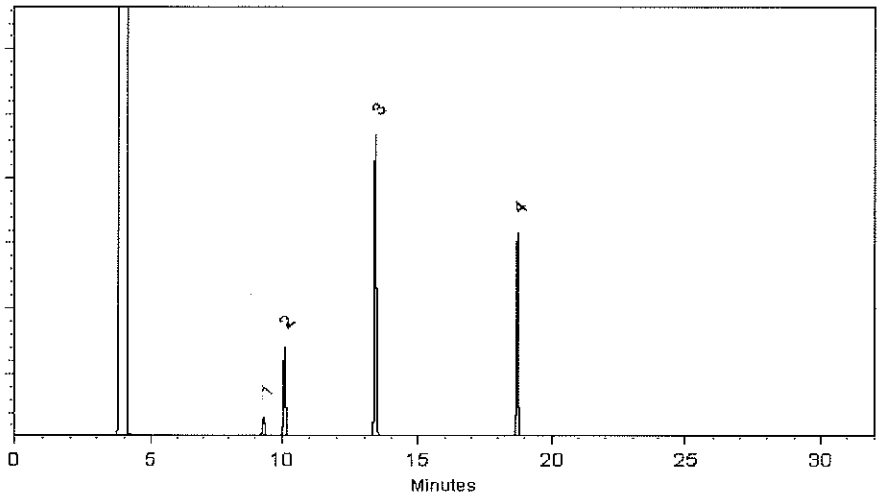
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Maggie Wang
Maggie Wang - Operations Technician I

Date Mixed: 12-Mar-2019 **Balance:** 1128342314

Jennifer J Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 15-Mar-2019

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_8260_SS_00175

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 55671 **Lot No.:** A0146938

Description : 8260A Surrogate Mix

8260A Surrogate Mix 2,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Dibromofluoromethane		2,505.2 µg/mL	+/- 14.5653	µg/mL	Gravimetric
	CAS # 1868-53-7	(Lot 0012016)		+/- 140.4622	µg/mL	Unstressed
	Purity 99%			+/- 143.7488	µg/mL	Stressed
2	1,2-Dichloroethane-d4		2,517.2 µg/mL	+/- 14.6350	µg/mL	Gravimetric
	CAS # 17060-07-0	(Lot PR-26748)		+/- 141.1350	µg/mL	Unstressed
	Purity 99%			+/- 144.4374	µg/mL	Stressed
3	Toluene-d8		2,507.7 µg/mL	+/- 14.5798	µg/mL	Gravimetric
	CAS # 2037-26-5	(Lot PR-27311)		+/- 140.6024	µg/mL	Unstressed
	Purity 99%			+/- 143.8923	µg/mL	Stressed
4	1-Bromo-4-fluorobenzene (BFB)		2,507.7 µg/mL	+/- 14.5798	µg/mL	Gravimetric
	CAS # 460-00-4	(Lot 20401KO)		+/- 140.6024	µg/mL	Unstressed
	Purity 99%			+/- 143.8923	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

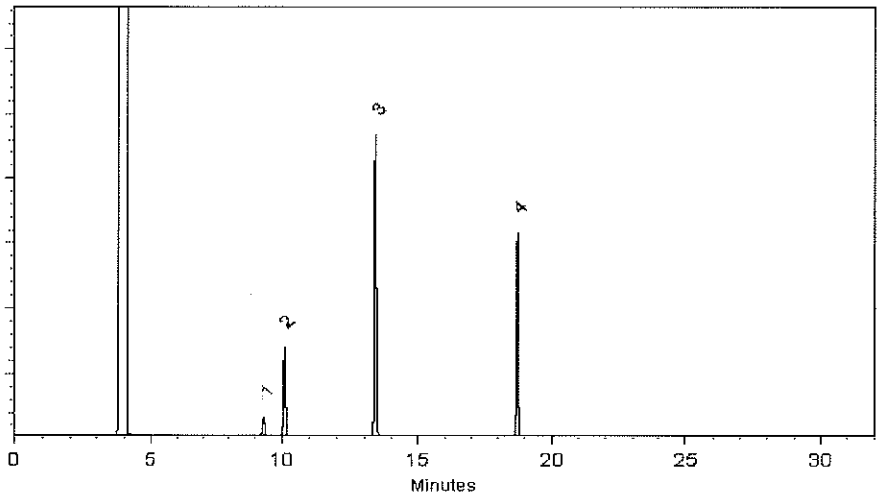
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Maggie Wang
Maggie Wang - Operations Technician I

Date Mixed: 12-Mar-2019 **Balance:** 1128342314

Jennifer J Pollino
Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 15-Mar-2019

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_Cus826_IS_00077

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 558267 **Lot No.:** A0138205

Description : Custom 8260A IS Mix

Custom 8260A IS Mix 2,500-12,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	tert-Butyl Alcohol-d10		12,613.8	µg/mL	+/- 73.3376	µg/mL	Gravimetric
	CAS # 53001-22-2	(Lot PR-29485)			+/- 270.0624	µg/mL	Unstressed
	Purity 98%				+/- 277.9136	µg/mL	Stressed
2	Fluorobenzene		2,517.8	µg/mL	+/- 14.6387	µg/mL	Gravimetric
	CAS # 462-06-6	(Lot BCBK8171V)			+/- 53.9064	µg/mL	Unstressed
	Purity 99%				+/- 55.4736	µg/mL	Stressed
3	Chlorobenzene-d5		2,518.8	µg/mL	+/- 14.6445	µg/mL	Gravimetric
	CAS # 3114-55-4	(Lot PR-22736)			+/- 53.9278	µg/mL	Unstressed
	Purity 99%				+/- 55.4956	µg/mL	Stressed
4	1,4-Dichlorobenzene-d4		2,511.0	µg/mL	+/- 14.5992	µg/mL	Gravimetric
	CAS # 3855-82-1	(Lot PR-18488)			+/- 53.7608	µg/mL	Unstressed
	Purity 99%				+/- 55.3237	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

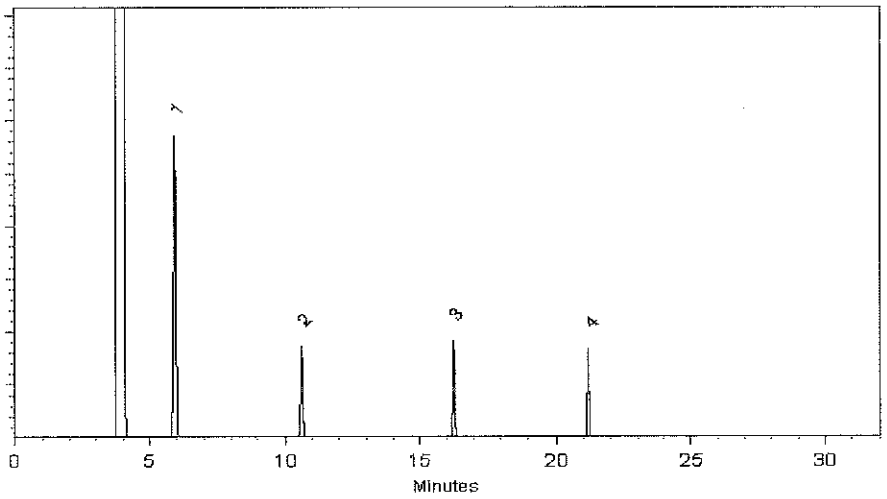
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 21-May-2018 **Balance:** 1128342314

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 23-May-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_Cus826_IS_00128

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 558267 **Lot No.:** A0138205

Description : Custom 8260A IS Mix

Custom 8260A IS Mix 2,500-12,500µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	tert-Butyl Alcohol-d10		12,613.8	µg/mL	+/- 73.3376	µg/mL	Gravimetric
	CAS # 53001-22-2	(Lot PR-29485)			+/- 270.0624	µg/mL	Unstressed
	Purity 98%				+/- 277.9136	µg/mL	Stressed
2	Fluorobenzene		2,517.8	µg/mL	+/- 14.6387	µg/mL	Gravimetric
	CAS # 462-06-6	(Lot BCBK8171V)			+/- 53.9064	µg/mL	Unstressed
	Purity 99%				+/- 55.4736	µg/mL	Stressed
3	Chlorobenzene-d5		2,518.8	µg/mL	+/- 14.6445	µg/mL	Gravimetric
	CAS # 3114-55-4	(Lot PR-22736)			+/- 53.9278	µg/mL	Unstressed
	Purity 99%				+/- 55.4956	µg/mL	Stressed
4	1,4-Dichlorobenzene-d4		2,511.0	µg/mL	+/- 14.5992	µg/mL	Gravimetric
	CAS # 3855-82-1	(Lot PR-18488)			+/- 53.7608	µg/mL	Unstressed
	Purity 99%				+/- 55.3237	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

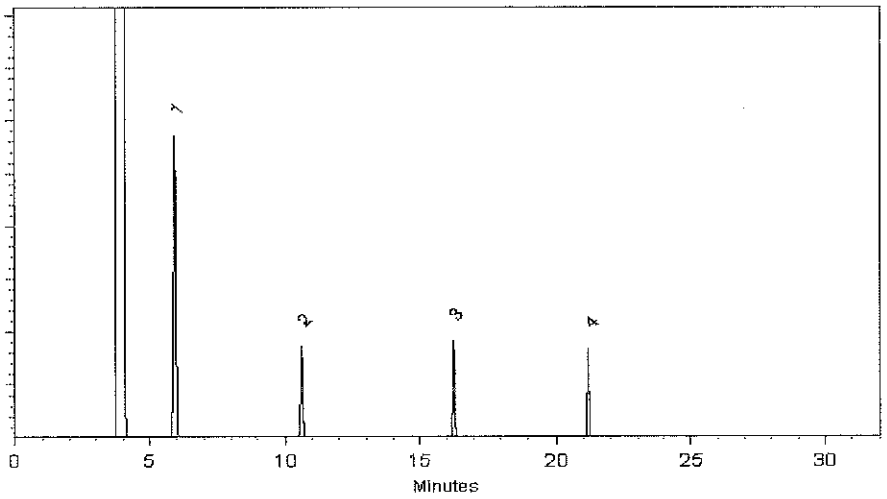
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 21-May-2018 **Balance:** 1128342314

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 23-May-2018

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_CYC_00002

660 Tower Lane • P.O. Box 599 • West Chester, PA 19381-0599
1-800-452-9994 • 1-610-692-3026 • Fax 1-610-692-8729
info@chemservice.com • www.chemservice.com

CERTIFICATE OF ANALYSIS

Cyclohexanone

CATALOG NUMBER	N-11531-1G
LOT NUMBER	9219800
DATE CERTIFIED	05/15/18
EXPIRATION DATE	05/31/23
CAS NUMBER	108-94-1
MOLECULAR FORMULA	C6H10O
MOLECULAR WEIGHT	98.16
STORAGE	Store in a cool dry place.
HANDLING	See Safety Data Sheet
INTENDED USE	For laboratory use only.

Analytical Test	Value
% PURITY (GC/FID)	99.5
FT-IR SPECTROSCOPY	CONFORMS TO STRUCTURE
PHYSICAL APPEARANCE	COLORLESS LIQUID

Chem Service, Inc. guarantees the purity to be +/- 0.5% deviation prior to the expiration date shown on the label and exclusive of any customer contamination.

Certified By:

Mary Beth O'Donnell

Mary Beth O'Donnell
CSM/TC

LLR 2032
11-23-19

660 Tower Lane • P.O. Box 599 • West Chester, PA 19381-0599
1-800-452-9994 • 1-610-692-3026 • Fax 1-610-692-8729
info@chemservice.com • www.chemservice.com

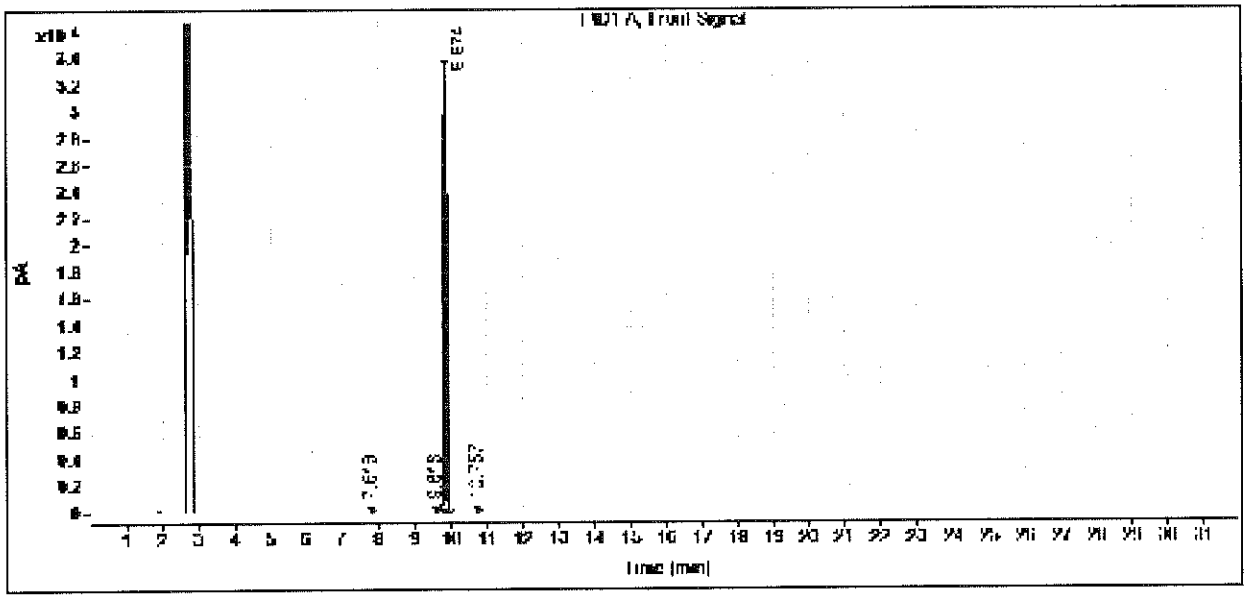
CERTIFICATE OF ANALYSIS

Gas Chromatography / Flame Ionization Detector (GC/FID)

Data file: C:\CHEM32\1\DATA\2018 DATA\0518\SIG1010143.D

Sample name: N-11531/ACETONE

Instrument:	GC 1	**Sample type:**	Sample
Injection date:	5/15/2018 8:14:17 AM	**Location:**	Vial 1
Acq. method:	MIX1.M	**Injection volume:**	1.0uL
Column name:	DB-624 (30m x 0.53mm x 3.0um)		



Signal: FID1 A, Front Signal

RT [min]	Type	Width [min]	Area	Height	Area%
7.818	BB	0.0567	12.4787	2.6631	0.0090
9.616	BB	0.0420	22.9558	6.9935	0.0165
9.874	BB S	0.0575	138838.7188	33378.9727	99.9600
10.757	BB	0.0524	20.1641	4.8068	0.0145
		Sum	138894.3173		

Chem Service, Inc. is accredited to ISO Guide 34:2009, ISO/IEC 17025:2005 and certified to ISO 9001:2008

ISO/IEC 17025
Accreditation Number: 63520

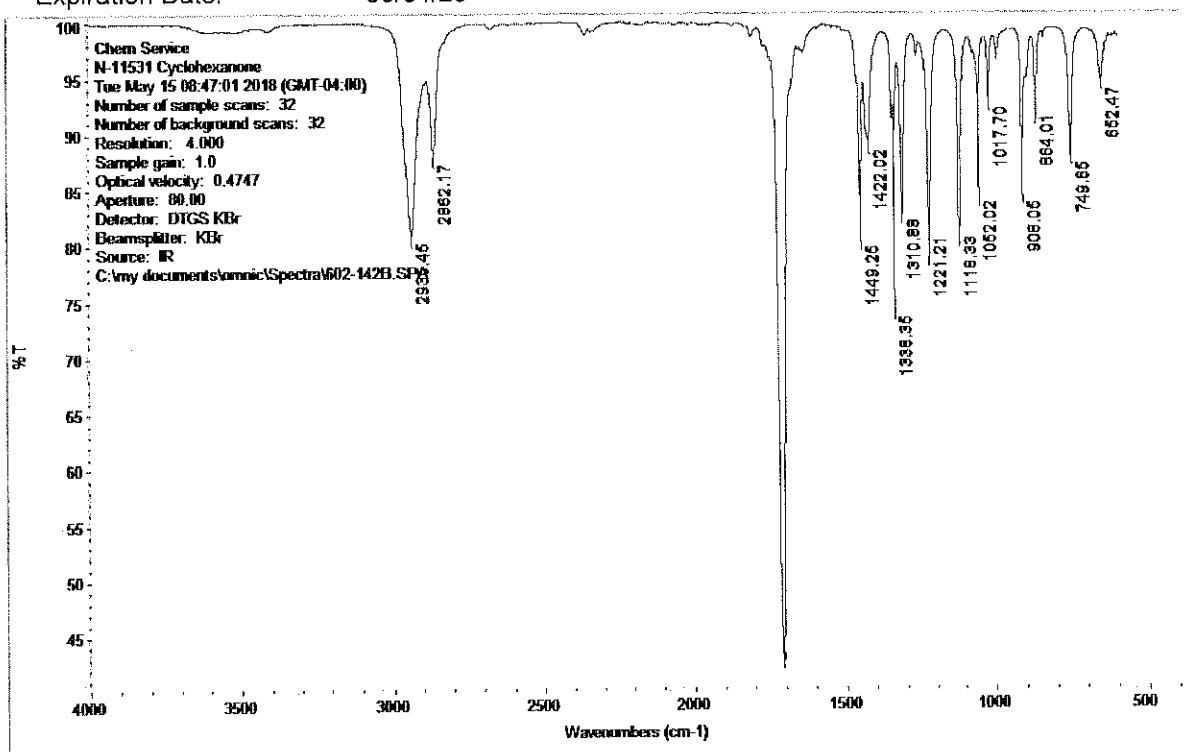
ISO GUIDE 34
Accreditation Number: 63520

660 Tower Lane • P.O. Box 599 • West Chester, PA 19381-0599
1-800-452-9994 • 1-610-692-3026 • Fax 1-610-692-8729
info@chemservice.com • www.chemservice.com

CERTIFICATE OF ANALYSIS

Analysis Method:

Catalog Number:	N-11531-1G
Description:	Cyclohexanone
Lot Number:	9219800
Expiration Date:	05/31/23



Chem Service, Inc. is accredited to ISO Guide 34:2009, ISO/IEC 17025:2005 and certified to ISO 9001:2008

ISO/IEC 17025
Accreditation Number 83559
ISO GUIDE 34
Accreditation Number 83560

660 Tower Lane • P.O. Box 599 • West Chester, PA 19381-0599
1-800-452-9994 • 1-610-692-3026 • Fax 1-610-692-8729
info@chemservice.com • www.chemservice.com

CERTIFICATE OF ANALYSIS

Analysis Method:

Catalog Number:	N-11531-1G
Description:	Cyclohexanone
Lot Number:	9219800
Expiration Date:	05/31/23

Chem Service, Inc. is accredited to ISO Guide 34:2009, ISO/IEC 17025:2005 and certified to ISO 9001:2008

ISO/IEC 17025
Accreditation Number: 83520

ISO GUIDE 34
Accreditation Number: 83570

Reagent

MSV_DCFM_00017

125 Market Street
New Haven, CT 06513
USA

AccuStandard®

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

Catalog No: M-502-61-10X
Description: Dichlorofluoromethane
Lot: 219051360
Solvent: Methanol
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: May 13, 2019
Expiration: May 13, 2029
Sample Size: 1 mL
Components: 1
Storage Condition: Refrig (0-5 °C)

Certified Reference Material

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AT-1339 ilac-MRA

Component	CAS #	Purity % (GC/FID)	Prepared Concentration[2] (µg/mL)	Certified Analyte Concentration[1] (µg/mL)
Dichlorofluoromethane	75-43-4	98.0	2000	1960

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[2] All weights are traceable through NIST, Test No. 684/289871-17

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Certified By: Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

1. **Quality Standards:**

   ISO 17034 – General Requirements for the Competence of Reference Material Producers ANAB Certificate Number AR-1463

   ISO/IEC 17025 – General Requirements for the Competence of Testing And Calibration Laboratories ANAB Certificate Number AT-1339

   ISO 9001:2015 – Quality Management System – Requirements Eagle Registrations Certificate Number 3774

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards and calibrated using an in-house procedure. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(\mathrm{V}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{IV}))^2 + (u(\mathrm{RO}))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

Reagent

MSV_DCFM_00018

125 Market Street
New Haven, CT 06513
USA

AccuStandard®

Tel (203)786-5290
Fax (203)786-5287
www.AccuStandard.com

CERTIFICATE OF ANALYSIS

Catalog No: M-502-61-10X
Description: Dichlorofluoromethane
Lot: 219051360
Solvent: Methanol
Hazards: *Refer to SDS for complete safety information*

Signal Word: Danger

Date Certified: May 13, 2019
Expiration: May 13, 2029
Sample Size: 1 mL
Components: 1
Storage Condition: Refrig (0-5 °C)

Certified Reference Material

ANAB ACCREDITED AR-1463 ANAB ACCREDITED AT-1339 ilac-MRA

Component	CAS #	Purity % (GC/FID)	Prepared Concentration[2] (µg/mL)	Certified Analyte Concentration[1] (µg/mL)
Dichlorofluoromethane	75-43-4	98.0	2000	1960

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

[2] All weights are traceable through NIST, Test No. 684/289871-17

[1] Certified Analyte Concentration = Purity x Prepared Concentration.

The Uncertainty associated with the certified concentration reported on this certificate is ±2.4%. This value is the combined expanded uncertainty and represents an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

The information on this certificate may not be reproduced without the express permission of the manufacturer. See reverse side for additional information

Certified By: Larry Decker, Organic QC Manager

For use in routine laboratory analysis.

1. **Quality Standards:**

   ISO 17034 – General Requirements for the Competence of Reference Material Producers ANAB Certificate Number AR-1463

   ISO/IEC 17025 – General Requirements for the Competence of Testing And Calibration Laboratories ANAB Certificate Number AT-1339

   ISO 9001:2015 – Quality Management System – Requirements Eagle Registrations Certificate Number 3774

2. **Intended Use:** The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 7.

3. **Manufacturing:** All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards and calibrated using an in-house procedure. Good Laboratory Practices have been used throughout the preparation of this Standard.

4. **Homogeneity:** This product is sufficiently homogeneous and any sample size would be within the uncertainty budget.

5. **Stability:** The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label

6. **Uncertainty:** The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide. We report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula: $u_a = \sqrt{(u(\mathrm{V}))^2 + (u(\mathrm{m}))^2 + (u(\mathrm{IV}))^2 + (u(\mathrm{RO}))^2}$ This formula represents uncertainty components from the mass, volume, short-term stability, long-term stability and homogeneity factors associated with the production of this product. The expanded uncertainty, assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level.

7. **Legal Notice and Limit of Liability:** This product is for routine laboratory analysis and research purposes only. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.

Reagent

MSV_Q#1B_00045

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569936-1.sec **Lot No.:** A0148625

Description : Custom Revised Q #1B Standard

Custom Revised Q #1B Standard 1,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,1-Dichloroethene	1,005.5 µg/mL	+/- 7.1750 µg/mL	Gravimetric
	CAS # 75-35-4.SEC (Lot 5111300)		+/- 56.5279 µg/mL	Unstressed
	Purity 99%		+/- 57.8435 µg/mL	Stressed
2	Methylene chloride (dichloromethane)	1,004.5 µg/mL	+/- 7.1682 µg/mL	Gravimetric
	CAS # 75-09-2.SEC (Lot FGM02)		+/- 56.4745 µg/mL	Unstressed
	Purity 99%		+/- 57.7888 µg/mL	Stressed
3	trans-1,2-Dichloroethene	1,002.8 µg/mL	+/- 7.1558 µg/mL	Gravimetric
	CAS # 156-60-5.SEC (Lot TS5UB)		+/- 56.3767 µg/mL	Unstressed
	Purity 97%		+/- 57.6888 µg/mL	Stressed
4	1,1-Dichloroethane	1,006.8 µg/mL	+/- 7.1846 µg/mL	Gravimetric
	CAS # 75-34-3.SEC (Lot 5379000)		+/- 56.6038 µg/mL	Unstressed
	Purity 99%		+/- 57.9211 µg/mL	Stressed
5	2,2-Dichloropropane	1,003.2 µg/mL	+/- 7.7659 µg/mL	Gravimetric
	CAS # 594-20-7.SEC (Lot I7E8E)		+/- 56.4820 µg/mL	Unstressed
	Purity 98%		+/- 57.7928 µg/mL	Stressed
6	cis-1,2-Dichloroethene	1,001.2 µg/mL	+/- 7.7507 µg/mL	Gravimetric
	CAS # 156-59-2.SEC (Lot HGC01-BLKT)		+/- 56.3716 µg/mL	Unstressed
	Purity 98%		+/- 57.6799 µg/mL	Stressed
7	Chloroform	1,004.5 µg/mL	+/- 7.1684 µg/mL	Gravimetric
	CAS # 67-66-3.SEC (Lot 1297547)		+/- 56.4759 µg/mL	Unstressed
	Purity 99%		+/- 57.7903 µg/mL	Stressed

8	1,1,1-trichloroethane		1,000.9	µg/mL	+/-	7.1427	µg/mL	Gravimetric
	CAS # 71-55-6 *	(Lot B15W12061)			+/-	56.2735	µg/mL	Unstressed
	Purity 99%				+/-	57.5832	µg/mL	Stressed
9	1,1-Dichloropropene		1,005.1	µg/mL	+/-	7.7804	µg/mL	Gravimetric
	CAS # 563-58-6.SEC	(Lot 4672600)			+/-	56.5876	µg/mL	Unstressed
	Purity 96%				+/-	57.9008	µg/mL	Stressed
10	Carbon tetrachloride		1,006.6	µg/mL	+/-	7.1828	µg/mL	Gravimetric
	CAS # 56-23-5.SEC	(Lot 11466)			+/-	56.5897	µg/mL	Unstressed
	Purity 99%				+/-	57.9068	µg/mL	Stressed
11	1,2-Dichloroethane		1,003.3	µg/mL	+/-	7.1598	µg/mL	Gravimetric
	CAS # 107-06-2.SEC	(Lot FO6PK)			+/-	56.4084	µg/mL	Unstressed
	Purity 99%				+/-	57.7212	µg/mL	Stressed
12	Benzene		1,003.5	µg/mL	+/-	7.7683	µg/mL	Gravimetric
	CAS # 71-43-2.SEC	(Lot B28Y008)			+/-	56.4996	µg/mL	Unstressed
	Purity 99%				+/-	57.8109	µg/mL	Stressed
13	Trichloroethene		1,005.6	µg/mL	+/-	7.1760	µg/mL	Gravimetric
	CAS # 79-01-6.SEC	(Lot H04X050)			+/-	56.5363	µg/mL	Unstressed
	Purity 99%				+/-	57.8521	µg/mL	Stressed
14	1,2-Dichloropropane		1,004.3	µg/mL	+/-	7.1666	µg/mL	Gravimetric
	CAS # 78-87-5.SEC	(Lot OGG01)			+/-	56.4618	µg/mL	Unstressed
	Purity 99%				+/-	57.7759	µg/mL	Stressed
15	Bromodichloromethane		1,006.2	µg/mL	+/-	7.1801	µg/mL	Gravimetric
	CAS # 75-27-4.SEC	(Lot 10171168)			+/-	56.5686	µg/mL	Unstressed
	Purity 99%				+/-	57.8852	µg/mL	Stressed
16	Dibromomethane		1,006.1	µg/mL	+/-	7.7881	µg/mL	Gravimetric
	CAS # 74-95-3.SEC	(Lot FGI01-OICH)			+/-	56.6438	µg/mL	Unstressed
	Purity 99%				+/-	57.9584	µg/mL	Stressed
17	cis-1,3-Dichloropropene		1,001.9	µg/mL	+/-	7.1498	µg/mL	Gravimetric
	CAS # 10061-01-5.SEC	(Lot 4870A)			+/-	56.3297	µg/mL	Unstressed
	Purity 99%				+/-	57.6407	µg/mL	Stressed
18	Toluene		1,004.8	µg/mL	+/-	7.7782	µg/mL	Gravimetric
	CAS # 108-88-3.SEC	(Lot YND2B-BD)			+/-	56.5717	µg/mL	Unstressed
	Purity 99%				+/-	57.8846	µg/mL	Stressed
19	trans-1,3-Dichloropropene		1,002.6	µg/mL	+/-	7.1548	µg/mL	Gravimetric
	CAS # 10061-02-6.SEC	(Lot ZDMSL)			+/-	56.3691	µg/mL	Unstressed
	Purity 99%				+/-	57.6810	µg/mL	Stressed
20	1,1,2-Trichloroethane		1,007.8	µg/mL	+/-	7.1920	µg/mL	Gravimetric
	CAS # 79-00-5.SEC	(Lot 3440900)			+/-	56.6618	µg/mL	Unstressed
	Purity 98%				+/-	57.9805	µg/mL	Stressed
21	1,3-Dichloropropane		1,003.8	µg/mL	+/-	7.7708	µg/mL	Gravimetric
	CAS # 142-28-9.SEC	(Lot AGN01-EFPC)			+/-	56.5177	µg/mL	Unstressed
	Purity 99%				+/-	57.8293	µg/mL	Stressed
22	Tetrachloroethene		1,004.1	µg/mL	+/-	7.1652	µg/mL	Gravimetric
	CAS # 127-18-4.SEC	(Lot F09W014)			+/-	56.4506	µg/mL	Unstressed
	Purity 99%				+/-	57.7644	µg/mL	Stressed
23	Dibromochloromethane		1,009.5	µg/mL	+/-	7.2035	µg/mL	Gravimetric
	CAS # 124-48-1.SEC	(Lot 10181507)			+/-	56.7530	µg/mL	Unstressed
	Purity 97%				+/-	58.0739	µg/mL	Stressed

24	1,2-Dibromoethane (EDB)		1,007.8	µg/mL	+/-	7.8017	µg/mL	Gravimetric
	CAS # 106-93-4.SEC	(Lot 3505900)			+/-	56.7429	µg/mL	Unstressed
	Purity 99%				+/-	58.0598	µg/mL	Stressed
25	1-Chlorohexane		1,001.0	µg/mL	+/-	5.8744	µg/mL	Gravimetric
	CAS # 544-10-5.SEC	(Lot 8171700)			+/-	56.1308	µg/mL	Unstressed
	Purity 99%				+/-	57.4439	µg/mL	Stressed
26	Chlorobenzene		1,004.8	µg/mL	+/-	7.1703	µg/mL	Gravimetric
	CAS # 108-90-7.SEC	(Lot 1161936)			+/-	56.4913	µg/mL	Unstressed
	Purity 99%				+/-	57.8061	µg/mL	Stressed
27	1,1,1,2-Tetrachloroethane		1,003.4	µg/mL	+/-	7.7677	µg/mL	Gravimetric
	CAS # 630-20-6.SEC	(Lot GC01)			+/-	56.4951	µg/mL	Unstressed
	Purity 99%				+/-	57.8063	µg/mL	Stressed
28	Ethylbenzene		1,003.4	µg/mL	+/-	7.7677	µg/mL	Gravimetric
	CAS # 100-41-4.SEC	(Lot PI4SE)			+/-	56.4951	µg/mL	Unstressed
	Purity 99%				+/-	57.8063	µg/mL	Stressed
29	m-Xylene		1,005.9	µg/mL	+/-	7.7869	µg/mL	Gravimetric
	CAS # 108-38-3.SEC	(Lot OUKMG-GB)			+/-	56.6348	µg/mL	Unstressed
	Purity 99%				+/-	57.9491	µg/mL	Stressed
30	p-Xylene		1,008.3	µg/mL	+/-	7.8054	µg/mL	Gravimetric
	CAS # 106-42-3.SEC	(Lot GM01)			+/-	56.7699	µg/mL	Unstressed
	Purity 99%				+/-	58.0874	µg/mL	Stressed
31	o-Xylene		1,005.8	µg/mL	+/-	7.7862	µg/mL	Gravimetric
	CAS # 95-47-6.SEC	(Lot FGL01)			+/-	56.6303	µg/mL	Unstressed
	Purity 99%				+/-	57.9445	µg/mL	Stressed
32	Styrene		1,001.1	µg/mL	+/-	7.7497	µg/mL	Gravimetric
	CAS # 100-42-5.SEC	(Lot QGQ7F)			+/-	56.3645	µg/mL	Unstressed
	Purity 99%				+/-	57.6726	µg/mL	Stressed
33	Isopropylbenzene (cumene)		1,004.3	µg/mL	+/-	7.7745	µg/mL	Gravimetric
	CAS # 98-82-8.SEC	(Lot WVREC)			+/-	56.5447	µg/mL	Unstressed
	Purity 99%				+/-	57.8570	µg/mL	Stressed
34	Bromoform		1,005.7	µg/mL	+/-	7.1764	µg/mL	Gravimetric
	CAS # 75-25-2.SEC	(Lot 5197400)			+/-	56.5392	µg/mL	Unstressed
	Purity 98%				+/-	57.8551	µg/mL	Stressed
35	1,1,2,2-Tetrachloroethane		1,006.8	µg/mL	+/-	7.1848	µg/mL	Gravimetric
	CAS # 79-34-5.SEC	(Lot CFA4D-AQ)			+/-	56.6052	µg/mL	Unstressed
	Purity 99%				+/-	57.9226	µg/mL	Stressed
36	1,2,3-Trichloropropane		1,002.4	µg/mL	+/-	7.7598	µg/mL	Gravimetric
	CAS # 96-18-4.SEC	(Lot OGI01)			+/-	56.4378	µg/mL	Unstressed
	Purity 98%				+/-	57.7477	µg/mL	Stressed
37	n-Propylbenzene		1,007.8	µg/mL	+/-	7.8011	µg/mL	Gravimetric
	CAS # 103-65-1.SEC	(Lot T2HFC)			+/-	56.7384	µg/mL	Unstressed
	Purity 99%				+/-	58.0551	µg/mL	Stressed
38	Bromobenzene		1,004.8	µg/mL	+/-	7.7782	µg/mL	Gravimetric
	CAS # 108-86-1.SEC	(Lot 2FUHG-EM)			+/-	56.5717	µg/mL	Unstressed
	Purity 99%				+/-	57.8846	µg/mL	Stressed
39	1,3,5-Trichlorobenzene		1,002.0	µg/mL	+/-	5.8803	µg/mL	Gravimetric
	CAS # 108-70-3.SEC	(Lot I28U021)			+/-	56.1868	µg/mL	Unstressed
	Purity 99%				+/-	57.5013	µg/mL	Stressed

40	2-Chlorotoluene		1,008.1	µg/mL	+/-	7.8036	µg/mL	Gravimetric
	CAS # 95-49-8.SEC	(Lot SW8QG-AO)			+/-	56.7564	µg/mL	Unstressed
	Purity 99%				+/-	58.0736	µg/mL	Stressed
41	4-Chlorotoluene		1,002.1	µg/mL	+/-	7.7571	µg/mL	Gravimetric
	CAS # 106-43-4.SEC	(Lot P4XHJ-AO)			+/-	56.4186	µg/mL	Unstressed
	Purity 99%				+/-	57.7279	µg/mL	Stressed
42	tert-Butylbenzene		1,004.2	µg/mL	+/-	7.7732	µg/mL	Gravimetric
	CAS # 98-06-6.SEC	(Lot D6OHC)			+/-	56.5357	µg/mL	Unstressed
	Purity 99%				+/-	57.8478	µg/mL	Stressed
43	1,2,4-Trimethylbenzene		1,009.5	µg/mL	+/-	7.8147	µg/mL	Gravimetric
	CAS # 95-63-6.SEC	(Lot SC7LO-QA)			+/-	56.8374	µg/mL	Unstressed
	Purity 99%				+/-	58.1565	µg/mL	Stressed
44	sec-Butylbenzene		1,006.9	µg/mL	+/-	7.7943	µg/mL	Gravimetric
	CAS # 135-98-8.SEC	(Lot O4HRF)			+/-	56.6888	µg/mL	Unstressed
	Purity 99%				+/-	58.0044	µg/mL	Stressed
45	4-Isopropyltoluene (p-cymene)		1,000.0	µg/mL	+/-	7.7410	µg/mL	Gravimetric
	CAS # 99-87-6.SEC	(Lot 1195000)			+/-	56.3015	µg/mL	Unstressed
	Purity 96%				+/-	57.6081	µg/mL	Stressed
46	1,3-Dichlorobenzene		1,003.3	µg/mL	+/-	7.1593	µg/mL	Gravimetric
	CAS # 541-73-1.SEC	(Lot FMDFD)			+/-	56.4042	µg/mL	Unstressed
	Purity 99%				+/-	57.7169	µg/mL	Stressed
47	1,4-Dichlorobenzene		1,008.5	µg/mL	+/-	7.1967	µg/mL	Gravimetric
	CAS # 106-46-7.SEC	(Lot 4Y5DC)			+/-	56.6994	µg/mL	Unstressed
	Purity 99%				+/-	58.0189	µg/mL	Stressed
48	n-Butylbenzene		1,005.4	µg/mL	+/-	7.7825	µg/mL	Gravimetric
	CAS # 104-51-8.SEC	(Lot MMPGA)			+/-	56.6032	µg/mL	Unstressed
	Purity 99%				+/-	57.9169	µg/mL	Stressed
49	1,2-Dichlorobenzene		1,006.8	µg/mL	+/-	7.1842	µg/mL	Gravimetric
	CAS # 95-50-1.SEC	(Lot 4NRGF-OT)			+/-	56.6010	µg/mL	Unstressed
	Purity 99%				+/-	57.9183	µg/mL	Stressed
50	1,2-Dibromo-3-chloropropane		1,002.7	µg/mL	+/-	7.7616	µg/mL	Gravimetric
	CAS # 96-12-8.SEC	(Lot LC00408V)			+/-	56.4511	µg/mL	Unstressed
	Purity 98%				+/-	57.7612	µg/mL	Stressed
51	1,3,5-Trimethylbenzene		1,002.2	µg/mL	+/-	7.7584	µg/mL	Gravimetric
	CAS # 108-67-8.SEC	(Lot FGH02-CMLN)			+/-	56.4276	µg/mL	Unstressed
	Purity 99%				+/-	57.7371	µg/mL	Stressed
52	1,2,4-Trichlorobenzene		1,007.2	µg/mL	+/-	7.7968	µg/mL	Gravimetric
	CAS # 120-82-1.SEC	(Lot 3LYYC)			+/-	56.7068	µg/mL	Unstressed
	Purity 99%				+/-	58.0229	µg/mL	Stressed
53	Hexachlorobutadiene		1,005.8	µg/mL	+/-	7.7857	µg/mL	Gravimetric
	CAS # 87-68-3.SEC	(Lot 5526800)			+/-	56.6265	µg/mL	Unstressed
	Purity 97%				+/-	57.9407	µg/mL	Stressed
54	Naphthalene		1,001.8	µg/mL	+/-	7.7553	µg/mL	Gravimetric
	CAS # 91-20-3.SEC	(Lot SKZ5N)			+/-	56.4050	µg/mL	Unstressed
	Purity 99%				+/-	57.7141	µg/mL	Stressed
55	1,2,3-Trichlorobenzene		1,005.9	µg/mL	+/-	7.7865	µg/mL	Gravimetric
	CAS # 87-61-6.SEC	(Lot A0043055)			+/-	56.6321	µg/mL	Unstressed
	Purity 98%				+/-	57.9464	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.# 10910)

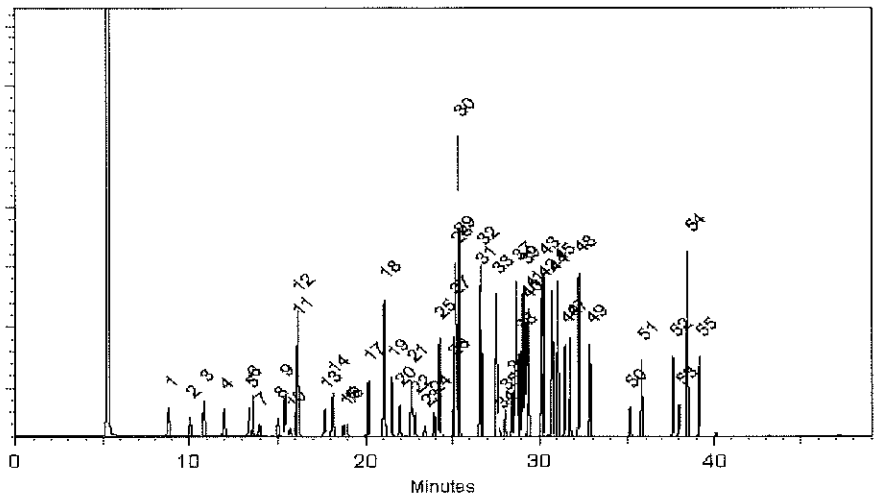
Carrier Gas:
hydrogen-constant pressure 8.0 psi.

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Michael J Maye

Date Mixed: 26-Apr-2019 **Balance:** 1127510105

Jennifer Pollino

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 30-Apr-2019

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_Q#1B_00051

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569936-1.sec **Lot No.:** A0148625

Description : Custom Revised Q #1B Standard

Custom Revised Q #1B Standard 1,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2022 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,1-Dichloroethene	1,005.5 µg/mL	+/- 7.1750 µg/mL	Gravimetric
	CAS # 75-35-4.SEC (Lot 5111300)		+/- 56.5279 µg/mL	Unstressed
	Purity 99%		+/- 57.8435 µg/mL	Stressed
2	Methylene chloride (dichloromethane)	1,004.5 µg/mL	+/- 7.1682 µg/mL	Gravimetric
	CAS # 75-09-2.SEC (Lot FGM02)		+/- 56.4745 µg/mL	Unstressed
	Purity 99%		+/- 57.7888 µg/mL	Stressed
3	trans-1,2-Dichloroethene	1,002.8 µg/mL	+/- 7.1558 µg/mL	Gravimetric
	CAS # 156-60-5.SEC (Lot TS5UB)		+/- 56.3767 µg/mL	Unstressed
	Purity 97%		+/- 57.6888 µg/mL	Stressed
4	1,1-Dichloroethane	1,006.8 µg/mL	+/- 7.1846 µg/mL	Gravimetric
	CAS # 75-34-3.SEC (Lot 5379000)		+/- 56.6038 µg/mL	Unstressed
	Purity 99%		+/- 57.9211 µg/mL	Stressed
5	2,2-Dichloropropane	1,003.2 µg/mL	+/- 7.7659 µg/mL	Gravimetric
	CAS # 594-20-7.SEC (Lot I7E8E)		+/- 56.4820 µg/mL	Unstressed
	Purity 98%		+/- 57.7928 µg/mL	Stressed
6	cis-1,2-Dichloroethene	1,001.2 µg/mL	+/- 7.7507 µg/mL	Gravimetric
	CAS # 156-59-2.SEC (Lot HGC01-BLKT)		+/- 56.3716 µg/mL	Unstressed
	Purity 98%		+/- 57.6799 µg/mL	Stressed
7	Chloroform	1,004.5 µg/mL	+/- 7.1684 µg/mL	Gravimetric
	CAS # 67-66-3.SEC (Lot 1297547)		+/- 56.4759 µg/mL	Unstressed
	Purity 99%		+/- 57.7903 µg/mL	Stressed

8	1,1,1-trichloroethane		1,000.9	µg/mL	+/-	7.1427	µg/mL	Gravimetric
	CAS # 71-55-6 *	(Lot B15W12061)			+/-	56.2735	µg/mL	Unstressed
	Purity 99%				+/-	57.5832	µg/mL	Stressed
9	1,1-Dichloropropene		1,005.1	µg/mL	+/-	7.7804	µg/mL	Gravimetric
	CAS # 563-58-6.SEC	(Lot 4672600)			+/-	56.5876	µg/mL	Unstressed
	Purity 96%				+/-	57.9008	µg/mL	Stressed
10	Carbon tetrachloride		1,006.6	µg/mL	+/-	7.1828	µg/mL	Gravimetric
	CAS # 56-23-5.SEC	(Lot 11466)			+/-	56.5897	µg/mL	Unstressed
	Purity 99%				+/-	57.9068	µg/mL	Stressed
11	1,2-Dichloroethane		1,003.3	µg/mL	+/-	7.1598	µg/mL	Gravimetric
	CAS # 107-06-2.SEC	(Lot FO6PK)			+/-	56.4084	µg/mL	Unstressed
	Purity 99%				+/-	57.7212	µg/mL	Stressed
12	Benzene		1,003.5	µg/mL	+/-	7.7683	µg/mL	Gravimetric
	CAS # 71-43-2.SEC	(Lot B28Y008)			+/-	56.4996	µg/mL	Unstressed
	Purity 99%				+/-	57.8109	µg/mL	Stressed
13	Trichloroethene		1,005.6	µg/mL	+/-	7.1760	µg/mL	Gravimetric
	CAS # 79-01-6.SEC	(Lot H04X050)			+/-	56.5363	µg/mL	Unstressed
	Purity 99%				+/-	57.8521	µg/mL	Stressed
14	1,2-Dichloropropane		1,004.3	µg/mL	+/-	7.1666	µg/mL	Gravimetric
	CAS # 78-87-5.SEC	(Lot OGG01)			+/-	56.4618	µg/mL	Unstressed
	Purity 99%				+/-	57.7759	µg/mL	Stressed
15	Bromodichloromethane		1,006.2	µg/mL	+/-	7.1801	µg/mL	Gravimetric
	CAS # 75-27-4.SEC	(Lot 10171168)			+/-	56.5686	µg/mL	Unstressed
	Purity 99%				+/-	57.8852	µg/mL	Stressed
16	Dibromomethane		1,006.1	µg/mL	+/-	7.7881	µg/mL	Gravimetric
	CAS # 74-95-3.SEC	(Lot FGI01-OICH)			+/-	56.6438	µg/mL	Unstressed
	Purity 99%				+/-	57.9584	µg/mL	Stressed
17	cis-1,3-Dichloropropene		1,001.9	µg/mL	+/-	7.1498	µg/mL	Gravimetric
	CAS # 10061-01-5.SEC	(Lot 4870A)			+/-	56.3297	µg/mL	Unstressed
	Purity 99%				+/-	57.6407	µg/mL	Stressed
18	Toluene		1,004.8	µg/mL	+/-	7.7782	µg/mL	Gravimetric
	CAS # 108-88-3.SEC	(Lot YND2B-BD)			+/-	56.5717	µg/mL	Unstressed
	Purity 99%				+/-	57.8846	µg/mL	Stressed
19	trans-1,3-Dichloropropene		1,002.6	µg/mL	+/-	7.1548	µg/mL	Gravimetric
	CAS # 10061-02-6.SEC	(Lot ZDMSL)			+/-	56.3691	µg/mL	Unstressed
	Purity 99%				+/-	57.6810	µg/mL	Stressed
20	1,1,2-Trichloroethane		1,007.8	µg/mL	+/-	7.1920	µg/mL	Gravimetric
	CAS # 79-00-5.SEC	(Lot 3440900)			+/-	56.6618	µg/mL	Unstressed
	Purity 98%				+/-	57.9805	µg/mL	Stressed
21	1,3-Dichloropropane		1,003.8	µg/mL	+/-	7.7708	µg/mL	Gravimetric
	CAS # 142-28-9.SEC	(Lot AGN01-EFPC)			+/-	56.5177	µg/mL	Unstressed
	Purity 99%				+/-	57.8293	µg/mL	Stressed
22	Tetrachloroethene		1,004.1	µg/mL	+/-	7.1652	µg/mL	Gravimetric
	CAS # 127-18-4.SEC	(Lot F09W014)			+/-	56.4506	µg/mL	Unstressed
	Purity 99%				+/-	57.7644	µg/mL	Stressed
23	Dibromochloromethane		1,009.5	µg/mL	+/-	7.2035	µg/mL	Gravimetric
	CAS # 124-48-1.SEC	(Lot 10181507)			+/-	56.7530	µg/mL	Unstressed
	Purity 97%				+/-	58.0739	µg/mL	Stressed

24	1,2-Dibromoethane (EDB) **CAS #** 106-93-4.SEC **Purity** 99%	(Lot 3505900)	1,007.8	µg/mL	+/- 7.8017 +/- 56.7429 +/- 58.0598	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
25	1-Chlorohexane **CAS #** 544-10-5.SEC **Purity** 99%	(Lot 8171700)	1,001.0	µg/mL	+/- 5.8744 +/- 56.1308 +/- 57.4439	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
26	Chlorobenzene **CAS #** 108-90-7.SEC **Purity** 99%	(Lot 1161936)	1,004.8	µg/mL	+/- 7.1703 +/- 56.4913 +/- 57.8061	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
27	1,1,1,2-Tetrachloroethane **CAS #** 630-20-6.SEC **Purity** 99%	(Lot GC01)	1,003.4	µg/mL	+/- 7.7677 +/- 56.4951 +/- 57.8063	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
28	Ethylbenzene **CAS #** 100-41-4.SEC **Purity** 99%	(Lot PI4SE)	1,003.4	µg/mL	+/- 7.7677 +/- 56.4951 +/- 57.8063	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
29	m-Xylene **CAS #** 108-38-3.SEC **Purity** 99%	(Lot OUKMG-GB)	1,005.9	µg/mL	+/- 7.7869 +/- 56.6348 +/- 57.9491	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
30	p-Xylene **CAS #** 106-42-3.SEC **Purity** 99%	(Lot GM01)	1,008.3	µg/mL	+/- 7.8054 +/- 56.7699 +/- 58.0874	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
31	o-Xylene **CAS #** 95-47-6.SEC **Purity** 99%	(Lot FGL01)	1,005.8	µg/mL	+/- 7.7862 +/- 56.6303 +/- 57.9445	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
32	Styrene **CAS #** 100-42-5.SEC **Purity** 99%	(Lot QGQ7F)	1,001.1	µg/mL	+/- 7.7497 +/- 56.3645 +/- 57.6726	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
33	Isopropylbenzene (cumene) **CAS #** 98-82-8.SEC **Purity** 99%	(Lot WVREC)	1,004.3	µg/mL	+/- 7.7745 +/- 56.5447 +/- 57.8570	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
34	Bromoform **CAS #** 75-25-2.SEC **Purity** 98%	(Lot 5197400)	1,005.7	µg/mL	+/- 7.1764 +/- 56.5392 +/- 57.8551	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
35	1,1,2,2-Tetrachloroethane **CAS #** 79-34-5.SEC **Purity** 99%	(Lot CFA4D-AQ)	1,006.8	µg/mL	+/- 7.1848 +/- 56.6052 +/- 57.9226	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
36	1,2,3-Trichloropropane **CAS #** 96-18-4.SEC **Purity** 98%	(Lot OGI01)	1,002.4	µg/mL	+/- 7.7598 +/- 56.4378 +/- 57.7477	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
37	n-Propylbenzene **CAS #** 103-65-1.SEC **Purity** 99%	(Lot T2HFC)	1,007.8	µg/mL	+/- 7.8011 +/- 56.7384 +/- 58.0551	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
38	Bromobenzene **CAS #** 108-86-1.SEC **Purity** 99%	(Lot 2FUHG-EM)	1,004.8	µg/mL	+/- 7.7782 +/- 56.5717 +/- 57.8846	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
39	1,3,5-Trichlorobenzene **CAS #** 108-70-3.SEC **Purity** 99%	(Lot I28U021)	1,002.0	µg/mL	+/- 5.8803 +/- 56.1868 +/- 57.5013	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

40	2-Chlorotoluene		1,008.1	µg/mL	+/-	7.8036	µg/mL	Gravimetric
	CAS # 95-49-8.SEC	(Lot SW8QG-AO)			+/-	56.7564	µg/mL	Unstressed
	Purity 99%				+/-	58.0736	µg/mL	Stressed
41	4-Chlorotoluene		1,002.1	µg/mL	+/-	7.7571	µg/mL	Gravimetric
	CAS # 106-43-4.SEC	(Lot P4XHJ-AO)			+/-	56.4186	µg/mL	Unstressed
	Purity 99%				+/-	57.7279	µg/mL	Stressed
42	tert-Butylbenzene		1,004.2	µg/mL	+/-	7.7732	µg/mL	Gravimetric
	CAS # 98-06-6.SEC	(Lot D6OHC)			+/-	56.5357	µg/mL	Unstressed
	Purity 99%				+/-	57.8478	µg/mL	Stressed
43	1,2,4-Trimethylbenzene		1,009.5	µg/mL	+/-	7.8147	µg/mL	Gravimetric
	CAS # 95-63-6.SEC	(Lot SC7LO-QA)			+/-	56.8374	µg/mL	Unstressed
	Purity 99%				+/-	58.1565	µg/mL	Stressed
44	sec-Butylbenzene		1,006.9	µg/mL	+/-	7.7943	µg/mL	Gravimetric
	CAS # 135-98-8.SEC	(Lot O4HRF)			+/-	56.6888	µg/mL	Unstressed
	Purity 99%				+/-	58.0044	µg/mL	Stressed
45	4-Isopropyltoluene (p-cymene)		1,000.0	µg/mL	+/-	7.7410	µg/mL	Gravimetric
	CAS # 99-87-6.SEC	(Lot 1195000)			+/-	56.3015	µg/mL	Unstressed
	Purity 96%				+/-	57.6081	µg/mL	Stressed
46	1,3-Dichlorobenzene		1,003.3	µg/mL	+/-	7.1593	µg/mL	Gravimetric
	CAS # 541-73-1.SEC	(Lot FMDFD)			+/-	56.4042	µg/mL	Unstressed
	Purity 99%				+/-	57.7169	µg/mL	Stressed
47	1,4-Dichlorobenzene		1,008.5	µg/mL	+/-	7.1967	µg/mL	Gravimetric
	CAS # 106-46-7.SEC	(Lot 4Y5DC)			+/-	56.6994	µg/mL	Unstressed
	Purity 99%				+/-	58.0189	µg/mL	Stressed
48	n-Butylbenzene		1,005.4	µg/mL	+/-	7.7825	µg/mL	Gravimetric
	CAS # 104-51-8.SEC	(Lot MMPGA)			+/-	56.6032	µg/mL	Unstressed
	Purity 99%				+/-	57.9169	µg/mL	Stressed
49	1,2-Dichlorobenzene		1,006.8	µg/mL	+/-	7.1842	µg/mL	Gravimetric
	CAS # 95-50-1.SEC	(Lot 4NRGF-OT)			+/-	56.6010	µg/mL	Unstressed
	Purity 99%				+/-	57.9183	µg/mL	Stressed
50	1,2-Dibromo-3-chloropropane		1,002.7	µg/mL	+/-	7.7616	µg/mL	Gravimetric
	CAS # 96-12-8.SEC	(Lot LC00408V)			+/-	56.4511	µg/mL	Unstressed
	Purity 98%				+/-	57.7612	µg/mL	Stressed
51	1,3,5-Trimethylbenzene		1,002.2	µg/mL	+/-	7.7584	µg/mL	Gravimetric
	CAS # 108-67-8.SEC	(Lot FGH02-CMLN)			+/-	56.4276	µg/mL	Unstressed
	Purity 99%				+/-	57.7371	µg/mL	Stressed
52	1,2,4-Trichlorobenzene		1,007.2	µg/mL	+/-	7.7968	µg/mL	Gravimetric
	CAS # 120-82-1.SEC	(Lot 3LYYC)			+/-	56.7068	µg/mL	Unstressed
	Purity 99%				+/-	58.0229	µg/mL	Stressed
53	Hexachlorobutadiene		1,005.8	µg/mL	+/-	7.7857	µg/mL	Gravimetric
	CAS # 87-68-3.SEC	(Lot 5526800)			+/-	56.6265	µg/mL	Unstressed
	Purity 97%				+/-	57.9407	µg/mL	Stressed
54	Naphthalene		1,001.8	µg/mL	+/-	7.7553	µg/mL	Gravimetric
	CAS # 91-20-3.SEC	(Lot SKZ5N)			+/-	56.4050	µg/mL	Unstressed
	Purity 99%				+/-	57.7141	µg/mL	Stressed
55	1,2,3-Trichlorobenzene		1,005.9	µg/mL	+/-	7.7865	µg/mL	Gravimetric
	CAS # 87-61-6.SEC	(Lot A0043055)			+/-	56.6321	µg/mL	Unstressed
	Purity 98%				+/-	57.9464	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.# 10910)

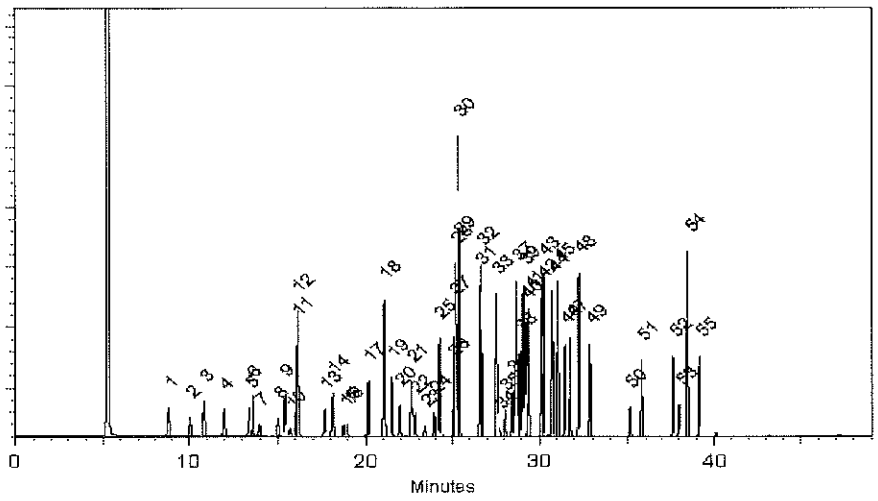
Carrier Gas:
hydrogen-constant pressure 8.0 psi.

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Michael J Maye

Date Mixed: 26-Apr-2019 **Balance:** 1127510105

Jennifer Pollino

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 30-Apr-2019

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_Q#3B_00039

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 56736.SEC **Lot No.:** A0158722

Description : Custom Q #3B Standard

Custom Q #3B Standard 1,000-7,500µg/mL, P&T Methanol/Water (90:10), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Acetone	7,550.0 µg/mL	+/- 44.3076 µg/mL	Gravimetric
	CAS # 67-64-1.SEC (Lot U13B039)		+/- 373.5308 µg/mL	Unstressed
	Purity 99%		+/- 382.8166 µg/mL	Stressed
2	Acrylonitrile	5,003.0 µg/mL	+/- 29.3604 µg/mL	Gravimetric
	CAS # 107-13-1.SEC (Lot CCFKL-GL)		+/- 247.5198 µg/mL	Unstressed
	Purity 99%		+/- 253.6730 µg/mL	Stressed
3	2-Butanone (MEK)	7,517.0 µg/mL	+/- 44.1140 µg/mL	Gravimetric
	CAS # 78-93-3.SEC (Lot RGZ2A)		+/- 371.8982 µg/mL	Unstressed
	Purity 99%		+/- 381.1434 µg/mL	Stressed
4	Tetrahydrofuran	5,023.0 µg/mL	+/- 29.4778 µg/mL	Gravimetric
	CAS # 109-99-9.SEC (Lot 8DAOJ)		+/- 248.5093 µg/mL	Unstressed
	Purity 99%		+/- 254.6871 µg/mL	Stressed
5	2-Nitropropane	1,000.6 µg/mL	+/- 5.9431 µg/mL	Gravimetric
	CAS # 79-46-9.SEC (Lot Y4YWD)		+/- 49.5115 µg/mL	Unstressed
	Purity 98%		+/- 50.7419 µg/mL	Stressed
6	4-Methyl-2-pentanone (MIBK)	5,032.0 µg/mL	+/- 29.5306 µg/mL	Gravimetric
	CAS # 108-10-1.SEC (Lot E29T040)		+/- 248.9546 µg/mL	Unstressed
	Purity 99%		+/- 255.1435 µg/mL	Stressed
7	2-Hexanone	5,036.2 µg/mL	+/- 29.5554 µg/mL	Gravimetric
	CAS # 591-78-6.SEC (Lot Y3TUO)		+/- 249.1634 µg/mL	Unstressed
	Purity 98%		+/- 255.3574 µg/mL	Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

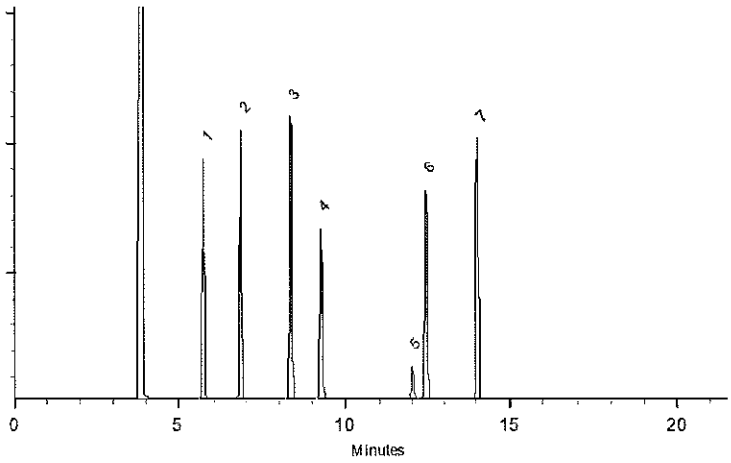
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brandon Reish - Mix Technician

Date Mixed: 11-Mar-2020 **Balance:** 1127510105

Justine Albertson - Operations Tech-ARM QC

Date Passed: 19-Mar-2020

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_Q#3B_00050

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 56736.SEC **Lot No.:** A0158722

Description : Custom Q #3B Standard

Custom Q #3B Standard 1,000-7,500µg/mL, P&T Methanol/Water (90:10), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Acetone	7,550.0 µg/mL	+/- 44.3076 µg/mL	Gravimetric
	CAS # 67-64-1.SEC (Lot U13B039)		+/- 373.5308 µg/mL	Unstressed
	Purity 99%		+/- 382.8166 µg/mL	Stressed
2	Acrylonitrile	5,003.0 µg/mL	+/- 29.3604 µg/mL	Gravimetric
	CAS # 107-13-1.SEC (Lot CCFKL-GL)		+/- 247.5198 µg/mL	Unstressed
	Purity 99%		+/- 253.6730 µg/mL	Stressed
3	2-Butanone (MEK)	7,517.0 µg/mL	+/- 44.1140 µg/mL	Gravimetric
	CAS # 78-93-3.SEC (Lot RGZ2A)		+/- 371.8982 µg/mL	Unstressed
	Purity 99%		+/- 381.1434 µg/mL	Stressed
4	Tetrahydrofuran	5,023.0 µg/mL	+/- 29.4778 µg/mL	Gravimetric
	CAS # 109-99-9.SEC (Lot 8DAOJ)		+/- 248.5093 µg/mL	Unstressed
	Purity 99%		+/- 254.6871 µg/mL	Stressed
5	2-Nitropropane	1,000.6 µg/mL	+/- 5.9431 µg/mL	Gravimetric
	CAS # 79-46-9.SEC (Lot Y4YWD)		+/- 49.5115 µg/mL	Unstressed
	Purity 98%		+/- 50.7419 µg/mL	Stressed
6	4-Methyl-2-pentanone (MIBK)	5,032.0 µg/mL	+/- 29.5306 µg/mL	Gravimetric
	CAS # 108-10-1.SEC (Lot E29T040)		+/- 248.9546 µg/mL	Unstressed
	Purity 99%		+/- 255.1435 µg/mL	Stressed
7	2-Hexanone	5,036.2 µg/mL	+/- 29.5554 µg/mL	Gravimetric
	CAS # 591-78-6.SEC (Lot Y3TUO)		+/- 249.1634 µg/mL	Unstressed
	Purity 98%		+/- 255.3574 µg/mL	Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

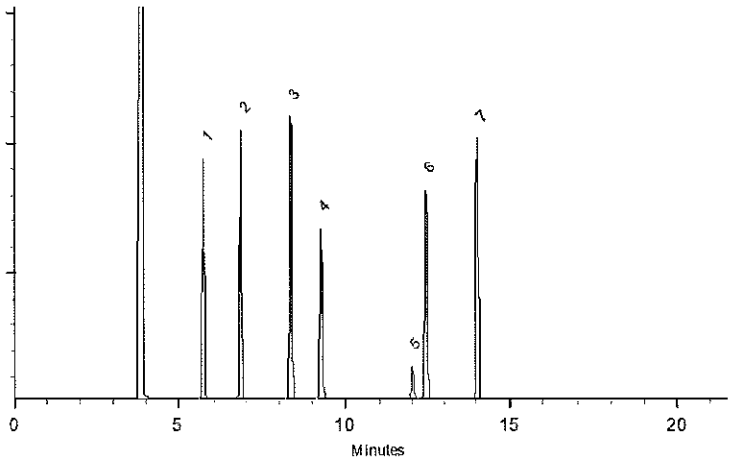
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Brandon Reish - Mix Technician

Date Mixed: 11-Mar-2020 **Balance:** 1127510105

Justine Albertson - Operations Tech-ARM QC

Date Passed: 19-Mar-2020

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_Q#4C_00044

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 572312.SEC **Lot No.:** A0158704

Description : Custom Q #4C (Rev 3) Standard

Custom Q #4C (Rev 3) Standard 1,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,3-Butadiene	999.8 µg/mL	+/- 9.3559 µg/mL	Gravimetric
	CAS # 106-99-0.SEC (Lot 24033)		+/- 60.7686 µg/mL	Unstressed
	Purity 99%		+/- 60.9107 µg/mL	Stressed
2	1,2-Dichloro-1,1,2-trifluoroethane (CFC-123a)	998.8 µg/mL	+/- 17.4916 µg/mL	Gravimetric
	CAS # 354-23-4 * (Lot Q9B-64)		+/- 62.4823 µg/mL	Unstressed
	Purity 99%		+/- 62.6203 µg/mL	Stressed
3	n-Pentane (C5)	1,002.5 µg/mL	+/- 5.8832 µg/mL	Gravimetric
	CAS # 109-66-0.SEC (Lot FGH02)		+/- 60.4906 µg/mL	Unstressed
	Purity 99%		+/- 60.6341 µg/mL	Stressed
4	1,1,2-Trichlorotrifluoroethane (CFC-113)	1,003.5 µg/mL	+/- 5.8891 µg/mL	Gravimetric
	CAS # 76-13-1.SEC (Lot 18342)		+/- 60.5509 µg/mL	Unstressed
	Purity 99%		+/- 60.6946 µg/mL	Stressed
5	Iodomethane (methyl iodide)	1,008.0 µg/mL	+/- 5.9155 µg/mL	Gravimetric
	CAS # 74-88-4.SEC (Lot Y25A027)		+/- 60.8224 µg/mL	Unstressed
	Purity 99%		+/- 60.9668 µg/mL	Stressed
6	Carbon disulfide	1,005.0 µg/mL	+/- 5.8979 µg/mL	Gravimetric
	CAS # 75-15-0.SEC (Lot MKBL1376V)		+/- 60.6414 µg/mL	Unstressed
	Purity 99%		+/- 60.7854 µg/mL	Stressed
7	Methyl-tert-butyl ether (MTBE)	1,002.0 µg/mL	+/- 5.8803 µg/mL	Gravimetric
	CAS # 1634-04-4.SEC (Lot ZHKYA)		+/- 60.4604 µg/mL	Unstressed
	Purity 99%		+/- 60.6039 µg/mL	Stressed

8	n-Hexane (C6)		1,002.0	µg/mL	+/-	5.8803	µg/mL	Gravimetric
	CAS # 110-54-3.SEC	(Lot 10188491)			+/-	60.4604	µg/mL	Unstressed
	Purity 99%				+/-	60.6039	µg/mL	Stressed
9	Diisopropyl ether (DIPE)		1,003.0	µg/mL	+/-	5.8862	µg/mL	Gravimetric
	CAS # 108-20-3.SEC	(Lot LL7TN-SH)			+/-	60.5207	µg/mL	Unstressed
	Purity 99%				+/-	60.6644	µg/mL	Stressed
10	Chloroprene (2-chloro-1,3-butadiene)		1,001.5	µg/mL	+/-	5.8774	µg/mL	Gravimetric
	CAS # 126-99-8 *	(Lot 191204JLM)			+/-	60.4302	µg/mL	Unstressed
	Purity 99%				+/-	60.5737	µg/mL	Stressed
11	Ethyl-tert-butyl ether (ETBE)		1,001.0	µg/mL	+/-	5.8744	µg/mL	Gravimetric
	CAS # 637-92-3.SEC	(Lot MHBJG-QK)			+/-	60.4000	µg/mL	Unstressed
	Purity 99%				+/-	60.5434	µg/mL	Stressed
12	Cyclohexane		1,001.5	µg/mL	+/-	5.8774	µg/mL	Gravimetric
	CAS # 110-82-7.SEC	(Lot YADRA)			+/-	60.4302	µg/mL	Unstressed
	Purity 99%				+/-	60.5737	µg/mL	Stressed
13	tert-Amyl methyl ether (TAME)		1,006.0	µg/mL	+/-	5.9038	µg/mL	Gravimetric
	CAS # 994-05-8.SEC	(Lot 8471400)			+/-	60.7017	µg/mL	Unstressed
	Purity 99%				+/-	60.8458	µg/mL	Stressed
14	n-Heptane (C7)		1,006.0	µg/mL	+/-	5.9038	µg/mL	Gravimetric
	CAS # 142-82-5.SEC	(Lot OGM01)			+/-	60.7017	µg/mL	Unstressed
	Purity 99%				+/-	60.8458	µg/mL	Stressed
15	tert-Amyl ethyl ether (TAEE)		1,006.0	µg/mL	+/-	5.9038	µg/mL	Gravimetric
	CAS # 919-94-8.SEC	(Lot 6455100)			+/-	60.7017	µg/mL	Unstressed
	Purity 99%				+/-	60.8458	µg/mL	Stressed
16	Methyl methacrylate		1,006.0	µg/mL	+/-	5.9038	µg/mL	Gravimetric
	CAS # 80-62-6.SEC	(Lot G01X021)			+/-	60.7017	µg/mL	Unstressed
	Purity 99%				+/-	60.8458	µg/mL	Stressed
17	Ethyl methacrylate		1,004.5	µg/mL	+/-	5.8950	µg/mL	Gravimetric
	CAS # 97-63-2.SEC	(Lot MLWYK-LS)			+/-	60.6112	µg/mL	Unstressed
	Purity 99%				+/-	60.7551	µg/mL	Stressed
18	Benzyl chloride		1,003.5	µg/mL	+/-	5.8891	µg/mL	Gravimetric
	CAS # 100-44-7.SEC	(Lot H29N03)			+/-	60.5509	µg/mL	Unstressed
	Purity 99%				+/-	60.6946	µg/mL	Stressed
Solvent:	P&T Methanol							
	CAS # 67-56-1							
	Purity 99%							

*** Restek is unable to identify a reliable and/or acceptable second source for this material - the same batch of neat material may have been used to produce both the primary and secondary standard. The primary and secondary standards were prepared using different equipment and personnel.**

Tech Tips:
Raw material may contain trace amounts of tert-Butanol.

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

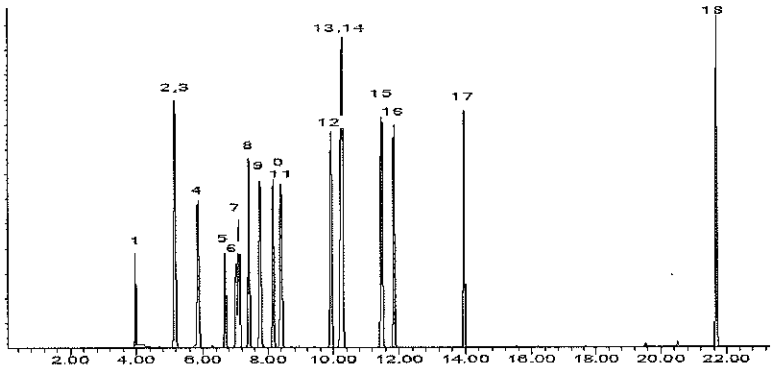
Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Matt Fragassi - Mix Technician

Date Mixed: 11-Mar-2020 **Balance:** 1128342314

Feng-Yun Lo – QC Analyst

Date Passed: 25-Mar-2020

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_Q#4C_00050

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 572312.SEC **Lot No.:** A0158704

Description : Custom Q #4C (Rev 3) Standard

Custom Q #4C (Rev 3) Standard 1,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,3-Butadiene	999.8 µg/mL	+/- 9.3559 µg/mL	Gravimetric
	CAS # 106-99-0.SEC (Lot 24033)		+/- 60.7686 µg/mL	Unstressed
	Purity 99%		+/- 60.9107 µg/mL	Stressed
2	1,2-Dichloro-1,1,2-trifluoroethane (CFC-123a)	998.8 µg/mL	+/- 17.4916 µg/mL	Gravimetric
	CAS # 354-23-4 * (Lot Q9B-64)		+/- 62.4823 µg/mL	Unstressed
	Purity 99%		+/- 62.6203 µg/mL	Stressed
3	n-Pentane (C5)	1,002.5 µg/mL	+/- 5.8832 µg/mL	Gravimetric
	CAS # 109-66-0.SEC (Lot FGH02)		+/- 60.4906 µg/mL	Unstressed
	Purity 99%		+/- 60.6341 µg/mL	Stressed
4	1,1,2-Trichlorotrifluoroethane (CFC-113)	1,003.5 µg/mL	+/- 5.8891 µg/mL	Gravimetric
	CAS # 76-13-1.SEC (Lot 18342)		+/- 60.5509 µg/mL	Unstressed
	Purity 99%		+/- 60.6946 µg/mL	Stressed
5	Iodomethane (methyl iodide)	1,008.0 µg/mL	+/- 5.9155 µg/mL	Gravimetric
	CAS # 74-88-4.SEC (Lot Y25A027)		+/- 60.8224 µg/mL	Unstressed
	Purity 99%		+/- 60.9668 µg/mL	Stressed
6	Carbon disulfide	1,005.0 µg/mL	+/- 5.8979 µg/mL	Gravimetric
	CAS # 75-15-0.SEC (Lot MKBL1376V)		+/- 60.6414 µg/mL	Unstressed
	Purity 99%		+/- 60.7854 µg/mL	Stressed
7	Methyl-tert-butyl ether (MTBE)	1,002.0 µg/mL	+/- 5.8803 µg/mL	Gravimetric
	CAS # 1634-04-4.SEC (Lot ZHKYA)		+/- 60.4604 µg/mL	Unstressed
	Purity 99%		+/- 60.6039 µg/mL	Stressed

8	n-Hexane (C6)		1,002.0	µg/mL	+/-	5.8803	µg/mL	Gravimetric
	CAS # 110-54-3.SEC	(Lot 10188491)			+/-	60.4604	µg/mL	Unstressed
	Purity 99%				+/-	60.6039	µg/mL	Stressed
9	Diisopropyl ether (DIPE)		1,003.0	µg/mL	+/-	5.8862	µg/mL	Gravimetric
	CAS # 108-20-3.SEC	(Lot LL7TN-SH)			+/-	60.5207	µg/mL	Unstressed
	Purity 99%				+/-	60.6644	µg/mL	Stressed
10	Chloroprene (2-chloro-1,3-butadiene)		1,001.5	µg/mL	+/-	5.8774	µg/mL	Gravimetric
	CAS # 126-99-8 *	(Lot 191204JLM)			+/-	60.4302	µg/mL	Unstressed
	Purity 99%				+/-	60.5737	µg/mL	Stressed
11	Ethyl-tert-butyl ether (ETBE)		1,001.0	µg/mL	+/-	5.8744	µg/mL	Gravimetric
	CAS # 637-92-3.SEC	(Lot MHBJG-QK)			+/-	60.4000	µg/mL	Unstressed
	Purity 99%				+/-	60.5434	µg/mL	Stressed
12	Cyclohexane		1,001.5	µg/mL	+/-	5.8774	µg/mL	Gravimetric
	CAS # 110-82-7.SEC	(Lot YADRA)			+/-	60.4302	µg/mL	Unstressed
	Purity 99%				+/-	60.5737	µg/mL	Stressed
13	tert-Amyl methyl ether (TAME)		1,006.0	µg/mL	+/-	5.9038	µg/mL	Gravimetric
	CAS # 994-05-8.SEC	(Lot 8471400)			+/-	60.7017	µg/mL	Unstressed
	Purity 99%				+/-	60.8458	µg/mL	Stressed
14	n-Heptane (C7)		1,006.0	µg/mL	+/-	5.9038	µg/mL	Gravimetric
	CAS # 142-82-5.SEC	(Lot OGM01)			+/-	60.7017	µg/mL	Unstressed
	Purity 99%				+/-	60.8458	µg/mL	Stressed
15	tert-Amyl ethyl ether (TAEE)		1,006.0	µg/mL	+/-	5.9038	µg/mL	Gravimetric
	CAS # 919-94-8.SEC	(Lot 6455100)			+/-	60.7017	µg/mL	Unstressed
	Purity 99%				+/-	60.8458	µg/mL	Stressed
16	Methyl methacrylate		1,006.0	µg/mL	+/-	5.9038	µg/mL	Gravimetric
	CAS # 80-62-6.SEC	(Lot G01X021)			+/-	60.7017	µg/mL	Unstressed
	Purity 99%				+/-	60.8458	µg/mL	Stressed
17	Ethyl methacrylate		1,004.5	µg/mL	+/-	5.8950	µg/mL	Gravimetric
	CAS # 97-63-2.SEC	(Lot MLWYK-LS)			+/-	60.6112	µg/mL	Unstressed
	Purity 99%				+/-	60.7551	µg/mL	Stressed
18	Benzyl chloride		1,003.5	µg/mL	+/-	5.8891	µg/mL	Gravimetric
	CAS # 100-44-7.SEC	(Lot H29N03)			+/-	60.5509	µg/mL	Unstressed
	Purity 99%				+/-	60.6946	µg/mL	Stressed
Solvent:	P&T Methanol							
	CAS # 67-56-1							
	Purity 99%							

*** Restek is unable to identify a reliable and/or acceptable second source for this material - the same batch of neat material may have been used to produce both the primary and secondary standard. The primary and secondary standards were prepared using different equipment and personnel.**

Tech Tips:
Raw material may contain trace amounts of tert-Butanol.

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

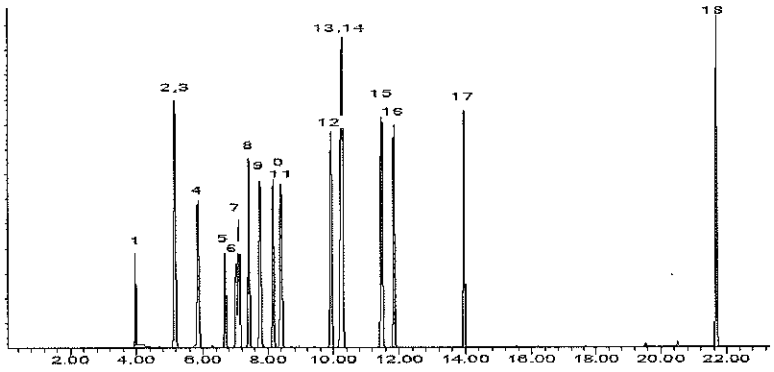
Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Matt Fragassi - Mix Technician

Date Mixed: 11-Mar-2020 **Balance:** 1128342314

Feng-Yun Lo – QC Analyst

Date Passed: 25-Mar-2020

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_QCS#6Std_00039

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 558268.SEC **Lot No.:** A0158906

Description : Custom QCS #6 Standard

Custom QCS #6 Standard 1,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Methyl acetate		1,005.3 µg/mL	+/- 5.9714 µg/mL		Gravimetric
	CAS # 79-20-9.SEC	(Lot 6WOXM-KD)		+/- 60.6685 µg/mL		Unstressed
	Purity 99%			+/- 60.8125 µg/mL		Stressed
2	Allyl chloride (3-chloropropene)		1,001.3 µg/mL	+/- 5.9476 µg/mL		Gravimetric
	CAS # 107-05-1.SEC	(Lot H3HGC)		+/- 60.4271 µg/mL		Unstressed
	Purity 99%			+/- 60.5705 µg/mL		Stressed
3	Bromochloromethane		1,002.0 µg/mL	+/- 5.9516 µg/mL		Gravimetric
	CAS # 74-97-5.SEC	(Lot 8529200)		+/- 60.4674 µg/mL		Unstressed
	Purity 99%			+/- 60.6109 µg/mL		Stressed
4	Methylcyclohexane		1,004.7 µg/mL	+/- 5.9674 µg/mL		Gravimetric
	CAS # 108-87-2.SEC	(Lot 24MSD-CD)		+/- 60.6283 µg/mL		Unstressed
	Purity 99%			+/- 60.7722 µg/mL		Stressed
5	Pentachloroethane		1,004.7 µg/mL	+/- 5.9674 µg/mL		Gravimetric
	CAS # 76-01-7.SEC	(Lot 8170200)		+/- 60.6283 µg/mL		Unstressed
	Purity 99%			+/- 60.7722 µg/mL		Stressed
6	1,2,3-Trimethylbenzene		1,004.6 µg/mL	+/- 5.9673 µg/mL		Gravimetric
	CAS # 526-73-8.SEC	(Lot 7110200)		+/- 60.6267 µg/mL		Unstressed
	Purity 92%			+/- 60.7706 µg/mL		Stressed
7	1,3-Diethylbenzene		1,006.0 µg/mL	+/- 5.9753 µg/mL		Gravimetric
	CAS # 141-93-5.SEC	(Lot 113566-1)		+/- 60.7087 µg/mL		Unstressed
	Purity 99%			+/- 60.8528 µg/mL		Stressed

8	1,4-Diethylbenzene		1,006.1	µg/mL	+/-	5.9761	µg/mL	Gravimetric
	CAS # 105-05-5.SEC	(Lot FBQ02)			+/-	60.7168	µg/mL	Unstressed
	Purity 98%				+/-	60.8609	µg/mL	Stressed
9	1,2-Diethylbenzene		1,008.7	µg/mL	+/-	5.9912	µg/mL	Gravimetric
	CAS # 135-01-3.SEC	(Lot BCBF3667V)			+/-	60.8697	µg/mL	Unstressed
	Purity 99%				+/-	61.0141	µg/mL	Stressed
10	2-Methylnaphthalene		1,006.0	µg/mL	+/-	5.9753	µg/mL	Gravimetric
	CAS # 91-57-6.SEC	(Lot 76023-1)			+/-	60.7087	µg/mL	Unstressed
	Purity 99%				+/-	60.8528	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

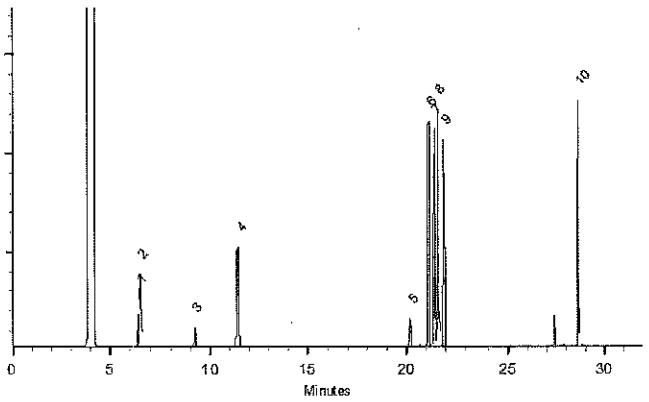
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dalton Stover - Operations Technician I

Date Mixed: 17-Mar-2020 **Balance:** 1128342314

Feng-Yun Lo - QC Analyst

Date Passed: 20-Mar-2020

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_QCS#6Std_00046

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 558268.SEC **Lot No.:** A0158906

Description : Custom QCS #6 Standard

Custom QCS #6 Standard 1,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Methyl acetate		1,005.3 µg/mL	+/- 5.9714 µg/mL	Gravimetric
	CAS # 79-20-9.SEC	(Lot 6WOXM-KD)		+/- 60.6685 µg/mL	Unstressed
	Purity 99%			+/- 60.8125 µg/mL	Stressed
2	Allyl chloride (3-chloropropene)		1,001.3 µg/mL	+/- 5.9476 µg/mL	Gravimetric
	CAS # 107-05-1.SEC	(Lot H3HGC)		+/- 60.4271 µg/mL	Unstressed
	Purity 99%			+/- 60.5705 µg/mL	Stressed
3	Bromochloromethane		1,002.0 µg/mL	+/- 5.9516 µg/mL	Gravimetric
	CAS # 74-97-5.SEC	(Lot 8529200)		+/- 60.4674 µg/mL	Unstressed
	Purity 99%			+/- 60.6109 µg/mL	Stressed
4	Methylcyclohexane		1,004.7 µg/mL	+/- 5.9674 µg/mL	Gravimetric
	CAS # 108-87-2.SEC	(Lot 24MSD-CD)		+/- 60.6283 µg/mL	Unstressed
	Purity 99%			+/- 60.7722 µg/mL	Stressed
5	Pentachloroethane		1,004.7 µg/mL	+/- 5.9674 µg/mL	Gravimetric
	CAS # 76-01-7.SEC	(Lot 8170200)		+/- 60.6283 µg/mL	Unstressed
	Purity 99%			+/- 60.7722 µg/mL	Stressed
6	1,2,3-Trimethylbenzene		1,004.6 µg/mL	+/- 5.9673 µg/mL	Gravimetric
	CAS # 526-73-8.SEC	(Lot 7110200)		+/- 60.6267 µg/mL	Unstressed
	Purity 92%			+/- 60.7706 µg/mL	Stressed
7	1,3-Diethylbenzene		1,006.0 µg/mL	+/- 5.9753 µg/mL	Gravimetric
	CAS # 141-93-5.SEC	(Lot 113566-1)		+/- 60.7087 µg/mL	Unstressed
	Purity 99%			+/- 60.8528 µg/mL	Stressed

8	1,4-Diethylbenzene		1,006.1 µg/mL	+/-	5.9761	µg/mL	Gravimetric
	CAS # 105-05-5.SEC	(Lot FBQ02)		+/-	60.7168	µg/mL	Unstressed
	Purity 98%			+/-	60.8609	µg/mL	Stressed
9	1,2-Diethylbenzene		1,008.7 µg/mL	+/-	5.9912	µg/mL	Gravimetric
	CAS # 135-01-3.SEC	(Lot BCBF3667V)		+/-	60.8697	µg/mL	Unstressed
	Purity 99%			+/-	61.0141	µg/mL	Stressed
10	2-Methylnaphthalene		1,006.0 µg/mL	+/-	5.9753	µg/mL	Gravimetric
	CAS # 91-57-6.SEC	(Lot 76023-1)		+/-	60.7087	µg/mL	Unstressed
	Purity 99%			+/-	60.8528	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

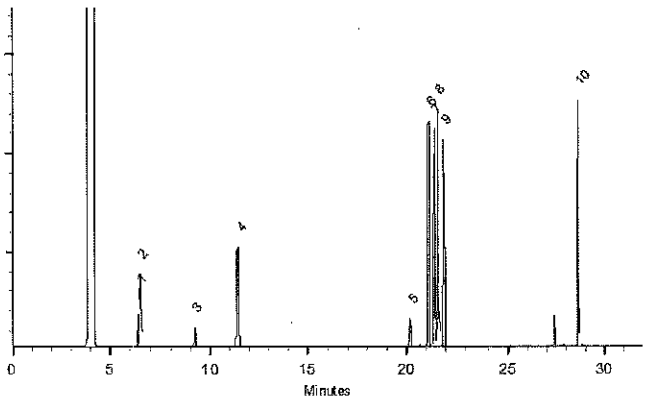
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dalton Stover - Operations Technician I

Date Mixed: 17-Mar-2020 **Balance:** 1128342314

Feng-Yun Lo - QC Analyst

Date Passed: 20-Mar-2020

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_QCS#6Std_00048

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 558268.SEC **Lot No.:** A0158906

Description : Custom QCS #6 Standard

Custom QCS #6 Standard 1,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Methyl acetate	1,005.3 µg/mL	+/- 5.9714 µg/mL	Gravimetric
	CAS # 79-20-9.SEC (Lot 6WOXM-KD)		+/- 60.6685 µg/mL	Unstressed
	Purity 99%		+/- 60.8125 µg/mL	Stressed
2	Allyl chloride (3-chloropropene)	1,001.3 µg/mL	+/- 5.9476 µg/mL	Gravimetric
	CAS # 107-05-1.SEC (Lot H3HGC)		+/- 60.4271 µg/mL	Unstressed
	Purity 99%		+/- 60.5705 µg/mL	Stressed
3	Bromochloromethane	1,002.0 µg/mL	+/- 5.9516 µg/mL	Gravimetric
	CAS # 74-97-5.SEC (Lot 8529200)		+/- 60.4674 µg/mL	Unstressed
	Purity 99%		+/- 60.6109 µg/mL	Stressed
4	Methylcyclohexane	1,004.7 µg/mL	+/- 5.9674 µg/mL	Gravimetric
	CAS # 108-87-2.SEC (Lot 24MSD-CD)		+/- 60.6283 µg/mL	Unstressed
	Purity 99%		+/- 60.7722 µg/mL	Stressed
5	Pentachloroethane	1,004.7 µg/mL	+/- 5.9674 µg/mL	Gravimetric
	CAS # 76-01-7.SEC (Lot 8170200)		+/- 60.6283 µg/mL	Unstressed
	Purity 99%		+/- 60.7722 µg/mL	Stressed
6	1,2,3-Trimethylbenzene	1,004.6 µg/mL	+/- 5.9673 µg/mL	Gravimetric
	CAS # 526-73-8.SEC (Lot 7110200)		+/- 60.6267 µg/mL	Unstressed
	Purity 92%		+/- 60.7706 µg/mL	Stressed
7	1,3-Diethylbenzene	1,006.0 µg/mL	+/- 5.9753 µg/mL	Gravimetric
	CAS # 141-93-5.SEC (Lot 113566-1)		+/- 60.7087 µg/mL	Unstressed
	Purity 99%		+/- 60.8528 µg/mL	Stressed

8	1,4-Diethylbenzene		1,006.1 µg/mL	+/-	5.9761	µg/mL	Gravimetric
	CAS # 105-05-5.SEC	(Lot FBQ02)		+/-	60.7168	µg/mL	Unstressed
	Purity 98%			+/-	60.8609	µg/mL	Stressed
9	1,2-Diethylbenzene		1,008.7 µg/mL	+/-	5.9912	µg/mL	Gravimetric
	CAS # 135-01-3.SEC	(Lot BCBF3667V)		+/-	60.8697	µg/mL	Unstressed
	Purity 99%			+/-	61.0141	µg/mL	Stressed
10	2-Methylnaphthalene		1,006.0 µg/mL	+/-	5.9753	µg/mL	Gravimetric
	CAS # 91-57-6.SEC	(Lot 76023-1)		+/-	60.7087	µg/mL	Unstressed
	Purity 99%			+/-	60.8528	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

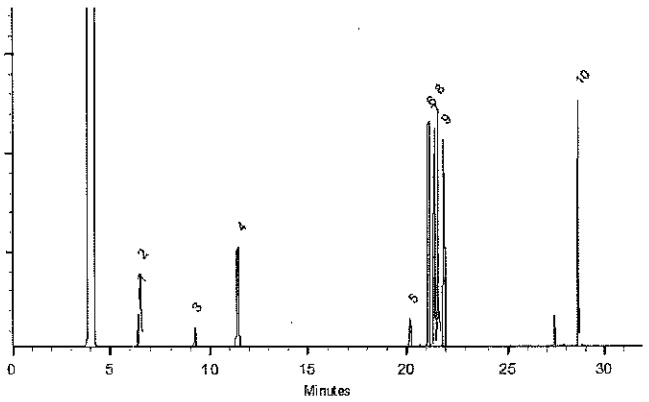
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dalton Stover - Operations Technician I

Date Mixed: 17-Mar-2020 **Balance:** 1128342314

Feng-Yun Lo - QC Analyst

Date Passed: 20-Mar-2020

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_V#1B_00087

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569936-1 **Lot No.:** A0137321

Description : Custom Revised V #1B Standard

Custom Revised V #1B Standard 5,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	1,1-dichloroethene		5,044.8	µg/mL	+/- 31.9873	µg/mL	Gravimetric
	CAS # 75-35-4	(Lot SHBG8609V)			+/- 283.1454	µg/mL	Unstressed
	Purity 99%				+/- 289.7573	µg/mL	Stressed
2	Methylene chloride (dichloromethane)		5,006.7	µg/mL	+/- 31.7456	µg/mL	Gravimetric
	CAS # 75-09-2	(Lot SHBJ5755)			+/- 281.0056	µg/mL	Unstressed
	Purity 99%				+/- 287.5676	µg/mL	Stressed
3	trans-1,2-Dichloroethene		5,040.8	µg/mL	+/- 31.9619	µg/mL	Gravimetric
	CAS # 156-60-5	(Lot 09531AE)			+/- 282.9209	µg/mL	Unstressed
	Purity 99%				+/- 289.5276	µg/mL	Stressed
4	1,1-Dichloroethane		5,009.7	µg/mL	+/- 31.7647	µg/mL	Gravimetric
	CAS # 75-34-3	(Lot 384000)			+/- 281.1746	µg/mL	Unstressed
	Purity 98%				+/- 287.7405	µg/mL	Stressed
5	2,2-Dichloropropane		5,050.0	µg/mL	+/- 32.0202	µg/mL	Gravimetric
	CAS # 594-20-7	(Lot BCBT5124)			+/- 283.4366	µg/mL	Unstressed
	Purity 99%				+/- 290.0553	µg/mL	Stressed
6	cis-1,2-Dichloroethene		5,046.5	µg/mL	+/- 31.9980	µg/mL	Gravimetric
	CAS # 156-59-2	(Lot MKBX5945V)			+/- 283.2401	µg/mL	Unstressed
	Purity 99%				+/- 289.8543	µg/mL	Stressed
7	chloroform		5,035.4	µg/mL	+/- 31.9275	µg/mL	Gravimetric
	CAS # 67-66-3	(Lot SHBH4477V)			+/- 282.6157	µg/mL	Unstressed
	Purity 99%				+/- 289.2153	µg/mL	Stressed

8	1,1,1-trichloroethane		5,017.7	µg/mL	+/-	31.8153	µg/mL	Gravimetric
	CAS # 71-55-6	(Lot B15W12061)			+/-	281.6230	µg/mL	Unstressed
	Purity 99%				+/-	288.1994	µg/mL	Stressed
9	1,1-Dichloropropene		5,048.9	µg/mL	+/-	32.0131	µg/mL	Gravimetric
	CAS # 563-58-6	(Lot 170301JLM)			+/-	283.3734	µg/mL	Unstressed
	Purity 99%				+/-	289.9907	µg/mL	Stressed
10	carbon tetrachloride		5,045.0	µg/mL	+/-	31.9885	µg/mL	Gravimetric
	CAS # 56-23-5	(Lot SHBH8784)			+/-	283.1559	µg/mL	Unstressed
	Purity 99%				+/-	289.7681	µg/mL	Stressed
11	1,2-Dichloroethane		5,015.4	µg/mL	+/-	31.8006	µg/mL	Gravimetric
	CAS # 107-06-2	(Lot MLBV4561V)			+/-	281.4932	µg/mL	Unstressed
	Purity 99%				+/-	288.0665	µg/mL	Stressed
12	Benzene		5,042.9	µg/mL	+/-	31.9750	µg/mL	Gravimetric
	CAS # 71-43-2	(Lot SHBG7317V)			+/-	283.0367	µg/mL	Unstressed
	Purity 99%				+/-	289.6461	µg/mL	Stressed
13	Trichloroethene		5,016.0	µg/mL	+/-	31.8046	µg/mL	Gravimetric
	CAS # 79-01-6	(Lot SHBH1955V)			+/-	281.5283	µg/mL	Unstressed
	Purity 99%				+/-	288.1024	µg/mL	Stressed
14	1,2-Dichloropropane		5,009.7	µg/mL	+/-	31.7646	µg/mL	Gravimetric
	CAS # 78-87-5	(Lot BCBR0882V)			+/-	281.1740	µg/mL	Unstressed
	Purity 99%				+/-	287.7399	µg/mL	Stressed
15	bromodichloromethane		5,023.1	µg/mL	+/-	31.8494	µg/mL	Gravimetric
	CAS # 75-27-4	(Lot MKCF2688)			+/-	281.9247	µg/mL	Unstressed
	Purity 99%				+/-	288.5081	µg/mL	Stressed
16	Dibromomethane		5,047.3	µg/mL	+/-	32.0027	µg/mL	Gravimetric
	CAS # 74-95-3	(Lot 10201030)			+/-	283.2822	µg/mL	Unstressed
	Purity 99%				+/-	289.8973	µg/mL	Stressed
17	cis-1,3-Dichloropropene		5,011.1	µg/mL	+/-	31.7737	µg/mL	Gravimetric
	CAS # 10061-01-5	(Lot 24555)			+/-	281.2547	µg/mL	Unstressed
	Purity 99%				+/-	287.8224	µg/mL	Stressed
18	Toluene		5,031.9	µg/mL	+/-	31.9053	µg/mL	Gravimetric
	CAS # 108-88-3	(Lot SHBH9895)			+/-	282.4193	µg/mL	Unstressed
	Purity 99%				+/-	289.0143	µg/mL	Stressed
19	trans-1,3-Dichloropropene		4,999.5	µg/mL	+/-	31.7002	µg/mL	Gravimetric
	CAS # 10061-02-6	(Lot C797620)			+/-	280.6039	µg/mL	Unstressed
	Purity 98%				+/-	287.1565	µg/mL	Stressed
20	1,1,2-Trichloroethane		5,010.2	µg/mL	+/-	31.7677	µg/mL	Gravimetric
	CAS # 79-00-5	(Lot FGB01)			+/-	281.2020	µg/mL	Unstressed
	Purity 99%				+/-	287.7686	µg/mL	Stressed
21	1,3-Dichloropropane		5,042.4	µg/mL	+/-	31.9718	µg/mL	Gravimetric
	CAS # 142-28-9	(Lot BCBG2162V)			+/-	283.0086	µg/mL	Unstressed
	Purity 99%				+/-	289.6173	µg/mL	Stressed
22	Tetrachloroethene		5,008.6	µg/mL	+/-	31.7578	µg/mL	Gravimetric
	CAS # 127-18-4	(Lot SHBH1014V)			+/-	281.1143	µg/mL	Unstressed
	Purity 99%				+/-	287.6789	µg/mL	Stressed
23	dibromochloromethane		5,004.9	µg/mL	+/-	31.7344	µg/mL	Gravimetric
	CAS # 124-48-1	(Lot MKCC0877)			+/-	280.9065	µg/mL	Unstressed
	Purity 98%				+/-	287.4661	µg/mL	Stressed

24	1,2-Dibromoethane (EDB)		5,037.4	µg/mL	+/-	31.9401	µg/mL	Gravimetric
	CAS # 106-93-4	(Lot BCBP2268V)			+/-	282.7280	µg/mL	Unstressed
	Purity 99%				+/-	289.3302	µg/mL	Stressed
25	1-Chlorohexane		5,041.1	µg/mL	+/-	29.5169	µg/mL	Gravimetric
	CAS # 544-10-5	(Lot 05107LK)			+/-	282.6722	µg/mL	Unstressed
	Purity 98%				+/-	289.2853	µg/mL	Stressed
26	Chlorobenzene		5,027.5	µg/mL	+/-	31.8775	µg/mL	Gravimetric
	CAS # 108-90-7	(Lot SHBH4459V)			+/-	282.1737	µg/mL	Unstressed
	Purity 99%				+/-	288.7630	µg/mL	Stressed
27	1,1,1,2-Tetrachloroethane		5,038.6	µg/mL	+/-	31.9481	µg/mL	Gravimetric
	CAS # 630-20-6	(Lot MKBS3769V)			+/-	282.7981	µg/mL	Unstressed
	Purity 99%				+/-	289.4020	µg/mL	Stressed
28	Ethylbenzene		5,029.3	µg/mL	+/-	31.8886	µg/mL	Gravimetric
	CAS # 100-41-4	(Lot SHBJ3183)			+/-	282.2719	µg/mL	Unstressed
	Purity 99%				+/-	288.8635	µg/mL	Stressed
29	m-Xylene		5,038.4	µg/mL	+/-	31.9465	µg/mL	Gravimetric
	CAS # 108-38-3	(Lot SHBH8323)			+/-	282.7841	µg/mL	Unstressed
	Purity 99%				+/-	289.3876	µg/mL	Stressed
30	p-Xylene		5,038.0	µg/mL	+/-	31.9441	µg/mL	Gravimetric
	CAS # 106-42-3	(Lot SHBJ0052)			+/-	282.7630	µg/mL	Unstressed
	Purity 99%				+/-	289.3661	µg/mL	Stressed
31	o-Xylene		5,046.4	µg/mL	+/-	31.9972	µg/mL	Gravimetric
	CAS # 95-47-6	(Lot SHBH3432V)			+/-	283.2331	µg/mL	Unstressed
	Purity 99%				+/-	289.8471	µg/mL	Stressed
32	Styrene		5,047.0	µg/mL	+/-	32.0012	µg/mL	Gravimetric
	CAS # 100-42-5	(Lot MKBV4061V)			+/-	283.2682	µg/mL	Unstressed
	Purity 99%				+/-	289.8830	µg/mL	Stressed
33	Isopropylbenzene (cumene)		5,035.3	µg/mL	+/-	31.9267	µg/mL	Gravimetric
	CAS # 98-82-8	(Lot 10185056)			+/-	282.6087	µg/mL	Unstressed
	Purity 99%				+/-	289.2081	µg/mL	Stressed
34	bromoform		5,028.2	µg/mL	+/-	31.8819	µg/mL	Gravimetric
	CAS # 75-25-2	(Lot SHBH6924)			+/-	282.2123	µg/mL	Unstressed
	Purity 99%				+/-	288.8025	µg/mL	Stressed
35	1,1,2,2-Tetrachloroethane		5,040.4	µg/mL	+/-	31.9596	µg/mL	Gravimetric
	CAS # 79-34-5	(Lot DZBLG)			+/-	282.8999	µg/mL	Unstressed
	Purity 99%				+/-	289.5061	µg/mL	Stressed
36	1,2,3-Trichloropropane		5,033.4	µg/mL	+/-	31.9148	µg/mL	Gravimetric
	CAS # 96-18-4	(Lot BCBH8722V)			+/-	282.5035	µg/mL	Unstressed
	Purity 99%				+/-	289.1004	µg/mL	Stressed
37	n-Propylbenzene		5,032.4	µg/mL	+/-	31.9084	µg/mL	Gravimetric
	CAS # 103-65-1	(Lot MKBJ0332V)			+/-	282.4473	µg/mL	Unstressed
	Purity 99%				+/-	289.0430	µg/mL	Stressed
38	Bromobenzene		5,035.5	µg/mL	+/-	31.9282	µg/mL	Gravimetric
	CAS # 108-86-1	(Lot WXBC5147V)			+/-	282.6227	µg/mL	Unstressed
	Purity 99%				+/-	289.2225	µg/mL	Stressed
39	1,3,5-Trimethylbenzene		5,029.8	µg/mL	+/-	31.8918	µg/mL	Gravimetric
	CAS # 108-67-8	(Lot BCBS7648V)			+/-	282.3000	µg/mL	Unstressed
	Purity 99%				+/-	288.8922	µg/mL	Stressed

40	2-Chlorotoluene		5,037.5	µg/mL	+/-	31.9409	µg/mL	Gravimetric
	CAS # 95-49-8	(Lot MKBW5554V)			+/-	282.7350	µg/mL	Unstressed
	Purity 99%				+/-	289.3373	µg/mL	Stressed
41	4-Chlorotoluene		5,039.1	µg/mL	+/-	31.9512	µg/mL	Gravimetric
	CAS # 106-43-4	(Lot MKBL7753V)			+/-	282.8262	µg/mL	Unstressed
	Purity 99%				+/-	289.4307	µg/mL	Stressed
42	tert-Butylbenzene		5,049.8	µg/mL	+/-	32.0186	µg/mL	Gravimetric
	CAS # 98-06-6	(Lot STBD6954V)			+/-	283.4225	µg/mL	Unstressed
	Purity 99%				+/-	290.0409	µg/mL	Stressed
43	1,2,4-Trimethylbenzene		5,046.8	µg/mL	+/-	31.9996	µg/mL	Gravimetric
	CAS # 95-63-6	(Lot MKBJ6229V)			+/-	283.2544	µg/mL	Unstressed
	Purity 98%				+/-	289.8689	µg/mL	Stressed
44	sec-Butylbenzene		5,042.8	µg/mL	+/-	31.9742	µg/mL	Gravimetric
	CAS # 135-98-8	(Lot MKBR9260V)			+/-	283.0296	µg/mL	Unstressed
	Purity 99%				+/-	289.6389	µg/mL	Stressed
45	p-Isopropyltoluene (p-Cymene)		5,038.4	µg/mL	+/-	31.9465	µg/mL	Gravimetric
	CAS # 99-87-6	(Lot MKBV3556V)			+/-	282.7841	µg/mL	Unstressed
	Purity 99%				+/-	289.3876	µg/mL	Stressed
46	1,3-Dichlorobenzene		5,022.9	µg/mL	+/-	31.8482	µg/mL	Gravimetric
	CAS # 541-73-1	(Lot BCBQ7100V)			+/-	281.9141	µg/mL	Unstressed
	Purity 99%				+/-	288.4973	µg/mL	Stressed
47	1,4-Dichlorobenzene		5,009.4	µg/mL	+/-	31.7626	µg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS4401V)			+/-	281.1564	µg/mL	Unstressed
	Purity 99%				+/-	287.7219	µg/mL	Stressed
48	n-Butylbenzene		5,024.8	µg/mL	+/-	31.8601	µg/mL	Gravimetric
	CAS # 104-51-8	(Lot 09804AE)			+/-	282.0194	µg/mL	Unstressed
	Purity 99%				+/-	288.6050	µg/mL	Stressed
49	1,2-Dichlorobenzene		5,010.7	µg/mL	+/-	31.7709	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBG3111V)			+/-	281.2301	µg/mL	Unstressed
	Purity 99%				+/-	287.7973	µg/mL	Stressed
50	1,2-Dibromo-3-chloropropane		5,036.4	µg/mL	+/-	31.9338	µg/mL	Gravimetric
	CAS # 96-12-8	(Lot FBL01)			+/-	282.6718	µg/mL	Unstressed
	Purity 99%				+/-	289.2727	µg/mL	Stressed
51	1,3,5-Trichlorobenzene		5,007.5	µg/mL	+/-	29.3200	µg/mL	Gravimetric
	CAS # 108-70-3	(Lot 11319AS)			+/-	280.7870	µg/mL	Unstressed
	Purity 99%				+/-	287.3561	µg/mL	Stressed
52	1,2,4-Trichlorobenzene		5,036.5	µg/mL	+/-	31.9346	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot SHBJ0905)			+/-	282.6789	µg/mL	Unstressed
	Purity 99%				+/-	289.2799	µg/mL	Stressed
53	Hexachlorobutadiene		5,033.6	µg/mL	+/-	31.9164	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot J31X013)			+/-	282.5175	µg/mL	Unstressed
	Purity 99%				+/-	289.1148	µg/mL	Stressed
54	Naphthalene		5,033.6	µg/mL	+/-	31.9164	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBW2603V)			+/-	282.5175	µg/mL	Unstressed
	Purity 99%				+/-	289.1148	µg/mL	Stressed
55	1,2,3-Trichlorobenzene		5,016.0	µg/mL	+/-	31.8046	µg/mL	Gravimetric
	CAS # 87-61-6	(Lot MKBS4859V)			+/-	281.5283	µg/mL	Unstressed
	Purity 99%				+/-	288.1024	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.# 10910)

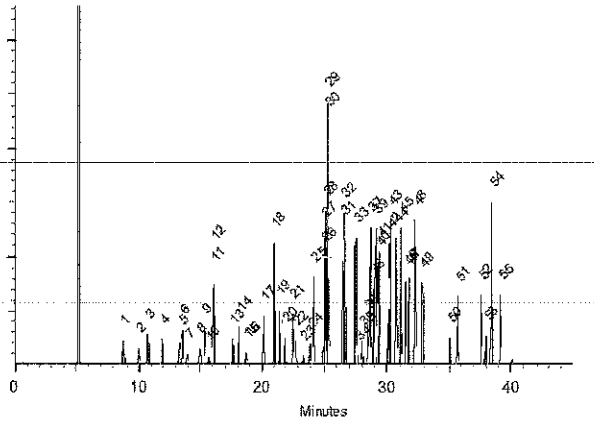
Carrier Gas:
hydrogen-constant pressure 8.0 psi.

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Dawn Brownson - Mix Technician

Date Mixed: 19-Apr-2018 **Balance:** B707717271

Justine Albertson - Operations Tech-ARM QC

Date Passed: 23-Apr-2018

Manufactured under Restek's ISO 9001:2015
Registered Quality System
Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_V#1B_00097

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569936-1 **Lot No.:** A0158586

Description : Custom Revised V #1B Standard

Custom Revised V #1B Standard 5,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2023 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,1-dichloroethene **CAS #** 75-35-4 (Lot SHBK2437) **Purity** 99%	5,011.4 µg/mL	+/- 31.9644 µg/mL +/- 281.2901 µg/mL +/- 287.8577 µg/mL	Gravimetric Unstressed Stressed
2	Methylene chloride (dichloromethane) **CAS #** 75-09-2 (Lot SHBL3107) **Purity** 99%	5,004.6 µg/mL	+/- 31.9213 µg/mL +/- 280.9112 µg/mL +/- 287.4700 µg/mL	Gravimetric Unstressed Stressed
3	trans-1,2-Dichloroethene **CAS #** 156-60-5 (Lot MKBH9850V) **Purity** 99%	5,017.5 µg/mL	+/- 32.0035 µg/mL +/- 281.6339 µg/mL +/- 288.2096 µg/mL	Gravimetric Unstressed Stressed
4	1,1-Dichloroethane **CAS #** 75-34-3 (Lot 580900) **Purity** 99%	5,020.4 µg/mL	+/- 32.0218 µg/mL +/- 281.7953 µg/mL +/- 288.3747 µg/mL	Gravimetric Unstressed Stressed
5	2,2-Dichloropropane **CAS #** 594-20-7 (Lot BCBT5124) **Purity** 99%	5,050.0 µg/mL	+/- 32.0202 µg/mL +/- 283.4366 µg/mL +/- 290.0553 µg/mL	Gravimetric Unstressed Stressed
6	cis-1,2-Dichloroethene **CAS #** 156-59-2 (Lot MKBX5945V) **Purity** 99%	5,046.5 µg/mL	+/- 31.9980 µg/mL +/- 283.2401 µg/mL +/- 289.8543 µg/mL	Gravimetric Unstressed Stressed
7	chloroform **CAS #** 67-66-3 (Lot SHBJ9076) **Purity** 99%	5,034.3 µg/mL	+/- 32.1103 µg/mL +/- 282.5741 µg/mL +/- 289.1717 µg/mL	Gravimetric Unstressed Stressed

8	1,1,1-trichloroethane		5,001.3	µg/mL	+/-	31.9002	µg/mL	Gravimetric
	CAS # 71-55-6	(Lot 190123CG)			+/-	280.7250	µg/mL	Unstressed
	Purity 98%				+/-	287.2795	µg/mL	Stressed
9	1,1-Dichloropropene		5,048.9	µg/mL	+/-	32.0131	µg/mL	Gravimetric
	CAS # 563-58-6	(Lot 170301JLM)			+/-	283.3734	µg/mL	Unstressed
	Purity 99%				+/-	289.9907	µg/mL	Stressed
10	carbon tetrachloride		5,022.9	µg/mL	+/-	32.0378	µg/mL	Gravimetric
	CAS # 56-23-5	(Lot SHBG8938V)			+/-	281.9356	µg/mL	Unstressed
	Purity 99%				+/-	288.5183	µg/mL	Stressed
11	1,2-Dichloroethane		5,007.9	µg/mL	+/-	31.9421	µg/mL	Gravimetric
	CAS # 107-06-2	(Lot MKCH9948)			+/-	281.0937	µg/mL	Unstressed
	Purity 99%				+/-	287.6567	µg/mL	Stressed
12	Benzene		5,042.9	µg/mL	+/-	31.9750	µg/mL	Gravimetric
	CAS # 71-43-2	(Lot SHBG7317V)			+/-	283.0367	µg/mL	Unstressed
	Purity 99%				+/-	289.6461	µg/mL	Stressed
13	Trichloroethene		5,012.9	µg/mL	+/-	31.9740	µg/mL	Gravimetric
	CAS # 79-01-6	(Lot SHBJ4611)			+/-	281.3743	µg/mL	Unstressed
	Purity 99%				+/-	287.9439	µg/mL	Stressed
14	1,2-Dichloropropane		5,012.6	µg/mL	+/-	31.9724	µg/mL	Gravimetric
	CAS # 78-87-5	(Lot BCBR0882V)			+/-	281.3603	µg/mL	Unstressed
	Purity 99%				+/-	287.9295	µg/mL	Stressed
15	bromodichloromethane		5,039.1	µg/mL	+/-	32.1414	µg/mL	Gravimetric
	CAS # 75-27-4	(Lot MKCJ0238)			+/-	282.8477	µg/mL	Unstressed
	Purity 99%				+/-	289.4517	µg/mL	Stressed
16	Dibromomethane		5,047.3	µg/mL	+/-	32.0027	µg/mL	Gravimetric
	CAS # 74-95-3	(Lot 10201030)			+/-	283.2822	µg/mL	Unstressed
	Purity 99%				+/-	289.8973	µg/mL	Stressed
17	cis-1,3-Dichloropropene		5,015.1	µg/mL	+/-	31.9883	µg/mL	Gravimetric
	CAS # 10061-01-5	(Lot 200107JLM)			+/-	281.5006	µg/mL	Unstressed
	Purity 99%				+/-	288.0731	µg/mL	Stressed
18	Toluene		5,031.9	µg/mL	+/-	31.9053	µg/mL	Gravimetric
	CAS # 108-88-3	(Lot SHBH9895)			+/-	282.4193	µg/mL	Unstressed
	Purity 99%				+/-	289.0143	µg/mL	Stressed
19	trans-1,3-Dichloropropene		5,003.8	µg/mL	+/-	31.9158	µg/mL	Gravimetric
	CAS # 10061-02-6	(Lot 19420164-D1219)			+/-	280.8621	µg/mL	Unstressed
	Purity 99%				+/-	287.4198	µg/mL	Stressed
20	1,1,2-Trichloroethane		5,015.4	µg/mL	+/-	31.9899	µg/mL	Gravimetric
	CAS # 79-00-5	(Lot FGB01)			+/-	281.5146	µg/mL	Unstressed
	Purity 99%				+/-	288.0875	µg/mL	Stressed
21	1,3-Dichloropropane		5,042.4	µg/mL	+/-	31.9718	µg/mL	Gravimetric
	CAS # 142-28-9	(Lot BCBG2162V)			+/-	283.0086	µg/mL	Unstressed
	Purity 99%				+/-	289.6173	µg/mL	Stressed
22	Tetrachloroethene		5,014.3	µg/mL	+/-	31.9827	µg/mL	Gravimetric
	CAS # 127-18-4	(Lot SHBJ7422)			+/-	281.4515	µg/mL	Unstressed
	Purity 99%				+/-	288.0229	µg/mL	Stressed
23	dibromochloromethane		5,016.1	µg/mL	+/-	31.9947	µg/mL	Gravimetric
	CAS # 124-48-1	(Lot MKCK6472)			+/-	281.5567	µg/mL	Unstressed
	Purity 99%				+/-	288.1306	µg/mL	Stressed

24	1,2-Dibromoethane (EDB) **CAS #** 106-93-4 **Purity** 99%	(Lot BCBP2268V)	5,037.4	µg/mL	+/- 31.9401 +/- 282.7280 +/- 289.3302	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
25	1-Chlorohexane **CAS #** 544-10-5 **Purity** 98%	(Lot BCBS3368V)	5,010.7	µg/mL	+/- 29.3390 +/- 280.9687 +/- 287.5420	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
26	Chlorobenzene **CAS #** 108-90-7 **Purity** 99%	(Lot SHBJ0839)	5,009.0	µg/mL	+/- 31.9493 +/- 281.1568 +/- 287.7213	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
27	1,1,1,2-Tetrachloroethane **CAS #** 630-20-6 **Purity** 99%	(Lot MKBS3769V)	5,038.6	µg/mL	+/- 31.9481 +/- 282.7981 +/- 289.4020	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
28	Ethylbenzene **CAS #** 100-41-4 **Purity** 99%	(Lot SHBJ3183)	5,029.3	µg/mL	+/- 31.8886 +/- 282.2719 +/- 288.8635	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
29	m-Xylene **CAS #** 108-38-3 **Purity** 99%	(Lot SHBH8323)	5,038.4	µg/mL	+/- 31.9465 +/- 282.7841 +/- 289.3876	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
30	p-Xylene **CAS #** 106-42-3 **Purity** 99%	(Lot SHBJ0052)	5,038.0	µg/mL	+/- 31.9441 +/- 282.7630 +/- 289.3661	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
31	o-Xylene **CAS #** 95-47-6 **Purity** 99%	(Lot SHBH3432V)	5,046.4	µg/mL	+/- 31.9972 +/- 283.2331 +/- 289.8471	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
32	Styrene **CAS #** 100-42-5 **Purity** 99%	(Lot MKBV4061V)	5,047.0	µg/mL	+/- 32.0012 +/- 283.2682 +/- 289.8830	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
33	Isopropylbenzene (cumene) **CAS #** 98-82-8 **Purity** 99%	(Lot 10185056)	5,035.3	µg/mL	+/- 31.9267 +/- 282.6087 +/- 289.2081	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
34	bromoform **CAS #** 75-25-2 **Purity** 99%	(Lot SHBJ4835)	5,013.0	µg/mL	+/- 31.9748 +/- 281.3813 +/- 287.9511	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
35	1,1,2,2-Tetrachloroethane **CAS #** 79-34-5 **Purity** 99%	(Lot CFA4D)	5,016.0	µg/mL	+/- 31.9939 +/- 281.5497 +/- 288.1234	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
36	1,2,3-Trichloropropane **CAS #** 96-18-4 **Purity** 99%	(Lot BCBH8722V)	5,033.4	µg/mL	+/- 31.9148 +/- 282.5035 +/- 289.1004	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
37	n-Propylbenzene **CAS #** 103-65-1 **Purity** 99%	(Lot MKBJ0332V)	5,032.4	µg/mL	+/- 31.9084 +/- 282.4473 +/- 289.0430	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
38	Bromobenzene **CAS #** 108-86-1 **Purity** 99%	(Lot WXBC5147V)	5,035.5	µg/mL	+/- 31.9282 +/- 282.6227 +/- 289.2225	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
39	1,3,5-Trimethylbenzene **CAS #** 108-67-8 **Purity** 99%	(Lot BCBS7648V)	5,029.8	µg/mL	+/- 31.8918 +/- 282.3000 +/- 288.8922	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

40	2-Chlorotoluene **CAS #** 95-49-8 **Purity** 99%	(Lot MKBW5554V)	5,037.5	µg/mL	+/- 31.9409 +/- 282.7350 +/- 289.3373	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
41	4-Chlorotoluene **CAS #** 106-43-4 **Purity** 99%	(Lot MKBL7753V)	5,039.1	µg/mL	+/- 31.9512 +/- 282.8262 +/- 289.4307	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
42	tert-Butylbenzene **CAS #** 98-06-6 **Purity** 99%	(Lot STBD6954V)	5,049.8	µg/mL	+/- 32.0186 +/- 283.4225 +/- 290.0409	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
43	1,2,4-Trimethylbenzene **CAS #** 95-63-6 **Purity** 98%	(Lot MKBJ6229V)	5,046.8	µg/mL	+/- 31.9996 +/- 283.2544 +/- 289.8689	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
44	sec-Butylbenzene **CAS #** 135-98-8 **Purity** 99%	(Lot MKBR9260V)	5,042.8	µg/mL	+/- 31.9742 +/- 283.0296 +/- 289.6389	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
45	p-Isopropyltoluene (p-Cymene) **CAS #** 99-87-6 **Purity** 99%	(Lot MKBV3556V)	5,038.4	µg/mL	+/- 31.9465 +/- 282.7841 +/- 289.3876	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
46	1,3-Dichlorobenzene **CAS #** 541-73-1 **Purity** 99%	(Lot BCBQ7100V)	5,017.6	µg/mL	+/- 32.0043 +/- 281.6409 +/- 288.2167	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
47	1,4-Dichlorobenzene **CAS #** 106-46-7 **Purity** 99%	(Lot MKBS4401V)	5,023.8	µg/mL	+/- 32.0433 +/- 281.9847 +/- 288.5686	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
48	n-Butylbenzene **CAS #** 104-51-8 **Purity** 99%	(Lot 09804AE)	5,024.8	µg/mL	+/- 31.8601 +/- 282.0194 +/- 288.6050	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
49	1,2-Dichlorobenzene **CAS #** 95-50-1 **Purity** 99%	(Lot SHBG3111V)	5,024.5	µg/mL	+/- 32.0481 +/- 282.0268 +/- 288.6117	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
50	1,2-Dibromo-3-chloropropane **CAS #** 96-12-8 **Purity** 99%	(Lot FBL01)	5,036.4	µg/mL	+/- 31.9338 +/- 282.6718 +/- 289.2727	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
51	1,3,5-Trichlorobenzene **CAS #** 108-70-3 **Purity** 99%	(Lot 11319AS)	5,034.0	µg/mL	+/- 29.4752 +/- 282.2729 +/- 288.8768	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
52	1,2,4-Trichlorobenzene **CAS #** 120-82-1 **Purity** 99%	(Lot SHBJ0905)	5,036.5	µg/mL	+/- 31.9346 +/- 282.6789 +/- 289.2799	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
53	Hexachlorobutadiene **CAS #** 87-68-3 **Purity** 99%	(Lot J31X013)	5,033.6	µg/mL	+/- 31.9164 +/- 282.5175 +/- 289.1148	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
54	Naphthalene **CAS #** 91-20-3 **Purity** 99%	(Lot MKBW2603V)	5,033.6	µg/mL	+/- 31.9164 +/- 282.5175 +/- 289.1148	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
55	1,2,3-Trichlorobenzene **CAS #** 87-61-6 **Purity** 99%	(Lot MKBS4859V)	5,016.0	µg/mL	+/- 31.8046 +/- 281.5283 +/- 288.1024	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.# 10910)

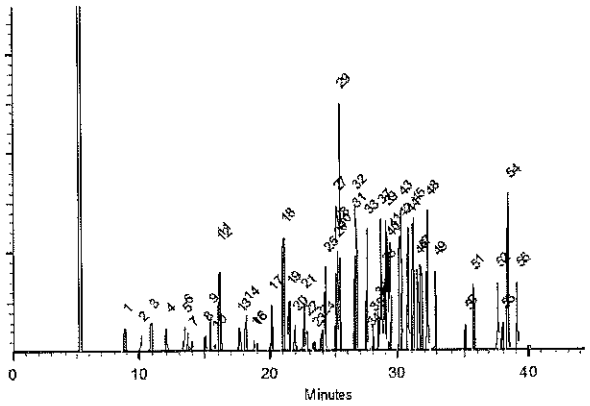
Carrier Gas:
hydrogen-constant pressure 8.0 psi.

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust - Mix Technician

Date Mixed: 09-Mar-2020 **Balance:** B251644995

Feng-Yun Lo - QC Analyst

Date Passed: 11-Mar-2020

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_V#1B_00098

RESTEK
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569936-1 **Lot No.:** A0158586

Description : Custom Revised V #1B Standard

Custom Revised V #1B Standard 5,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2023 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,1-dichloroethene **CAS #** 75-35-4 (Lot SHBK2437) **Purity** 99%	5,011.4 µg/mL	+/- 31.9644 µg/mL +/- 281.2901 µg/mL +/- 287.8577 µg/mL	Gravimetric Unstressed Stressed
2	Methylene chloride (dichloromethane) **CAS #** 75-09-2 (Lot SHBL3107) **Purity** 99%	5,004.6 µg/mL	+/- 31.9213 µg/mL +/- 280.9112 µg/mL +/- 287.4700 µg/mL	Gravimetric Unstressed Stressed
3	trans-1,2-Dichloroethene **CAS #** 156-60-5 (Lot MKBH9850V) **Purity** 99%	5,017.5 µg/mL	+/- 32.0035 µg/mL +/- 281.6339 µg/mL +/- 288.2096 µg/mL	Gravimetric Unstressed Stressed
4	1,1-Dichloroethane **CAS #** 75-34-3 (Lot 580900) **Purity** 99%	5,020.4 µg/mL	+/- 32.0218 µg/mL +/- 281.7953 µg/mL +/- 288.3747 µg/mL	Gravimetric Unstressed Stressed
5	2,2-Dichloropropane **CAS #** 594-20-7 (Lot BCBT5124) **Purity** 99%	5,050.0 µg/mL	+/- 32.0202 µg/mL +/- 283.4366 µg/mL +/- 290.0553 µg/mL	Gravimetric Unstressed Stressed
6	cis-1,2-Dichloroethene **CAS #** 156-59-2 (Lot MKBX5945V) **Purity** 99%	5,046.5 µg/mL	+/- 31.9980 µg/mL +/- 283.2401 µg/mL +/- 289.8543 µg/mL	Gravimetric Unstressed Stressed
7	chloroform **CAS #** 67-66-3 (Lot SHBJ9076) **Purity** 99%	5,034.3 µg/mL	+/- 32.1103 µg/mL +/- 282.5741 µg/mL +/- 289.1717 µg/mL	Gravimetric Unstressed Stressed

8	1,1,1-trichloroethane		5,001.3	µg/mL	+/-	31.9002	µg/mL	Gravimetric
	CAS # 71-55-6	(Lot 190123CG)			+/-	280.7250	µg/mL	Unstressed
	Purity 98%				+/-	287.2795	µg/mL	Stressed
9	1,1-Dichloropropene		5,048.9	µg/mL	+/-	32.0131	µg/mL	Gravimetric
	CAS # 563-58-6	(Lot 170301JLM)			+/-	283.3734	µg/mL	Unstressed
	Purity 99%				+/-	289.9907	µg/mL	Stressed
10	carbon tetrachloride		5,022.9	µg/mL	+/-	32.0378	µg/mL	Gravimetric
	CAS # 56-23-5	(Lot SHBG8938V)			+/-	281.9356	µg/mL	Unstressed
	Purity 99%				+/-	288.5183	µg/mL	Stressed
11	1,2-Dichloroethane		5,007.9	µg/mL	+/-	31.9421	µg/mL	Gravimetric
	CAS # 107-06-2	(Lot MKCH9948)			+/-	281.0937	µg/mL	Unstressed
	Purity 99%				+/-	287.6567	µg/mL	Stressed
12	Benzene		5,042.9	µg/mL	+/-	31.9750	µg/mL	Gravimetric
	CAS # 71-43-2	(Lot SHBG7317V)			+/-	283.0367	µg/mL	Unstressed
	Purity 99%				+/-	289.6461	µg/mL	Stressed
13	Trichloroethene		5,012.9	µg/mL	+/-	31.9740	µg/mL	Gravimetric
	CAS # 79-01-6	(Lot SHBJ4611)			+/-	281.3743	µg/mL	Unstressed
	Purity 99%				+/-	287.9439	µg/mL	Stressed
14	1,2-Dichloropropane		5,012.6	µg/mL	+/-	31.9724	µg/mL	Gravimetric
	CAS # 78-87-5	(Lot BCBR0882V)			+/-	281.3603	µg/mL	Unstressed
	Purity 99%				+/-	287.9295	µg/mL	Stressed
15	bromodichloromethane		5,039.1	µg/mL	+/-	32.1414	µg/mL	Gravimetric
	CAS # 75-27-4	(Lot MKCJ0238)			+/-	282.8477	µg/mL	Unstressed
	Purity 99%				+/-	289.4517	µg/mL	Stressed
16	Dibromomethane		5,047.3	µg/mL	+/-	32.0027	µg/mL	Gravimetric
	CAS # 74-95-3	(Lot 10201030)			+/-	283.2822	µg/mL	Unstressed
	Purity 99%				+/-	289.8973	µg/mL	Stressed
17	cis-1,3-Dichloropropene		5,015.1	µg/mL	+/-	31.9883	µg/mL	Gravimetric
	CAS # 10061-01-5	(Lot 200107JLM)			+/-	281.5006	µg/mL	Unstressed
	Purity 99%				+/-	288.0731	µg/mL	Stressed
18	Toluene		5,031.9	µg/mL	+/-	31.9053	µg/mL	Gravimetric
	CAS # 108-88-3	(Lot SHBH9895)			+/-	282.4193	µg/mL	Unstressed
	Purity 99%				+/-	289.0143	µg/mL	Stressed
19	trans-1,3-Dichloropropene		5,003.8	µg/mL	+/-	31.9158	µg/mL	Gravimetric
	CAS # 10061-02-6	(Lot 19420164-D1219)			+/-	280.8621	µg/mL	Unstressed
	Purity 99%				+/-	287.4198	µg/mL	Stressed
20	1,1,2-Trichloroethane		5,015.4	µg/mL	+/-	31.9899	µg/mL	Gravimetric
	CAS # 79-00-5	(Lot FGB01)			+/-	281.5146	µg/mL	Unstressed
	Purity 99%				+/-	288.0875	µg/mL	Stressed
21	1,3-Dichloropropane		5,042.4	µg/mL	+/-	31.9718	µg/mL	Gravimetric
	CAS # 142-28-9	(Lot BCBG2162V)			+/-	283.0086	µg/mL	Unstressed
	Purity 99%				+/-	289.6173	µg/mL	Stressed
22	Tetrachloroethene		5,014.3	µg/mL	+/-	31.9827	µg/mL	Gravimetric
	CAS # 127-18-4	(Lot SHBJ7422)			+/-	281.4515	µg/mL	Unstressed
	Purity 99%				+/-	288.0229	µg/mL	Stressed
23	dibromochloromethane		5,016.1	µg/mL	+/-	31.9947	µg/mL	Gravimetric
	CAS # 124-48-1	(Lot MKCK6472)			+/-	281.5567	µg/mL	Unstressed
	Purity 99%				+/-	288.1306	µg/mL	Stressed

24	1,2-Dibromoethane (EDB) **CAS #** 106-93-4 **Purity** 99%	(Lot BCBP2268V)	5,037.4	µg/mL	+/- 31.9401 +/- 282.7280 +/- 289.3302	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
25	1-Chlorohexane **CAS #** 544-10-5 **Purity** 98%	(Lot BCBS3368V)	5,010.7	µg/mL	+/- 29.3390 +/- 280.9687 +/- 287.5420	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
26	Chlorobenzene **CAS #** 108-90-7 **Purity** 99%	(Lot SHBJ0839)	5,009.0	µg/mL	+/- 31.9493 +/- 281.1568 +/- 287.7213	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
27	1,1,1,2-Tetrachloroethane **CAS #** 630-20-6 **Purity** 99%	(Lot MKBS3769V)	5,038.6	µg/mL	+/- 31.9481 +/- 282.7981 +/- 289.4020	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
28	Ethylbenzene **CAS #** 100-41-4 **Purity** 99%	(Lot SHBJ3183)	5,029.3	µg/mL	+/- 31.8886 +/- 282.2719 +/- 288.8635	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
29	m-Xylene **CAS #** 108-38-3 **Purity** 99%	(Lot SHBH8323)	5,038.4	µg/mL	+/- 31.9465 +/- 282.7841 +/- 289.3876	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
30	p-Xylene **CAS #** 106-42-3 **Purity** 99%	(Lot SHBJ0052)	5,038.0	µg/mL	+/- 31.9441 +/- 282.7630 +/- 289.3661	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
31	o-Xylene **CAS #** 95-47-6 **Purity** 99%	(Lot SHBH3432V)	5,046.4	µg/mL	+/- 31.9972 +/- 283.2331 +/- 289.8471	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
32	Styrene **CAS #** 100-42-5 **Purity** 99%	(Lot MKBV4061V)	5,047.0	µg/mL	+/- 32.0012 +/- 283.2682 +/- 289.8830	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
33	Isopropylbenzene (cumene) **CAS #** 98-82-8 **Purity** 99%	(Lot 10185056)	5,035.3	µg/mL	+/- 31.9267 +/- 282.6087 +/- 289.2081	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
34	bromoform **CAS #** 75-25-2 **Purity** 99%	(Lot SHBJ4835)	5,013.0	µg/mL	+/- 31.9748 +/- 281.3813 +/- 287.9511	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
35	1,1,2,2-Tetrachloroethane **CAS #** 79-34-5 **Purity** 99%	(Lot CFA4D)	5,016.0	µg/mL	+/- 31.9939 +/- 281.5497 +/- 288.1234	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
36	1,2,3-Trichloropropane **CAS #** 96-18-4 **Purity** 99%	(Lot BCBH8722V)	5,033.4	µg/mL	+/- 31.9148 +/- 282.5035 +/- 289.1004	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
37	n-Propylbenzene **CAS #** 103-65-1 **Purity** 99%	(Lot MKBJ0332V)	5,032.4	µg/mL	+/- 31.9084 +/- 282.4473 +/- 289.0430	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
38	Bromobenzene **CAS #** 108-86-1 **Purity** 99%	(Lot WXBC5147V)	5,035.5	µg/mL	+/- 31.9282 +/- 282.6227 +/- 289.2225	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
39	1,3,5-Trimethylbenzene **CAS #** 108-67-8 **Purity** 99%	(Lot BCBS7648V)	5,029.8	µg/mL	+/- 31.8918 +/- 282.3000 +/- 288.8922	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

40	2-Chlorotoluene **CAS #** 95-49-8 **Purity** 99%	(Lot MKBW5554V)	5,037.5	µg/mL	+/- 31.9409 +/- 282.7350 +/- 289.3373	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
41	4-Chlorotoluene **CAS #** 106-43-4 **Purity** 99%	(Lot MKBL7753V)	5,039.1	µg/mL	+/- 31.9512 +/- 282.8262 +/- 289.4307	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
42	tert-Butylbenzene **CAS #** 98-06-6 **Purity** 99%	(Lot STBD6954V)	5,049.8	µg/mL	+/- 32.0186 +/- 283.4225 +/- 290.0409	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
43	1,2,4-Trimethylbenzene **CAS #** 95-63-6 **Purity** 98%	(Lot MKBJ6229V)	5,046.8	µg/mL	+/- 31.9996 +/- 283.2544 +/- 289.8689	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
44	sec-Butylbenzene **CAS #** 135-98-8 **Purity** 99%	(Lot MKBR9260V)	5,042.8	µg/mL	+/- 31.9742 +/- 283.0296 +/- 289.6389	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
45	p-Isopropyltoluene (p-Cymene) **CAS #** 99-87-6 **Purity** 99%	(Lot MKBV3556V)	5,038.4	µg/mL	+/- 31.9465 +/- 282.7841 +/- 289.3876	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
46	1,3-Dichlorobenzene **CAS #** 541-73-1 **Purity** 99%	(Lot BCBQ7100V)	5,017.6	µg/mL	+/- 32.0043 +/- 281.6409 +/- 288.2167	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
47	1,4-Dichlorobenzene **CAS #** 106-46-7 **Purity** 99%	(Lot MKBS4401V)	5,023.8	µg/mL	+/- 32.0433 +/- 281.9847 +/- 288.5686	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
48	n-Butylbenzene **CAS #** 104-51-8 **Purity** 99%	(Lot 09804AE)	5,024.8	µg/mL	+/- 31.8601 +/- 282.0194 +/- 288.6050	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
49	1,2-Dichlorobenzene **CAS #** 95-50-1 **Purity** 99%	(Lot SHBG3111V)	5,024.5	µg/mL	+/- 32.0481 +/- 282.0268 +/- 288.6117	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
50	1,2-Dibromo-3-chloropropane **CAS #** 96-12-8 **Purity** 99%	(Lot FBL01)	5,036.4	µg/mL	+/- 31.9338 +/- 282.6718 +/- 289.2727	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
51	1,3,5-Trichlorobenzene **CAS #** 108-70-3 **Purity** 99%	(Lot 11319AS)	5,034.0	µg/mL	+/- 29.4752 +/- 282.2729 +/- 288.8768	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
52	1,2,4-Trichlorobenzene **CAS #** 120-82-1 **Purity** 99%	(Lot SHBJ0905)	5,036.5	µg/mL	+/- 31.9346 +/- 282.6789 +/- 289.2799	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
53	Hexachlorobutadiene **CAS #** 87-68-3 **Purity** 99%	(Lot J31X013)	5,033.6	µg/mL	+/- 31.9164 +/- 282.5175 +/- 289.1148	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
54	Naphthalene **CAS #** 91-20-3 **Purity** 99%	(Lot MKBW2603V)	5,033.6	µg/mL	+/- 31.9164 +/- 282.5175 +/- 289.1148	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
55	1,2,3-Trichlorobenzene **CAS #** 87-61-6 **Purity** 99%	(Lot MKBS4859V)	5,016.0	µg/mL	+/- 31.8046 +/- 281.5283 +/- 288.1024	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.# 10910)

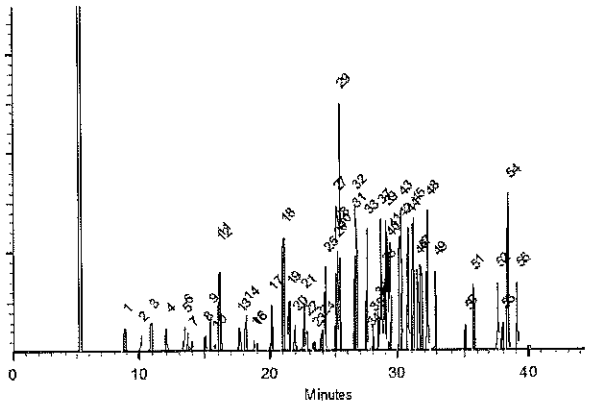
Carrier Gas:
hydrogen-constant pressure 8.0 psi.

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust - Mix Technician

Date Mixed: 09-Mar-2020 **Balance:** B251644995

Feng-Yun Lo - QC Analyst

Date Passed: 11-Mar-2020

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_V#2B_00099

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

Certificate of Analysis

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 56734 **Lot No.:** A0159694

Description : Custom V # 2B Standard

Custom V #2B Standard 12,500-125,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2022 **Storage:** 0°C or colder

Elution Order	Compound	CAS #	Percent Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)
1	2-Propanol (isopropanol)	67-63-0	99%	25,019.2 µg/mL	+/- 146.4929 µg/mL
2	tert-Butanol (TBA)	75-65-0	99%	25,022.4 µg/mL	+/- 146.5117 µg/mL
3	Propionitrile	107-12-0	99%	25,020.0 µg/mL	+/- 146.4976 µg/mL
4	Methacrylonitrile	126-98-7	99%	12,533.6 µg/mL	+/- 73.3870 µg/mL
5	Isobutanol (2-Methyl-1-propanol)	78-83-1	99%	62,702.0 µg/mL	+/- 367.1151 µg/mL
6	1-Butanol	71-36-3	99%	125,150.0 µg/mL	+/- 732.7430 µg/mL
7	1,4-Dioxane	123-91-1	99%	62,550.0 µg/mL	+/- 366.2251 µg/mL
8	trans-1,4-dichloro-2-butene	110-57-6	95%	12,549.5 µg/mL	+/- 73.4801 µg/mL
Solvent:	P&T Methanol	67-56-1	99%		

Specific Reference Material Notes:

This RM (Reference Material) is not a CRM (Certified Reference Material) due to the 1-butanol concentration exceeding the maximum concentration on Restek's ISO Guide 34 scope of accreditation.

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

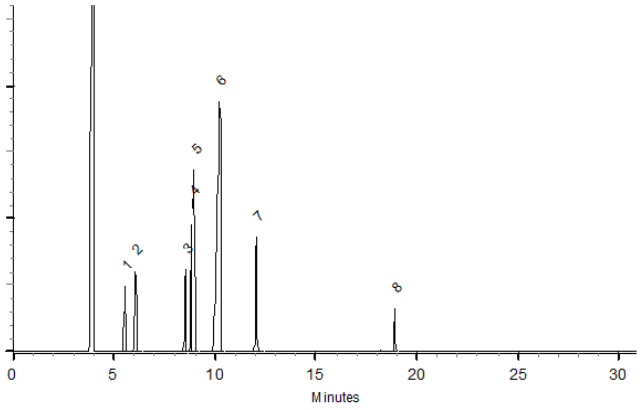
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Clara Windle - Operations Technician I

Date Mixed: 07-Apr-2020 **Balance:** B251644995

Fang-Yun Lo - QC Analyst

Date Passed: 10-Apr-2020

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the RM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Uncertainty Value Notes:

- Uncertainties are determined using data from balances and glassware, raw material purity, and, when significant, equipment tolerances or calibration results.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_V#2B_00100

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

Certificate of Analysis

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 56734 **Lot No.:** A0159694

Description : Custom V # 2B Standard

Custom V #2B Standard 12,500-125,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : April 30, 2022 **Storage:** 0°C or colder

Elution Order	Compound	CAS #	Percent Purity	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)
1	2-Propanol (isopropanol)	67-63-0	99%	25,019.2 µg/mL	+/- 146.4929 µg/mL
2	tert-Butanol (TBA)	75-65-0	99%	25,022.4 µg/mL	+/- 146.5117 µg/mL
3	Propionitrile	107-12-0	99%	25,020.0 µg/mL	+/- 146.4976 µg/mL
4	Methacrylonitrile	126-98-7	99%	12,533.6 µg/mL	+/- 73.3870 µg/mL
5	Isobutanol (2-Methyl-1-propanol)	78-83-1	99%	62,702.0 µg/mL	+/- 367.1151 µg/mL
6	1-Butanol	71-36-3	99%	125,150.0 µg/mL	+/- 732.7430 µg/mL
7	1,4-Dioxane	123-91-1	99%	62,550.0 µg/mL	+/- 366.2251 µg/mL
8	trans-1,4-dichloro-2-butene	110-57-6	95%	12,549.5 µg/mL	+/- 73.4801 µg/mL
Solvent:	P&T Methanol	67-56-1	99%		

Specific Reference Material Notes:

This RM (Reference Material) is not a CRM (Certified Reference Material) due to the 1-butanol concentration exceeding the maximum concentration on Restek's ISO Guide 34 scope of accreditation.

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

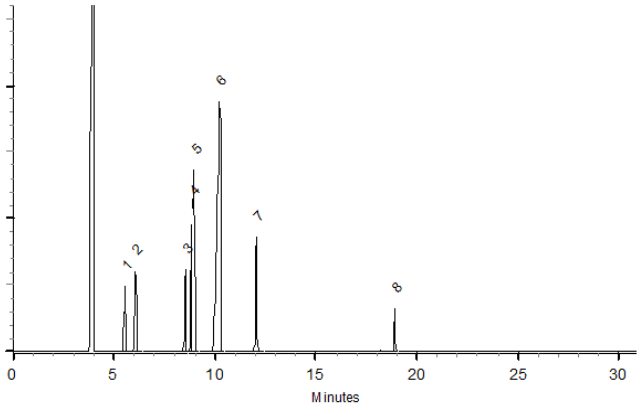
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Clara Windle - Operations Technician I

Date Mixed: 07-Apr-2020 **Balance:** B251644995

Fang-Yun Lo - QC Analyst

Date Passed: 10-Apr-2020

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the RM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Uncertainty Value Notes:

- Uncertainties are determined using data from balances and glassware, raw material purity, and, when significant, equipment tolerances or calibration results.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_V#3B_00042

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 56736 **Lot No.:** A0158677

Description : Custom V # 3B Standard

Custom V #3B Standard 12,500-25,000µg/mL, P&T Methanol/Water (90:10), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2023 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Acetone	25,001.0 µg/mL	+/- 146.3864 µg/mL	Gravimetric
	CAS # 67-64-1 (Lot MKCK2598)		+/- 1,236.8670 µg/mL	Unstressed
	Purity 99%		+/- 1,267.6168 µg/mL	Stressed
2	Acrylonitrile	12,511.0 µg/mL	+/- 73.2547 µg/mL	Gravimetric
	CAS # 107-13-1 (Lot A0387097)		+/- 618.9529 µg/mL	Unstressed
	Purity 99%		+/- 634.3408 µg/mL	Stressed
3	2-Butanone (MEK)	25,007.0 µg/mL	+/- 146.4215 µg/mL	Gravimetric
	CAS # 78-93-3 (Lot SHBK9603)		+/- 1,237.1638 µg/mL	Unstressed
	Purity 99%		+/- 1,267.9210 µg/mL	Stressed
4	Tetrahydrofuran	25,049.0 µg/mL	+/- 146.6674 µg/mL	Gravimetric
	CAS # 109-99-9 (Lot SHBK8926)		+/- 1,239.2417 µg/mL	Unstressed
	Purity 99%		+/- 1,270.0505 µg/mL	Stressed
5	2-Nitropropane	24,758.3 µg/mL	+/- 144.9652 µg/mL	Gravimetric
	CAS # 79-46-9 (Lot BCCB9352)		+/- 1,224.8589 µg/mL	Unstressed
	Purity 97%		+/- 1,255.3102 µg/mL	Stressed
6	4-Methyl-2-pentanone (MIBK)	25,014.0 µg/mL	+/- 146.4625 µg/mL	Gravimetric
	CAS # 108-10-1 (Lot SHBL5515)		+/- 1,237.5101 µg/mL	Unstressed
	Purity 99%		+/- 1,268.2759 µg/mL	Stressed
7	2-Hexanone	25,016.0 µg/mL	+/- 146.4742 µg/mL	Gravimetric
	CAS # 591-78-6 (Lot MKCL1599)		+/- 1,237.6091 µg/mL	Unstressed
	Purity 99%		+/- 1,268.3773 µg/mL	Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

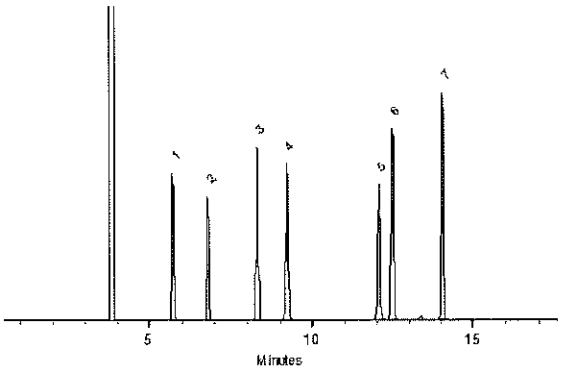
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Kylie Struble - Operations Technician I

Date Mixed: 10-Mar-2020 **Balance:** B251644995

Feng-Yun Lo - QC Analyst

Date Passed: 12-Mar-2020

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_V#3B_00048

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 56736 **Lot No.:** A0158677

Description : Custom V # 3B Standard

Custom V #3B Standard 12,500-25,000µg/mL, P&T Methanol/Water (90:10), 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2023 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Acetone		25,001.0 µg/mL	+/- 146.3864 µg/mL	Gravimetric
	CAS # 67-64-1	(Lot MKCK2598)		+/- 1,236.8670 µg/mL	Unstressed
	Purity 99%			+/- 1,267.6168 µg/mL	Stressed
2	Acrylonitrile		12,511.0 µg/mL	+/- 73.2547 µg/mL	Gravimetric
	CAS # 107-13-1	(Lot A0387097)		+/- 618.9529 µg/mL	Unstressed
	Purity 99%			+/- 634.3408 µg/mL	Stressed
3	2-Butanone (MEK)		25,007.0 µg/mL	+/- 146.4215 µg/mL	Gravimetric
	CAS # 78-93-3	(Lot SHBK9603)		+/- 1,237.1638 µg/mL	Unstressed
	Purity 99%			+/- 1,267.9210 µg/mL	Stressed
4	Tetrahydrofuran		25,049.0 µg/mL	+/- 146.6674 µg/mL	Gravimetric
	CAS # 109-99-9	(Lot SHBK8926)		+/- 1,239.2417 µg/mL	Unstressed
	Purity 99%			+/- 1,270.0505 µg/mL	Stressed
5	2-Nitropropane		24,758.3 µg/mL	+/- 144.9652 µg/mL	Gravimetric
	CAS # 79-46-9	(Lot BCCB9352)		+/- 1,224.8589 µg/mL	Unstressed
	Purity 97%			+/- 1,255.3102 µg/mL	Stressed
6	4-Methyl-2-pentanone (MIBK)		25,014.0 µg/mL	+/- 146.4625 µg/mL	Gravimetric
	CAS # 108-10-1	(Lot SHBL5515)		+/- 1,237.5101 µg/mL	Unstressed
	Purity 99%			+/- 1,268.2759 µg/mL	Stressed
7	2-Hexanone		25,016.0 µg/mL	+/- 146.4742 µg/mL	Gravimetric
	CAS # 591-78-6	(Lot MKCL1599)		+/- 1,237.6091 µg/mL	Unstressed
	Purity 99%			+/- 1,268.3773 µg/mL	Stressed

Solvent: P&T Methanol/Water (90:10)
CAS # 67-56-1/7732-18-5
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

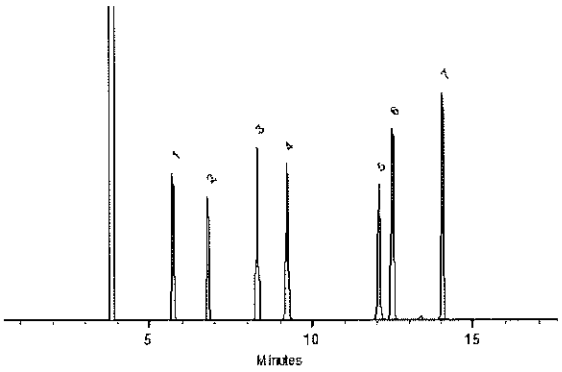
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Kylie Struble - Operations Technician I

Date Mixed: 10-Mar-2020 **Balance:** B251644995

Feng-Yun Lo - QC Analyst

Date Passed: 12-Mar-2020

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_V#4C_00068

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 572312 **Lot No.:** A0158660

Description : Custom V #4C (Rev 3) Standard

Custom V #4C (Rev 3) Standard 5,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2021 **Storage:** 0°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	1,3-Butadiene		5,002.1	µg/mL	+/- 39.8717	µg/mL	Gravimetric
	CAS # 106-99-0	(Lot SHBK2299)			+/- 303.0271	µg/mL	Unstressed
	Purity 99%				+/- 303.7407	µg/mL	Stressed
2	1,2-Dichloro-1,1,2-trifluoroethane (CFC-123a)		5,001.4	µg/mL	+/- 47.3932	µg/mL	Gravimetric
	CAS # 354-23-4	(Lot Q9B-64)			+/- 304.0702	µg/mL	Unstressed
	Purity 99%				+/- 304.7812	µg/mL	Stressed
3	n-Pentane (C5)		5,025.0	µg/mL	+/- 29.4225	µg/mL	Gravimetric
	CAS # 109-66-0	(Lot SHBL0400)			+/- 303.2005	µg/mL	Unstressed
	Purity 99%				+/- 303.9203	µg/mL	Stressed
4	1,1,2-Trichlorotrifluoroethane (CFC-113)		5,024.0	µg/mL	+/- 29.4166	µg/mL	Gravimetric
	CAS # 76-13-1	(Lot 00016133)			+/- 303.1402	µg/mL	Unstressed
	Purity 99%				+/- 303.8598	µg/mL	Stressed
5	Iodomethane (methyl iodide)		5,035.0	µg/mL	+/- 29.4810	µg/mL	Gravimetric
	CAS # 74-88-4	(Lot D4406-0122JM)			+/- 303.8039	µg/mL	Unstressed
	Purity 99%				+/- 304.5251	µg/mL	Stressed
6	Carbon disulfide		5,046.0	µg/mL	+/- 29.5454	µg/mL	Gravimetric
	CAS # 75-15-0	(Lot U22D706)			+/- 304.4676	µg/mL	Unstressed
	Purity 99%				+/- 305.1904	µg/mL	Stressed
7	Methyl-tert-butyl ether (MTBE)		5,025.0	µg/mL	+/- 29.4225	µg/mL	Gravimetric
	CAS # 1634-04-4	(Lot SHBK4806)			+/- 303.2005	µg/mL	Unstressed
	Purity 99%				+/- 303.9203	µg/mL	Stressed

8	n-Hexane (C6)		5,025.5	µg/mL	+/-	29.4254	µg/mL	Gravimetric
	CAS # 110-54-3	(Lot SHBL0924)			+/-	303.2307	µg/mL	Unstressed
	Purity 99%				+/-	303.9505	µg/mL	Stressed
9	Diisopropyl ether (DIPE)		5,015.0	µg/mL	+/-	29.3639	µg/mL	Gravimetric
	CAS # 108-20-3	(Lot SHBH1927V)			+/-	302.5971	µg/mL	Unstressed
	Purity 99%				+/-	303.3154	µg/mL	Stressed
10	Chloroprene (2-chloro-1,3-butadiene)		5,046.5	µg/mL	+/-	29.5484	µg/mL	Gravimetric
	CAS # 126-99-8	(Lot 191204JLM)			+/-	304.4978	µg/mL	Unstressed
	Purity 99%				+/-	305.2206	µg/mL	Stressed
11	Ethyl-tert-butyl ether (ETBE)		5,026.5	µg/mL	+/-	29.4313	µg/mL	Gravimetric
	CAS # 637-92-3	(Lot MKCJ3589)			+/-	303.2910	µg/mL	Unstressed
	Purity 99%				+/-	304.0110	µg/mL	Stressed
12	Cyclohexane		5,028.5	µg/mL	+/-	29.4430	µg/mL	Gravimetric
	CAS # 110-82-7	(Lot MKCF5831)			+/-	303.4117	µg/mL	Unstressed
	Purity 99%				+/-	304.1319	µg/mL	Stressed
13	tert-Amyl methyl ether (TAME)		5,021.0	µg/mL	+/-	29.3991	µg/mL	Gravimetric
	CAS # 994-05-8	(Lot HMBG6382V)			+/-	302.9592	µg/mL	Unstressed
	Purity 99%				+/-	303.6783	µg/mL	Stressed
14	n-Heptane (C7)		5,044.1	µg/mL	+/-	29.5341	µg/mL	Gravimetric
	CAS # 142-82-5	(Lot SHBK8626)			+/-	304.3506	µg/mL	Unstressed
	Purity 98%				+/-	305.0730	µg/mL	Stressed
15	tert-Amyl ethyl ether (TAEE)		5,018.5	µg/mL	+/-	29.3844	µg/mL	Gravimetric
	CAS # 919-94-8	(Lot IKVYB)			+/-	302.8083	µg/mL	Unstressed
	Purity 99%				+/-	303.5271	µg/mL	Stressed
16	Methyl methacrylate		5,028.0	µg/mL	+/-	29.4400	µg/mL	Gravimetric
	CAS # 80-62-6	(Lot MKCG6589)			+/-	303.3815	µg/mL	Unstressed
	Purity 99%				+/-	304.1017	µg/mL	Stressed
17	Ethyl methacrylate		5,043.0	µg/mL	+/-	29.5279	µg/mL	Gravimetric
	CAS # 97-63-2	(Lot SHBF9649V)			+/-	304.2866	µg/mL	Unstressed
	Purity 99%				+/-	305.0089	µg/mL	Stressed
18	Benzyl chloride		5,019.5	µg/mL	+/-	29.3903	µg/mL	Gravimetric
	CAS # 100-44-7	(Lot SHBH2102V)			+/-	302.8686	µg/mL	Unstressed
	Purity 99%				+/-	303.5876	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:
Raw material may contain trace amounts of tert-Butanol.

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

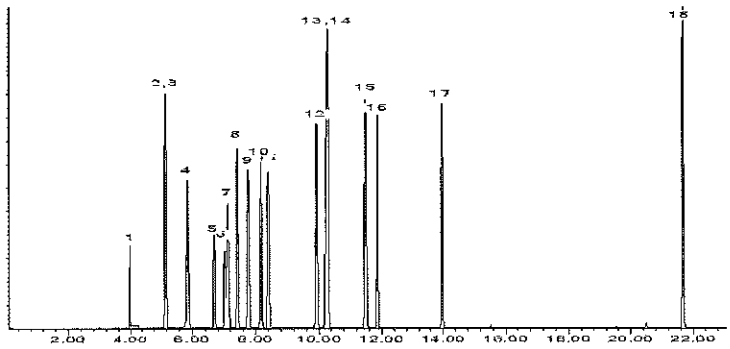
Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 10-Mar-2020 **Balance:** B707717271

Fang-Yun Lo - QC Analyst

Date Passed: 25-Mar-2020

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_V#4C_00078

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 572312 **Lot No.:** A0158660

Description : Custom V #4C (Rev 3) Standard

Custom V #4C (Rev 3) Standard 5,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2021 **Storage:** 0°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,3-Butadiene	5,002.1 µg/mL	+/- 39.8717 µg/mL	Gravimetric
	CAS # 106-99-0 (Lot SHBK2299)		+/- 303.0271 µg/mL	Unstressed
	Purity 99%		+/- 303.7407 µg/mL	Stressed
2	1,2-Dichloro-1,1,2-trifluoroethane (CFC-123a)	5,001.4 µg/mL	+/- 47.3932 µg/mL	Gravimetric
	CAS # 354-23-4 (Lot Q9B-64)		+/- 304.0702 µg/mL	Unstressed
	Purity 99%		+/- 304.7812 µg/mL	Stressed
3	n-Pentane (C5)	5,025.0 µg/mL	+/- 29.4225 µg/mL	Gravimetric
	CAS # 109-66-0 (Lot SHBL0400)		+/- 303.2005 µg/mL	Unstressed
	Purity 99%		+/- 303.9203 µg/mL	Stressed
4	1,1,2-Trichlorotrifluoroethane (CFC-113)	5,024.0 µg/mL	+/- 29.4166 µg/mL	Gravimetric
	CAS # 76-13-1 (Lot 00016133)		+/- 303.1402 µg/mL	Unstressed
	Purity 99%		+/- 303.8598 µg/mL	Stressed
5	Iodomethane (methyl iodide)	5,035.0 µg/mL	+/- 29.4810 µg/mL	Gravimetric
	CAS # 74-88-4 (Lot D4406-0122JM)		+/- 303.8039 µg/mL	Unstressed
	Purity 99%		+/- 304.5251 µg/mL	Stressed
6	Carbon disulfide	5,046.0 µg/mL	+/- 29.5454 µg/mL	Gravimetric
	CAS # 75-15-0 (Lot U22D706)		+/- 304.4676 µg/mL	Unstressed
	Purity 99%		+/- 305.1904 µg/mL	Stressed
7	Methyl-tert-butyl ether (MTBE)	5,025.0 µg/mL	+/- 29.4225 µg/mL	Gravimetric
	CAS # 1634-04-4 (Lot SHBK4806)		+/- 303.2005 µg/mL	Unstressed
	Purity 99%		+/- 303.9203 µg/mL	Stressed

8	n-Hexane (C6)		5,025.5	µg/mL	+/-	29.4254	µg/mL	Gravimetric
	CAS # 110-54-3	(Lot SHBL0924)			+/-	303.2307	µg/mL	Unstressed
	Purity 99%				+/-	303.9505	µg/mL	Stressed
9	Diisopropyl ether (DIPE)		5,015.0	µg/mL	+/-	29.3639	µg/mL	Gravimetric
	CAS # 108-20-3	(Lot SHBH1927V)			+/-	302.5971	µg/mL	Unstressed
	Purity 99%				+/-	303.3154	µg/mL	Stressed
10	Chloroprene (2-chloro-1,3-butadiene)		5,046.5	µg/mL	+/-	29.5484	µg/mL	Gravimetric
	CAS # 126-99-8	(Lot 191204JLM)			+/-	304.4978	µg/mL	Unstressed
	Purity 99%				+/-	305.2206	µg/mL	Stressed
11	Ethyl-tert-butyl ether (ETBE)		5,026.5	µg/mL	+/-	29.4313	µg/mL	Gravimetric
	CAS # 637-92-3	(Lot MKCJ3589)			+/-	303.2910	µg/mL	Unstressed
	Purity 99%				+/-	304.0110	µg/mL	Stressed
12	Cyclohexane		5,028.5	µg/mL	+/-	29.4430	µg/mL	Gravimetric
	CAS # 110-82-7	(Lot MKCF5831)			+/-	303.4117	µg/mL	Unstressed
	Purity 99%				+/-	304.1319	µg/mL	Stressed
13	tert-Amyl methyl ether (TAME)		5,021.0	µg/mL	+/-	29.3991	µg/mL	Gravimetric
	CAS # 994-05-8	(Lot HMBG6382V)			+/-	302.9592	µg/mL	Unstressed
	Purity 99%				+/-	303.6783	µg/mL	Stressed
14	n-Heptane (C7)		5,044.1	µg/mL	+/-	29.5341	µg/mL	Gravimetric
	CAS # 142-82-5	(Lot SHBK8626)			+/-	304.3506	µg/mL	Unstressed
	Purity 98%				+/-	305.0730	µg/mL	Stressed
15	tert-Amyl ethyl ether (TAEE)		5,018.5	µg/mL	+/-	29.3844	µg/mL	Gravimetric
	CAS # 919-94-8	(Lot IKVYB)			+/-	302.8083	µg/mL	Unstressed
	Purity 99%				+/-	303.5271	µg/mL	Stressed
16	Methyl methacrylate		5,028.0	µg/mL	+/-	29.4400	µg/mL	Gravimetric
	CAS # 80-62-6	(Lot MKCG6589)			+/-	303.3815	µg/mL	Unstressed
	Purity 99%				+/-	304.1017	µg/mL	Stressed
17	Ethyl methacrylate		5,043.0	µg/mL	+/-	29.5279	µg/mL	Gravimetric
	CAS # 97-63-2	(Lot SHBF9649V)			+/-	304.2866	µg/mL	Unstressed
	Purity 99%				+/-	305.0089	µg/mL	Stressed
18	Benzyl chloride		5,019.5	µg/mL	+/-	29.3903	µg/mL	Gravimetric
	CAS # 100-44-7	(Lot SHBH2102V)			+/-	302.8686	µg/mL	Unstressed
	Purity 99%				+/-	303.5876	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:
Raw material may contain trace amounts of tert-Butanol.

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

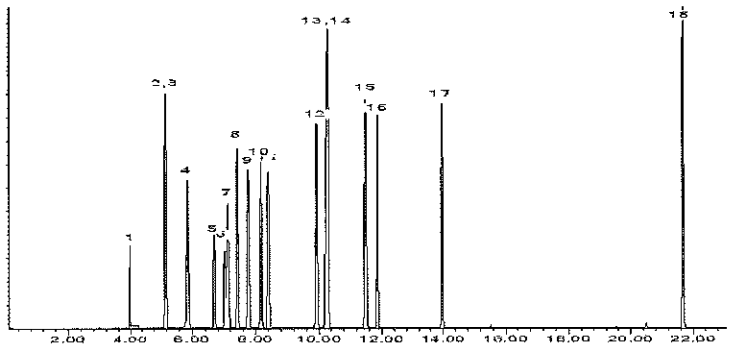
Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 10-Mar-2020 **Balance:** B707717271

Fang-Yun Lo - QC Analyst

Date Passed: 25-Mar-2020

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_V#4C_00079

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 572312 **Lot No.:** A0158660

Description : Custom V #4C (Rev 3) Standard

Custom V #4C (Rev 3) Standard 5,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2021 **Storage:** 0°C or colder

Handling: This product is photosensitive.

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,3-Butadiene	5,002.1 µg/mL	+/- 39.8717 µg/mL	Gravimetric
	CAS # 106-99-0 (Lot SHBK2299)		+/- 303.0271 µg/mL	Unstressed
	Purity 99%		+/- 303.7407 µg/mL	Stressed
2	1,2-Dichloro-1,1,2-trifluoroethane (CFC-123a)	5,001.4 µg/mL	+/- 47.3932 µg/mL	Gravimetric
	CAS # 354-23-4 (Lot Q9B-64)		+/- 304.0702 µg/mL	Unstressed
	Purity 99%		+/- 304.7812 µg/mL	Stressed
3	n-Pentane (C5)	5,025.0 µg/mL	+/- 29.4225 µg/mL	Gravimetric
	CAS # 109-66-0 (Lot SHBL0400)		+/- 303.2005 µg/mL	Unstressed
	Purity 99%		+/- 303.9203 µg/mL	Stressed
4	1,1,2-Trichlorotrifluoroethane (CFC-113)	5,024.0 µg/mL	+/- 29.4166 µg/mL	Gravimetric
	CAS # 76-13-1 (Lot 00016133)		+/- 303.1402 µg/mL	Unstressed
	Purity 99%		+/- 303.8598 µg/mL	Stressed
5	Iodomethane (methyl iodide)	5,035.0 µg/mL	+/- 29.4810 µg/mL	Gravimetric
	CAS # 74-88-4 (Lot D4406-0122JM)		+/- 303.8039 µg/mL	Unstressed
	Purity 99%		+/- 304.5251 µg/mL	Stressed
6	Carbon disulfide	5,046.0 µg/mL	+/- 29.5454 µg/mL	Gravimetric
	CAS # 75-15-0 (Lot U22D706)		+/- 304.4676 µg/mL	Unstressed
	Purity 99%		+/- 305.1904 µg/mL	Stressed
7	Methyl-tert-butyl ether (MTBE)	5,025.0 µg/mL	+/- 29.4225 µg/mL	Gravimetric
	CAS # 1634-04-4 (Lot SHBK4806)		+/- 303.2005 µg/mL	Unstressed
	Purity 99%		+/- 303.9203 µg/mL	Stressed

8	n-Hexane (C6)		5,025.5	µg/mL	+/-	29.4254	µg/mL	Gravimetric
	CAS # 110-54-3	(Lot SHBL0924)			+/-	303.2307	µg/mL	Unstressed
	Purity 99%				+/-	303.9505	µg/mL	Stressed
9	Diisopropyl ether (DIPE)		5,015.0	µg/mL	+/-	29.3639	µg/mL	Gravimetric
	CAS # 108-20-3	(Lot SHBH1927V)			+/-	302.5971	µg/mL	Unstressed
	Purity 99%				+/-	303.3154	µg/mL	Stressed
10	Chloroprene (2-chloro-1,3-butadiene)		5,046.5	µg/mL	+/-	29.5484	µg/mL	Gravimetric
	CAS # 126-99-8	(Lot 191204JLM)			+/-	304.4978	µg/mL	Unstressed
	Purity 99%				+/-	305.2206	µg/mL	Stressed
11	Ethyl-tert-butyl ether (ETBE)		5,026.5	µg/mL	+/-	29.4313	µg/mL	Gravimetric
	CAS # 637-92-3	(Lot MKCJ3589)			+/-	303.2910	µg/mL	Unstressed
	Purity 99%				+/-	304.0110	µg/mL	Stressed
12	Cyclohexane		5,028.5	µg/mL	+/-	29.4430	µg/mL	Gravimetric
	CAS # 110-82-7	(Lot MKCF5831)			+/-	303.4117	µg/mL	Unstressed
	Purity 99%				+/-	304.1319	µg/mL	Stressed
13	tert-Amyl methyl ether (TAME)		5,021.0	µg/mL	+/-	29.3991	µg/mL	Gravimetric
	CAS # 994-05-8	(Lot HMBG6382V)			+/-	302.9592	µg/mL	Unstressed
	Purity 99%				+/-	303.6783	µg/mL	Stressed
14	n-Heptane (C7)		5,044.1	µg/mL	+/-	29.5341	µg/mL	Gravimetric
	CAS # 142-82-5	(Lot SHBK8626)			+/-	304.3506	µg/mL	Unstressed
	Purity 98%				+/-	305.0730	µg/mL	Stressed
15	tert-Amyl ethyl ether (TAEE)		5,018.5	µg/mL	+/-	29.3844	µg/mL	Gravimetric
	CAS # 919-94-8	(Lot IKVYB)			+/-	302.8083	µg/mL	Unstressed
	Purity 99%				+/-	303.5271	µg/mL	Stressed
16	Methyl methacrylate		5,028.0	µg/mL	+/-	29.4400	µg/mL	Gravimetric
	CAS # 80-62-6	(Lot MKCG6589)			+/-	303.3815	µg/mL	Unstressed
	Purity 99%				+/-	304.1017	µg/mL	Stressed
17	Ethyl methacrylate		5,043.0	µg/mL	+/-	29.5279	µg/mL	Gravimetric
	CAS # 97-63-2	(Lot SHBF9649V)			+/-	304.2866	µg/mL	Unstressed
	Purity 99%				+/-	305.0089	µg/mL	Stressed
18	Benzyl chloride		5,019.5	µg/mL	+/-	29.3903	µg/mL	Gravimetric
	CAS # 100-44-7	(Lot SHBH2102V)			+/-	302.8686	µg/mL	Unstressed
	Purity 99%				+/-	303.5876	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:
Raw material may contain trace amounts of tert-Butanol.

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

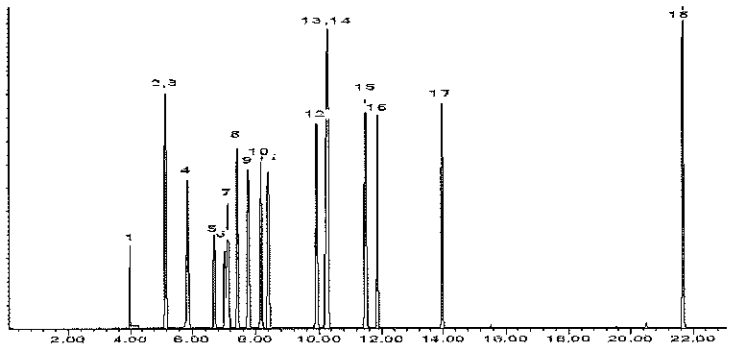
Carrier Gas:
helium-constant pressure 30 psi

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 10-Mar-2020 **Balance:** B707717271

Fang-Yun Lo - QC Analyst

Date Passed: 25-Mar-2020

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_V#6_00025

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 558268 **Lot No.:** A0158625

Description : Custom CS#6 Standard

Custom CS#6 Standard 5,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Methyl acetate		5,039.0 µg/mL	+/- 29.5717	µg/mL	Gravimetric
	CAS # 79-20-9	(Lot SHBK5436)		+/- 304.0518	µg/mL	Unstressed
	Purity 99%			+/- 304.7735	µg/mL	Stressed
2	Allyl chloride (3-chloropropene)		5,046.0 µg/mL	+/- 29.6128	µg/mL	Gravimetric
	CAS # 107-05-1	(Lot 191118KJ)		+/- 304.4742	µg/mL	Unstressed
	Purity 99%			+/- 305.1969	µg/mL	Stressed
3	Bromochloromethane		5,040.1 µg/mL	+/- 29.5784	µg/mL	Gravimetric
	CAS # 74-97-5	(Lot 00008541)		+/- 304.1206	µg/mL	Unstressed
	Purity 98%			+/- 304.8425	µg/mL	Stressed
4	Methylcyclohexane		5,041.0 µg/mL	+/- 29.5834	µg/mL	Gravimetric
	CAS # 108-87-2	(Lot SHBJ0457)		+/- 304.1725	µg/mL	Unstressed
	Purity 99%			+/- 304.8945	µg/mL	Stressed
5	Pentachloroethane		5,035.0 µg/mL	+/- 29.5482	µg/mL	Gravimetric
	CAS # 76-01-7	(Lot 8866000)		+/- 303.8104	µg/mL	Unstressed
	Purity 99%			+/- 304.5316	µg/mL	Stressed
6	1,2,3-Trimethylbenzene		5,012.0 µg/mL	+/- 29.4132	µg/mL	Gravimetric
	CAS # 526-73-8	(Lot 8766.05-14)		+/- 302.4226	µg/mL	Unstressed
	Purity 99%			+/- 303.1405	µg/mL	Stressed
7	1,3-Diethylbenzene		5,041.1 µg/mL	+/- 29.5841	µg/mL	Gravimetric
	CAS # 141-93-5	(Lot BCBT8967)		+/- 304.1797	µg/mL	Unstressed
	Purity 98%			+/- 304.9017	µg/mL	Stressed

8	1,4-Diethylbenzene		5,035.2	µg/mL	+/- 29.5496	µg/mL	Gravimetric
	CAS # 105-05-5	(Lot RLHJK)			+/- 303.8249	µg/mL	Unstressed
	Purity 98%				+/- 304.5461	µg/mL	Stressed
9	1,2-Diethylbenzene		5,011.0	µg/mL	+/- 29.4074	µg/mL	Gravimetric
	CAS # 135-01-3	(Lot ECH2970181)			+/- 302.3623	µg/mL	Unstressed
	Purity 99%				+/- 303.0800	µg/mL	Stressed
10	2-Methylnaphthalene		5,023.7	µg/mL	+/- 29.4818	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBG8884)			+/- 303.1274	µg/mL	Unstressed
	Purity 96%				+/- 303.8469	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

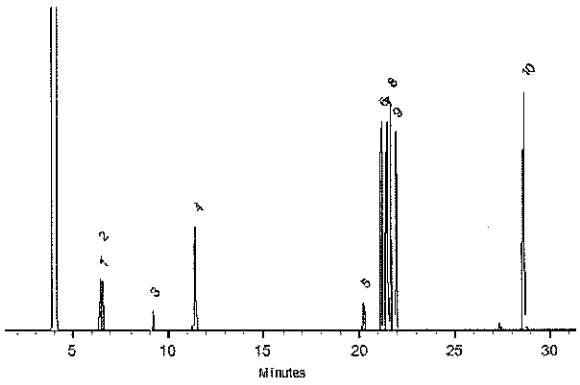
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 09-Mar-2020 **Balance:** B707717271

Feng-Yue Lu - QC Analyst

Date Passed: 12-Mar-2020

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_V#6_00030

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 558268 **Lot No.:** A0158625

Description : Custom CS#6 Standard

Custom CS#6 Standard 5,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Methyl acetate		5,039.0 µg/mL	+/- 29.5717	µg/mL	Gravimetric
	CAS # 79-20-9	(Lot SHBK5436)		+/- 304.0518	µg/mL	Unstressed
	Purity 99%			+/- 304.7735	µg/mL	Stressed
2	Allyl chloride (3-chloropropene)		5,046.0 µg/mL	+/- 29.6128	µg/mL	Gravimetric
	CAS # 107-05-1	(Lot 191118KJ)		+/- 304.4742	µg/mL	Unstressed
	Purity 99%			+/- 305.1969	µg/mL	Stressed
3	Bromochloromethane		5,040.1 µg/mL	+/- 29.5784	µg/mL	Gravimetric
	CAS # 74-97-5	(Lot 00008541)		+/- 304.1206	µg/mL	Unstressed
	Purity 98%			+/- 304.8425	µg/mL	Stressed
4	Methylcyclohexane		5,041.0 µg/mL	+/- 29.5834	µg/mL	Gravimetric
	CAS # 108-87-2	(Lot SHBJ0457)		+/- 304.1725	µg/mL	Unstressed
	Purity 99%			+/- 304.8945	µg/mL	Stressed
5	Pentachloroethane		5,035.0 µg/mL	+/- 29.5482	µg/mL	Gravimetric
	CAS # 76-01-7	(Lot 8866000)		+/- 303.8104	µg/mL	Unstressed
	Purity 99%			+/- 304.5316	µg/mL	Stressed
6	1,2,3-Trimethylbenzene		5,012.0 µg/mL	+/- 29.4132	µg/mL	Gravimetric
	CAS # 526-73-8	(Lot 8766.05-14)		+/- 302.4226	µg/mL	Unstressed
	Purity 99%			+/- 303.1405	µg/mL	Stressed
7	1,3-Diethylbenzene		5,041.1 µg/mL	+/- 29.5841	µg/mL	Gravimetric
	CAS # 141-93-5	(Lot BCBT8967)		+/- 304.1797	µg/mL	Unstressed
	Purity 98%			+/- 304.9017	µg/mL	Stressed

8	1,4-Diethylbenzene		5,035.2	µg/mL	+/- 29.5496	µg/mL	Gravimetric
	CAS # 105-05-5	(Lot RLHJK)			+/- 303.8249	µg/mL	Unstressed
	Purity 98%				+/- 304.5461	µg/mL	Stressed
9	1,2-Diethylbenzene		5,011.0	µg/mL	+/- 29.4074	µg/mL	Gravimetric
	CAS # 135-01-3	(Lot ECH2970181)			+/- 302.3623	µg/mL	Unstressed
	Purity 99%				+/- 303.0800	µg/mL	Stressed
10	2-Methylnaphthalene		5,023.7	µg/mL	+/- 29.4818	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBG8884)			+/- 303.1274	µg/mL	Unstressed
	Purity 96%				+/- 303.8469	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

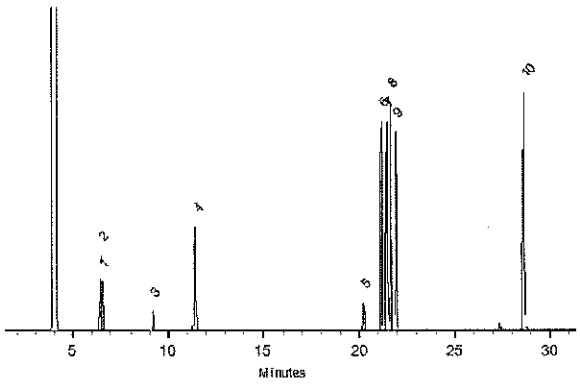
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 09-Mar-2020 **Balance:** B707717271

Feng-Yue Lu - QC Analyst

Date Passed: 12-Mar-2020

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_V#6_00031

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 558268 **Lot No.:** A0158625

Description : Custom CS#6 Standard

Custom CS#6 Standard 5,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2021 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)		
1	Methyl acetate		5,039.0	µg/mL	+/- 29.5717	µg/mL	Gravimetric
	CAS # 79-20-9	(Lot SHBK5436)			+/- 304.0518	µg/mL	Unstressed
	Purity 99%				+/- 304.7735	µg/mL	Stressed
2	Allyl chloride (3-chloropropene)		5,046.0	µg/mL	+/- 29.6128	µg/mL	Gravimetric
	CAS # 107-05-1	(Lot 191118KJ)			+/- 304.4742	µg/mL	Unstressed
	Purity 99%				+/- 305.1969	µg/mL	Stressed
3	Bromochloromethane		5,040.1	µg/mL	+/- 29.5784	µg/mL	Gravimetric
	CAS # 74-97-5	(Lot 00008541)			+/- 304.1206	µg/mL	Unstressed
	Purity 98%				+/- 304.8425	µg/mL	Stressed
4	Methylcyclohexane		5,041.0	µg/mL	+/- 29.5834	µg/mL	Gravimetric
	CAS # 108-87-2	(Lot SHBJ0457)			+/- 304.1725	µg/mL	Unstressed
	Purity 99%				+/- 304.8945	µg/mL	Stressed
5	Pentachloroethane		5,035.0	µg/mL	+/- 29.5482	µg/mL	Gravimetric
	CAS # 76-01-7	(Lot 8866000)			+/- 303.8104	µg/mL	Unstressed
	Purity 99%				+/- 304.5316	µg/mL	Stressed
6	1,2,3-Trimethylbenzene		5,012.0	µg/mL	+/- 29.4132	µg/mL	Gravimetric
	CAS # 526-73-8	(Lot 8766.05-14)			+/- 302.4226	µg/mL	Unstressed
	Purity 99%				+/- 303.1405	µg/mL	Stressed
7	1,3-Diethylbenzene		5,041.1	µg/mL	+/- 29.5841	µg/mL	Gravimetric
	CAS # 141-93-5	(Lot BCBT8967)			+/- 304.1797	µg/mL	Unstressed
	Purity 98%				+/- 304.9017	µg/mL	Stressed

8	1,4-Diethylbenzene		5,035.2	µg/mL	+/- 29.5496	µg/mL	Gravimetric
	CAS # 105-05-5	(Lot RLHJK)			+/- 303.8249	µg/mL	Unstressed
	Purity 98%				+/- 304.5461	µg/mL	Stressed
9	1,2-Diethylbenzene		5,011.0	µg/mL	+/- 29.4074	µg/mL	Gravimetric
	CAS # 135-01-3	(Lot ECH2970181)			+/- 302.3623	µg/mL	Unstressed
	Purity 99%				+/- 303.0800	µg/mL	Stressed
10	2-Methylnaphthalene		5,023.7	µg/mL	+/- 29.4818	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot STBG8884)			+/- 303.1274	µg/mL	Unstressed
	Purity 96%				+/- 303.8469	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

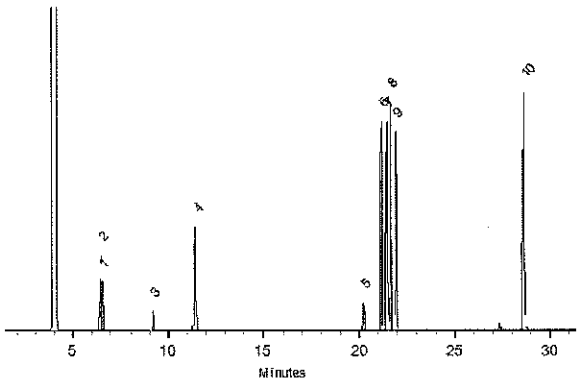
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 09-Mar-2020 **Balance:** B707717271

Feng-Yue Lu - QC Analyst

Date Passed: 12-Mar-2020

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_V_Gas_00107

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 55669 **Lot No.:** A0150705

Description : Custom 502.2 "V" Gas Mix

Custom 502.2 "V" Gas Mix 2,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2026 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dichlorodifluoromethane (CFC-12) **CAS #** 75-71-8 (Lot 00012554) **Purity** 99%	2,001.7 µg/mL	+/- 16.1239 µg/mL +/- 112.7879 µg/mL +/- 115.4014 µg/mL	Gravimetric Unstressed Stressed
2	Chloromethane (methyl chloride) **CAS #** 74-87-3 (Lot SHBK6571) **Purity** 99%	2,000.3 µg/mL	+/- 18.7162 µg/mL +/- 113.1078 µg/mL +/- 115.7104 µg/mL	Gravimetric Unstressed Stressed
3	Vinyl chloride **CAS #** 75-01-4 (Lot 00015559) **Purity** 99%	2,006.5 µg/mL	+/- 18.3560 µg/mL +/- 113.3921 µg/mL +/- 116.0044 µg/mL	Gravimetric Unstressed Stressed
4	Bromomethane (methyl bromide) **CAS #** 74-83-9 (Lot 101604) **Purity** 99%	1,999.6 µg/mL	+/- 20.0741 µg/mL +/- 113.3042 µg/mL +/- 115.9007 µg/mL	Gravimetric Unstressed Stressed
5	Chloroethane (ethyl chloride) **CAS #** 75-00-3 (Lot 107-401039114-1) **Purity** 99%	1,998.5 µg/mL	+/- 16.7167 µg/mL +/- 112.6955 µg/mL +/- 115.3027 µg/mL	Gravimetric Unstressed Stressed
6	Trichlorofluoromethane (CFC-11) **CAS #** 75-69-4 (Lot SHBH4155V) **Purity** 99%	2,000.0 µg/mL	+/- 14.1138 µg/mL +/- 112.4230 µg/mL +/- 115.0403 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

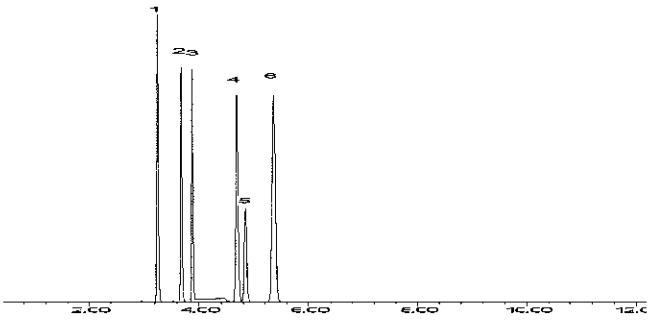
Carrier Gas:
helium-constant flow 2.0 mL/min.

Temp. Program:
40°C (hold 6 min.) to 100°C
@ 6°C/min.

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician **Date Mixed:** 10-Jul-2019 **Balance:** B251644995

Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 16-Jul-2019

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_V_Gas_00108

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 55669 **Lot No.:** A0150705

Description : Custom 502.2 "V" Gas Mix

Custom 502.2 "V" Gas Mix 2,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : August 31, 2026 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dichlorodifluoromethane (CFC-12) **CAS #** 75-71-8 (Lot 00012554) **Purity** 99%	2,001.7 µg/mL	+/- 16.1239 µg/mL +/- 112.7879 µg/mL +/- 115.4014 µg/mL	Gravimetric Unstressed Stressed
2	Chloromethane (methyl chloride) **CAS #** 74-87-3 (Lot SHBK6571) **Purity** 99%	2,000.3 µg/mL	+/- 18.7162 µg/mL +/- 113.1078 µg/mL +/- 115.7104 µg/mL	Gravimetric Unstressed Stressed
3	Vinyl chloride **CAS #** 75-01-4 (Lot 00015559) **Purity** 99%	2,006.5 µg/mL	+/- 18.3560 µg/mL +/- 113.3921 µg/mL +/- 116.0044 µg/mL	Gravimetric Unstressed Stressed
4	Bromomethane (methyl bromide) **CAS #** 74-83-9 (Lot 101604) **Purity** 99%	1,999.6 µg/mL	+/- 20.0741 µg/mL +/- 113.3042 µg/mL +/- 115.9007 µg/mL	Gravimetric Unstressed Stressed
5	Chloroethane (ethyl chloride) **CAS #** 75-00-3 (Lot 107-401039114-1) **Purity** 99%	1,998.5 µg/mL	+/- 16.7167 µg/mL +/- 112.6955 µg/mL +/- 115.3027 µg/mL	Gravimetric Unstressed Stressed
6	Trichlorofluoromethane (CFC-11) **CAS #** 75-69-4 (Lot SHBH4155V) **Purity** 99%	2,000.0 µg/mL	+/- 14.1138 µg/mL +/- 112.4230 µg/mL +/- 115.0403 µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

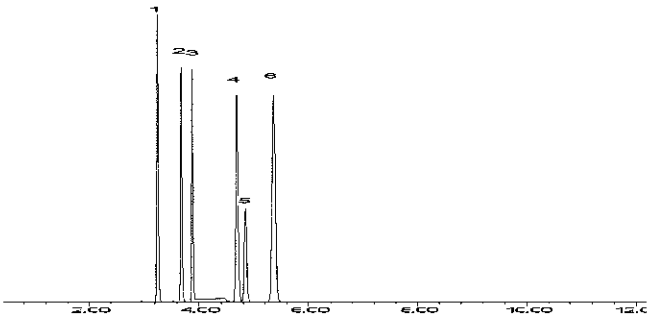
Carrier Gas:
helium-constant flow 2.0 mL/min.

Temp. Program:
40°C (hold 6 min.) to 100°C
@ 6°C/min.

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician **Date Mixed:** 10-Jul-2019 **Balance:** B251644995

Jennifer Pollino - Operations Tech-ARM QC **Date Passed:** 16-Jul-2019

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_V_Gas_00130

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 55669 **Lot No.:** A0159812

Description : Custom 502.2 "V" Gas Mix

Custom 502.2 "V" Gas Mix 2,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2027 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dichlorodifluoromethane (CFC-12)	2,005.1 µg/mL	+/- 16.8576 µg/mL	Gravimetric
	CAS # 75-71-8 (Lot 00012554)		+/- 113.0809 µg/mL	Unstressed
	Purity 99%		+/- 115.6966 µg/mL	Stressed
2	Chloromethane (methyl chloride)	2,003.5 µg/mL	+/- 19.3327 µg/mL	Gravimetric
	CAS # 74-87-3 (Lot SHBK6571)		+/- 113.3884 µg/mL	Unstressed
	Purity 99%		+/- 115.9929 µg/mL	Stressed
3	Vinyl chloride	2,001.1 µg/mL	+/- 18.1213 µg/mL	Gravimetric
	CAS # 75-01-4 (Lot 00015559)		+/- 113.0560 µg/mL	Unstressed
	Purity 99%		+/- 115.6619 µg/mL	Stressed
4	Bromomethane (methyl bromide)	1,998.8 µg/mL	+/- 17.7535 µg/mL	Gravimetric
	CAS # 74-83-9 (Lot 101604)		+/- 112.8737 µg/mL	Unstressed
	Purity 99%		+/- 115.4779 µg/mL	Stressed
5	Chloroethane (ethyl chloride)	2,002.3 µg/mL	+/- 17.1357 µg/mL	Gravimetric
	CAS # 75-00-3 (Lot 107-401039114-1)		+/- 112.9711 µg/mL	Unstressed
	Purity 99%		+/- 115.5821 µg/mL	Stressed
6	Trichlorofluoromethane (CFC-11)	2,020.0 µg/mL	+/- 11.7716 µg/mL	Gravimetric
	CAS # 75-69-4 (Lot 25931)		+/- 113.2622 µg/mL	Unstressed
	Purity 99%		+/- 115.9123 µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

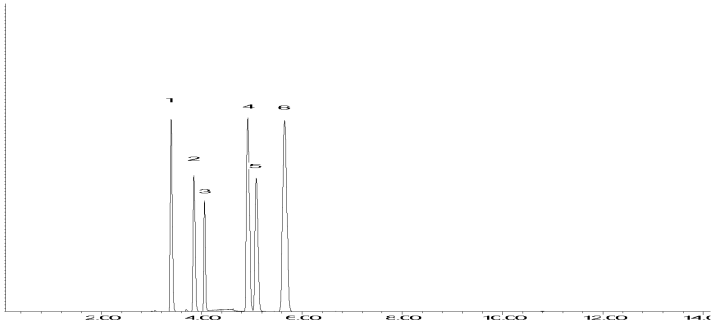
Carrier Gas:
helium-constant flow 2.0 mL/min.

Temp. Program:
40°C (hold 6 min.) to 100°C
@ 6°C/min.

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 10-Apr-2020 **Balance:** B707717271

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 06-May-2020

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_V_Gas_00131

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 55669 **Lot No.:** A0159812

Description : Custom 502.2 "V" Gas Mix

Custom 502.2 "V" Gas Mix 2,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : May 31, 2027 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Dichlorodifluoromethane (CFC-12)	2,005.1 µg/mL	+/- 16.8576 µg/mL	Gravimetric
	CAS # 75-71-8 (Lot 00012554)		+/- 113.0809 µg/mL	Unstressed
	Purity 99%		+/- 115.6966 µg/mL	Stressed
2	Chloromethane (methyl chloride)	2,003.5 µg/mL	+/- 19.3327 µg/mL	Gravimetric
	CAS # 74-87-3 (Lot SHBK6571)		+/- 113.3884 µg/mL	Unstressed
	Purity 99%		+/- 115.9929 µg/mL	Stressed
3	Vinyl chloride	2,001.1 µg/mL	+/- 18.1213 µg/mL	Gravimetric
	CAS # 75-01-4 (Lot 00015559)		+/- 113.0560 µg/mL	Unstressed
	Purity 99%		+/- 115.6619 µg/mL	Stressed
4	Bromomethane (methyl bromide)	1,998.8 µg/mL	+/- 17.7535 µg/mL	Gravimetric
	CAS # 74-83-9 (Lot 101604)		+/- 112.8737 µg/mL	Unstressed
	Purity 99%		+/- 115.4779 µg/mL	Stressed
5	Chloroethane (ethyl chloride)	2,002.3 µg/mL	+/- 17.1357 µg/mL	Gravimetric
	CAS # 75-00-3 (Lot 107-401039114-1)		+/- 112.9711 µg/mL	Unstressed
	Purity 99%		+/- 115.5821 µg/mL	Stressed
6	Trichlorofluoromethane (CFC-11)	2,020.0 µg/mL	+/- 11.7716 µg/mL	Gravimetric
	CAS # 75-69-4 (Lot 25931)		+/- 113.2622 µg/mL	Unstressed
	Purity 99%		+/- 115.9123 µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
60m x 0.25mm x 1.4µm
Rtx-502.2 (cat.#10916)

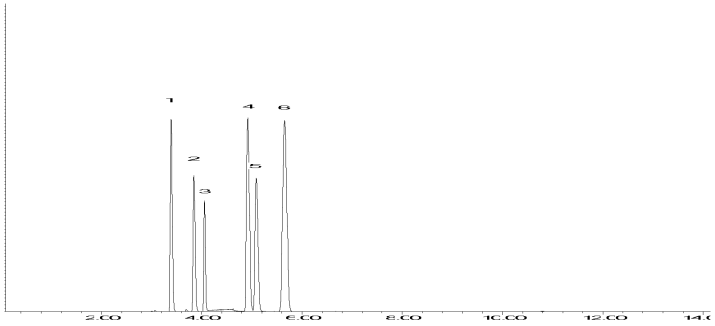
Carrier Gas:
helium-constant flow 2.0 mL/min.

Temp. Program:
40°C (hold 6 min.) to 100°C
@ 6°C/min.

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Tom Suckar - Mix Technician

Date Mixed: 10-Apr-2020 **Balance:** B707717271

Jennifer Pollino - Operations Tech-ARM QC

Date Passed: 06-May-2020

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MSV_V1B_2CEVE_00057

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569936-2 **Lot No.:** A0158674

Description : Custom V # 1B 2-CEVE Standard

Custom V # 1B 2-CEVE Standard 5,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2023 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	2-Chloroethyl vinyl ether	5,000.0 µg/mL	+/- 29.2761	µg/mL	Gravimetric
	CAS # 110-75-8 (Lot MKBS6526V)		+/- 107.1066	µg/mL	Unstressed
	Purity 99%		+/- 110.2172	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Tech Tips:
Degradation of tetrachloroethylene to pentachloroethane may occur if solutions containing 2-chloroethyl vinyl ether are combined with solutions that contain tetrachloroethylene.

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.#10910)

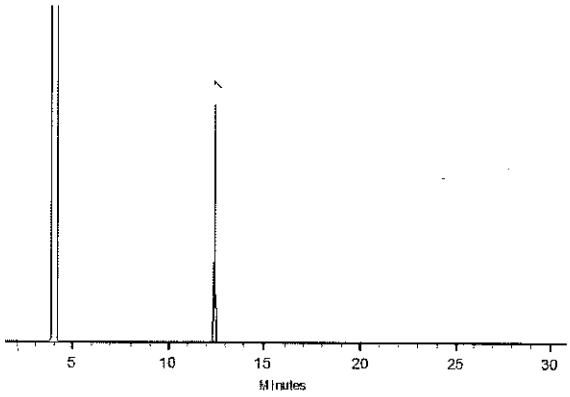
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Kylie Struble - Operations Technician I

Date Mixed: 10-Mar-2020 **Balance:** B251644995

Fang-Yun Lu - QC Analyst

Date Passed: 12-Mar-2020

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

RESTEK®
110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

CERTIFIED REFERENCE MATERIAL

Certificate of Analysis

ACCREDITED
ISO 17034 Accredited
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited
Testing Laboratory
Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 569936-1 **Lot No.:** A0158586

Description : Custom Revised V #1B Standard

Custom Revised V #1B Standard 5,000µg/mL, P&T Methanol, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : March 31, 2023 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	1,1-dichloroethene **CAS #** 75-35-4 (Lot SHBK2437) **Purity** 99%	5,011.4 µg/mL	+/- 31.9644 µg/mL +/- 281.2901 µg/mL +/- 287.8577 µg/mL	Gravimetric Unstressed Stressed
2	Methylene chloride (dichloromethane) **CAS #** 75-09-2 (Lot SHBL3107) **Purity** 99%	5,004.6 µg/mL	+/- 31.9213 µg/mL +/- 280.9112 µg/mL +/- 287.4700 µg/mL	Gravimetric Unstressed Stressed
3	trans-1,2-Dichloroethene **CAS #** 156-60-5 (Lot MKBH9850V) **Purity** 99%	5,017.5 µg/mL	+/- 32.0035 µg/mL +/- 281.6339 µg/mL +/- 288.2096 µg/mL	Gravimetric Unstressed Stressed
4	1,1-Dichloroethane **CAS #** 75-34-3 (Lot 580900) **Purity** 99%	5,020.4 µg/mL	+/- 32.0218 µg/mL +/- 281.7953 µg/mL +/- 288.3747 µg/mL	Gravimetric Unstressed Stressed
5	2,2-Dichloropropane **CAS #** 594-20-7 (Lot BCBT5124) **Purity** 99%	5,050.0 µg/mL	+/- 32.0202 µg/mL +/- 283.4366 µg/mL +/- 290.0553 µg/mL	Gravimetric Unstressed Stressed
6	cis-1,2-Dichloroethene **CAS #** 156-59-2 (Lot MKBX5945V) **Purity** 99%	5,046.5 µg/mL	+/- 31.9980 µg/mL +/- 283.2401 µg/mL +/- 289.8543 µg/mL	Gravimetric Unstressed Stressed
7	chloroform **CAS #** 67-66-3 (Lot SHBJ9076) **Purity** 99%	5,034.3 µg/mL	+/- 32.1103 µg/mL +/- 282.5741 µg/mL +/- 289.1717 µg/mL	Gravimetric Unstressed Stressed

8	1,1,1-trichloroethane		5,001.3	µg/mL	+/-	31.9002	µg/mL	Gravimetric
	CAS # 71-55-6	(Lot 190123CG)			+/-	280.7250	µg/mL	Unstressed
	Purity 98%				+/-	287.2795	µg/mL	Stressed
9	1,1-Dichloropropene		5,048.9	µg/mL	+/-	32.0131	µg/mL	Gravimetric
	CAS # 563-58-6	(Lot 170301JLM)			+/-	283.3734	µg/mL	Unstressed
	Purity 99%				+/-	289.9907	µg/mL	Stressed
10	carbon tetrachloride		5,022.9	µg/mL	+/-	32.0378	µg/mL	Gravimetric
	CAS # 56-23-5	(Lot SHBG8938V)			+/-	281.9356	µg/mL	Unstressed
	Purity 99%				+/-	288.5183	µg/mL	Stressed
11	1,2-Dichloroethane		5,007.9	µg/mL	+/-	31.9421	µg/mL	Gravimetric
	CAS # 107-06-2	(Lot MKCH9948)			+/-	281.0937	µg/mL	Unstressed
	Purity 99%				+/-	287.6567	µg/mL	Stressed
12	Benzene		5,042.9	µg/mL	+/-	31.9750	µg/mL	Gravimetric
	CAS # 71-43-2	(Lot SHBG7317V)			+/-	283.0367	µg/mL	Unstressed
	Purity 99%				+/-	289.6461	µg/mL	Stressed
13	Trichloroethene		5,012.9	µg/mL	+/-	31.9740	µg/mL	Gravimetric
	CAS # 79-01-6	(Lot SHBJ4611)			+/-	281.3743	µg/mL	Unstressed
	Purity 99%				+/-	287.9439	µg/mL	Stressed
14	1,2-Dichloropropane		5,012.6	µg/mL	+/-	31.9724	µg/mL	Gravimetric
	CAS # 78-87-5	(Lot BCBR0882V)			+/-	281.3603	µg/mL	Unstressed
	Purity 99%				+/-	287.9295	µg/mL	Stressed
15	bromodichloromethane		5,039.1	µg/mL	+/-	32.1414	µg/mL	Gravimetric
	CAS # 75-27-4	(Lot MKCJ0238)			+/-	282.8477	µg/mL	Unstressed
	Purity 99%				+/-	289.4517	µg/mL	Stressed
16	Dibromomethane		5,047.3	µg/mL	+/-	32.0027	µg/mL	Gravimetric
	CAS # 74-95-3	(Lot 10201030)			+/-	283.2822	µg/mL	Unstressed
	Purity 99%				+/-	289.8973	µg/mL	Stressed
17	cis-1,3-Dichloropropene		5,015.1	µg/mL	+/-	31.9883	µg/mL	Gravimetric
	CAS # 10061-01-5	(Lot 200107JLM)			+/-	281.5006	µg/mL	Unstressed
	Purity 99%				+/-	288.0731	µg/mL	Stressed
18	Toluene		5,031.9	µg/mL	+/-	31.9053	µg/mL	Gravimetric
	CAS # 108-88-3	(Lot SHBH9895)			+/-	282.4193	µg/mL	Unstressed
	Purity 99%				+/-	289.0143	µg/mL	Stressed
19	trans-1,3-Dichloropropene		5,003.8	µg/mL	+/-	31.9158	µg/mL	Gravimetric
	CAS # 10061-02-6	(Lot 19420164-D1219)			+/-	280.8621	µg/mL	Unstressed
	Purity 99%				+/-	287.4198	µg/mL	Stressed
20	1,1,2-Trichloroethane		5,015.4	µg/mL	+/-	31.9899	µg/mL	Gravimetric
	CAS # 79-00-5	(Lot FGB01)			+/-	281.5146	µg/mL	Unstressed
	Purity 99%				+/-	288.0875	µg/mL	Stressed
21	1,3-Dichloropropane		5,042.4	µg/mL	+/-	31.9718	µg/mL	Gravimetric
	CAS # 142-28-9	(Lot BCBG2162V)			+/-	283.0086	µg/mL	Unstressed
	Purity 99%				+/-	289.6173	µg/mL	Stressed
22	Tetrachloroethene		5,014.3	µg/mL	+/-	31.9827	µg/mL	Gravimetric
	CAS # 127-18-4	(Lot SHBJ7422)			+/-	281.4515	µg/mL	Unstressed
	Purity 99%				+/-	288.0229	µg/mL	Stressed
23	dibromochloromethane		5,016.1	µg/mL	+/-	31.9947	µg/mL	Gravimetric
	CAS # 124-48-1	(Lot MKCK6472)			+/-	281.5567	µg/mL	Unstressed
	Purity 99%				+/-	288.1306	µg/mL	Stressed

24	1,2-Dibromoethane (EDB) **CAS #** 106-93-4 **Purity** 99%	(Lot BCBP2268V)	5,037.4	µg/mL	+/- 31.9401 +/- 282.7280 +/- 289.3302	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
25	1-Chlorohexane **CAS #** 544-10-5 **Purity** 98%	(Lot BCBS3368V)	5,010.7	µg/mL	+/- 29.3390 +/- 280.9687 +/- 287.5420	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
26	Chlorobenzene **CAS #** 108-90-7 **Purity** 99%	(Lot SHBJ0839)	5,009.0	µg/mL	+/- 31.9493 +/- 281.1568 +/- 287.7213	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
27	1,1,1,2-Tetrachloroethane **CAS #** 630-20-6 **Purity** 99%	(Lot MKBS3769V)	5,038.6	µg/mL	+/- 31.9481 +/- 282.7981 +/- 289.4020	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
28	Ethylbenzene **CAS #** 100-41-4 **Purity** 99%	(Lot SHBJ3183)	5,029.3	µg/mL	+/- 31.8886 +/- 282.2719 +/- 288.8635	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
29	m-Xylene **CAS #** 108-38-3 **Purity** 99%	(Lot SHBH8323)	5,038.4	µg/mL	+/- 31.9465 +/- 282.7841 +/- 289.3876	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
30	p-Xylene **CAS #** 106-42-3 **Purity** 99%	(Lot SHBJ0052)	5,038.0	µg/mL	+/- 31.9441 +/- 282.7630 +/- 289.3661	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
31	o-Xylene **CAS #** 95-47-6 **Purity** 99%	(Lot SHBH3432V)	5,046.4	µg/mL	+/- 31.9972 +/- 283.2331 +/- 289.8471	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
32	Styrene **CAS #** 100-42-5 **Purity** 99%	(Lot MKBV4061V)	5,047.0	µg/mL	+/- 32.0012 +/- 283.2682 +/- 289.8830	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
33	Isopropylbenzene (cumene) **CAS #** 98-82-8 **Purity** 99%	(Lot 10185056)	5,035.3	µg/mL	+/- 31.9267 +/- 282.6087 +/- 289.2081	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
34	bromoform **CAS #** 75-25-2 **Purity** 99%	(Lot SHBJ4835)	5,013.0	µg/mL	+/- 31.9748 +/- 281.3813 +/- 287.9511	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
35	1,1,2,2-Tetrachloroethane **CAS #** 79-34-5 **Purity** 99%	(Lot CFA4D)	5,016.0	µg/mL	+/- 31.9939 +/- 281.5497 +/- 288.1234	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
36	1,2,3-Trichloropropane **CAS #** 96-18-4 **Purity** 99%	(Lot BCBH8722V)	5,033.4	µg/mL	+/- 31.9148 +/- 282.5035 +/- 289.1004	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
37	n-Propylbenzene **CAS #** 103-65-1 **Purity** 99%	(Lot MKBJ0332V)	5,032.4	µg/mL	+/- 31.9084 +/- 282.4473 +/- 289.0430	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
38	Bromobenzene **CAS #** 108-86-1 **Purity** 99%	(Lot WXBC5147V)	5,035.5	µg/mL	+/- 31.9282 +/- 282.6227 +/- 289.2225	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
39	1,3,5-Trimethylbenzene **CAS #** 108-67-8 **Purity** 99%	(Lot BCBS7648V)	5,029.8	µg/mL	+/- 31.8918 +/- 282.3000 +/- 288.8922	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

40	2-Chlorotoluene **CAS #** 95-49-8 **Purity** 99%	(Lot MKBW5554V)	5,037.5	µg/mL	+/- 31.9409 +/- 282.7350 +/- 289.3373	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
41	4-Chlorotoluene **CAS #** 106-43-4 **Purity** 99%	(Lot MKBL7753V)	5,039.1	µg/mL	+/- 31.9512 +/- 282.8262 +/- 289.4307	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
42	tert-Butylbenzene **CAS #** 98-06-6 **Purity** 99%	(Lot STBD6954V)	5,049.8	µg/mL	+/- 32.0186 +/- 283.4225 +/- 290.0409	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
43	1,2,4-Trimethylbenzene **CAS #** 95-63-6 **Purity** 98%	(Lot MKBJ6229V)	5,046.8	µg/mL	+/- 31.9996 +/- 283.2544 +/- 289.8689	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
44	sec-Butylbenzene **CAS #** 135-98-8 **Purity** 99%	(Lot MKBR9260V)	5,042.8	µg/mL	+/- 31.9742 +/- 283.0296 +/- 289.6389	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
45	p-Isopropyltoluene (p-Cymene) **CAS #** 99-87-6 **Purity** 99%	(Lot MKBV3556V)	5,038.4	µg/mL	+/- 31.9465 +/- 282.7841 +/- 289.3876	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
46	1,3-Dichlorobenzene **CAS #** 541-73-1 **Purity** 99%	(Lot BCBQ7100V)	5,017.6	µg/mL	+/- 32.0043 +/- 281.6409 +/- 288.2167	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
47	1,4-Dichlorobenzene **CAS #** 106-46-7 **Purity** 99%	(Lot MKBS4401V)	5,023.8	µg/mL	+/- 32.0433 +/- 281.9847 +/- 288.5686	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
48	n-Butylbenzene **CAS #** 104-51-8 **Purity** 99%	(Lot 09804AE)	5,024.8	µg/mL	+/- 31.8601 +/- 282.0194 +/- 288.6050	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
49	1,2-Dichlorobenzene **CAS #** 95-50-1 **Purity** 99%	(Lot SHBG3111V)	5,024.5	µg/mL	+/- 32.0481 +/- 282.0268 +/- 288.6117	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
50	1,2-Dibromo-3-chloropropane **CAS #** 96-12-8 **Purity** 99%	(Lot FBL01)	5,036.4	µg/mL	+/- 31.9338 +/- 282.6718 +/- 289.2727	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
51	1,3,5-Trichlorobenzene **CAS #** 108-70-3 **Purity** 99%	(Lot 11319AS)	5,034.0	µg/mL	+/- 29.4752 +/- 282.2729 +/- 288.8768	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
52	1,2,4-Trichlorobenzene **CAS #** 120-82-1 **Purity** 99%	(Lot SHBJ0905)	5,036.5	µg/mL	+/- 31.9346 +/- 282.6789 +/- 289.2799	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
53	Hexachlorobutadiene **CAS #** 87-68-3 **Purity** 99%	(Lot J31X013)	5,033.6	µg/mL	+/- 31.9164 +/- 282.5175 +/- 289.1148	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
54	Naphthalene **CAS #** 91-20-3 **Purity** 99%	(Lot MKBW2603V)	5,033.6	µg/mL	+/- 31.9164 +/- 282.5175 +/- 289.1148	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
55	1,2,3-Trichlorobenzene **CAS #** 87-61-6 **Purity** 99%	(Lot MKBS4859V)	5,016.0	µg/mL	+/- 31.8046 +/- 281.5283 +/- 288.1024	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Column:
105m x 0.53mm x 3.0µm
Rtx-502.2 (cat.# 10910)

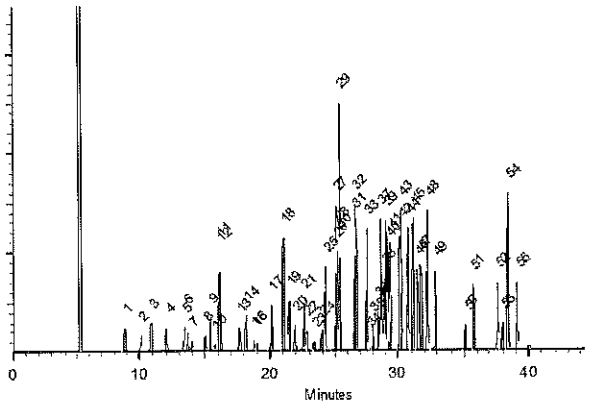
Carrier Gas:
hydrogen-constant pressure 8.0 psi.

Temp. Program:
40°C (hold 6 min.) to 240°C
@ 6°C/min. (hold 10 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:
FID



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cydnei L. Crust - Mix Technician

Date Mixed: 09-Mar-2020 **Balance:** B251644995

Feng-Yun Lo - QC Analyst

Date Passed: 11-Mar-2020

Manufactured under Restek's ISO 9001:2015 Registered Quality System Certificate #FM 80397

General Certified Reference Material Notes

Expiration Notes:

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

Purity Notes:

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts. A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

Certified Uncertainty Value Notes:

- The uncertainties are determined in accordance with ISO 17034 and Guide 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined\ stressed} = k\sqrt{U^2_{gravimetric} + U^2_{homogeneity} + U^2_{storage\ stability} + U^2_{shipping\ stability}}$$

  k is a coverage factor of 2, which gives a level of confidence of approximately 95%.
- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at www.restek.com/Contact-Us.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure that the minimum packaged amount can be sufficiently transferred.

Manufacturing Notes:

- Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

Handling Notes:

- Stability of the unopened product, when stored in compliance with the recommended conditions, is guaranteed through the expiration displayed on the product label and certificate. Contact Restek for additional opened product stability information, with the knowledge/understanding that open product stability is subject to the specific handling and environmental conditions to which the product is exposed. For your convenience Restek supplies deactivated vials with most standards packed in 2mL ampules. Larger volume deactivated vials are available through Restek as a custom ordered item. Additionally, Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

Reagent

MT_H3NO_JT_00015

Hydroxylamine Hydrochloride, Crystal
BAKER ANALYZED® A.C.S. Reagent
Suitable for Mercury Determination
(hydroxylammonium chloride)

Material No.: 2196-01
Batch No.: 0000252114
Manufactured Date: 2019/11/01
Retest Date: 2026/10/30
Revision No: 1

Certificate of Analysis

Meets ACS Reagent Chemical Requirements,

Test	Specification	Result
Assay ($NH_2OH \cdot HCl$) (by $KMnO_4$ titrn)	>= 96.0 %	99.6
Clarity of Alcohol Solution	Passes Test	PT
Residue after Ignition	<= 0.050 %	0.050
Titrable Free Acid (meq/g)	<= 0.25	0.25
Ammonium (NH_4)	Passes Test	PT
Sulfur Compounds (as SO_4)	<= 0.005 %	0.005
Trace Impurities - ACS - Heavy Metals (as Pb)	<= 5 ppm	5
Trace Impurities - Iron (Fe)	<= 5 ppm	5
Trace Impurities - Mercury (Hg)	<= 0.050 ppm	< 0.005

For Laboratory, Research or Manufacturing Use

Country of Origin: IN
Packaging Site: Paris Mfg Ctr & DC

Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Reagent

MT_HCl_JT_00003

Hydrochloric Acid, 36.5-38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

Material No.: 9530-33
Batch No.: 0000217157
Manufactured Date: 2018/11/12
Retest Date: 2023/11/11
Revision No: 1

Certificate of Analysis

Test	Specification	Result
ACS - Assay (as HCl) (by acid-base titrn)	36.5 - 38.0 %	37.7
ACS - Color (APHA)	<= 10	5
ACS - Residue after Ignition	<= 3 ppm	< 1
ACS - Specific Gravity at 60°/60°F	1.185 - 1.192	1.191
ACS - Bromide (Br)	<= 0.005 %	< 0.005
ACS - Extractable Organic Substances	<= 5 ppm	< 1
ACS - Free Chlorine (as Cl_2)	<= 0.5 ppm	< 0.5
Phosphate (PO_4)	<= 0.05 ppm	< 0.03
Sulfate (SO_4)	<= 0.5 ppm	< 0.3
Sulfite (SO_3)	<= 0.8 ppm	0.3
Ammonium (NH_4)	<= 3 ppm	< 1
Trace Impurities - Arsenic (As)	<= 0.010 ppm	< 0.003
Trace Impurities - Aluminum (Al)	<= 10.0 ppb	0.2
Arsenic and Antimony (as As)	<= 5 ppb	< 3
Trace Impurities - Barium (Ba)	<= 1.0 ppb	< 0.2
Trace Impurities - Beryllium (Be)	<= 1.0 ppb	< 0.2
Trace Impurities - Bismuth (Bi)	<= 10.0 ppb	< 1.0
Trace Impurities - Boron (B)	<= 20.0 ppb	< 5.0
Trace Impurities - Cadmium (Cd)	<= 1.0 ppb	< 0.3
Trace Impurities - Calcium (Ca)	<= 50.0 ppb	12.9
Trace Impurities - Chromium (Cr)	<= 1.0 ppb	< 0.4
Trace Impurities - Cobalt (Co)	<= 1.0 ppb	< 0.3
Trace Impurities - Copper (Cu)	<= 1.0 ppb	< 0.1
Trace Impurities - Gallium (Ga)	<= 1.0 ppb	< 0.2

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Material No.: 9530-33
Batch No.: 0000217157

Test	Specification	Result
Trace Impurities - Germanium (Ge)	<= 3.0 ppb	< 2.0
Trace Impurities - Gold (Au)	<= 4.0 ppb	< 0.2
Heavy Metals (as Pb)	<= 100 ppb	< 50
Trace Impurities - Iron (Fe)	<= 15.0 ppb	3.4
Trace Impurities - Lead (Pb)	<= 1.0 ppb	< 0.5
Trace Impurities - Lithium (Li)	<= 1.0 ppb	< 0.2
Trace Impurities - Magnesium (Mg)	<= 10.0 ppb	0.3
Trace Impurities - Manganese (Mn)	<= 1.0 ppb	< 0.4
Trace Impurities - Mercury (Hg)	<= 0.5 ppb	0.1
Trace Impurities - Molybdenum (Mo)	<= 10.0 ppb	< 5.0
Trace Impurities - Nickel (Ni)	<= 4.0 ppb	< 0.3
Trace Impurities - Niobium (Nb)	<= 1.0 ppb	< 0.2
Trace Impurities - Potassium (K)	<= 9.0 ppb	< 2.0
Trace Impurities - Selenium (Se), For Information Only	ppb	1.0
Trace Impurities - Silicon (Si)	<= 100.0 ppb	< 10.0
Trace Impurities - Silver (Ag)	<= 1.0 ppb	< 0.3
Trace Impurities - Sodium (Na)	<= 100.0 ppb	< 5.0
Trace Impurities - Strontium (Sr)	<= 1.0 ppb	< 0.2
Trace Impurities - Tantalum (Ta)	<= 1.0 ppb	< 0.9
Trace Impurities - Thallium (Tl)	<= 5.0 ppb	< 2.0
Trace Impurities - Tin (Sn)	<= 5.0 ppb	< 0.8
Trace Impurities - Titanium (Ti)	<= 1.0 ppb	0.3
Trace Impurities - Vanadium (V)	<= 1.0 ppb	< 0.2
Trace Impurities - Zinc (Zn)	<= 5.0 ppb	0.5
Trace Impurities - Zirconium (Zr)	<= 1.0 ppb	< 0.1

For Laboratory, Research or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

ISO
Phillipsburg, NJ 9001:2015, FSSC22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Gliwice, Poland 9001:2015, 13485:2012
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2015, 17025:2005
Panoli, India 9001:2015

James Ethier
Jamie Ethier
Vice President Global Quality

Receipt Date in TALs Based off of Product Manufacture Date

Expiration Date in TALs Based off of Manufacture Suggested Retest Date

For Receipt, Open, and Expiration date; refer to individual bottle.

ELLE QA

ELLE Dept. 4022 Management

Reagent

MT_HCl_JT_00005

Hydrochloric Acid, 36.5-38.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

Material No.: 9530-33
Batch No.: 0000243992
Manufactured Date: 2019/09/17
Retest Date: 2024/09/15
Revision No: 1

Certificate of Analysis

Test	Specification	Result
ACS - Assay (as HCl) (by acid-base titrn)	36.5 - 38.0 %	37.7
ACS - Color (APHA)	<= 10	5
ACS - Residue after Ignition	<= 3 ppm	< 1
ACS - Specific Gravity at 60°/60°F	1.185 - 1.192	1.191
ACS - Bromide (Br)	<= 0.005 %	< 0.005
ACS - Extractable Organic Substances	<= 5 ppm	< 1
ACS - Free Chlorine (as Cl_2)	<= 0.5 ppm	< 0.5
Phosphate (PO_4)	<= 0.05 ppm	< 0.03
Sulfate (SO_4)	<= 0.5 ppm	< 0.3
Sulfite (SO_3)	<= 0.8 ppm	0.3
Ammonium (NH_4)	<= 3 ppm	< 1
Trace Impurities - Arsenic (As)	<= 0.010 ppm	< 0.003
Trace Impurities - Aluminum (Al)	<= 10.0 ppb	< 5.0
Arsenic and Antimony (as As)	<= 5 ppb	< 3
Trace Impurities - Barium (Ba)	<= 1.0 ppb	< 0.2
Trace Impurities - Beryllium (Be)	<= 1.0 ppb	< 0.2
Trace Impurities - Bismuth (Bi)	<= 10.0 ppb	< 1.0
Trace Impurities - Boron (B)	<= 20.0 ppb	< 5.0
Trace Impurities - Cadmium (Cd)	<= 1.0 ppb	0.3
Trace Impurities - Calcium (Ca)	<= 50.0 ppb	8.3
Trace Impurities - Chromium (Cr)	<= 1.0 ppb	0.4
Trace Impurities - Cobalt (Co)	<= 1.0 ppb	< 0.3
Trace Impurities - Copper (Cu)	<= 1.0 ppb	< 0.1
Trace Impurities - Gallium (Ga)	<= 1.0 ppb	< 0.2

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Test	Specification	Result
Trace Impurities - Germanium (Ge)	<= 3.0 ppb	< 2.0
Trace Impurities - Gold (Au)	<= 4.0 ppb	< 0.2
Heavy Metals (as Pb)	<= 100 ppb	< 50
Trace Impurities - Iron (Fe)	<= 15.0 ppb	4.0
Trace Impurities - Lead (Pb)	<= 1.0 ppb	< 0.5
Trace Impurities - Lithium (Li)	<= 1.0 ppb	< 0.2
Trace Impurities - Magnesium (Mg)	<= 10.0 ppb	0.4
Trace Impurities - Manganese (Mn)	<= 1.0 ppb	< 0.4
Trace Impurities - Mercury (Hg)	<= 0.5 ppb	0.1
Trace Impurities - Molybdenum (Mo)	<= 10.0 ppb	< 5.0
Trace Impurities - Nickel (Ni)	<= 4.0 ppb	< 0.3
Trace Impurities - Niobium (Nb)	<= 1.0 ppb	< 0.2
Trace Impurities - Potassium (K)	<= 9.0 ppb	< 2.0
Trace Impurities - Selenium (Se), For Information Only	ppb	1.1
Trace Impurities - Silicon (Si)	<= 100.0 ppb	< 10.0
Trace Impurities - Silver (Ag)	<= 1.0 ppb	< 0.3
Trace Impurities - Sodium (Na)	<= 100.0 ppb	< 5.0
Trace Impurities - Strontium (Sr)	<= 1.0 ppb	< 0.2
Trace Impurities - Tantalum (Ta)	<= 1.0 ppb	< 0.9
Trace Impurities - Thallium (Tl)	<= 5.0 ppb	< 2.0
Trace Impurities - Tin (Sn)	<= 5.0 ppb	< 0.8
Trace Impurities - Titanium (Ti)	<= 1.0 ppb	< 0.2
Trace Impurities - Vanadium (V)	<= 1.0 ppb	< 0.2
Trace Impurities - Zinc (Zn)	<= 5.0 ppb	0.3
Trace Impurities - Zirconium (Zr)	<= 1.0 ppb	< 0.1

For Laboratory, Research or Manufacturing Use
Product Information (not specifications):
Appearance (clear, fuming liquid)
Meets ACS Specifications

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

James Ethier
Jamie Ethier
Vice President Global Quality

Receipt Date in TALs Based off of Product Manufacture Date

Expiration Date in TALs Based off of Manufacture Suggested Retest Date

For Receipt, Open, and Expiration date; refer to individual bottle.

ELLE QA

ELLE Dept. 4022 Management

Reagent

MT_HNO3_JT_00001

Nitric Acid, 69.0-70.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

Material No.: 9598-34
Batch No.: 0000234822
Manufactured Date: 2019/06/11
Retest Date: 2024/06/09
Revision No: 1

Certificate of Analysis

Test	Specification	Result
ACS - Assay (HNO_3)	69.0 - 70.0 %	69.8
Appearance	Passes Test	PT
ACS - Color (APHA)	<= 10	5
ACS - Residue after Ignition	<= 2 ppm	< 1
Chloride (Cl)	<= 0.04 ppm	< 0.03
Phosphate (PO_4)	<= 0.1 ppm	<0.01
Sulfate (SO_4)	<= 0.4 ppm	< 0.2
Trace Impurities - Aluminum (Al)	<= 30.0 ppb	1.0
Arsenic and Antimony (as As)	<= 5 ppb	< 2
Trace Impurities - Barium (Ba)	<= 1.0 ppb	< 0.2
Trace Impurities - Beryllium (Be)	<= 1.0 ppb	< 0.2
Trace Impurities - Bismuth (Bi)	<= 1.0 ppb	< 1.0
Trace Impurities - Boron (B)	<= 4.0 ppb	1.0
Trace Impurities - Cadmium (Cd)	<= 1.0 ppb	< 0.3
Trace Impurities - Calcium (Ca)	<= 50.0 ppb	3.0
Trace Impurities - Chromium (Cr)	<= 10.0 ppb	4.0
Trace Impurities - Cobalt (Co)	<= 1.0 ppb	< 0.3
Trace Impurities - Copper (Cu)	<= 1.0 ppb	< 0.1
Trace Impurities - Gallium (Ga)	<= 20.0 ppb	0.2
Trace Impurities - Germanium (Ge)	<= 4.0 ppb	< 2.0
Trace Impurities - Gold (Au)	<= 4.0 ppb	0.2
Heavy Metals (as Pb)	<= 100 ppb	< 50
Trace Impurities - Iron (Fe)	<= 10.0 ppb	0.7
Trace Impurities - Lead (Pb)	<= 0.5 ppb	< 0.5

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Material No.: 9598-34
Batch No.: 0000234822

Test	Specification	Result
Trace Impurities - Lithium (Li)	<= 1.0 ppb	< 0.2
Trace Impurities - Magnesium (Mg)	<= 7.0 ppb	0.2
Trace Impurities - Manganese (Mn)	<= 1.0 ppb	< 0.4
Trace Impurities - Mercury (Hg)	<= 0.5 ppb	< 0.1
Trace Impurities - Molybdenum (Mo)	<= 5.0 ppb	< 3.0
Trace Impurities - Nickel (Ni)	<= 1.0 ppb	< 0.3
Trace Impurities - Niobium (Nb)	<= 1.0 ppb	< 0.2
Trace Impurities - Potassium (K)	<= 5.0 ppb	< 2.0
Trace Impurities - Silicon (Si)	<= 20.0 ppb	1.0
Trace Impurities - Silver (Ag)	<= 1.0 ppb	< 0.3
Trace Impurities - Sodium (Na)	<= 200.0 ppb	2.0
Trace Impurities - Strontium (Sr)	<= 1.0 ppb	< 0.2
Trace Impurities - Tantalum (Ta)	<= 2.0 ppb	< 0.9
Trace Impurities - Thallium (Tl)	<= 5.0 ppb	< 2.0
Trace Impurities - Tin (Sn)	<= 5.0 ppb	< 0.8
Trace Impurities - Vanadium (V)	<= 1.0 ppb	< 0.2
Trace Impurities - Zinc (Zn)	<= 5.0 ppb	0.4
Trace Impurities - Zirconium (Zr)	<= 1.0 ppb	0.1

For Laboratory, Research or Manufacturing Use
Meets ACS Specifications

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

Reagent

MT_HNO3_JT_00003

Nitric Acid, 69.0-70.0%
BAKER INSTRA-ANALYZED® Reagent
For Trace Metal Analysis

Material No.: 9598-34
Batch No.: 0000234822
Manufactured Date: 2019/06/11
Retest Date: 2024/06/09
Revision No: 1

Certificate of Analysis

Test	Specification	Result
ACS - Assay (HNO_3)	69.0 - 70.0 %	69.8
Appearance	Passes Test	PT
ACS - Color (APHA)	<= 10	5
ACS - Residue after Ignition	<= 2 ppm	< 1
Chloride (Cl)	<= 0.04 ppm	< 0.03
Phosphate (PO_4)	<= 0.1 ppm	<0.01
Sulfate (SO_4)	<= 0.4 ppm	< 0.2
Trace Impurities - Aluminum (Al)	<= 30.0 ppb	1.0
Arsenic and Antimony (as As)	<= 5 ppb	< 2
Trace Impurities - Barium (Ba)	<= 1.0 ppb	< 0.2
Trace Impurities - Beryllium (Be)	<= 1.0 ppb	< 0.2
Trace Impurities - Bismuth (Bi)	<= 1.0 ppb	< 1.0
Trace Impurities - Boron (B)	<= 4.0 ppb	1.0
Trace Impurities - Cadmium (Cd)	<= 1.0 ppb	< 0.3
Trace Impurities - Calcium (Ca)	<= 50.0 ppb	3.0
Trace Impurities - Chromium (Cr)	<= 10.0 ppb	4.0
Trace Impurities - Cobalt (Co)	<= 1.0 ppb	< 0.3
Trace Impurities - Copper (Cu)	<= 1.0 ppb	< 0.1
Trace Impurities - Gallium (Ga)	<= 20.0 ppb	0.2
Trace Impurities - Germanium (Ge)	<= 4.0 ppb	< 2.0
Trace Impurities - Gold (Au)	<= 4.0 ppb	0.2
Heavy Metals (as Pb)	<= 100 ppb	< 50
Trace Impurities - Iron (Fe)	<= 10.0 ppb	0.7
Trace Impurities - Lead (Pb)	<= 0.5 ppb	< 0.5

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Material No.: 9598-34
Batch No.: 0000234822

Test	Specification	Result
Trace Impurities - Lithium (Li)	<= 1.0 ppb	< 0.2
Trace Impurities - Magnesium (Mg)	<= 7.0 ppb	0.2
Trace Impurities - Manganese (Mn)	<= 1.0 ppb	< 0.4
Trace Impurities - Mercury (Hg)	<= 0.5 ppb	< 0.1
Trace Impurities - Molybdenum (Mo)	<= 5.0 ppb	< 3.0
Trace Impurities - Nickel (Ni)	<= 1.0 ppb	< 0.3
Trace Impurities - Niobium (Nb)	<= 1.0 ppb	< 0.2
Trace Impurities - Potassium (K)	<= 5.0 ppb	< 2.0
Trace Impurities - Silicon (Si)	<= 20.0 ppb	1.0
Trace Impurities - Silver (Ag)	<= 1.0 ppb	< 0.3
Trace Impurities - Sodium (Na)	<= 200.0 ppb	2.0
Trace Impurities - Strontium (Sr)	<= 1.0 ppb	< 0.2
Trace Impurities - Tantalum (Ta)	<= 2.0 ppb	< 0.9
Trace Impurities - Thallium (Tl)	<= 5.0 ppb	< 2.0
Trace Impurities - Tin (Sn)	<= 5.0 ppb	< 0.8
Trace Impurities - Vanadium (V)	<= 1.0 ppb	< 0.2
Trace Impurities - Zinc (Zn)	<= 5.0 ppb	0.4
Trace Impurities - Zirconium (Zr)	<= 1.0 ppb	0.1

For Laboratory, Research or Manufacturing Use
Meets ACS Specifications

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

Receipt Date in TALs Based off of Product Manufacture Date

Expiration Date in TALs Based off of Manufacture Suggested Retest Date

For Receipt, Open, and Expiration date; refer to individual bottle.

ELLE QA

ELLE Dept. 4022 Management

Reagent

MT_ICPSPK_SCP_00001

SCP SCIENCE

Providing Innovative Solutions to Analytical Chemists

Certificate of Analysis

1.0 DESCRIPTION : ***Plasma*** **CAL – Custom Standard**

Catalogue Number : **AQ0-147-355**

Lot Number : **S200507010**

Matrix: **5.0% HNO3 0.1% HF Tr. Tartaric Acid**

Expiration Date (End of month): **May 2021**

2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:

Method of Analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)

Traceability: Applicable NIST Standard Reference Materials (see list below):

3101a	Al	3109a	Ca	3117a	Eu	3126a	Fe	3134	Mo	3142a	Pr	3151	Ag	3159	Th	3167a	Y
3102a	Sb	3110	Ce	3118a	Gd	3127a	La	3135a	Nd	3143	Re	3152a	Na	3160a	Tm	3168a	Zn
3103a	As	3111a	Cs	3119a	Ga	3128	Pb	3136	Ni	3144	Rh	3153a	Sr	3161a	Sn	3169	Zr
3104a	Ba	3112a	Cr	3120a	Ge	3129a	Li	3137	Nb	3145a	Rb	3154	S	3162a	Ti		
3105a	Be	3113	Co	3121	Au	3130a	Lu	3138	Pd	3147a	Sm	3155	Ta	3163	W		
3106	Bi	3114	Cu	3122	Hf	3131a	Mg	3139a	P	3148a	Sc	3156	Te	3164	U		
3107	B	3115a	Dy	3123a	Ho	3132	Mn	3140	Pt	3149	Se	3157a	Tb	3165	V		
3108	Cd	3116a	Er	3124a	In	3133	Hg	3141a	K	3150	Si	3158	Tl	3166a	Yb		

Certified Concentrations:

Ag*	4.99 ± 0.04	µg/ml	Fe	100.6 ± 0.8	µg/ml	Sb	25.27 ± 0.16	µg/ml
Al	100.2 ± 0.7	µg/ml	K	150.4 ± 0.9	µg/ml	Se	25.21 ± 0.16	µg/ml
As*	15.00 ± 0.17	µg/ml	Li	24.92 ± 0.23	µg/ml	Si	253.4 ± 2.1	µg/ml
B	15.13 ± 0.09	µg/ml	Mg	50.0 ± 0.4	µg/ml	Sn	25.33 ± 0.20	µg/ml
Ba*	2.50 ± 0.02	µg/ml	Mn*	4.99 ± 0.04	µg/ml	Sr*	2.49 ± 0.02	µg/ml
Be*	2.48 ± 0.02	µg/ml	Mo*	4.96 ± 0.05	µg/ml	Ti*	4.97 ± 0.04	µg/ml
Ca	100.1 ± 0.7	µg/ml	Na	499.8 ± 2.4	µg/ml	Tl	15.24 ± 0.11	µg/ml
Cd*	2.49 ± 0.02	µg/ml	Ni*	5.03 ± 0.05	µg/ml	V*	4.99 ± 0.04	µg/ml
Co*	2.50 ± 0.02	µg/ml	P	50.2 ± 0.6	µg/ml	W*	15.00 ± 0.20	µg/ml
Cr*	7.50 ± 0.08	µg/ml	Pb*	7.49 ± 0.07	µg/ml	Zn	10.02 ± 0.07	µg/ml
Cu	9.96 ± 0.06	µg/ml	S	250.3 ± 1.5	µg/ml	Zr	24.89 ± 0.18	µg/ml

ACCREDITED
Reference Material Producer
ISO GUIDE 34:2009 02

*Concentration value derived from v/v dilutions of certified, NIST-traceable starting materials

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) such as the SRM inherited uncertainty, weighing and dilution errors and instrument variability. The combined uncertainty ($uc = v\Sigma u_i^2$) has been multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:

Density: **1.028 g/ml @ 23.5 °C**

4.0 APPROVAL AND DATE OF CERTIFICATION:

Certification Approval: Yaling Sui, Chemist

Certification Date: **May 11, 2020**

Yaling Sui

Reagent

MT_ICPSPK_SCP_00002

SCP SCIENCE

Providing Innovative Solutions to Analytical Chemists

Certificate of Analysis

1.0 DESCRIPTION : ***Plasma*** **CAL – Custom Standard**

Catalogue Number : **AQ0-147-355**

Lot Number : **S200507010**

Matrix: **5.0% HNO3 0.1% HF Tr. Tartaric Acid**

Expiration Date (End of month): **May 2021**

2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:

Method of Analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)

Traceability: Applicable NIST Standard Reference Materials (see list below):

3101a	Al	3109a	Ca	3117a	Eu	3126a	Fe	3134	Mo	3142a	Pr	3151	Ag	3159	Th	3167a	Y
3102a	Sb	3110	Ce	3118a	Gd	3127a	La	3135a	Nd	3143	Re	3152a	Na	3160a	Tm	3168a	Zn
3103a	As	3111a	Cs	3119a	Ga	3128	Pb	3136	Ni	3144	Rh	3153a	Sr	3161a	Sn	3169	Zr
3104a	Ba	3112a	Cr	3120a	Ge	3129a	Li	3137	Nb	3145a	Rb	3154	S	3162a	Ti		
3105a	Be	3113	Co	3121	Au	3130a	Lu	3138	Pd	3147a	Sm	3155	Ta	3163	W		
3106	Bi	3114	Cu	3122	Hf	3131a	Mg	3139a	P	3148a	Sc	3156	Te	3164	U		
3107	B	3115a	Dy	3123a	Ho	3132	Mn	3140	Pt	3149	Se	3157a	Tb	3165	V		
3108	Cd	3116a	Er	3124a	In	3133	Hg	3141a	K	3150	Si	3158	Tl	3166a	Yb		

Certified Concentrations:

Ag*	4.99 ± 0.04	µg/ml	Fe	100.6 ± 0.8	µg/ml	Sb	25.27 ± 0.16	µg/ml
Al	100.2 ± 0.7	µg/ml	K	150.4 ± 0.9	µg/ml	Se	25.21 ± 0.16	µg/ml
As*	15.00 ± 0.17	µg/ml	Li	24.92 ± 0.23	µg/ml	Si	253.4 ± 2.1	µg/ml
B	15.13 ± 0.09	µg/ml	Mg	50.0 ± 0.4	µg/ml	Sn	25.33 ± 0.20	µg/ml
Ba*	2.50 ± 0.02	µg/ml	Mn*	4.99 ± 0.04	µg/ml	Sr*	2.49 ± 0.02	µg/ml
Be*	2.48 ± 0.02	µg/ml	Mo*	4.96 ± 0.05	µg/ml	Ti*	4.97 ± 0.04	µg/ml
Ca	100.1 ± 0.7	µg/ml	Na	499.8 ± 2.4	µg/ml	Tl	15.24 ± 0.11	µg/ml
Cd*	2.49 ± 0.02	µg/ml	Ni*	5.03 ± 0.05	µg/ml	V*	4.99 ± 0.04	µg/ml
Co*	2.50 ± 0.02	µg/ml	P	50.2 ± 0.6	µg/ml	W*	15.00 ± 0.20	µg/ml
Cr*	7.50 ± 0.08	µg/ml	Pb*	7.49 ± 0.07	µg/ml	Zn	10.02 ± 0.07	µg/ml
Cu	9.96 ± 0.06	µg/ml	S	250.3 ± 1.5	µg/ml	Zr	24.89 ± 0.18	µg/ml

ACCREDITED
Reference Material Producer

*Concentration value derived from v/v dilutions of certified, NIST-traceable starting materials

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) such as the SRM inherited uncertainty, weighing and dilution errors and instrument variability. The combined uncertainty ($uc = v\Sigma u_i^2$) has been multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:

Density: **1.028 g/ml @ 23.5 °C**

4.0 APPROVAL AND DATE OF CERTIFICATION:

Certification Approval: Yaling Sui, Chemist

Certification Date: **May 11, 2020**

Yaling Sui

Reagent

MT_K2S2O8_JT_00004

Potassium Persulfate
BAKER ANALYZED® Reagent

(potassium peroxydisulfate)

Material No.: 3238-01
Batch No.: 0000219692
Manufactured Date: 2018/01/27
Retest Date: 2025/01/25
Revision No: 1

Certificate of Analysis

Test	Specification	Result
ACS - Assay ($K_2S_2O_8$) (by gravimetry)	>= 99.0 %	99.9
ACS - Insoluble Matter	<= 0.005 %	< 0.005
ACS - Chloride (Cl)	<= 0.001 %	< 0.001
Trace Impurities - Iron (Fe)	<= 0.001 %	< 0.001
Trace Impurities - ACS - Heavy Metals (as Pb)	<= 5 ppm	< 3
Trace Impurities - Manganese (Mn)	<= 2.000 ppm	< 1.000

For Laboratory, Research or Manufacturing Use

Country of Origin: US
Packaging Site: Paris Mfg Ctr & DC

ISO
Phillipsburg, NJ 9001:2015, FSSC22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Gliwice, Poland 9001:2015, 13485:2012
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2015, 17025:2005
Panoli, India 9001:2015

James Ethier
Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Reagent

MT_K2S2O8_JT_00005

Potassium Persulfate
BAKER ANALYZED® Reagent

(potassium peroxydisulfate)

Material No.: 3238-01
Batch No.: 0000219692
Manufactured Date: 2018/01/27
Retest Date: 2025/01/25
Revision No: 1

Certificate of Analysis

Test	Specification	Result
ACS - Assay ($K_2S_2O_8$) (by gravimetry)	>= 99.0 %	99.9
ACS - Insoluble Matter	<= 0.005 %	< 0.005
ACS - Chloride (Cl)	<= 0.001 %	< 0.001
Trace Impurities - Iron (Fe)	<= 0.001 %	< 0.001
Trace Impurities - ACS - Heavy Metals (as Pb)	<= 5 ppm	< 3
Trace Impurities - Manganese (Mn)	<= 2.000 ppm	< 1.000

For Laboratory, Research or Manufacturing Use

Country of Origin: US
Packaging Site: Paris Mfg Ctr & DC

ISO
Phillipsburg, NJ 9001:2015, FSSC22000
Paris, KY 9001:2008
Mexico City, Mexico 9001:2008
Gliwice, Poland 9001:2015, 13485:2012
Selangor, Malaysia 9001:2008
Dehradun, India, 9001:2008, 14001:2004, 13485:2003
Mumbai, India, 9001:2015, 17025:2005
Panoli, India 9001:2015

James Ethier
Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Reagent

MT_KNiZn_IV_00009

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	IV-57350
Lot Number:	R2-MEB693773
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	500 µg/mL ea: Potassium,
	200 µg/mL ea: Nickel,
	40 µg/mL ea: Zinc

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Nickel, Ni	**200.0 ± 0.9 µg/mL**	**Potassium, K**	**499.9 ± 2.0 µg/mL**
Zinc, Zn	**39.96 ± 0.17 µg/mL**		

Density: 1.015 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The follow ing equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 10, 2020

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **June 10, 2024**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Reagent

MT_KNiZn_IV_00011

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	IV-57350
Lot Number:	R2-MEB693773
Matrix:	3% (v/v) HNO3
Value / Analyte(s):	500 µg/mL ea: Potassium,
	200 µg/mL ea: Nickel,
	40 µg/mL ea: Zinc

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Nickel, Ni	**200.0 ± 0.9 µg/mL**	**Potassium, K**	**499.9 ± 2.0 µg/mL**
Zinc, Zn	**39.96 ± 0.17 µg/mL**		

Density: 1.015 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The follow ing equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

June 10, 2020

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **June 10, 2024**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Director, Quality Control

Certifying Officer:

Paul Gaines
Chairman / Senior Technical Director

Reagent

MT_MSSPK_SCP_00008

SCP SCIENCE

Providing Innovative Solutions to Analytical Chemists

Certificate of Analysis

1.0 DESCRIPTION : ***Plasma*** **CAL – Custom Standard**

Catalogue Number : **AQ0-140-615**

Lot Number : **S200325060** **ICP-MS Spike**

Matrix: **2.0% HNO3 Traces HF**

Expiration Date (End of month): **October 2020**

2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:

Method of Analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)

Traceability: Applicable NIST Standard Reference Materials (see list below):

3101a	Al	3109a	Ca	3117a	Eu	3126a	Fe	3134	Mo	3142a	Pr	3151	Ag	3159	Th	3167a	Y
3102a	Sb	3110	Ce	3118a	Gd	3127a	La	3135a	Nd	3143	Re	3152a	Na	3160a	Tm	3168a	Zn
3103a	As	3111a	Cs	3119a	Ga	3128	Pb	3136	Ni	3144	Rh	3153a	Sr	3161a	Sn	3169	Zr
3104a	Ba	3112a	Cr	3120a	Ge	3129a	Li	3137	Nb	3145a	Rb	3154	S	3162a	Ti		
3105a	Be	3113	Co	3121	Au	3130a	Lu	3138	Pd	3147a	Sm	3155	Ta	3163	W		
3106	Bi	3114	Cu	3122	Hf	3131a	Mg	3139a	P	3148a	Sc	3156	Te	3164	U		
3107	B	3115a	Dy	3123a	Ho	3132	Mn	3140	Pt	3149	Se	3157a	Tb	3165	V		
3108	Cd	3116a	Er	3124a	In	3133	Hg	3141a	K	3150	Si	3158	Tl	3166a	Yb		

Certified Concentrations:

Ag*	5.03 ± 0.04	µg/ml	Fe	30.09 ± 0.25	µg/ml	Se*	1.00 ± 1%	µg/ml
Al	19.91 ± 0.13	µg/ml	K	996 ± 8	µg/ml	Si	49.40 ± 0.38	µg/ml
As*	0.989 ± 1%	µg/ml	Li*	50.0 ± 0.5	µg/ml	Sn*	5.01 ± 0.05	µg/ml
B	24.99 ± 0.22	µg/ml	Mg	199.8 ± 1.7	µg/ml	Sr*	3.98 ± 0.03	µg/ml
Ba*	4.96 ± 0.03	µg/ml	Mn*	5.02 ± 0.04	µg/ml	Ti	25.03 ± 0.18	µg/ml
Be*	0.402 ± 1%	µg/ml	Mo*	4.95 ± 0.03	µg/ml	Tl*	0.200 ± 1%	µg/ml
Ca	403.1 ± 3.8	µg/ml	Na	998 ± 8	µg/ml	V*	5.00 ± 0.04	µg/ml
Cd*	0.500 ± 1%	µg/ml	Ni*	5.02 ± 0.03	µg/ml	Zn	50.2 ± 0.4	µg/ml
Co	24.98 ± 0.22	µg/ml	Pb*	0.492 ± 1%	µg/ml			
Cr*	5.02 ± 0.04	µg/ml	S	49.95 ± 0.50	µg/ml			
Cu*	5.00 ± 0.04	µg/ml	Sb*	0.602 ± 1%	µg/ml			

ACCREDITED
Reference Material Producer
CERTIFICATE #2885.02

*Concentration value derived from v/v dilutions of certified, NIST-traceable starting materials

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) such as the SRM inherited uncertainty, weighing and dilution errors and instrument variability. The combined uncertainty ($uc= v\Sigma u_i^2$) has been multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:

Density: **1.015 g/ml** @ **22.4 °C**

4.0 APPROVAL AND DATE OF CERTIFICATION:

Certification Approval: Yaling Sui, Chemist

Yaling Sui

Certification Date: **April 07, 2020**

Revision Date: **May 07, 2020**

SCP SCIENCE

Providing Innovative Solutions to Analytical Chemists

5.0 INTENDED USE:

- ICP Standards: For the calibration of, including but not limited to: ICP-AES, ICP-MS, FAAS, GFAA, XRF and DCP.
- AA Standards: For the calibration of Flame (FAAS) and Graphite Furnace (GFAA) Atomic Absorption Spectrometers.
- Matrix Modifiers: For the optimization of analytical conditions to provide better Graphite Furnace Atomic Absorption (GFAA) instrument response and improved detection limits.
- pH Standards: For the calibrating pH meters or for other wet chemistry applications.
- Conductivity Standards: For electrolytic conductivity measurement as a calibration standard.
- IC Standards: for calibration of, but not limited to IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS or other wet chemistry applications.

For any inquiries, please contact **SCP SCIENCE**.

6.0 INSTRUCTIONS FOR USE:

Handling and Storage: Keep product tightly capped when not in use. The solution should be opened for a minimum amount of time necessary to dispense the amount required. Do not pipet or use directly from container. Do not return unused portions back to container. Store under normal laboratory conditions. Avoid exposure to excessive sources of heat and humidity or direct sunlight.

Stability: This Standard is guaranteed to be stable and accurate to within the specified uncertainty of measurement up to the unopened expiry date, if sealed, or up to the opened expiry date (when indicated), whichever comes first, provided the solution is kept tightly capped and stored under the indicated storage conditions. Purchasers will be notified of any significant changes resulting in re-certification or withdrawal of the product prior to the expiration date.

7.0 HAZARDOUS INFORMATION :

Please refer to the associated Material Safety Data Sheet (MSDS) for information regarding this product (available at www.SCPSCIENCE.com).

8.0 HOMOGENEITY:

This solution has been blended according to an in-house procedure and its homogeneity is guaranteed to be fit for purpose when a sample size sufficient for the intended method of analysis is used.

9.0 TRACEABILITY:

This CRM (Certified Reference Material) is traceable to the NIST SRM (Standard Reference Material) indicated in section 2 through an unbroken chain of comparisons. In addition, balances used are regularly calibrated using weights which are traceable to NIST (National Institute of Standards and Technology) or NRC (National Research Council of Canada) standards. All conductivity meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable Thermometer and standards. All pH meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and pH/MV simulator.

10.0 PREPARATION*:*

For the preparation of these solutions, 18 meghom/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used.

11.0 QUALITY SYSTEM CERTIFICATIONS*:*

ISO 9001 Certification: This standard was produced in a facility which operates a **registered** ISO 9001 Quality Management System. Please consult our web site for a copy of the most recent revision of our certificate of registration.

ISO 17025 Accreditation: SCP SCIENCE (Corporate Headquarters) operates an ISO 17025 **accredited** laboratory. Please consult our web site for a copy of the most recent revision of our certificate and scope of accreditation.

ISO 17034 Accreditation: SCP SCIENCE (Corporate Headquarters) is an ISO 17034 accredited Reference Material Producer. Please consult our website for a copy of our most recent certificate and scope of accreditation.

ACCREDITED
Reference Material Producer
CERT# 2885.02

ACCREDITED
Testing Laboratory CERT#2885.01

Corporate Headquarters:

CORPORATE HEADQUARTERS
21800 Clark Graham
Baie D'Urfé (Montréal), Quebec
H9X 4B6 Canada
Phone: +1 (800) 361-6820
Fax: +1 (800) 253-5549

USA
3rd Party Distribution Center
348 Route 11, Champlain,
N.Y. 12919-4816
Phone: +1 (800) 361-6820
Fax: +1 (800) 253-5549

FRANCE
12 Ave. de Québec, Bat. Iris
SILIC 642, 91965 Villebon sur Yvette
Phone: +33 (0) 1 69 18 71 17
Fax: +33 (0) 1 60 92 05 67

GERMANY
Alte Marktoberdorfer Straße 14,
87616, Marktoberdorf
Phone: +49 (0) 8342-89560-61
Fax: +49 (0) 8342-89560-69

CORPORATE : Phone: +1 (514) 457-0701 | Fax: +1 (514) 457-4499 www.scpscience.com | sales@scpscience.com

Reagent

MT_NaCl_JT_00004

Sodium Chloride, Crystal
Ultrapure Bioreagent
For Liquid Chromatography and Molecular Biology applications

avantor™ | J.T.Baker®

Material No.: 4058-06
Batch No.: 0000242093
Manufactured Date: 2019/06/13
Retest Date: 2024/06/11
Revision No: 1

Certificate of Analysis

Test	Specification	Result
Assay (NaCl)	>= 99.0 %	100.0
DNase Activity (None Detected)	Passes Test	PT
RNase Activity	Passes Test	PT
Protease Activity	Passes Test	PT
pH of 5% Solution at 25°C	5.5 - 7.5	5.8
ACS - Insoluble Matter	<= 0.005 %	0.001
Bromide (Br)	<= 0.01 %	< 0.01
Chlorate and Nitrate (as NO_3)	<= 0.003 %	< 0.001
Iodide (I)	<= 0.002 %	< 0.002
ACS - Sulfate (SO_4)	<= 0.003 %	< 0.001
Barium (Ba)	<= 0.001 %	0.001
Calcium, Magnesium, and R_2O_3 Precipitate	<= 0.005 %	< 0.001
Potassium (K)	<= 0.005 %	0.001
Nitrogen Compounds (as N)	<= 5 ppm	< 5
Phosphate (PO_4)	<= 5 ppm	< 5
Heavy Metals (as Pb)	<= 2 ppm	< 2
Trace Impurities - Iron (Fe)	<= 1.000 ppm	< 1.000

For Laboratory, Research or Manufacturing Use

Country of Origin: US
Packaging Site: Paris Mfg Ctr & DC

James T Ethier
Jamie Ethier
Vice President Global Quality

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.386.1700
Avantor Performance Materials, LLC
100 Matsonford Rd, Suite 200, Radnor, PA 19087. U.S.A. Phone: 610.386.1700

Reagent

MT_S_10Hg_IV_00004

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Mass Spec Solution
Catalog Number:	MSHG-10PPM
Lot Number:	P2-HG683300
Matrix:	10% (v/v) HCl
Value / Analyte(s):	10 µg/mL ea: Mercury
Starting Material:	Hg metal
Starting Material Lot#:	1959
Starting Material Purity:	99.9994%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10.004 ± 0.066 µg/mL

Density: 1.020 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Hg	ICP Assay	3133	061204
Hg	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Ag		0.000011	M	Eu	<	0.000201	O	Na		0.000004	M	Se	<	0.015915	O	Zn	<	0.001510
O	Al		0.000001	O	Fe		0.000001	M	Nb	<	0.000201	O	Si		0.000005	M	Zr	<	0.000201
M	As	<	0.000402	M	Ga	<	0.000201	M	Nd	<	0.000201	M	Sm	<	0.000201				
M	Au	<	0.003631	M	Gd	<	0.000201	M	Ni	<	0.000402	M	Sn	<	0.001007				
M	B	<	0.001208	M	Ge	<	0.000201	M	Os	<	0.000605	M	Sr	<	0.000201				
M	Ba	<	0.000201	M	Hf	<	0.000201	O	P	<	0.032370	M	Ta	<	0.000201				
M	Be	<	0.000201	s	Hg	<		M	Pb	<	0.000201	M	Tb	<	0.000201				
M	Bi	<	0.000201	M	Ho	<	0.000201	M	Pd	<	0.000403	M	Te	<	0.002216				
O	Ca		0.000007	M	In	<	0.000201	M	Pr	<	0.000201	M	Th	<	0.000201				
M	Cd	<	0.000201	M	Ir	<	0.000201	M	Pt	<	0.000402	M	Ti	<	0.000402				
M	Ce	<	0.000201	O	K		0.000020	M	Rb	<	0.000201	O	Tl	<	0.016508				
M	Co	<	0.000201	M	La	<	0.000201	M	Re	<	0.000201	M	Tm	<	0.000201				
O	Cr	<	0.003021	O	Li	<	0.000107	M	Rh	<	0.000201	M	U	<	0.008058				
M	Cs	<	0.001208	M	Lu	<	0.000201	M	Ru	<	0.000201	M	V	<	0.000201				
M	Cu	<	0.000402	O	Mg		0.000001	O	S	<	0.053950	M	W	<	0.000604				
M	Dy	<	0.000201	M	Mn	<	0.000604	M	Sb	<	0.001208	M	Y	<	0.000201				
M	Er	<	0.000201	M	Mo		0.000009	M	Sc	<	0.000201	M	Yb	<	0.000201				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 200.59 +2 4 Hg(OH)(aq) 1+
Chemical Compatibility - Stable in HNO3. Avoid basic media forming insoluble carbonate. The sulfide, basic carbonate, oxalate, phosphate, arsenite, arsenate and iodide are insoluble in water.
Stability - 2-100 ppb levels not stable in 1% HNO3 / LDPE container, stable in 10% HNO3 packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO3 packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO3 / LDPE container.
Hg Containing Samples (Preparation and Solution) - Metal (soluble in HNO3); Oxide (Soluble in HNO3); Ores and Organic based (The literature has more references to the preparation of Hg containing samples than any other element. Please consult the literature for your specific sample type, since such preparations are prone to error. Or e-mail our technical staff and we will contact you to discuss your particular sample preparation questions in further detail.).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 202 amu	9 ppt	n/a	186W16O
ICP-OES 184.950 nm	0.03 / 0.005 µg/mL	1	
ICP-OES 194.227 nm	0.03 / 0.005 µg/mL	1	V
ICP-OES 253.652 nm	0.1 / 0.03 µg/mL	1	Ta, Co, Th ,Rh , Fe, U

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 28, 2019

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **September 28, 2023**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MT_S_10Hg_IV_00005

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED
Testing Laboratory
Certificate 883.01

ACCREDITED
Reference Material Producer
Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Mass Spec Solution
Catalog Number:	MSHG-10PPM
Lot Number:	P2-HG683300
Matrix:	10% (v/v) HCl
Value / Analyte(s):	10 µg/mL ea: Mercury
Starting Material:	Hg metal
Starting Material Lot#:	1959
Starting Material Purity:	99.9994%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 10.004 ± 0.066 µg/mL

Density: 1.020 g/mL (measured at 20 ± 4 ºC)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Hg	ICP Assay	3133	061204
Hg	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{½}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{½}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

CRM/RMs are tested for trace metallic impurities by Axial ICP-OES and ICP-MS. The result from the most sensitive method for each element, is reported below. Solutions tested by ICP-MS were analyzed in an ULPA-Filtered Clean Room. An ULPA-Filter is 99.9985% efficient for the removal of particles down to 0.3 µm.

O	Ag		0.000011	M	Eu	<	0.000201	O	Na		0.000004	M	Se	<	0.015915	O	Zn	<	0.001510
O	Al		0.000001	O	Fe		0.000001	M	Nb	<	0.000201	O	Si		0.000005	M	Zr	<	0.000201
M	As	<	0.000402	M	Ga	<	0.000201	M	Nd	<	0.000201	M	Sm	<	0.000201				
M	Au	<	0.003631	M	Gd	<	0.000201	M	Ni	<	0.000402	M	Sn	<	0.001007				
M	B	<	0.001208	M	Ge	<	0.000201	M	Os	<	0.000605	M	Sr	<	0.000201				
M	Ba	<	0.000201	M	Hf	<	0.000201	O	P	<	0.032370	M	Ta	<	0.000201				
M	Be	<	0.000201	s	Hg	<		M	Pb	<	0.000201	M	Tb	<	0.000201				
M	Bi	<	0.000201	M	Ho	<	0.000201	M	Pd	<	0.000403	M	Te	<	0.002216				
O	Ca		0.000007	M	In	<	0.000201	M	Pr	<	0.000201	M	Th	<	0.000201				
M	Cd	<	0.000201	M	Ir	<	0.000201	M	Pt	<	0.000402	M	Ti	<	0.000402				
M	Ce	<	0.000201	O	K		0.000020	M	Rb	<	0.000201	O	Tl	<	0.016508				
M	Co	<	0.000201	M	La	<	0.000201	M	Re	<	0.000201	M	Tm	<	0.000201				
O	Cr	<	0.003021	O	Li	<	0.000107	M	Rh	<	0.000201	M	U	<	0.008058				
M	Cs	<	0.001208	M	Lu	<	0.000201	M	Ru	<	0.000201	M	V	<	0.000201				
M	Cu	<	0.000402	O	Mg		0.000001	O	S	<	0.053950	M	W	<	0.000604				
M	Dy	<	0.000201	M	Mn	<	0.000604	M	Sb	<	0.001208	M	Y	<	0.000201				
M	Er	<	0.000201	M	Mo		0.000009	M	Sc	<	0.000201	M	Yb	<	0.000201				

M - Checked by ICP-MS O - Checked by ICP-OES i - Spectral Interference
n - Not Checked For s - Solution Standard Element

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

Atomic Weight; Valence; Coordination Number; Chemical Form in Solution - 200.59 +2 4 Hg(OH)(aq) 1+
Chemical Compatibility - Stable in HNO3. Avoid basic media forming insoluble carbonate. The sulfide, basic carbonate, oxalate, phosphate, arsenite, arsenate and iodide are insoluble in water.
Stability - 2-100 ppb levels not stable in 1% HNO3 / LDPE container, stable in 10% HNO3 packaged in borosilicate glass. 1-100 ppm levels stable in 7% HNO3 packaged in borosilicate glass. 1000-10,000 ppm solutions are chemically stable for years in 5-10% HNO3 / LDPE container.
Hg Containing Samples (Preparation and Solution) - Metal (soluble in HNO3); Oxide (Soluble in HNO3); Ores and Organic based (The literature has more references to the preparation of Hg containing samples than any other element. Please consult the literature for your specific sample type, since such preparations are prone to error. Or e-mail our technical staff and we will contact you to discuss your particular sample preparation questions in further detail.).
Atomic Spectroscopic Information (ICP-OES D.L.s are given as radial/axial view):

Technique/Line	**Estimated D.L.**	**Order**	**Interferences** (underlined indicates severe)
ICP-MS 202 amu	9 ppt	n/a	186W16O
ICP-OES 184.950 nm	0.03 / 0.005 µg/mL	1	
ICP-OES 194.227 nm	0.03 / 0.005 µg/mL	1	V
ICP-OES 253.652 nm	0.1 / 0.03 µg/mL	1	Ta, Co, Th ,Rh , Fe, U

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

September 28, 2019

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- **September 28, 2023**

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MT_S_1KCr_VH_00005

CERTIFICATE OF ANALYSIS

VHG Labs Quality Product

Single-Element Aqueous CRM

Rec'd 1 Bottle
expires 9-16-20

Chromium (Cr) – 1000 µg/mL

Product #: VHG-PCRN-100

Matrix: 5% HNO_3

Lot #: 975466-43

Element	Certified Concentration & Uncertainty
Cr	1003 ± 3 µg/mL (w/v)
	994 ± 3 µg/g (w/w)

Intended Use: This solution is intended for use as a certified reference material (CRM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: VHG Labs CRMs are manufactured, processed, and certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO Guide 34**, and **ISO/IEC 17025**. This CRM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.996% pure chromium (Cr) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22µm), 18 M-ohm deionized water. The balances used in the preparation of VHG CRMs are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration and uncertainty were determined by VHG using the "High Performance ICP-OES" protocol developed by NIST (visit www.lgcstandards.com/HP-ICP-OES for further information), and both the certified concentration and uncertainty values are traceable to **NIST SRM 3112a, lot #030730**. The uncertainty associated with the certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2. The expanded uncertainty will increase at a rate of 0.008% per month after the Stable-Pak™ bag is opened.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	2	Co	<1	Ge	<0.5	Mg	<5	Pd	2	Si	<100	V	<1
Al	<2	Cs	<0.5	Hf	2	Mn	<1	Pr	<0.2	Sm	<0.2	W	<0.5
As	<2	Cr	MAJOR	Hg	<0.5	Mo	2	Pt	<0.5	Sn	<0.5	Y	<0.5
Au	<0.5	Cu	<1	Ho	<0.2	Na	<25	Rb	<0.5	Sr	<1	Yb	<0.2
B	<5	Dy	<0.2	In	nd	Nb	<0.5	Re	<0.2	Ta	<0.5	Zn	<2
Ba	<1	Er	<0.2	Ir	<0.2	Nd	<0.2	Rh	<0.5	Tb	<0.5		
Bi	<0.2	Eu	<0.2	K	<25	Ni	<2	Ru	<0.5	Te	<1		
Ca	<25	Fe	16	La	<0.5	Os	<0.5	Sb	<0.5	Ti	<2		
Cd	<0.5	Ga	<0.5	Li	<2	P	<100	Sc	<5	Tl	<0.5		
Ce	<0.2	Gd	<0.2	Lu	<0.2	Pb	<1	Se	<2	Tm	<0.2		

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original CRM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: LGC ensures the accuracy of this solution for **24 months** from the certification date shown below or **12 months** from the date the Stable-Pak™ bag is opened, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

October 1, 2018

Certification Date

ACCREDITED
REFERENCE MATERIALS
PRODUCER CERT #2848.02
CHEMICAL TESTING
CERT #2848.01

LGC waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

276 Abby Road, Manchester, NH 03103 USA
(603) 622-7660 Fax: (603) 622-5180 www.vhglabs.com

ISO 9001
ISO Guide 34
ISO/IEC 17025
ISO/IEC 17043

Reagent

MT_S_1KHg_CP_00001

7985

Rec'd 1 Bottle
11/1/19
Op:
11-1-19
Ex 11-1-20

REPORT OF ANALYSIS

Single-Element Aqueous RM

Mercury (Hg) – 1000 µg/mL

Matrix: 2% HNO_3

Product #: S4400-1000331 PE9471

Lot #: 1009904-41

Element	Certified Concentration
Hg	999 µg/mL (w/v)
	983 µg/g (w/w)

Intended Use: This solution is intended for use as a reference material (RM) or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), flame or furnace atomic absorption spectroscopy (AA or GFAA), and other techniques for elemental analysis.

Certification & Traceability: This RM was manufactured, processed, and/or certified under a quality management system that is registered/accredited to **ISO 9001**, **ISO Guide 34**, and **ISO/IEC 17025**. This RM was prepared to a nominal concentration of 1000 µg/mL by gravimetric methods using 99.999% pure mercury (Hg) metal dissolved in high purity nitric acid (HNO_3) and diluted with filtered (0.22 µm), 18 M-ohm deionized water. The balances used in the preparation of this RM are calibrated regularly with traceability to NIST, using a calibration provider that is accredited to ISO/IEC 17025 by a mutually recognized accreditation body. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentration was determined based upon gravimetric procedures. Secondary verification of the certified concentration was performed using ICP-OES and is traceable to **NIST SRM 3133**. The uncertainty associated with the certified concentration is ±0.5% relative, which is the sum of the estimated errors due to the purity of the raw materials, the gravimetric preparation of the solution, and transpiration through the container. This represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Indicative Values: ICP-MS was used to determine trace metal concentrations for this product (nd = not determined).

Trace Concentrations (µg/L)

Ag	<0.5	Co	<1	Ge	<0.5	Lu	<0.2	P	<100	Sb	<0.5	Te	<1
Al	<2	Cs	<0.5	Hf	<0.2	Mg	<5	Pb	<1	Sc	<5	Ti	<2
As	<2	Cr	<0.5	Hg	MAJOR	Mn	21	Pd	<0.5	Se	<2	Tl	<0.5
Au	310	Cu	<1	Ho	<0.2	Mo	<0.5	Pr	<0.2	Si	<100	Tm	<0.2
B	<5	Dy	<0.2	In	nd	Na	<25	Pt	<0.5	Sm	<0.2	V	<1
Ba	<1	Er	<0.2	Ir	<0.2	Nb	<0.5	Rb	<0.5	Sn	<0.5	W	<0.5
Bi	<0.2	Eu	<0.2	K	<25	Nd	<0.2	Re	<0.2	Sr	<1	Y	<0.5
Ca	<25	Fe	<10	La	<0.5	Ni	<2	Rh	<0.5	Ta	<0.5	Yb	<0.2
Cd	<0.5	Ga	<0.5	Li	<2	Os	<0.5	Ru	<0.5	Tb	<0.5	Zn	<2
Ce	<0.2	Gd	<0.2										

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy, the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the RM's original container, (3) never pour used product back into the original container, (4) make dilutions using calibrated balances or certified class A volumetric flasks and pipettes, (5) use a minimum sub-sample size of 500 µL, and (6) dilute with the same matrix as the original RM or other chemically suitable matrix. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or immerse the bottle or its contents, and avoid exposure to direct sunlight or moisture.

Period of Validity: CPI International ensures the accuracy of this solution for **18 months** from the certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

Chuck Goudreau

Chuck Goudreau, Certifying Officer

October 29, 2019
Certification Date

CPI International waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

USA
5580 Skylane Boulevard P: 707.525.5788
Santa Rosa, CA 95403 P: 800.878.7654
F: 707.545.7901

www.cpiinternational.com

Europe
Nieuwe Hemweg 7P P: +31 20 638 05 97
1013BG Amsterdam F: +31 20 420 28 36
The Netherlands

Reagent

MT_S_901S1_VH_00003

CERTIFICATE OF ANALYSIS

Rec'd 3 bottles
10-24-14
OI: 10-24-14
Ex: 10-21-20

Multi-Element Aqueous CRM

Custom Multi Standard 901-S1

Matrix: 5% HNO_3

Product #: VHG-ZLANLAB901-500

Lot #: 10037608-30 D, G, F

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Al	5000 ± 25 µg/mL	Fe	5004 ± 25 µg/mL	Mg	5001 ± 25 µg/mL
Ca	5000 ± 25 µg/mL	K	5000 ± 25 µg/mL	Na	5000 ± 25 µg/mL

Intended Use: This solution is intended for use as a certified reference material or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), or alternative techniques for elemental detection, such as flame or furnace atomic absorption spectroscopy (AA or GFAA).

Certification & Traceability: VHG CRMs are manufactured and certified under a quality management system that is accredited to **ISO 9001**, **ISO Guide 34** and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to NIST SRMs. This solution was stabilized using high purity nitric acid (HNO_3) and diluted with filtered (0.22µm), 18 M-ohm deionized water. The balances used in the preparation of VHG CRMs are calibrated regularly with traceability to NIST. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined by VHG Labs based upon gravimetric procedures. Secondary verification of the certified concentrations was performed by VHG Labs using ICP-OES that was calibrated and/or referenced against **NIST SRMs** (see reverse side). The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) use a minimum sub-sample size of 500µL, (4) make dilutions using calibrated balances or certified volumetric class A flasks and pipettes, (5) dilute with the same matrix as the original CRM, and (6) never pour used product back into the original container. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or expose to direct sunlight. Minimize exposure to moisture or high humidity.

Period of Validity: VHG ensures the accuracy of this solution for **12 Months** from the Certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

VHG Labs, Inc.

Chuck Goudreau

Chuck Goudreau, Certifying Offic

21 October 2019
Certification Date

ACCREDITED
REFERENCE MATERIALS PRODUCER CERT #2848.02
CHEMICAL TESTING CERT #2848.01

LGC waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

276 Abby Road, Manchester, NH 03103 USA
(603) 622-7660 Fax: (603) 622-5180 www.vhglabs.com

ISO 9001
ISO Guide 34
ISO/IEC 17025
ISO/IEC 17043

Reagent

MT_S_901S1_VH_00006

CERTIFICATE OF ANALYSIS

Multi-Element Aqueous CRM

Custom Multi Standard 901-S1

Matrix: 5% HNO_3

Product #: VHG-ZLANLAB901-500 Lot #: 10037608-30

Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty	Element	Certified Concentration & Uncertainty
Al	5000 ± 25 µg/mL	Fe	5004 ± 25 µg/mL	Mg	5001 ± 25 µg/mL
Ca	5000 ± 25 µg/mL	K	5000 ± 25 µg/mL	Na	5000 ± 25 µg/mL

Intended Use: This solution is intended for use as a certified reference material or calibration standard for inductively coupled plasma optical emission spectroscopy (ICP-OES), inductively coupled plasma mass spectrometry (ICP-MS), or alternative techniques for elemental detection, such as flame or furnace atomic absorption spectroscopy (AA or GFAA).

Certification & Traceability: VHG CRMs are manufactured and certified under a quality management system that is accredited to **ISO 9001**, **ISO Guide 34** and **ISO/IEC 17025**. This CRM was prepared to the certified concentrations shown above by gravimetric methods using single-element concentrates that were certified using the "High Performance ICP-OES" protocol developed by NIST and are directly traceable to NIST SRMs. This solution was stabilized using high purity nitric acid (HNO_3) and diluted with filtered (0.22µm), 18 M-ohm deionized water. The balances used in the preparation of VHG CRMs are calibrated regularly with traceability to NIST. All volumetric dilutions are performed in Class A calibrated glassware. The certified concentrations were determined by VHG Labs based upon gravimetric procedures. Secondary verification of the certified concentrations was performed by VHG Labs using ICP-OES that was calibrated and/or referenced against **NIST SRMs** (see reverse side). The uncertainty associated with each certified concentration represents the expanded uncertainty at the 95% confidence level using a coverage factor of k=2.

Instructions for Use: We recommend that the solution be thoroughly mixed by repeated shaking or swirling of the bottle immediately prior to use. To achieve the highest accuracy the analyst should: (1) use only pre-cleaned containers and transferware, (2) not pipette directly from the CRM's original container, (3) use a minimum sub-sample size of 500µL, (4) make dilutions using calibrated balances or certified volumetric class A flasks and pipettes, (5) dilute with the same matrix as the original CRM, and (6) never pour used product back into the original container. The solution should be kept tightly capped and stored under normal laboratory conditions. Do not freeze, heat, or expose to direct sunlight. Minimize exposure to moisture or high humidity.

Period of Validity: VHG ensures the accuracy of this solution for **12 Months** from the Certification date shown below, provided the instructions for use are followed. During the period of validity, the purchaser will be notified if this product is recalled due to any significant changes in the stability of the solution.

VHG Labs, Inc.

Chuck Goudreau

Chuck Goudreau, Certifying Offic

4 March 2020
Certification Date

ACCREDITED
REFERENCE MATERIALS PRODUCER CERT #2848.02
CHEMICAL TESTING CERT #2848.01

LGC waives all responsibility for any damages resulting from the usage and/or implementation of the products/data described herein.

276 Abby Road, Manchester, NH 03103 USA
(603) 622-7660 Fax: (603) 622-5180 www.vhglabs.com

ISO 9001
ISO Guide 34
ISO/IEC 17025
ISO/IEC 17043

Reagent

MT_S_C1001_SC_00002

SCP SCIENCE
Providing Innovative Solutions to Analytical Chemists

Certificate of Analysis

1.0 DESCRIPTION :

Plasma CAL – Custom Standard

Catalogue Number : **AQ0-140-655**

Lot Number : **S200325039** **Custom Std. 1001**

Matrix: **5.0% HNO3 Traces HF**

Expiration Date (End of month): **April 2021**

2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:

Method of Analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)

Traceability: Applicable NIST Standard Reference Materials (see list below):

3101a	Al	3109a	Ca	3117a	Eu	3126a	Fe	3134	Mo	3142a	Pr	3151	Ag	3159	Th	3167a	Y
3102a	Sb	3110	Ce	3118a	Gd	3127a	La	3135a	Nd	3143	Re	3152a	Na	3160a	Tm	3168a	Zn
3103a	As	3111a	Cs	3119a	Ga	3128	Pb	3136	Ni	3144	Rh	3153a	Sr	3161a	Sn	3169	Zr
3104a	Ba	3112a	Cr	3120a	Ge	3129a	Li	3137	Nb	3145a	Rb	3154	S	3162a	Ti		
3105a	Be	3113	Co	3121	Au	3130a	Lu	3138	Pd	3147a	Sm	3155	Ta	3163	W		
3106	Bi	3114	Cu	3122	Hf	3131a	Mg	3139a	P	3148a	Sc	3156	Te	3164	U		
3107	B	3115a	Dy	3123a	Ho	3132	Mn	3140	Pt	3149	Se	3157a	Tb	3165	V		
3108	Cd	3116a	Er	3124a	In	3133	Hg	3141a	K	3150	Si	3158	Tl	3166a	Yb		

Certified Concentrations:

Ag	20.04 ± 0.16	µg/ml	Ni	199.2 ± 1.9	µg/ml
As	198.9 ± 1.7	µg/ml	Pb	19.97 ± 0.17	µg/ml
B	199.3 ± 2.1	µg/ml	Sb	20.07 ± 0.19	µg/ml
Ba	199.9 ± 2.1	µg/ml	Se	19.94 ± 0.18	µg/ml
Be	19.95 ± 0.23	µg/ml	Sn	20.07 ± 0.21	µg/ml
Cd	19.83 ± 0.19	µg/ml	Sr	19.81 ± 0.21	µg/ml
Co	199.3 ± 2.2	µg/ml	Ti	200.6 ± 2.1	µg/ml
Cr	200.1 ± 2.2	µg/ml	Tl	19.88 ± 0.18	µg/ml
Cu	200.2 ± 2.2	µg/ml	V	200.2 ± 2.2	µg/ml
Mn	200.1 ± 2.1	µg/ml	Zn	199.7 ± 2.0	µg/ml
Mo	19.82 ± 0.18	µg/ml			

ACCREDITED
Reference Material Producer
CERTIFICATE #2885.02

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) such as the SRM inherited uncertainty, weighing and dilution errors and instrument variability. The combined uncertainty ($uc = \sqrt{\Sigma u_i^2}$) has been multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:

Density: **1.029 g/ml** **@** **22.5 °C**

4.0 APPROVAL AND DATE OF CERTIFICATION:

Certification Approval: Yaling Sui, Chemist

Yaling Sui

Certification Date: **April 06, 2020**

Reagent

MT_S_CCV1_HP_00004

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

Product Description: CCV-1

Product Number:	**SM-510-047-500**
Lot Number:	**2005711-500**
Matrix:	5% HNO3
Purity:	99.0%-99.9995%

ISO 17034:2016 (RMP) Accreditation Certificate Number AR-1436

ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Certified Values:

Element	(µg/mL)	SRM ID	Element	(µg/mL)	SRM ID
Al	5000 ± 30	3101a	Mg	5000 ± 30	3131a
Ca	5000 ± 30	3109a	Na	5000 ± 30	3152a
Fe	5000 ± 30	3126a	S	5000 ± 75	3154
K	5000 ± 50	3141a			

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.
* Refer to Traceability Information, Section 4

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for one year from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: March 2020
Expiration Date: March 31, 2021
Certificate Issue Date: February 28, 2020

Moven Mutuvari

Moven Mutuvari, Ph. D, Laboratory Manager

410-37717

Reagent

MT_S_CCV1_SCP_00004

SCP SCIENCE
Providing Innovative Solutions to Analytical Chemists

Certificate of Analysis

1.0 DESCRIPTION :

Plasma CAL – Custom Standard

Catalogue Number : **AQ0-139-955** **CCV-1**
Lot Number : **S200727002**
Matrix: **5.0% HNO3**
Expiration Date (End of month): **August 2021**

2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:

Method of Analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)

Traceability: Applicable NIST Standard Reference Materials (see list below):

3101a	Al	3109a	Ca	3117a	Eu	3126a	Fe	3134	Mo	3142a	Pr	3151	Ag	3159	Th	3167a	Y
3102a	Sb	3110	Ce	3118a	Gd	3127a	La	3135a	Nd	3143	Re	3152a	Na	3160a	Tm	3168a	Zn
3103a	As	3111a	Cs	3119a	Ga	3128	Pb	3136	Ni	3144	Rh	3153a	Sr	3161a	Sn	3169	Zr
3104a	Ba	3112a	Cr	3120a	Ge	3129a	Li	3137	Nb	3145a	Rb	3154	S	3162a	Ti		
3105a	Be	3113	Co	3121	Au	3130a	Lu	3138	Pd	3147a	Sm	3155	Ta	3163	W		
3106	Bi	3114	Cu	3122	Hf	3131a	Mg	3139a	P	3148a	Sc	3156	Te	3164	U		
3107	B	3115a	Dy	3123a	Ho	3132	Mn	3140	Pt	3149	Se	3157a	Tb	3165	V		
3108	Cd	3116a	Er	3124a	In	3133	Hg	3141a	K	3150	Si	3158	Tl	3166a	Yb		

Certified Concentrations:

Al	4 990 ± 38	µg/ml
Ca	5 067 ± 44	µg/ml
Fe	4 993 ± 36	µg/ml
K	5 017 ± 48	µg/ml
Mg	4 965 ± 35	µg/ml
Na	5 007 ± 46	µg/ml
S*	5 000 ± 50	µg/ml

ACCREDITED
Reference Material Producer

*Concentration value derived from v/v dilutions of certified, NIST-traceable starting materials

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) such as the SRM inherited uncertainty, weighing and dilution errors and instrument variability. The combined uncertainty ($u_c = v\Sigma u_i^2$) has been multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:

Density: **1.124 g/ml** @ **23.7 °C**

4.0 APPROVAL AND DATE OF CERTIFICATION:

Certification Approval: Yaling Sui, Chemist
Certification Date: **July 31, 2020**

Yaling Sui

Reagent

MT_S_CCV2_HP_00005

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

Product Description: CCV2

Product Number: **SM-510-034-500**
Lot Number: **2005715-500**
Matrix: 4% HNO3 / Tr HF
Purity: 99.92%-99.9999%

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER
ISO 17034:2016 (RMP) Accreditation Certificate Number AR-1436

ilac-MRA

ANAB ACCREDITED TESTING LABORATORY
ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Certified Values:

Element	(µg/mL)	SRM ID	Element	(µg/mL)	SRM ID
Ag	100 ± 1	3151	Ni	100 ± 1	3136
As	100 ± 1	3103a	P	100 ± 2	3139a
B	100 ± 1	3107	Pb	100 ± 1	3128
Ba	100 ± 1	3104a	Sb	100 ± 1	3102a
Be	100 ± 1	3105a	Se	100 ± 1	3149
Cd	100 ± 1	3108	Sn	100 ± 1	3161a
Co	100 ± 1	3113	Sr	100 ± 1	3153a
Cr	100 ± 1	3112a	Ti	100 ± 1	3162a
Cu	100 ± 1	3114	Tl	100 ± 1	3158
Li	100 ± 1	3129a	V	100 ± 1	3165
Mn	100 ± 2	3132	Zn	100 ± 1	3168a
Mo	100 ± 1	3134	Zr	100 ± 2	3169

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor k is about 2.
* Refer to Traceability Information, Section 4

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for one year from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: March 2020
Expiration Date: March 31, 2021
Certificate Issue Date: February 28, 2020

Moven Mutuvari
Moven Mutuvari, Ph. D, Laboratory Manager

410-37720

Reagent

MT_S_ICS2A_HP_00008

high-purity standards
7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

ISO 17034:2016 (RMP) Accreditation Certificate Number AR-1436

ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Product Description:

Name:	ICP-MS Interference Check Standard 2
Part Number:	**ICP-MS-ICS-2-A-100**
Lot Number:	**2005507-100**
Matrix:	Tr HF + 5% HNO_3
Purity:	99.98% - 99.999%
Density:	1.059g/mL ± 0.002 g/mL @ 21.2°C

Certified Values:

Element	(mg/L)	SRM ID	Element	(mg/L)	SRM ID
Al	1000 ± 10	3101a	K	1000 ± 10	3141a
Ca	3000 ± 30	3109a	Na	2500 ± 25	3152a
Fe	2500 ± 25	3126a	S	1000 ± 10	3154
Mg	1000 ± 10	3131a	Ti	20.0 ± 0.2	3162a
Mo	20.0 ± 0.2	3134	C	2000[a]	*
P	1000 ± 10	3139a	Cl	20,000 ± 200	3182

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) and ion chromatography (IC) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

* Refer to Traceability Information, Section d

[a] The carbon concentration is provided for reference only due to the nature of the element

Uncertified Values:

Trace Metal Impurity Scan: The data reported are based upon a scan of this specific lot via ICP-OES/ICP-MS analysis. The values are reported in µg/L.

Ag	< 0.3	Cd	< 0.5	Mn	20	Se	2	V	2
As	4	Co	19	Ni	17	Sn	< 3	W	2
Ba	5	Cr	14	Pb	3	Sr	18	Zn	22
Be	< 0.1	Cu	6	Sb	3	Tl	< 0.1		

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: June 2020

Certificate Issue Date: February 28, 2020

Moven Mutuvari

Moven Mutuvari PhD., Laboratory Manager

Reported from CoA

	1908821	2005507
	PPB	PPB
Cd	0.5	0.5
Co	10	19
Sr	58	18

Calculated from CoA

	DF5 of 1908821	DF5 of 2005507	DF10 of 1908821	DF10 of 2005507
	PPB	PPB	PPB	PPB
Cd	0.1	0.1	0.05	0.05
Co	2	3.8	1	1.9
Sr	11.6	3.6	5.8	1.8

Limits

		(2 x LOQ) + Contamination		LOQ + Contamination	
	LOQ	Limit for 1908821	Limit for 2005507	Limit for 1908821	Limit for 2005507
	PPB	PPB	PPB	PPB	PPB
Cd	0.5	**1.05**	**1.05**	**0.55**	**0.55**
Co	0.5	**2**	**2.9**	**1.5**	**2.4**
Sr	1	**7.8**	**3.8**	**6.8**	**2.8**

Analytical Results

	DF5 of 1908821	DF5 of 2005507	DF10 of 1908821	DF10 of 2005507
	PPB	PPB	PPB	PPB
Cd	0.793	0.582	0.385	0.326
Co	2.535	4.963	1.278	2.371
Sr	17.958	5.236	8.567	2.425

Calculations from Analytical Results

	1908821 calc from DF5	1908821 calc from DF10	2005507 calc from DF5	2005507 calc from DF10
	PPB	PPB	PPB	PPB
Cd	3.965	3.85	2.91	3.26
Co	12.675	12.78	24.815	23.71
Sr	89.79	85.67	26.18	24.25

	59 Co		88 Sr		112 Cd		Notes
Sample Name	Conc. [PPB]	CPS	Conc. [PPB]	CPS	Conc. [PPB]	CPS	
1908821 @5	2.535	6685.08	17.958	18769.77	0.504	458.01	
19008821 @10	1.278	3450.53	8.567	9089.92	0.236	254.67	
2005507 @5	4.963	12826.16	5.236	5404.53	0.374	352.01	
2005507 @10	2.371	6228.29	2.425	2540.33	0.185	210.67	
House 1908821 @5	2.552	5484.57	17.183	14641.36	0.826	576.02	
House 19008821 @10	1.322	2850.38	8.359	7088.73	0.381	294.01	
House 2005507 @5	-0.001	53.33	4.877	4254.16	0.618	454.01	Not spiked for Co
House 2005507 @10	-0.013	26.67	2.305	2030.23	0.326	268.00	

Reagent

MT_S_ICS2A_HP_00009

high-purity standards
7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Certificate of Analysis

Certified Reference Material

ISO 17034:2016 (RMP) Accreditation Certificate Number AR-1436

ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Product Description:

Name:	ICP-MS Interference Check Standard 2
Part Number:	**ICP-MS-ICS-2-A-100**
Lot Number:	**2005507-100**
Matrix:	Tr HF + 5% HNO_3
Purity:	99.98% - 99.999%
Density:	1.059g/mL ± 0.002 g/mL @ 21.2°C

Certified Values:

Element	(mg/L)	SRM ID	Element	(mg/L)	SRM ID
Al	1000 ± 10	3101a	K	1000 ± 10	3141a
Ca	3000 ± 30	3109a	Na	2500 ± 25	3152a
Fe	2500 ± 25	3126a	S	1000 ± 10	3154
Mg	1000 ± 10	3131a	Ti	20.0 ± 0.2	3162a
Mo	20.0 ± 0.2	3134	C	2000[a]	*
P	1000 ± 10	3139a	Cl	20,000 ± 200	3182

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) and ion chromatography (IC) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

* Refer to Traceability Information, Section d

[a] The carbon concentration is provided for reference only due to the nature of the element

Uncertified Values:

Trace Metal Impurity Scan: The data reported are based upon a scan of this specific lot via ICP-OES/ICP-MS analysis. The values are reported in µg/L.

Ag	< 0.3	Cd	< 0.5	Mn	20	Se	2	V	2
As	4	Co	19	Ni	17	Sn	< 3	W	2
Ba	5	Cr	14	Pb	3	Sr	18	Zn	22
Be	< 0.1	Cu	6	Sb	3	Tl	< 0.1		

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: June 2020

Certificate Issue Date: February 28, 2020

Moven Mutuvari

Moven Mutuvari PhD., Laboratory Manager

Reagent

MT_S_ICS2B_HP_00003

high-purity standards

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Rec'd 1 Bottle "C" Expires 9-30-20

Certificate of Analysis

Certified Reference Material

Opened 9-17-19

Product Description:

Name:	ICP-MS Interference Check 2
Part Number:	**ICP-MS-ICS-2** Solution B
Lot Number:	**1811324**
Matrix:	2% HNO_3
Purity:	99.992% - 99.9999%

ISO Guide 34:2009 (RMP) Accreditation Certificate Number AR-1436

ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Certified Values:

Element	(mg/L)	SRM ID	SRM Lot#	Element	(mg/L)	SRM ID	SRM Lot#
As	10.0 ± 0.1	3103a	100818	Ni	20.0 ± 0.2	3136	120619
Cd	10.0 ± 0.1	3108	130116	Se	10.0 ± 0.1	3149	100901
Cr	20.0 ± 0.2	3112a	030730	Ag	5.00 ± 0.05	3151	160729
Co	20.0 ± 0.2	3113	000630	V	20.0 ± 0.2	3165	160906
Cu	20.0 ± 0.2	3114	121207	Zn	10.0 ± 0.1	3168a	120629
Mn	20.0 ± 0.2	3132	050429				

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES) and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.

* Refer to Traceability Information, Section d

Density: 1.010 g/mL ± 0.002 g/mL @ 20.0°C± 0.3 °C

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: **September 2019**

Certificate Issue Date: May 8, 2018

Moven Mutuvari

Moven Mutuvari PhD., Laboratory Manager

Reagent

MT_S_INF1_SC_00008

SCP SCIENCE

Providing Innovative Solutions to Analytical Chemists

Certificate of Analysis

1.0 DESCRIPTION : ***Plasma*** **CAL – Custom Standard**

Catalogue Number : **AQ0-097-715** **INF-1**

Lot Number : **S200217031**

Matrix: **5.0% HNO3**

Expiration Date (End of month): **February 2021**

2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:

Method of Analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)

Traceability: Applicable NIST Standard Reference Materials (see list below):

3101a	Al	3109a	Ca	3117a	Eu	3126a	Fe	3134	Mo	3142a	Pr	3151	Ag	3159	Th	3167a	Y
3102a	Sb	3110	Ce	3118a	Gd	3127a	La	3135a	Nd	3143	Re	3152a	Na	3160a	Tm	3168a	Zn
3103a	As	3111a	Cs	3119a	Ga	3128	Pb	3136	Ni	3144	Rh	3153a	Sr	3161a	Sn	3169	Zr
3104a	Ba	3112a	Cr	3120a	Ge	3129a	Li	3137	Nb	3145a	Rb	3154	S	3162a	Ti		
3105a	Be	3113	Co	3121	Au	3130a	Lu	3138	Pd	3147a	Sm	3155	Ta	3163	W		
3106	Bi	3114	Cu	3122	Hf	3131a	Mg	3139a	P	3148a	Sc	3156	Te	3164	U		
3107	B	3115a	Dy	3123a	Ho	3132	Mn	3140	Pt	3149	Se	3157a	Tb	3165	V		
3108	Cd	3116a	Er	3124a	In	3133	Hg	3141a	K	3150	Si	3158	Tl	3166a	Yb		

Certified Concentrations:

Al	5 012 ± 43	µg/ml
Ca	5 053 ± 46	µg/ml
Fe	2 012 ± 16	µg/ml
Mg	5 012 ± 44	µg/ml

ACCREDITED
Reference Material Producer
CERTIFICATE #2985.02

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) such as the SRM inherited uncertainty, weighing and dilution errors and instrument variability. The combined uncertainty ($uc= \nu\Sigma u_i^2$) has been multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:

Density: **1.096 g/ml** @ **22.1 °C**

4.0 APPROVAL AND DATE OF CERTIFICATION:

Certification Approval: Yaling Sui, Chemist

Certification Date: **February 20, 2020**

Yaling Sui

SCP SCIENCE

Providing Innovative Solutions to Analytical Chemists

5.0 INTENDED USE:

- ICP Standards: For the calibration of, including but not limited to: ICP-AES, ICP-MS, FAAS, GFAA, XRF and DCP.
- AA Standards: For the calibration of Flame (FAAS) and Graphite Furnace (GFAA) Atomic Absorption Spectrometers.
- Matrix Modifiers: For the optimization of analytical conditions to provide better Graphite Furnace Atomic Absorption (GFAA) instrument response and improved detection limits.
- pH Standards: For the calibrating pH meters or for other wet chemistry applications.
- Conductivity Standards: For electrolytic conductivity measurement as a calibration standard.
- IC Standards: for calibration of, but not limited to IC, HPLC, TLC, ISE, IR, NMR, MS, UV/VIS or other wet chemistry applications.

For any inquiries, please contact **SCP SCIENCE**.

6.0 INSTRUCTIONS FOR USE:

Handling and Storage: Keep product tightly capped when not in use. The solution should be opened for a minimum amount of time necessary to dispense the amount required. Do not pipet or use directly from container. Do not return unused portions back to container. Store under normal laboratory conditions. Avoid exposure to excessive sources of heat and humidity or direct sunlight.

Stability: This Standard is guaranteed to be stable and accurate to within the specified uncertainty of measurement up to the unopened expiry date, if sealed, or up to the opened expiry date (when indicated), whichever comes first, provided the solution is kept tightly capped and stored under the indicated storage conditions. Purchasers will be notified of any significant changes resulting in re-certification or withdrawal of the product prior to the expiration date.

7.0 HAZARDOUS INFORMATION :

Please refer to the associated Material Safety Data Sheet (MSDS) for information regarding this product (available at www.SCPSCIENCE.com).

8.0 HOMOGENEITY:

This solution has been blended according to an in-house procedure and its homogeneity is guaranteed to be fit for purpose when a sample size sufficient for the intended method of analysis is used.

9.0 TRACEABILITY:

This CRM (Certified Reference Material) is traceable to the NIST SRM (Standard Reference Material) indicated in section 2 through an unbroken chain of comparisons. In addition, balances used are regularly calibrated using weights which are traceable to NIST (National Institute of Standards and Technology) or NRC (National Research Council of Canada) standards. All conductivity meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable Thermometer and standards. All pH meters used to analyze this standard have been regularly calibrated using a NIST or NRC traceable thermometer and pH/MV simulator.

10.0 PREPARATION*:*

For the preparation of these solutions, 18 meghom/cm double deionized water, high-purity acids and glassware calibrated to ASTM Class A specifications are used.

11.0 QUALITY SYSTEM CERTIFICATIONS*:*

ISO 9001 Certification: This standard was produced in a facility which operates a **registered** ISO 9001 Quality Management System. Please consult our web site for a copy of the most recent revision of our certificate of registration.

ISO 17025 Accreditation: SCP SCIENCE (Corporate Headquarters) operates an ISO 17025 **accredited** laboratory. Please consult our web site for a copy of the most recent revision of our certificate and scope of accreditation.

ISO 17034 Accreditation: SCP SCIENCE (Corporate Headquarters) is an ISO 17034 accredited Reference Material Producer. Please consult our website for a copy of our most recent certificate and scope of accreditation.

ACCREDITED
Reference Material Producer
CERT# 2885.02

ACCREDITED
Testing Laboratory CERT#2885.01

Corporate Headquarters:

CORPORATE HEADQUARTERS	USA	FRANCE	GERMANY
21800 Clark Graham	3rd Party Distribution Center	12 Ave. de Québec, Bat. Iberis	Alte Marktoberdorfer Straße 14,
Baie D'Urfé (Montréal), Quebec	348 Route 11, Champlain,	SILIC 642, 91965 Courtaboeuf	87616, Marktoberdorf
H9X 4B6 Canada	N.Y. 12919-4816		
Phone: +1 (800) 361-6820	Phone: +1 (800) 361-6820	Phone: +33 (0) 1 69 18 71 17	Phone: +49 (0) 8342-89560-61
Fax: +1 (800) 253-5549	Fax: +1 (800) 253-5549	Fax: +33 (0) 1 60 92 05 67	Fax: +49 (0) 8342-89560-69

CORPORATE : Phone: +1 (514) 457-0701 | Fax: +1 (514) 457-4499 www.scpscience.com | sales@scpscience.com

Reagent

MT_S_INF1_SC_00014

SCP SCIENCE

Providing Innovative Solutions to Analytical Chemists

Certificate of Analysis

1.0 DESCRIPTION : ***Plasma* CAL – Custom Standard**

Catalogue Number : **AQ0-097-715**

Lot Number : **S200417023**

Matrix: **5.0% HNO3 INF-1**

Expiration Date (End of month): **April 2021**

2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:

Method of Analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)

Traceability: Applicable NIST Standard Reference Materials (see list below):

3101a	Al	3109a	Ca	3117a	Eu	3126a	Fe	3134	Mo	3142a	Pr	3151	Ag	3159	Th	3167a	Y
3102a	Sb	3110	Ce	3118a	Gd	3127a	La	3135a	Nd	3143	Re	3152a	Na	3160a	Tm	3168a	Zn
3103a	As	3111a	Cs	3119a	Ga	3128	Pb	3136	Ni	3144	Rh	3153a	Sr	3161a	Sn	3169	Zr
3104a	Ba	3112a	Cr	3120a	Ge	3129a	Li	3137	Nb	3145a	Rb	3154	S	3162a	Ti		
3105a	Be	3113	Co	3121	Au	3130a	Lu	3138	Pd	3147a	Sm	3155	Ta	3163	W		
3106	Bi	3114	Cu	3122	Hf	3131a	Mg	3139a	P	3148a	Sc	3156	Te	3164	U		
3107	B	3115a	Dy	3123a	Ho	3132	Mn	3140	Pt	3149	Se	3157a	Tb	3165	V		
3108	Cd	3116a	Er	3124a	In	3133	Hg	3141a	K	3150	Si	3158	Tl	3166a	Yb		

Certified Concentrations:

Al	5 015 ± 32	µg/ml
Ca	5 057 ± 35	µg/ml
Fe	2 023 ± 18	µg/ml
Mg	5 003 ± 39	µg/ml

ACCREDITED
Reference Material Producer
CERTIFICATE #2985.02

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) such as the SRM inherited uncertainty, weighing and dilution errors and instrument variability. The combined uncertainty ($uc= v\Sigma u_i^2$) has been multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:

Density: **1.096 g/ml @ 22.1 °C**

4.0 APPROVAL AND DATE OF CERTIFICATION:

Certification Approval: Yaling Sui, Chemist

Certification Date: **April 23, 2020**

Yaling Sui

Reagent

MT_S_LAN13_IV_00003

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883 02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	LANCASTER-13
Lot Number:	P2-MEB687710
Matrix:	5% (v/v) HNO3 tr. HF
Value / Analyte(s):	100 µg/mL ea: Cadmium, Nickel, Zinc, 60 µg/mL ea: Antimony, 55 µg/mL ea: Selenium, Lead, 50 µg/mL ea: Vanadium, Cobalt, Chromium, Copper, Manganese, Barium, Beryllium, 20 µg/mL ea: Silver, 10 µg/mL ea: Arsenic, Thallium

410-19542

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Antimony, Sb	59.90 ± 0.44 µg/mL	Arsenic, As	10.00 ± 0.07 µg/mL
Barium, Ba	49.97 ± 0.23 µg/mL	Beryllium, Be	49.98 ± 0.24 µg/mL
Cadmium, Cd	100.0 ± 0.4 µg/mL	Chromium, Cr	49.95 ± 0.28 µg/mL
Cobalt, Co	50.01 ± 0.24 µg/mL	Copper, Cu	49.97 ± 0.22 µg/mL
Lead, Pb	54.96 ± 0.25 µg/mL	Manganese, Mn	49.98 ± 0.22 µg/mL
Nickel, Ni	100.0 ± 0.4 µg/mL	Selenium, Se	54.94 ± 0.38 µg/mL
Silver, Ag	19.99 ± 0.14 µg/mL	Thallium, Tl	10.01 ± 0.07 µg/mL
Vanadium, V	49.97 ± 0.22 µg/mL	Zinc, Zn	100.0 ± 0.4 µg/mL

Density: 1.027 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Ag	ICP Assay	3151	160729
Ag	Volhard	999c	999c
Ag	Calculated		See Sec. 4.2
As	ICP Assay	3103a	100818
As	Calculated		See Sec. 4.2
Ba	ICP Assay	3104a	140909
Ba	Gravimetric		See Sec. 4.2
Be	ICP Assay	3105a	090514
Be	Calculated		See Sec. 4.2
Cd	ICP Assay	3108	130116
Cd	EDTA	928	928
Co	EDTA	928	928
Co	ICP Assay	traceable to 3113	M2-CO661665
Cr	ICP Assay	3112a	170630
Cu	ICP Assay	3114	121207
Cu	EDTA	928	928
Cu	Calculated		See Sec. 4.2
Mn	EDTA	928	928
Mn	ICP Assay	Traceable to 3132	N2-MN665236
Mn	Calculated		See Sec. 4.2
Ni	ICP Assay	3136	120619
Ni	EDTA	928	928
Ni	Calculated		See Sec. 4.2
Pb	ICP Assay	3128	101026
Pb	EDTA	928	928
Sb	ICP Assay	3102a	140911
Se	ICP Assay	3149	100901
Se	Calculated		See Sec. 4.2
Tl	ICP Assay	3158	151215
Tl	Calculated		See Sec. 4.2
V	ICP Assay	3165	160906
V	EDTA	928	928
Zn	ICP Assay	3168a	120629
Zn	EDTA	928	928

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\ (u_{char\ i})^2)]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\ (u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\ (u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

HF Note: This standard should not be prepared or stored in glass.

Low Silver Note: This solution contains "LOW" levels of Silver. Please store this entire bottle inside a sealed glass jar.

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone 800.669.6799; 540 585 3030 Fax 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

December 18, 2019

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- December 18, 2023

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

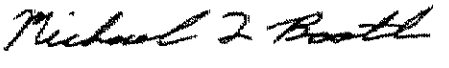
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Approved By:

Michael Booth
Manager, Quality Control



Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Reagent

MT_S_MSCCV_SP_00001

SCP SCIENCE

Providing Innovative Solutions to Analytical Chemists

Certificate of Analysis

1.0 DESCRIPTION :

Plasma CAL – Custom Standard

Catalogue Number : **AQ0-140-645**

Lot Number : **S200325038** **ICP-MS CCV**

Matrix: **4.0% HNO3 Traces HF**

Expiration Date (End of month): **April 2021**

2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:

Method of Analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)

Traceability: Applicable NIST Standard Reference Materials (see list below):

3101a	Al	3109a	Ca	3117a	Eu	3126a	Fe	3134	Mo	3142a	Pr	3151	Ag	3159	Th	3167a	Y
3102a	Sb	3110	Ce	3118a	Gd	3127a	La	3135a	Nd	3143	Re	3152a	Na	3160a	Tm	3168a	Zn
3103a	As	3111a	Cs	3119a	Ga	3128	Pb	3136	Ni	3144	Rh	3153a	Sr	3161a	Sn	3169	Zr
3104a	Ba	3112a	Cr	3120a	Ge	3129a	Li	3137	Nb	3145a	Rb	3154	S	3162a	Ti		
3105a	Be	3113	Co	3121	Au	3130a	Lu	3138	Pd	3147a	Sm	3155	Ta	3163	W		
3106	Bi	3114	Cu	3122	Hf	3131a	Mg	3139a	P	3148a	Sc	3156	Te	3164	U		
3107	B	3115a	Dy	3123a	Ho	3132	Mn	3140	Pt	3149	Se	3157a	Tb	3165	V		
3108	Cd	3116a	Er	3124a	In	3133	Hg	3141a	K	3150	Si	3158	Tl	3166a	Yb		

Certified Concentrations:

Ag	20.19 ± 0.17	µg/ml	Pb	20.15 ± 0.19	µg/ml
As	200.1 ± 1.6	µg/ml	Sb	20.21 ± 0.21	µg/ml
B*	200.0 ± 2.0	µg/ml	Se	20.18 ± 0.20	µg/ml
Ba	200.5 ± 1.8	µg/ml	Sn	20.26 ± 0.20	µg/ml
Be	19.99 ± 0.20	µg/ml	Sr*	20.00 ± 0.20	µg/ml
Cd	20.01 ± 0.21	µg/ml	Ti	200.7 ± 1.9	µg/ml
Co	200.2 ± 2.4	µg/ml	Tl	20.09 ± 0.19	µg/ml
Cr	200.9 ± 1.9	µg/ml	U	201.7 ± 2.0	µg/ml
Mn*	200.0 ± 2.0	µg/ml	V	199.9 ± 2.0	µg/ml
Mo	19.98 ± 0.24	µg/ml	Zn	201.3 ± 1.9	µg/ml
Ni	200.3 ± 1.9	µg/ml			

ACCREDITED
Reference Material Producer
CERTIFICATE #2885.02

*Concentration value derived from v/v dilutions of certified, NIST-traceable starting materials

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) such as the SRM inherited uncertainty, weighing and dilution errors and instrument variability. The combined uncertainty ($uc = v\Sigma u_i^2$) has been multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:

Density: **1.022 g/ml** @ **21.9 °C**

4.0 APPROVAL AND DATE OF CERTIFICATION:

Certification Approval: Yaling Sui, Chemist

Certification Date: **April 03, 2020**

Yaling Sui

Reagent

MT_S_MWLLC_HP_00002

7221 Investment Drive • North Charleston, SC 29418
843.767.7900 • info@highpuritystandards.com • www.highpuritystandards.com

Recd 2 Bottles A and B.
Expires 8-31-20
PE3472

Certificate of Analysis

Certified Reference Material

Product Description: Custom Inorganic Standard

Product Number: **HPS-510-058-500**
Lot Number: **1922619**
Matrix: 2% HNO3 / Tr HF
Purity: 99.95%-99.9999%

ISO 17034:2016 (RMP) Accreditation Certificate Number AR-1436

ISO/IEC 17025:2005 Accreditation Certificate Number AT-1529

Certified Values:

Element	(µg/mL)	SRM ID	SRM Lot#	Element	(µg/mL)	SRM ID	SRM Lot#
Ag	0.500 ± 0.005	3151	160729	Mo	0.50 ± 0.01	3134	130418
Al	25.0 ± 0.2	3101a	140903	Na	200 ± 2	3152a	120715
As	2.00 ± 0.02	3103a	100818	Ni	1.00 ± 0.01	3136	120619
Ba	2.00 ± 0.02	3104a	140909	Pb	0.50 ± 0.01	3128	101026
Be	0.50 ± 0.01	3105a	090514	Sb	1.00 ± 0.01	3102a	140911
Ca	100 ± 1	3109a	130213	Se	1.00 ± 0.01	3149	100901
Cd	0.500 ± 0.005	3108	130116	Sn	2.00 ± 0.02	3161a	140917
Co	0.500 ± 0.005	*		Sr	1.00 ± 0.01	*	
Cr	1.00 ± 0.01	3112a	170630	Ti	10.0 ± 0.1	3162a	130925
Cu	1.00 ± 0.01	3114	121207	Tl	0.500 ± 0.005	3158	151215
Fe	50.0 ± 0.3	3126a	140812	U	1.00 ± 0.01	3164	080521
K	200 ± 2	3141a	140813	V	0.500 ± 0.005	3165	160906
Mg	50.0 ± 0.3	3131a	140110	Zn	10.0 ± 0.1	3168a	120629
Mn	2.00 ± 0.03	*					

Certified values are based on gravimetric and volumetric preparation, and verified against NIST SRM 3100 series when available via inductively coupled plasma optical emission spectrometry (ICP-OES and/or inductively coupled plasma mass spectrometry (ICP-MS) using an internal laboratory-developed method. The uncertainty in the certified value is calculated for a 95% confidence interval and coverage factor *k* is about 2.
* Refer to Traceability Information, Section 4

Packaging and Storage Conditions:

The standard is packaged in a pre-cleaned polyethylene bottle. To maintain the integrity of this product, the solution should be kept tightly capped and stored under normal laboratory conditions.

Expiration Information:

The expiry date is guaranteed to be valid for twelve months from the shipping date provided and is guaranteed through the month of expiration. For this reason, standards from the same lot may have different expiration dates.

Shipped Date: August 2019
Expiration Date: August 31, 2020
Certificate Issue Date: August 15, 2019

Moven Mututuvari

Moven Mututuvari, Ph. D, Laboratory Manager

Reagent

MT_S_MWLLC_SC_00001

SCP SCIENCE
Providing Innovative Solutions to Analytical Chemists

Certificate of Analysis

1.0 DESCRIPTION :

***Plasma* CAL – Custom Standard**

Catalogue Number : **AQ0-154-615** **NW-LLC**
Lot Number : **S200803037**
Matrix: **2.0% HNO3** **Traces HF**
Expiration Date (End of month): **August 2021**

2.0 CERTIFIED VALUES AND ASSOCIATED UNCERTAINTY:

Method of Analysis: Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP-AES)

Traceability: Applicable NIST Standard Reference Materials (see list below):

3101a	Al	3109a	Ca	3117a	Eu	3126a	Fe	3134	Mo	3142a	Pr	3151	Ag	3159	Th	3167a	Y
3102a	Sb	3110	Ce	3118a	Gd	3127a	La	3135a	Nd	3143	Re	3152a	Na	3160a	Tm	3168a	Zn
3103a	As	3111a	Cs	3119a	Ga	3128	Pb	3136	Ni	3144	Rh	3153a	Sr	3161a	Sn	3169	Zr
3104a	Ba	3112a	Cr	3120a	Ge	3129a	Li	3137	Nb	3145a	Rb	3154	S	3162a	Ti		
3105a	Be	3113	Co	3121	Au	3130a	Lu	3138	Pd	3147a	Sm	3155	Ta	3163	W		
3106	Bi	3114	Cu	3122	Hf	3131a	Mg	3139a	P	3148a	Sc	3156	Te	3164	U		
3107	B	3115a	Dy	3123a	Ho	3132	Mn	3140	Pt	3149	Se	3157a	Tb	3165	V		
3108	Cd	3116a	Er	3124a	In	3133	Hg	3141a	K	3150	Si	3158	Tl	3166a	Yb		

Certified Concentrations:

Ag*	0.499 ± 1%	µg/ml	K	202.3 ± 2.0	µg/ml	Ti	10.16 ± 0.10	µg/ml
Al	24.96 ± 0.22	µg/ml	Mg	50.1 ± 0.5	µg/ml	Tl*	0.498 ± 1%	µg/ml
As*	2.01 ± 0.02	µg/ml	Mn*	2.00 ± 0.02	µg/ml	U*	1.00 ± 0.01	µg/ml
Ba*	1.99 ± 0.02	µg/ml	Mo*	0.498 ± 1%	µg/ml	V*	0.501 ± 1%	µg/ml
Be*	0.503 ± 1%	µg/ml	Na	203.0 ± 2.0	µg/ml	Zn*	10.00 ± 0.10	µg/ml
Ca	101.8 ± 0.9	µg/ml	Ni*	1.01 ± 0.01	µg/ml			
Cd*	0.500 ± 1%	µg/ml	Pb*	0.497 ± 1%	µg/ml			
Co*	0.500 ± 1%	µg/ml	Sb*	0.996 ± 1%	µg/ml			
Cr*	2.00 ± 0.02	µg/ml	Se*	1.01 ± 0.01	µg/ml			
Cu*	0.999 ± 1%	µg/ml	Sn*	2.02 ± 0.02	µg/ml			
Fe*	50.0 ± 0.5	µg/ml	Sr*	0.994 ± 1%	µg/ml			

ACCREDITED
Reference Material Producer

*Concentration value derived from v/v dilutions of certified, NIST-traceable starting materials

Note: The uncertainty of the certified value has been calculated from applicable uncertainty contributors (u_i) such as the SRM inherited uncertainty, weighing and dilution errors and instrument variability. The combined uncertainty ($uc = v\Sigma u_i^2$) has been multiplied by a coverage factor (k) of 2 to provide a 95% confidence interval.

3.0 REFERENCE VALUES:

Density: **1.009 g/ml** **@** **23.0 °C**

4.0 APPROVAL AND DATE OF CERTIFICATION:

Certification Approval: Yaling Sui, Chemist
Certification Date: **August 07, 2020**

Yaling Sui

Reagent

MT_S_SOL2A_IV_00003

INORGANIC VENTURES

CERTIFICATE of ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01 ACCREDITED Reference Material Producer Certificate 883 02

2.0 PRODUCT DESCRIPTION

Product Code:	Multi Analyte Custom Grade Solution
Catalog Number:	IV-53952
Lot Number:	P2-MEB678442
Matrix:	10% (v/v) HNO3
Value / Analyte(s):	10 000 µg/mL ea: Aluminum, Calcium, Potassium, Magnesium, Sodium, 6 000 µg/mL ea: Iron

410-19491

3.0 CERTIFIED VALUES AND UNCERTAINTIES

ANALYTE	CERTIFIED VALUE	ANALYTE	CERTIFIED VALUE
Aluminum, Al	**10 000.0 ± 30.0 µg/mL**	**Calcium, Ca**	**10 000.0 ± 40.0 µg/mL**
Iron, Fe	**6 000 ± 24 µg/mL**	**Magnesium, Mg**	**10 000.0 ± 40.0 µg/mL**
Potassium, K	**10 000.0 ± 40.0 µg/mL**	**Sodium, Na**	**10 000.0 ± 40.0 µg/mL**

Density: 1.210 g/mL (measured at 20 ± 4 °C)

Assay Information:

ANALYTE	METHOD	NIST SRM#	SRM LOT#
Al	ICP Assay	3101a	140903
Al	EDTA	928	928
Ca	ICP Assay	3109a	130213
Ca	EDTA	928	928
Fe	ICP Assay	3126a	140812
Fe	EDTA	928	928
K	ICP Assay	3141a	140813
K	Gravimetric		See Sec. 4.2
Mg	ICP Assay	3131a	140110
Mg	EDTA	928	928
Na	ICP Assay	3152a	120715
Na	Gravimetric		See Sec. 4.2

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 TRACE METALLIC IMPURITIES (TMI) DETERMINED BY ICP-MS AND ICP-OES (µg/mL)

N/A

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va 24073, USA; Telephone: 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

April 09, 2019

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- April 09, 2023

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

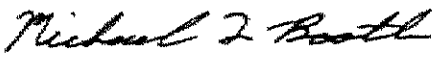
- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

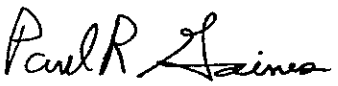
Certificate Approved By:

Michael Booth
Supervisor, Quality Control



Certifying Officer:

Paul Gaines
CEO, Senior Technical Director



Reagent

MT_SULF_FI_00009

ThermoFisher SCIENTIFIC

Certificate of Analysis

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120632

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Thermo Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Products are for research use or further manufacturing. Not for direct administration to humans or animals. It is the responsibility of the final formulator and end user to determine suitability based upon the intended use of the end product. Products are tested to meet the analytical requirements of the noted grade. The following information is the actual analytical results obtained.

Catalog Number	A300	Quality Test / Release Date	08/06/2019
Lot Number	193876		
Description	SULFURIC ACID, CERTIFIED ACS		
Country of Origin	United States	Suggested Retest Date	Aug/2024
Chemical Origin	Inorganic-non animal		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		
Chemical Comment			

N/A			
Result Name	Units	Specifications	Test Value
APPEARANCE		REPORT	COLORLESS AND FREE FROM INSOLUBLE MATTER
ALUMINUM	ppm	<= 0.2	<0.1
ZINC (Zn)	ppm	<= 0.2	<0.1
ARSENIC (As)	ppm	<= 0.004	<0.001
ASSAY	w/w %	Inclusive Between 95.0 - 98.0	96.1
BORON (B)	ppm	<= 0.05	<0.05
CALCIUM (Ca)	ppm	<= 0.3	<0.1
CHLORIDE	ppm	<= 0.1	<0.1
CHROMIUM (Cr)	ppm	<= 0.2	<0.1
COLOR	APHA	<= 10	<10
COPPER (Cu)	ppm	<= 0.1	<0.1
GOLD (Au)	ppm	<= 0.3	<0.1
HEAVY METALS (as Pb)	ppm	<= 0.8	<0.005
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
IRON (Fe)	ppm	<= 0.2	<0.2
SUBSTANCES REDUCING KMNO4	ppm	<= 2	<2
LEAD (Pb)	ppm	<= 0.3	<0.1
MAGNESIUM (Mg)	ppm	<= 0.3	<0.1
MANGANESE (Mn)	ppm	<= 0.2	<0.1
MERCURY (Hg)	ppb	<= 5	<5
NICKEL (Ni)	ppm	<= 0.1	<0.1

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.
If there are any questions with this certificate, please call at (800) 227-6701.
*Based on suggested storage condition.

ThermoFisher SCIENTIFIC

Certificate of Analysis

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Thermo Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2015 by SAI Global Certificate Number CERT – 0120632

NITRATE (NO3)	ppm	<= 0.2	<0.1
PHOSPHATE (PO4)	ppm	<= 0.5	<0.1
POTASSIUM (K)	ppm	<= 0.3	<0.1
RESIDUE AFTER IGNITION	ppm	<= 3	<3
SODIUM (Na)	ppm	<= 0.3	<0.1
TIN (Sn)	ppm	<= 0.2	<0.1
TITANIUM (Ti)	ppm	<= 0.3	<0.1
AMMONIUM (NH4)	ppm	<= 1	<1

Teresa Bailey-Wyche

Quality Assurance Specialist - Certificate of Analysis Fair Lawn

Note: The data listed is valid for all package sizes of this lot of this product, expressed as an extension of this catalog number listed above.
If there are any questions with this certificate, please call at (800) 227-6701.
*Based on suggested storage condition.

Receipt Date in TALs Based off of Product Manufacture Date

Expiration Date in TALs Based off of Manufacture Suggested Retest Date

For Receipt, Open, and Expiration date; refer to individual bottle.

ELLE QA

ELLE Dept. 4022 Management

Sample Container Check Report

Client: EA Engineering, Science, and Technology
Job ID: 410-10696-1
Project/Site: EPA 6 Wilcox Oil Co Superfund Site

Sample Container Checks and Verifications

Lab Sample ID: 410-10696-1 — Client Sample ID: MW-01

Bottle Code	Check Performed	By Employee	Date	Check Result	Expected Result	Adjusted Date	Reagent Lot #	Reagent Expires	Re-check Result	Re-check Date
A	pH Check, 24hr Adjustment Confirmation Required	PTG7	08/14/2020	<2	N/A	N/A	N/A	N/A	N/A	N/A
F	pH Check	USWF	08/14/2020	7	2-2	N/A	N/A	N/A	N/A	N/A
N	pH Check, 24hr Adjustment Confirmation Required	PTG7	08/14/2020	<2	N/A	N/A	N/A	N/A	N/A	N/A

Lab Sample ID: 410-10696-3 — Client Sample ID: MW-04

Bottle Code	Check Performed	By Employee	Date	Check Result	Expected Result	Adjusted Date	Reagent Lot #	Reagent Expires	Re-check Result	Re-check Date
A	pH Check, 24hr Adjustment Confirmation Required	PTG7	08/14/2020	<2	N/A	N/A	N/A	N/A	N/A	N/A
F	pH Check	USWF	08/14/2020	7	2-2	N/A	N/A	N/A	N/A	N/A
N	pH Check, 24hr Adjustment Confirmation Required	PTG7	08/14/2020	<2	N/A	N/A	N/A	N/A	N/A	N/A

Lab Sample ID: 410-10696-6 — Client Sample ID: WPA-GW-02

Bottle Code	Check Performed	By Employee	Date	Check Result	Expected Result	Adjusted Date	Reagent Lot #	Reagent Expires	Re-check Result	Re-check Date
A	pH Check, 24hr Adjustment Confirmation Required	PTG7	08/14/2020	<2	N/A	N/A	N/A	N/A	N/A	N/A
F	pH Check	USWF	08/14/2020	8	2-2	N/A	N/A	N/A	N/A	N/A
N	pH Check, 24hr Adjustment Confirmation Required	PTG7	08/14/2020	<2	N/A	N/A	N/A	N/A	N/A	N/A

Method 8260C

Volatile Organic Compounds (GC/MS) by Method 8260C

FORM II
GC/MS VOA SURROGATE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): R-624SilMS ID: 0.25(mm)

Client Sample ID	Lab Sample ID	DBFM #	DCA #	TOL #	BFB #
MW-01	410-10696-1	93	99	104	97
MW-03	410-10696-2	102	103	99	93
MW-04	410-10696-3	95	104	102	98
MW-04 DL	410-10696-3 DL	96	102	101	97
MW-05	410-10696-4	103	103	100	92
TB-01	410-10696-5	102	102	100	89
WPA-GW-02	410-10696-6	96	101	102	96
WPA-GW-02 DL	410-10696-6 DL	99	100	102	93
	MB 410-34763/7	102	102	101	91
	MB 410-35697/12	104	104	101	88
	LCS 410-34763/5	100	101	101	97
	LCS 410-35697/6	100	100	102	98
	LCSD 410-34763/34	98	100	101	97
	LCSD 410-35697/8	99	101	101	98
MW-03 MS	410-10696-2 MS	99	99	100	96
MW-03 MSD	410-10696-2 MSD	99	99	100	96

	QC LIMITS
DBFM = Dibromofluoromethane (Surr)	80-120
DCA = 1,2-Dichloroethane-d4 (Surr)	80-120
TOL = Toluene-d8 (Surr)	80-120
BFB = 4-Bromofluorobenzene (Surr)	80-120

Column to be used to flag recovery values

FORM II 8260C

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low Lab File ID: YG19L01.D

Lab ID: LCS 410-34763/5 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
cis-1,3-Dichloropropene	20.0	18.8	94	75-120	
trans-1,3-Dichloropropene	20.0	18.2	91	67-120	
Ethylbenzene	20.0	20.0	100	80-120	
Styrene	20.0	19.6	98	80-120	
1,4-Dichlorobenzene	20.0	20.1	101	80-120	
1,2-Dibromoethane	20.0	19.4	97	77-120	
1,2-Dichloroethane	20.0	19.1	96	73-124	
4-Methyl-2-pentanone	100	86.1	86	62-133	
Methylcyclohexane	20.0	18.9	94	67-121	
Toluene	20.0	20.1	101	80-120	
Chlorobenzene	20.0	20.9	104	80-120	
Cyclohexane	20.0	17.9	89	68-126	
1,2,4-Trichlorobenzene	20.0	18.9	94	63-120	
Dibromochloromethane	20.0	20.5	102	71-120	
Xylenes, Total	60.0	60.2	100	80-120	
Tetrachloroethene	20.0	18.4	92	80-120	
cis-1,2-Dichloroethene	20.0	21.0	105	80-125	
trans-1,2-Dichloroethene	20.0	19.9	100	80-126	
Methyl tertiary butyl ether	20.0	17.2	86	69-122	
1,3-Dichlorobenzene	20.0	19.8	99	80-120	
Carbon tetrachloride	20.0	20.8	104	64-134	
2-Hexanone	100	85.8	86	56-135	
Acetone	150	144	96	54-157	
Chloroform	20.0	20.6	103	80-120	
Benzene	20.0	20.2	101	80-120	
1,1,1-Trichloroethane	20.0	20.3	102	67-126	
Bromomethane	20.0	26.0	130	53-128	*
Chloromethane	20.0	18.1	90	56-121	
Chloroethane	20.0	24.4	122	55-123	
Vinyl chloride	20.0	19.2	96	56-120	
Methylene Chloride	20.0	20.2	101	80-120	
Carbon disulfide	20.0	19.6	98	65-128	
Bromoform	20.0	18.0	90	51-120	
Bromodichloromethane	20.0	19.8	99	71-120	
1,1-Dichloroethane	20.0	19.4	97	80-120	
1,1-Dichloroethene	20.0	20.6	103	80-131	
Trichlorofluoromethane	20.0	26.4	132	55-135	
Dichlorodifluoromethane	20.0	16.1	81	41-127	
Freon 113	20.0	19.3	96	73-139	
1,2-Dichloropropane	20.0	19.7	99	80-120	
2-Butanone	150	118	78	59-135	
1,1,2-Trichloroethane	20.0	21.2	106	80-120	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low Lab File ID: YG19L01.D

Lab ID: LCS 410-34763/5 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Trichloroethene	20.0	20.2	101	80-120	
Methyl acetate	20.0	16.0	80	54-136	
1,1,2,2-Tetrachloroethane	20.0	19.6	98	72-120	
1,2-Dichlorobenzene	20.0	20.3	102	80-120	
1,2-Dibromo-3-Chloropropane	20.0	17.1	86	47-131	
Isopropylbenzene	20.0	20.3	101	80-120	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low Lab File ID: YG21L01.D

Lab ID: LCS 410-35697/6 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
cis-1,3-Dichloropropene	20.0	18.9	95	75-120	
trans-1,3-Dichloropropene	20.0	18.3	92	67-120	
Ethylbenzene	20.0	20.6	103	80-120	
Styrene	20.0	20.3	102	80-120	
1,4-Dichlorobenzene	20.0	20.5	103	80-120	
1,2-Dibromoethane	20.0	20.1	101	77-120	
1,2-Dichloroethane	20.0	21.0	105	73-124	
4-Methyl-2-pentanone	100	92.6	93	62-133	
Methylcyclohexane	20.0	18.2	91	67-121	
Toluene	20.0	21.1	105	80-120	
Chlorobenzene	20.0	21.9	109	80-120	
Cyclohexane	20.0	18.0	90	68-126	
1,2,4-Trichlorobenzene	20.0	18.3	91	63-120	
Dibromochloromethane	20.0	20.9	105	71-120	
Xylenes, Total	60.0	62.2	104	80-120	
Tetrachloroethene	20.0	18.3	92	80-120	
cis-1,2-Dichloroethene	20.0	22.0	110	80-125	
trans-1,2-Dichloroethene	20.0	21.2	106	80-126	
Methyl tertiary butyl ether	20.0	17.1	85	69-122	
1,3-Dichlorobenzene	20.0	20.2	101	80-120	
Carbon tetrachloride	20.0	21.7	109	64-134	
2-Hexanone	100	91.9	92	56-135	
Acetone	150	168	112	54-157	
Chloroform	20.0	21.6	108	80-120	
Benzene	20.0	21.4	107	80-120	
1,1,1-Trichloroethane	20.0	21.1	106	67-126	
Bromomethane	20.0	26.4	132	53-128	*
Chloromethane	20.0	18.7	94	56-121	
Chloroethane	20.0	24.0	120	55-123	
Vinyl chloride	20.0	19.7	99	56-120	
Methylene Chloride	20.0	21.5	107	80-120	
Carbon disulfide	20.0	20.9	104	65-128	
Bromoform	20.0	17.7	88	51-120	
Bromodichloromethane	20.0	20.6	103	71-120	
1,1-Dichloroethane	20.0	20.3	102	80-120	
1,1-Dichloroethene	20.0	21.8	109	80-131	
Trichlorofluoromethane	20.0	24.6	123	55-135	
Dichlorodifluoromethane	20.0	16.4	82	41-127	
Freon 113	20.0	20.5	103	73-139	
1,2-Dichloropropane	20.0	21.0	105	80-120	
2-Butanone	150	135	90	59-135	
1,1,2-Trichloroethane	20.0	22.2	111	80-120	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low Lab File ID: YG21L01.D

Lab ID: LCS 410-35697/6 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Trichloroethene	20.0	20.8	104	80-120	
Methyl acetate	20.0	17.3	87	54-136	
1,1,2,2-Tetrachloroethane	20.0	20.3	102	72-120	
1,2-Dichlorobenzene	20.0	20.8	104	80-120	
1,2-Dibromo-3-Chloropropane	20.0	17.2	86	47-131	
Isopropylbenzene	20.0	20.3	102	80-120	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low Lab File ID: YG19L02.D

Lab ID: LCSD 410-34763/34 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
cis-1,3-Dichloropropene	20.0	18.7	94	0	30	75-120	
trans-1,3-Dichloropropene	20.0	18.1	91	1	30	67-120	
Ethylbenzene	20.0	20.1	100	0	30	80-120	
Styrene	20.0	19.6	98	0	30	80-120	
1,4-Dichlorobenzene	20.0	20.3	102	1	30	80-120	
1,2-Dibromoethane	20.0	19.6	98	1	30	77-120	
1,2-Dichloroethane	20.0	19.8	99	3	30	73-124	
4-Methyl-2-pentanone	100	86.2	86	0	30	62-133	
Methylcyclohexane	20.0	19.3	97	2	30	67-121	
Toluene	20.0	20.3	101	1	30	80-120	
Chlorobenzene	20.0	20.8	104	0	30	80-120	
Cyclohexane	20.0	18.1	90	1	30	68-126	
1,2,4-Trichlorobenzene	20.0	18.9	94	0	30	63-120	
Dibromochloromethane	20.0	20.5	102	0	30	71-120	
Xylenes, Total	60.0	60.3	101	0	30	80-120	
Tetrachloroethene	20.0	18.7	94	2	30	80-120	
cis-1,2-Dichloroethene	20.0	21.1	105	0	30	80-125	
trans-1,2-Dichloroethene	20.0	20.1	101	1	30	80-126	
Methyl tertiary butyl ether	20.0	17.1	85	1	30	69-122	
1,3-Dichlorobenzene	20.0	19.8	99	0	30	80-120	
Carbon tetrachloride	20.0	20.6	103	1	30	64-134	
2-Hexanone	100	86.8	87	1	30	56-135	
Acetone	150	141	94	2	30	54-157	
Chloroform	20.0	20.3	102	1	30	80-120	
Benzene	20.0	20.2	101	0	30	80-120	
1,1,1-Trichloroethane	20.0	20.3	102	0	30	67-126	
Bromomethane	20.0	25.8	129	1	30	53-128	*
Chloromethane	20.0	18.1	91	0	30	56-121	
Chloroethane	20.0	24.2	121	1	30	55-123	
Vinyl chloride	20.0	19.4	97	1	30	56-120	
Methylene Chloride	20.0	20.4	102	1	30	80-120	
Carbon disulfide	20.0	19.5	97	1	30	65-128	
Bromoform	20.0	18.0	90	0	30	51-120	
Bromodichloromethane	20.0	19.9	99	1	30	71-120	
1,1-Dichloroethane	20.0	19.5	97	0	30	80-120	
1,1-Dichloroethene	20.0	20.8	104	1	30	80-131	
Trichlorofluoromethane	20.0	26.3	132	0	30	55-135	
Dichlorodifluoromethane	20.0	16.0	80	1	30	41-127	
Freon 113	20.0	19.3	96	0	30	73-139	
1,2-Dichloropropane	20.0	20.0	100	1	30	80-120	
2-Butanone	150	122	81	3	30	59-135	
1,1,2-Trichloroethane	20.0	21.0	105	1	30	80-120	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low Lab File ID: YG19L02.D

Lab ID: LCSD 410-34763/34 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Trichloroethene	20.0	20.2	101	0	30	80-120	
Methyl acetate	20.0	16.1	80	0	30	54-136	
1,1,2,2-Tetrachloroethane	20.0	19.6	98	0	30	72-120	
1,2-Dichlorobenzene	20.0	20.3	101	0	30	80-120	
1,2-Dibromo-3-Chloropropane	20.0	16.7	83	2	30	47-131	
Isopropylbenzene	20.0	20.2	101	0	30	80-120	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low Lab File ID: YG21L02.D

Lab ID: LCSD 410-35697/8 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
cis-1,3-Dichloropropene	20.0	18.9	94	0	30	75-120	
trans-1,3-Dichloropropene	20.0	18.3	92	0	30	67-120	
Ethylbenzene	20.0	20.5	103	0	30	80-120	
Styrene	20.0	20.1	100	1	30	80-120	
1,4-Dichlorobenzene	20.0	20.8	104	1	30	80-120	
1,2-Dibromoethane	20.0	20.4	102	1	30	77-120	
1,2-Dichloroethane	20.0	21.0	105	0	30	73-124	
4-Methyl-2-pentanone	100	93.0	93	0	30	62-133	
Methylcyclohexane	20.0	18.2	91	0	30	67-121	
Toluene	20.0	20.9	104	1	30	80-120	
Chlorobenzene	20.0	21.7	108	1	30	80-120	
Cyclohexane	20.0	17.8	89	1	30	68-126	
1,2,4-Trichlorobenzene	20.0	18.4	92	0	30	63-120	
Dibromochloromethane	20.0	20.8	104	1	30	71-120	
Xylenes, Total	60.0	61.3	102	1	30	80-120	
Tetrachloroethene	20.0	18.4	92	0	30	80-120	
cis-1,2-Dichloroethene	20.0	21.8	109	1	30	80-125	
trans-1,2-Dichloroethene	20.0	20.9	105	1	30	80-126	
Methyl tertiary butyl ether	20.0	17.1	85	0	30	69-122	
1,3-Dichlorobenzene	20.0	20.4	102	1	30	80-120	
Carbon tetrachloride	20.0	21.5	108	1	30	64-134	
2-Hexanone	100	93.3	93	2	30	56-135	
Acetone	150	164	109	2	30	54-157	
Chloroform	20.0	21.5	108	0	30	80-120	
Benzene	20.0	21.3	106	1	30	80-120	
1,1,1-Trichloroethane	20.0	21.1	105	0	30	67-126	
Bromomethane	20.0	24.4	122	8	30	53-128	
Chloromethane	20.0	18.6	93	1	30	56-121	
Chloroethane	20.0	23.8	119	1	30	55-123	
Vinyl chloride	20.0	19.2	96	3	30	56-120	
Methylene Chloride	20.0	21.5	107	0	30	80-120	
Carbon disulfide	20.0	20.9	105	0	30	65-128	
Bromoform	20.0	17.7	88	0	30	51-120	
Bromodichloromethane	20.0	20.7	104	1	30	71-120	
1,1-Dichloroethane	20.0	20.2	101	1	30	80-120	
1,1-Dichloroethene	20.0	21.7	108	0	30	80-131	
Trichlorofluoromethane	20.0	23.9	119	3	30	55-135	
Dichlorodifluoromethane	20.0	15.8	79	4	30	41-127	
Freon 113	20.0	20.2	101	1	30	73-139	
1,2-Dichloropropane	20.0	20.8	104	1	30	80-120	
2-Butanone	150	135	90	0	30	59-135	
1,1,2-Trichloroethane	20.0	22.1	111	0	30	80-120	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low Lab File ID: YG21L02.D

Lab ID: LCSD 410-35697/8 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Trichloroethene	20.0	20.6	103	1	30	80-120	
Methyl acetate	20.0	16.7	84	4	30	54-136	
1,1,2,2-Tetrachloroethane	20.0	20.5	103	1	30	72-120	
1,2-Dichlorobenzene	20.0	20.7	103	0	30	80-120	
1,2-Dibromo-3-Chloropropane	20.0	17.9	89	4	30	47-131	
Isopropylbenzene	20.0	20.2	101	0	30	80-120	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low Lab File ID: YG19S04.D

Lab ID: 410-10696-2 MS Client ID: MW-03 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
cis-1,3-Dichloropropene	20.0	ND	18.1	91	75-120	
trans-1,3-Dichloropropene	20.0	ND	18.0	90	67-120	
Ethylbenzene	20.0	ND	20.9	105	80-120	
Styrene	20.0	ND	20.1	101	80-120	
1,4-Dichlorobenzene	20.0	ND	20.6	103	80-120	
1,2-Dibromoethane	20.0	ND	19.6	98	77-120	
1,2-Dichloroethane	20.0	ND	19.9	100	73-124	
4-Methyl-2-pentanone	100	ND	84.1	84	62-133	
Methylcyclohexane	20.0	0.54 J	22.4	109	67-121	
Toluene	20.0	ND	20.9	105	80-120	
Chlorobenzene	20.0	ND	21.4	107	80-120	
Cyclohexane	20.0	ND	20.6	103	68-126	
1,2,4-Trichlorobenzene	20.0	ND	20.9	105	63-120	
Dibromochloromethane	20.0	ND	20.6	103	71-120	
Xylenes, Total	60.0	ND	63.2	105	80-120	
Tetrachloroethene	20.0	ND	19.1	95	80-120	
cis-1,2-Dichloroethene	20.0	ND	21.9	109	80-125	
trans-1,2-Dichloroethene	20.0	ND	21.5	107	80-126	
Methyl tertiary butyl ether	20.0	ND	16.7	83	69-122	
1,3-Dichlorobenzene	20.0	ND	20.3	101	80-120	
Carbon tetrachloride	20.0	ND	22.4	112	64-134	
2-Hexanone	100	ND	85.1	85	56-135	
Acetone	150	1.1 J	160	106	54-157	
Chloroform	20.0	ND	21.2	106	80-120	
Benzene	20.0	ND	21.2	106	80-120	
1,1,1-Trichloroethane	20.0	ND	21.8	109	67-126	
Bromomethane	20.0	ND	29.0	145	53-128	F1
Chloromethane	20.0	ND	20.4	102	56-121	
Chloroethane	20.0	ND	26.3	132	55-123	F1
Vinyl chloride	20.0	ND	22.1	110	56-120	
Methylene Chloride	20.0	ND	21.1	106	80-120	
Carbon disulfide	20.0	ND	21.6	108	65-128	
Bromoform	20.0	ND	17.5	87	51-120	
Bromodichloromethane	20.0	ND	20.5	103	71-120	
1,1-Dichloroethane	20.0	ND	20.3	102	80-120	
1,1-Dichloroethene	20.0	ND	22.6	113	80-131	
Trichlorofluoromethane	20.0	ND	28.6	143	55-135	F1
Dichlorodifluoromethane	20.0	ND	20.5	102	41-127	
Freon 113	20.0	ND	21.9	109	73-139	
1,2-Dichloropropane	20.0	ND	20.2	101	80-120	
2-Butanone	150	ND	115	77	59-135	
1,1,2-Trichloroethane	20.0	ND	21.3	106	80-120	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA MATRIX SPIKE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low Lab File ID: YG19S04.D

Lab ID: 410-10696-2 MS Client ID: MW-03 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Trichloroethene	20.0	ND	21.3	107	80-120	
Methyl acetate	20.0	ND	15.3	77	54-136	
1,1,2,2-Tetrachloroethane	20.0	ND	19.3	96	72-120	
1,2-Dichlorobenzene	20.0	ND	20.8	104	80-120	
1,2-Dibromo-3-Chloropropane	20.0	ND	17.3	87	47-131	
Isopropylbenzene	20.0	ND	21.8	109	80-120	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low Lab File ID: YG19S05.D

Lab ID: 410-10696-2 MSD Client ID: MW-03 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
cis-1,3-Dichloropropene	20.0	17.7	88	3	30	75-120	
trans-1,3-Dichloropropene	20.0	17.9	89	1	30	67-120	
Ethylbenzene	20.0	20.4	102	3	30	80-120	
Styrene	20.0	19.5	98	3	30	80-120	
1,4-Dichlorobenzene	20.0	20.0	100	3	30	80-120	
1,2-Dibromoethane	20.0	19.1	96	2	30	77-120	
1,2-Dichloroethane	20.0	19.4	97	3	30	73-124	
4-Methyl-2-pentanone	100	82.5	83	2	30	62-133	
Methylcyclohexane	20.0	21.7	106	3	30	67-121	
Toluene	20.0	20.3	101	3	30	80-120	
Chlorobenzene	20.0	20.8	104	3	30	80-120	
Cyclohexane	20.0	19.7	99	5	30	68-126	
1,2,4-Trichlorobenzene	20.0	20.5	102	2	30	63-120	
Dibromochloromethane	20.0	20.0	100	3	30	71-120	
Xylenes, Total	60.0	61.3	102	3	30	80-120	
Tetrachloroethene	20.0	18.5	92	3	30	80-120	
cis-1,2-Dichloroethene	20.0	20.8	104	5	30	80-125	
trans-1,2-Dichloroethene	20.0	20.9	105	3	30	80-126	
Methyl tertiary butyl ether	20.0	16.6	83	1	30	69-122	
1,3-Dichlorobenzene	20.0	19.6	98	3	30	80-120	
Carbon tetrachloride	20.0	21.6	108	4	30	64-134	
2-Hexanone	100	83.6	84	2	30	56-135	
Acetone	150	154	102	4	30	54-157	
Chloroform	20.0	20.8	104	2	30	80-120	
Benzene	20.0	20.5	102	4	30	80-120	
1,1,1-Trichloroethane	20.0	21.0	105	4	30	67-126	
Bromomethane	20.0	28.0	140	3	30	53-128	F1
Chloromethane	20.0	19.9	99	2	30	56-121	
Chloroethane	20.0	25.9	129	2	30	55-123	F1
Vinyl chloride	20.0	21.7	108	2	30	56-120	
Methylene Chloride	20.0	20.3	102	4	30	80-120	
Carbon disulfide	20.0	20.7	104	4	30	65-128	
Bromoform	20.0	17.4	87	0	30	51-120	
Bromodichloromethane	20.0	19.8	99	4	30	71-120	
1,1-Dichloroethane	20.0	19.7	99	3	30	80-120	
1,1-Dichloroethene	20.0	22.1	111	2	30	80-131	
Trichlorofluoromethane	20.0	29.1	146	2	30	55-135	F1
Dichlorodifluoromethane	20.0	18.7	93	9	30	41-127	
Freon 113	20.0	20.8	104	5	30	73-139	
1,2-Dichloropropane	20.0	19.8	99	2	30	80-120	
2-Butanone	150	114	76	1	30	59-135	
1,1,2-Trichloroethane	20.0	21.2	106	0	30	80-120	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM III
GC/MS VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low Lab File ID: YG19S05.D

Lab ID: 410-10696-2 MSD Client ID: MW-03 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Trichloroethene	20.0	20.5	102	4	30	80-120	
Methyl acetate	20.0	15.0	75	2	30	54-136	
1,1,2,2-Tetrachloroethane	20.0	18.8	94	2	30	72-120	
1,2-Dichlorobenzene	20.0	20.0	100	4	30	80-120	
1,2-Dibromo-3-Chloropropane	20.0	17.1	85	2	30	47-131	
Isopropylbenzene	20.0	21.0	105	4	30	80-120	

Column to be used to flag recovery and RPD values

FORM III 8260C

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab File ID: YG19B01.D Lab Sample ID: MB 410-34763/7

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: 9355 Date Analyzed: 08/19/2020 11:31

GC Column: R-624SilMS 30m ID: 0.25(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 410-34763/5	YG19L01.D	08/19/2020 10:03
	LCSD 410-34763/34	YG19L02.D	08/19/2020 10:47
TB-01	410-10696-5	YG19S02.D	08/19/2020 12:43
MW-03	410-10696-2	YG19S03.D	08/19/2020 13:05
MW-03 MS	410-10696-2 MS	YG19S04.D	08/19/2020 13:27
MW-03 MSD	410-10696-2 MSD	YG19S05.D	08/19/2020 13:49
MW-05	410-10696-4	YG19S14.D	08/19/2020 17:08
MW-01	410-10696-1	YG19S16.D	08/19/2020 17:52
WPA-GW-02	410-10696-6	YG19S18.D	08/19/2020 18:36
WPA-GW-02 DL	410-10696-6 DL	YG19S19.D	08/19/2020 18:57
MW-04 DL	410-10696-3 DL	YG19S20.D	08/19/2020 19:19

FORM IV
GC/MS VOA METHOD BLANK SUMMARY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab File ID: YG21B01.D Lab Sample ID: MB 410-35697/12

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: 9355 Date Analyzed: 08/21/2020 12:24

GC Column: R-624SilMS 30m ID: 0.25(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 410-35697/6	YG21L01.D	08/21/2020 10:11
	LCSD 410-35697/8	YG21L02.D	08/21/2020 10:56
MW-04	410-10696-3	YG21S15.D	08/21/2020 18:19

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Lab File ID: YL14T01.D BFB Injection Date: 07/14/2020

Instrument ID: 9355 BFB Injection Time: 12:32

Analysis Batch No.: 22126

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	7.1	
173	Less than 2.0 % of mass 174	0.2	(0.3) 1
174	Greater than 50% of mass 95	84.7	
175	5.0 - 9.0 % of mass 174	5.8	(6.9) 1
176	95.0 - 101.0 % of mass 174	81.3	(96.0) 1
177	5.0 - 9.0 % of mass 176	5.4	(6.6) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	IC 410-22126/3	YL14I01.D	07/14/2020	13:31
	IC 410-22126/4	YL14I02.D	07/14/2020	13:53
	ICIS 410-22126/5	YL14I03.D	07/14/2020	14:15
	IC 410-22126/6	YL14I04.D	07/14/2020	14:37
	IC 410-22126/7	YL14I05.D	07/14/2020	14:59
	IC 410-22126/8	YL14I06.D	07/14/2020	15:22
	IC 410-22126/9	YL14I07.D	07/14/2020	15:43
	ICV 410-22126/10	YL14V01.D	07/14/2020	16:05

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Lab File ID: YG19T02.D BFB Injection Date: 08/19/2020

Instrument ID: 9355 BFB Injection Time: 08:32

Analysis Batch No.: 34763

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.8	
173	Less than 2.0 % of mass 174	0.3	(0.3) 1
174	Greater than 50% of mass 95	84.5	
175	5.0 - 9.0 % of mass 174	6.1	(7.2) 1
176	95.0 - 101.0 % of mass 174	80.6	(95.4) 1
177	5.0 - 9.0 % of mass 176	5.1	(6.4) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 410-34763/3	YG19C01.D	08/19/2020	9:19
	LCS 410-34763/5	YG19L01.D	08/19/2020	10:03
	LCSD 410-34763/34	YG19L02.D	08/19/2020	10:47
	MB 410-34763/7	YG19B01.D	08/19/2020	11:31
TB-01	410-10696-5	YG19S02.D	08/19/2020	12:43
MW-03	410-10696-2	YG19S03.D	08/19/2020	13:05
MW-03 MS	410-10696-2 MS	YG19S04.D	08/19/2020	13:27
MW-03 MSD	410-10696-2 MSD	YG19S05.D	08/19/2020	13:49
MW-05	410-10696-4	YG19S14.D	08/19/2020	17:08
MW-01	410-10696-1	YG19S16.D	08/19/2020	17:52
WPA-GW-02	410-10696-6	YG19S18.D	08/19/2020	18:36
WPA-GW-02 DL	410-10696-6 DL	YG19S19.D	08/19/2020	18:57
MW-04 DL	410-10696-3 DL	YG19S20.D	08/19/2020	19:19

FORM V
GC/MS VOA INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Lab File ID: YG21T01.D BFB Injection Date: 08/21/2020

Instrument ID: 9355 BFB Injection Time: 08:14

Analysis Batch No.: 35697

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
95	Base Peak, 100% relative abundance	100.0	
96	5.0 - 9.0 % of mass 95	6.9	
173	Less than 2.0 % of mass 174	0.2	(0.3) 1
174	Greater than 50% of mass 95	90.7	
175	5.0 - 9.0 % of mass 174	6.6	(7.2) 1
176	95.0 - 101.0 % of mass 174	86.3	(95.2) 1
177	5.0 - 9.0 % of mass 176	5.7	(6.6) 2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 410-35697/3	YG21C01.D	08/21/2020	9:05
	LCS 410-35697/6	YG21L01.D	08/21/2020	10:11
	LCSD 410-35697/8	YG21L02.D	08/21/2020	10:56
	MB 410-35697/12	YG21B01.D	08/21/2020	12:24
MW-04	410-10696-3	YG21S15.D	08/21/2020	18:19

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Sample No.: ICIS 410-22126/5 Date Analyzed: 07/14/2020 14:15

Instrument ID: 9355 GC Column: R-624SilMS 30m ID: 0.25(mm)

Lab File ID (Standard): YL14I03.D Heated Purge: (Y/N) N

Calibration ID: 6832

		TBAd10		FB		CBZd5	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		361512	4.36	1283645	7.86	1007287	11.30
UPPER LIMIT		723024	4.86	2567290	8.36	2014574	11.80
LOWER LIMIT		180756	3.86	641823	7.36	503644	10.80
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 410-22126/10		314188	4.36	1191836	7.86	922738	11.30
CCVIS 410-34763/3		259939	4.36	1048734	7.87	849339	11.30
CCVIS 410-35697/3		229153	4.35	934893	7.86	761819	11.30

TBAd10 = t-Butyl alcohol-d10 (IS)
FB = Fluorobenzene (IS)
CBZd5 = Chlorobenzene-d5 (IS)

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260C

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Sample No.: ICIS 410-22126/5 Date Analyzed: 07/14/2020 14:15

Instrument ID: 9355 GC Column: R-624SilMS 30m ID: 0.25(mm)

Lab File ID (Standard): YL14I03.D Heated Purge: (Y/N) N

Calibration ID: 6832

		DCBd4					
		AREA #	RT #	#	RT #	#	RT #
INITIAL CALIBRATION MID-POINT		539627	13.18				
UPPER LIMIT		1079254	13.68				
LOWER LIMIT		269814	12.68				
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 410-22126/10		495602	13.18				
CCVIS 410-34763/3		488221	13.18				
CCVIS 410-35697/3		440641	13.18				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260C

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Sample No.: CCVIS 410-34763/3 Date Analyzed: 08/19/2020 09:19

Instrument ID: 9355 GC Column: R-624SilMS 30m ID: 0.25(mm)

Lab File ID (Standard): YG19C01.D Heated Purge: (Y/N) N

Calibration ID: 6865

		TBAd10		FB		CBZd5	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		259939	4.36	1048734	7.87	849339	11.30
UPPER LIMIT		519878	4.86	2097468	8.37	1698678	11.80
LOWER LIMIT		129970	3.86	524367	7.37	424670	10.80
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 410-34763/5		269317	4.36	1074066	7.86	850666	11.30
LCSD 410-34763/34		274584	4.34	1082243	7.86	854879	11.30
MB 410-34763/7		245459	4.36	956058	7.86	731613	11.30
410-10696-5	TB-01	186925	4.35	920771	7.86	707179	11.30
410-10696-2	MW-03	204092	4.34	897396	7.86	733294	11.30
410-10696-2 MS	MW-03 MS	241478	4.35	1053919	7.86	832056	11.30
410-10696-2 MSD	MW-03 MSD	258374	4.34	1130357	7.86	890588	11.30
410-10696-4	MW-05	190808	4.36	872816	7.86	679282	11.30
410-10696-1	MW-01	157591	4.34	987274	7.85	777986	11.30
410-10696-6	WPA-GW-02	297680	4.35	1091198	7.86	836895	11.30
410-10696-6 DL	WPA-GW-02 DL	253798	4.34	1051848	7.85	789932	11.30
410-10696-3 DL	MW-04 DL	173921	4.33	1107571	7.86	862540	11.30

TBAd10 = t-Butyl alcohol-d10 (IS)
FB = Fluorobenzene (IS)
CBZd5 = Chlorobenzene-d5 (IS)

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260C

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Sample No.: CCVIS 410-34763/3 Date Analyzed: 08/19/2020 09:19

Instrument ID: 9355 GC Column: R-624SilMS 30m ID: 0.25(mm)

Lab File ID (Standard): YG19C01.D Heated Purge: (Y/N) N

Calibration ID: 6865

		DCBd4					
		AREA #	RT #	#	RT #	#	RT #
12/24 HOUR STD		488221	13.18				
UPPER LIMIT		976442	13.68				
LOWER LIMIT		244111	12.68				
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 410-34763/5		481887	13.18				
LCSD 410-34763/34		485619	13.18				
MB 410-34763/7		399139	13.18				
410-10696-5	TB-01	381229	13.18				
410-10696-2	MW-03	402741	13.18				
410-10696-2 MS	MW-03 MS	472590	13.18				
410-10696-2 MSD	MW-03 MSD	502921	13.18				
410-10696-4	MW-05	382298	13.18				
410-10696-1	MW-01	443921	13.18				
410-10696-6	WPA-GW-02	474032	13.17				
410-10696-6 DL	WPA-GW-02 DL	439410	13.18				
410-10696-3 DL	MW-04 DL	494439	13.18				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260C

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Sample No.: CCVIS 410-35697/3 Date Analyzed: 08/21/2020 09:05

Instrument ID: 9355 GC Column: R-624SilMS 30m ID: 0.25(mm)

Lab File ID (Standard): YG21C01.D Heated Purge: (Y/N) N

Calibration ID: 6832

		TBAd10		FB		CBZd5	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		229153	4.35	934893	7.86	761819	11.30
UPPER LIMIT		458306	4.85	1869786	8.36	1523638	11.80
LOWER LIMIT		114577	3.85	467447	7.36	380910	10.80
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 410-35697/6		239537	4.36	944533	7.86	741755	11.30
LCSD 410-35697/8		249323	4.36	965334	7.86	761494	11.30
MB 410-35697/12		205978	4.37	802780	7.87	608717	11.30
410-10696-3	MW-04	329669	4.30	972326	7.86	754194	11.30

TBAd10 = t-Butyl alcohol-d10 (IS)
FB = Fluorobenzene (IS)
CBZd5 = Chlorobenzene-d5 (IS)

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260C

FORM VIII
GC/MS VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Sample No.: CCVIS 410-35697/3 Date Analyzed: 08/21/2020 09:05

Instrument ID: 9355 GC Column: R-624SilMS 30m ID: 0.25(mm)

Lab File ID (Standard): YG21C01.D Heated Purge: (Y/N) N

Calibration ID: 6832

		DCBd4					
		AREA #	RT #	#	RT #	#	RT #
12/24 HOUR STD		440641	13.18				
UPPER LIMIT		881282	13.68				
LOWER LIMIT		220321	12.68				
LAB SAMPLE ID	CLIENT SAMPLE ID						
LCS 410-35697/6		427656	13.18				
LCSD 410-35697/8		431231	13.18				
MB 410-35697/12		325146	13.18				
410-10696-3	MW-04	436633	13.18				

DCBd4 = 1,4-Dichlorobenzene-d4

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8260C

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-01 Lab Sample ID: 410-10696-1

Matrix: Water Lab File ID: YG19S16.D

Analysis Method: 8260C Date Collected: 08/11/2020 15:45

Sample wt/vol: 5(mL) Date Analyzed: 08/19/2020 17:52

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 34763 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.20
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.20
100-41-4	Ethylbenzene	0.79	J	1.0	0.40
100-42-5	Styrene	ND		5.0	0.20
106-46-7	1,4-Dichlorobenzene	ND		5.0	0.20
106-93-4	1,2-Dibromoethane	ND		1.0	0.20
107-06-2	1,2-Dichloroethane	ND		1.0	0.30
108-10-1	4-Methyl-2-pentanone	ND		10	0.50
108-87-2	Methylcyclohexane	160		5.0	0.50
108-88-3	Toluene	0.34	J	1.0	0.20
108-90-7	Chlorobenzene	ND		1.0	0.20
110-82-7	Cyclohexane	150		5.0	1.0
120-82-1	1,2,4-Trichlorobenzene	ND		5.0	0.30
124-48-1	Dibromochloromethane	ND		1.0	0.20
1330-20-7	Xylenes, Total	ND		6.0	1.4
127-18-4	Tetrachloroethene	ND		1.0	0.20
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.20
156-60-5	trans-1,2-Dichloroethene	ND		5.0	0.20
1634-04-4	Methyl tertiary butyl ether	ND		1.0	0.20
541-73-1	1,3-Dichlorobenzene	ND		5.0	0.20
56-23-5	Carbon tetrachloride	ND		1.0	0.20
591-78-6	2-Hexanone	ND		10	0.30
67-64-1	Acetone	2.1	J	20	0.70
67-66-3	Chloroform	ND		1.0	0.20
71-43-2	Benzene	ND		1.0	0.20
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.30
74-83-9	Bromomethane	ND	*	1.0	0.30
74-87-3	Chloromethane	ND		1.0	0.20
75-00-3	Chloroethane	ND		1.0	0.20
75-01-4	Vinyl chloride	ND		1.0	0.20
75-09-2	Methylene Chloride	ND		1.0	0.30
75-15-0	Carbon disulfide	ND		5.0	0.20
75-25-2	Bromoform	ND		4.0	1.0
75-27-4	Bromodichloromethane	ND		1.0	0.20
75-34-3	1,1-Dichloroethane	ND		1.0	0.20
75-35-4	1,1-Dichloroethene	ND		1.0	0.20

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-01 Lab Sample ID: 410-10696-1

Matrix: Water Lab File ID: YG19S16.D

Analysis Method: 8260C Date Collected: 08/11/2020 15:45

Sample wt/vol: 5(mL) Date Analyzed: 08/19/2020 17:52

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 34763 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-69-4	Trichlorofluoromethane	ND		1.0	0.20
75-71-8	Dichlorodifluoromethane	ND		1.0	0.20
76-13-1	Freon 113	ND		10	0.20
78-87-5	1,2-Dichloropropane	ND		1.0	0.20
78-93-3	2-Butanone	ND		10	0.30
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.20
79-01-6	Trichloroethene	ND		1.0	0.20
79-20-9	Methyl acetate	ND		5.0	0.30
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.20
95-50-1	1,2-Dichlorobenzene	ND		5.0	0.20
96-12-8	1,2-Dibromo-3-Chloropropane	ND		5.0	0.30
98-82-8	Isopropylbenzene	70		5.0	0.20

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	99		80-120
1868-53-7	Dibromofluoromethane (Surr)	93		80-120
460-00-4	4-Bromofluorobenzene (Surr)	97		80-120
2037-26-5	Toluene-d8 (Surr)	104		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S16.D
Lims ID: 410-10696-G-1
Client ID: MW-01
Sample Type: Client
Inject. Date: 19-Aug-2020 17:52:30 ALS Bottle#: 24 Worklist Smp#: 50
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0008412-050
Misc. Info.: 410-10696-G-1
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 25-Aug-2020 20:21:02 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1014

First Level Reviewer: campbellme Date: 19-Aug-2020 18:40:21

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
2 Dichlorodifluoromethane	85		2.050				ND	
4 Chloromethane	50		2.238				ND	
6 Vinyl chloride	62		2.360				ND	
8 Bromomethane	94		2.695				ND	
9 Chloroethane	64		2.780				ND	
11 Trichlorofluoromethane	101		3.090				ND	
17 1,1-Dichloroethene	96		3.686				ND	
18 Acetone	58	3.686	3.698	-0.012	66	1338	2.08	
19 112TCTFE	101		3.710				ND	
22 Carbon disulfide	76		4.009				ND	
24 Methyl acetate	43		4.136				ND	
* 26 t-Butyl alcohol-d10 (IS)	65	4.343	4.355	-0.012	33	157591	250.0	
27 Methylene Chloride	84		4.361				ND	
31 Methyl tert-butyl ether	73		4.781				ND	
32 trans-1,2-Dichloroethene	96		4.799				ND	
36 1,1-Dichloroethane	63		5.444				ND	
41 2-Butanone (MEK)	43		6.223				ND	
42 cis-1,2-Dichloroethene	96		6.272				ND	
49 Chloroform	83		6.746				ND	
$ 50 Dibromofluoromethane (Surr)	113	6.959	6.965	-0.006	93	220838	46.5	
51 1,1,1-Trichloroethane	97		6.983				ND	
52 Cyclohexane	56	7.093	7.099	-0.006	92	1439849	152.3	
54 Carbon tetrachloride	117		7.209				ND	
$ 56 1,2-Dichloroethane-d4 (Surr)	102	7.422	7.428	-0.006	97	58818	49.6	
57 Benzene	78		7.464				ND	
59 1,2-Dichloroethane	62		7.531				ND	
* 62 Fluorobenzene (IS)	96	7.853	7.859	-0.006	99	987274	50.0	
65 Trichloroethene	95		8.346				ND	
66 Methylcyclohexane	83	8.663	8.663	0.001	90	1767239	163.7	
67 1,2-Dichloropropane	63		8.675				ND	U
72 Dichlorobromomethane	83		9.015				ND	U

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
75 cis-1,3-Dichloropropene	75		9.551				ND	
76 4-Methyl-2-pentanone (MIBK)	43		9.703				ND	U
$ 77 Toluene-d8 (Surr)	98	9.855	9.855	0.000	96	1024763	52.1	
78 Toluene	92	9.922	9.934	-0.012	34	5027	0.3388	
80 trans-1,3-Dichloropropene	75		10.177				ND	
82 1,1,2-Trichloroethane	97		10.378				ND	
83 Tetrachloroethene	166		10.482				ND	
86 2-Hexanone	43		10.579				ND	U
88 Chlorodibromomethane	129		10.761				ND	
89 Ethylene Dibromide	107		10.877				ND	
S 90 Xylenes, Total	106		11.245				ND	
* 91 Chlorobenzene-d5 (IS)	117	11.297	11.297	0.000	86	777986	50.0	
93 Chlorobenzene	112		11.327				ND	
95 Ethylbenzene	91	11.406	11.406	0.000	49	23213	0.7891	
96 m-Xylene & p-Xylene	106		11.522				ND	
97 o-Xylene	106		11.850				ND	
98 Styrene	104		11.862				ND	
99 Bromoform	173		12.027				ND	
100 Isopropylbenzene	105	12.148	12.148	0.000	96	1997896	70.1	
$ 103 4-Bromofluorobenzene (Surr)	95	12.294	12.294	0.000	91	364755	48.3	
104 1,1,2,2-Tetrachloroethane	83		12.386				ND	U
117 1,3-Dichlorobenzene	146		13.122				ND	
* 119 1,4-Dichlorobenzene-d4	152	13.177	13.177	0.000	95	443921	50.0	
121 1,4-Dichlorobenzene	146		13.195				ND	
126 1,2-Dichlorobenzene	146		13.450				ND	
129 1,2-Dibromo-3-Chloropropane	75	13.998	13.992	0.006	37	482	0.1808	
131 1,2,4-Trichlorobenzene	180		14.545				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

MSV_HP20_ISSS_00023 Amount Added: 1.00 Units: uL Run Reagent

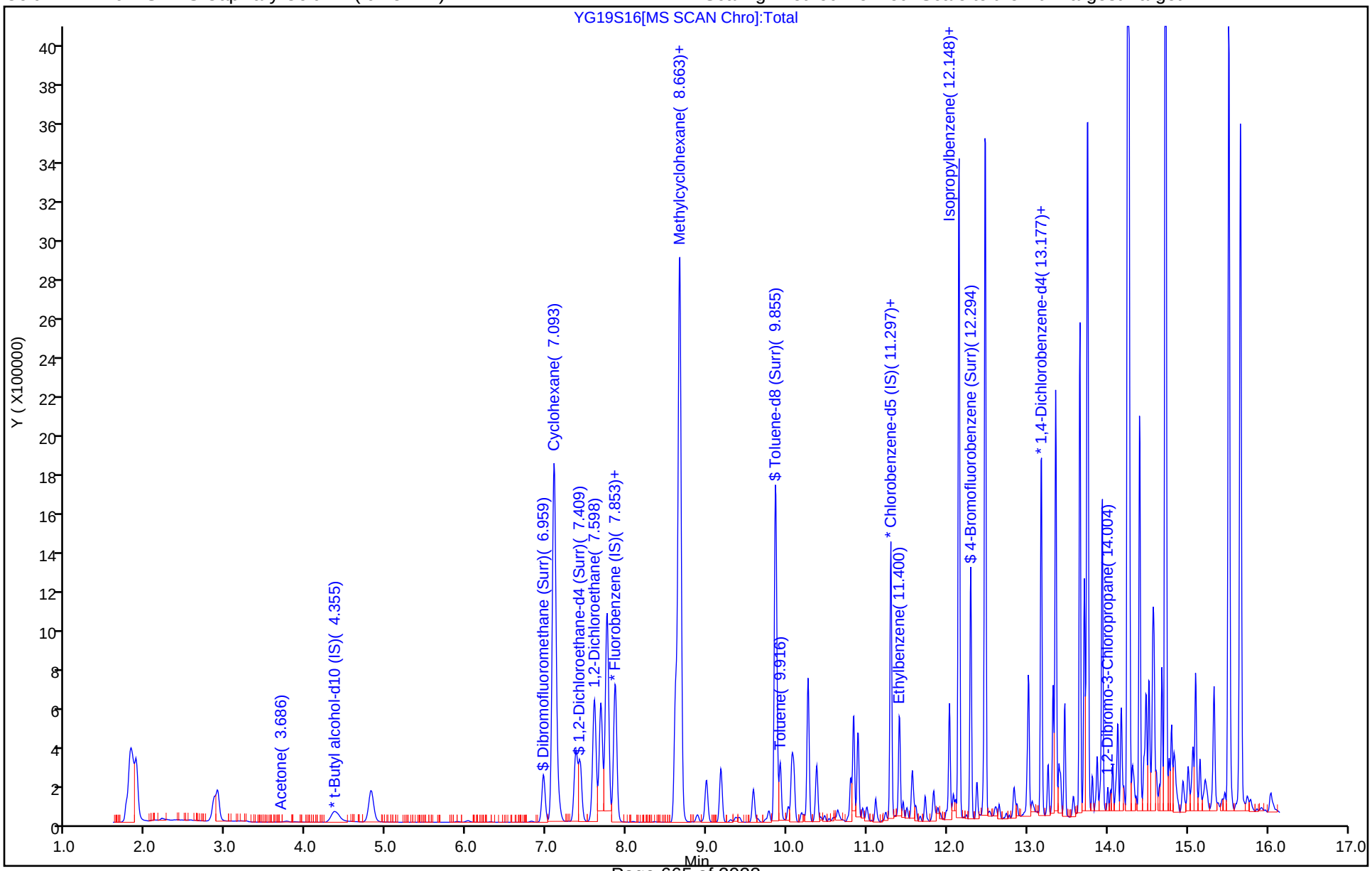
Report Date: 25-Aug-2020 20:21:11 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S16.D

Injection Date:	19-Aug-2020 17:52:30	Instrument ID:	9355	Operator ID:	clm27445
Lims ID:	410-10696-G-1	Lab Sample ID:	410-10696-1	Worklist Smp#:	50
Client ID:	MW-01				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	24
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S16.D
Lims ID: 410-10696-G-1
Client ID: MW-01
Sample Type: Client
Inject. Date: 19-Aug-2020 17:52:30 ALS Bottle#: 24 Worklist Smp#: 50
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0008412-050
Misc. Info.: 410-10696-G-1
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 25-Aug-2020 20:21:02 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1014

First Level Reviewer: campbellme Date: 19-Aug-2020 18:40:21

Compound	Amount Added	Amount Recovered	% Rec.
$ 50 Dibromofluoromethane (Surr)	50.0	46.5	92.93
$ 56 1,2-Dichloroethane-d4 (Surr)	50.0	49.6	99.28
$ 77 Toluene-d8 (Surr)	50.0	52.1	104.15
$ 103 4-Bromofluorobenzene (Surr)	50.0	48.3	96.68

Report Date: 25-Aug-2020 20:21:11 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S16.D

Injection Date: 19-Aug-2020 17:52:30 Instrument ID: 9355

Lims ID: 410-10696-G-1 Lab Sample ID: 410-10696-1

Client ID: MW-01

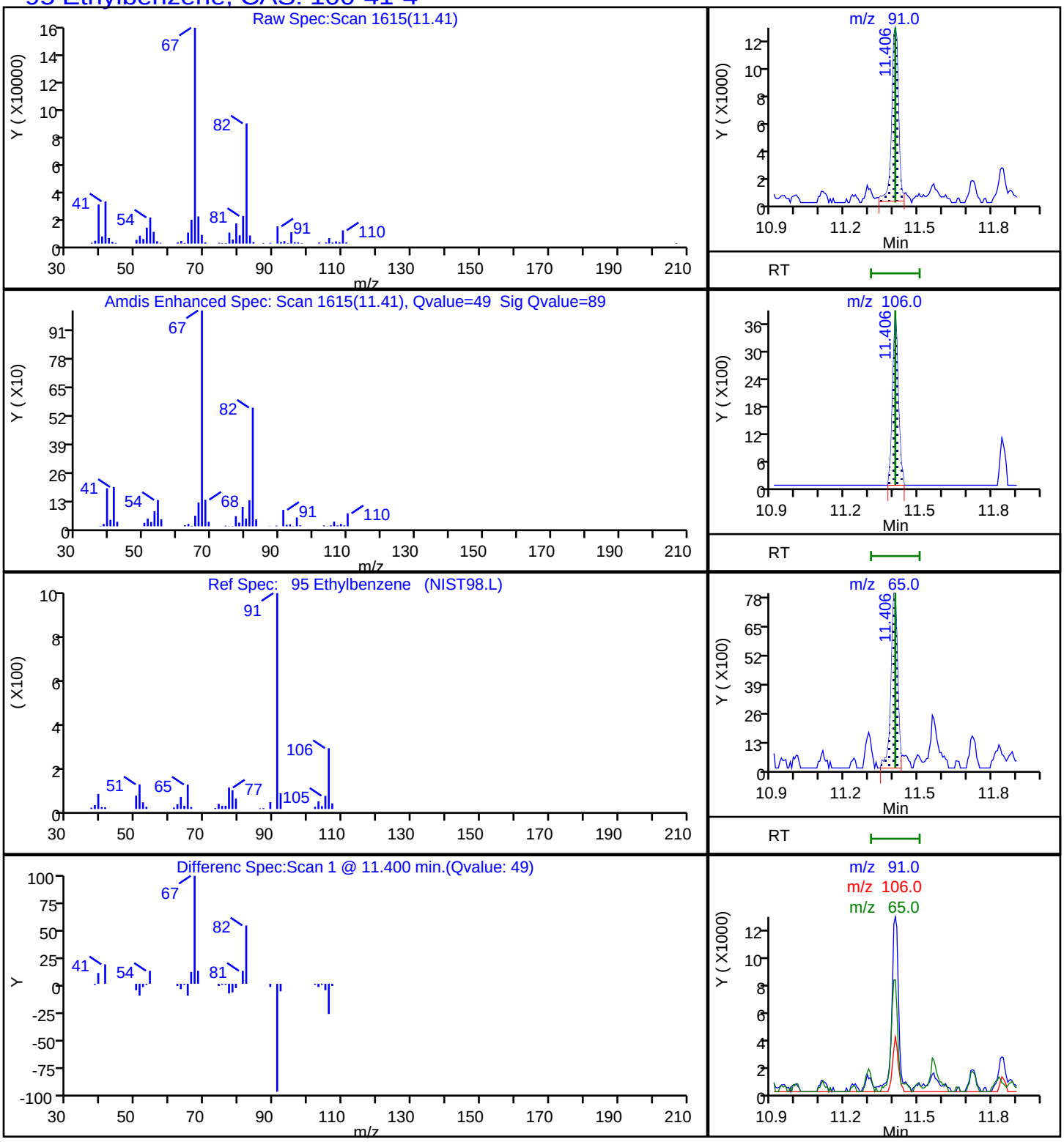
Operator ID: clm27445 ALS Bottle#: 24 Worklist Smp#: 50

Purge Vol: 5.000 mL Dil. Factor: 1.0000

Method: MSVoa_9355 Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Detector MS Quad

95 Ethylbenzene, CAS: 100-41-4



Report Date: 25-Aug-2020 20:21:11 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S16.D

Injection Date: 19-Aug-2020 17:52:30 Instrument ID: 9355

Lims ID: 410-10696-G-1 Lab Sample ID: 410-10696-1

Client ID: MW-01

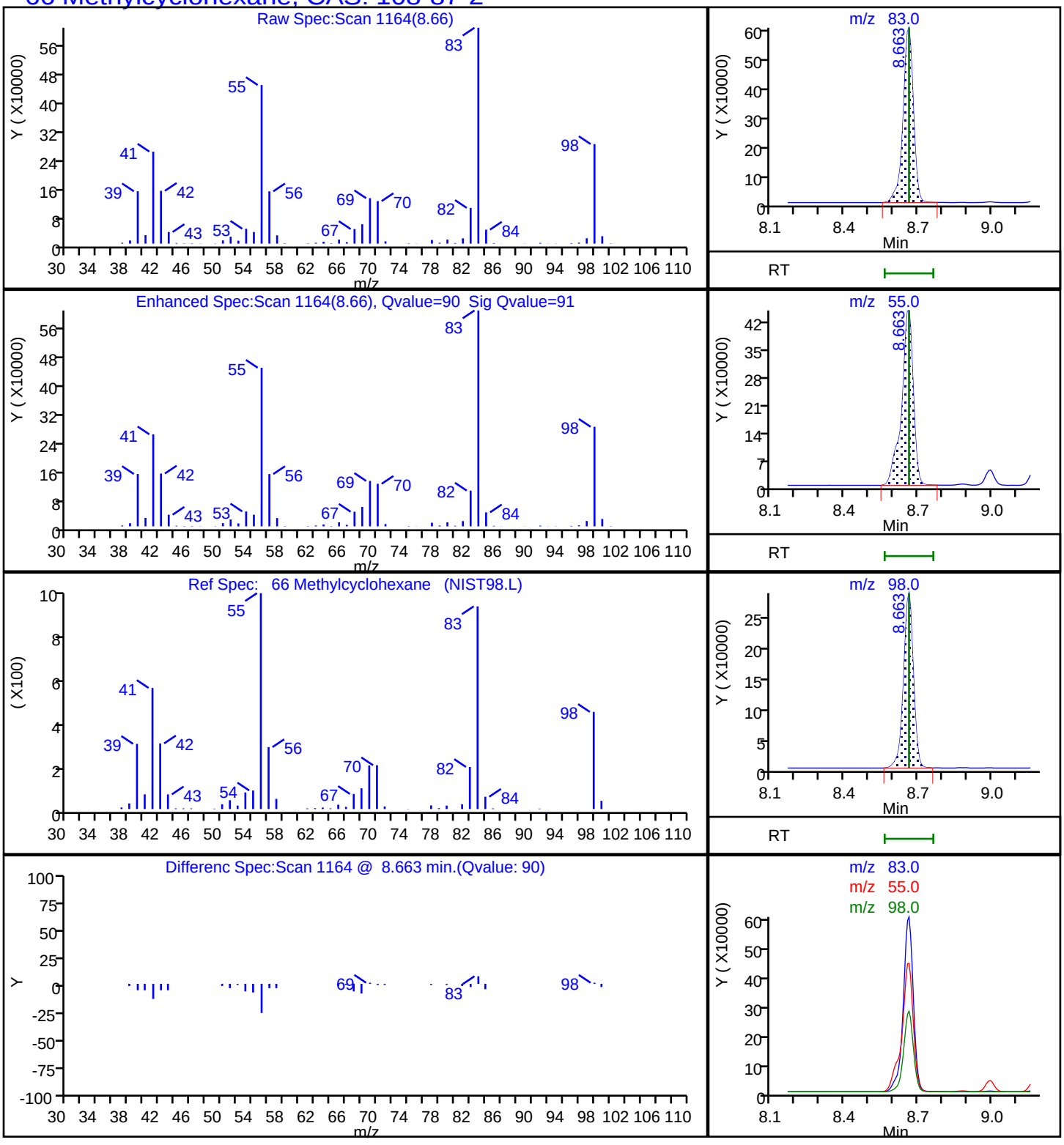
Operator ID: clm27445 ALS Bottle#: 24 Worklist Smp#: 50

Purge Vol: 5.000 mL Dil. Factor: 1.0000

Method: MSVoa_9355 Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Detector MS Quad

66 Methylcyclohexane, CAS: 108-87-2

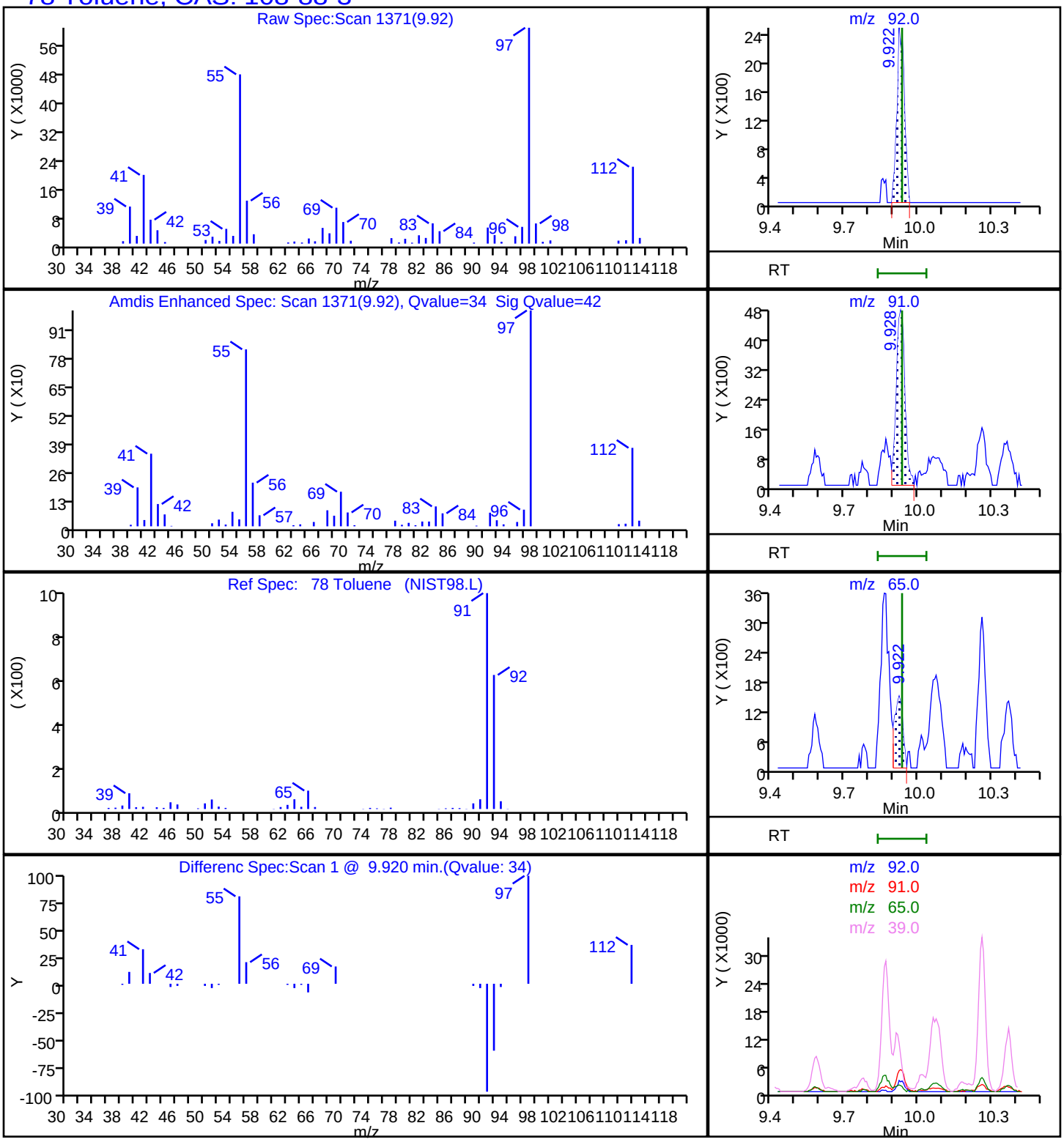


Report Date: 25-Aug-2020 20:21:11 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S16.D				
Injection Date:	19-Aug-2020 17:52:30	Instrument ID:	9355		
Lims ID:	410-10696-G-1	Lab Sample ID:	410-10696-1		
Client ID:	MW-01				
Operator ID:	clm27445	ALS Bottle#:	24	Worklist Smp#:	50
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25 mm)	Detector	MS Quad		

78 Toluene, CAS: 108-88-3

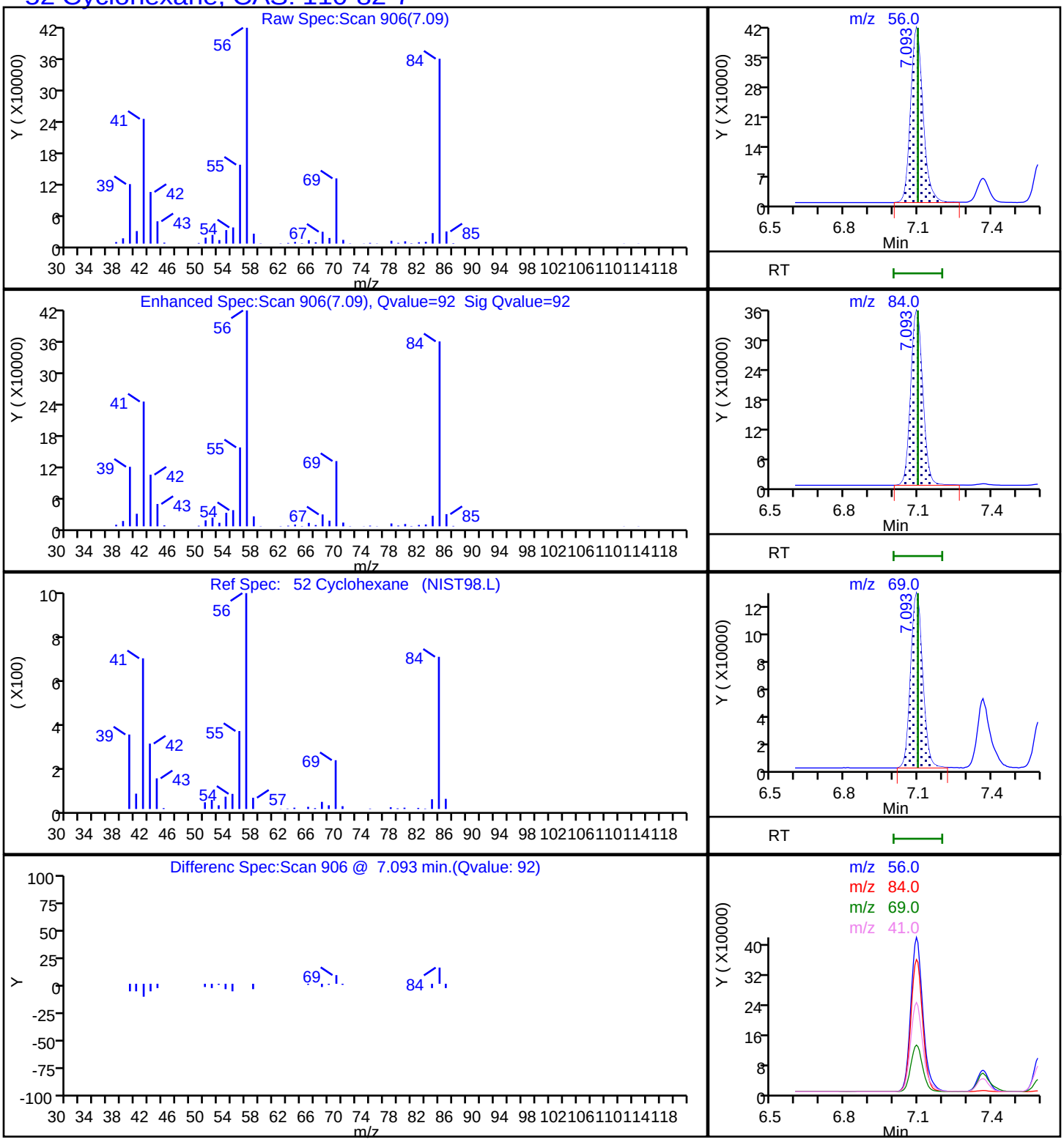


Report Date: 25-Aug-2020 20:21:11 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S16.D				
Injection Date:	19-Aug-2020 17:52:30	Instrument ID:	9355		
Lims ID:	410-10696-G-1	Lab Sample ID:	410-10696-1		
Client ID:	MW-01				
Operator ID:	clm27445	ALS Bottle#:	24	Worklist Smp#:	50
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25 mm)	Detector	MS Quad		

52 Cyclohexane, CAS: 110-82-7



Report Date: 25-Aug-2020 20:21:11 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S16.D

Injection Date: 19-Aug-2020 17:52:30 Instrument ID: 9355

Lims ID: 410-10696-G-1 Lab Sample ID: 410-10696-1

Client ID: MW-01

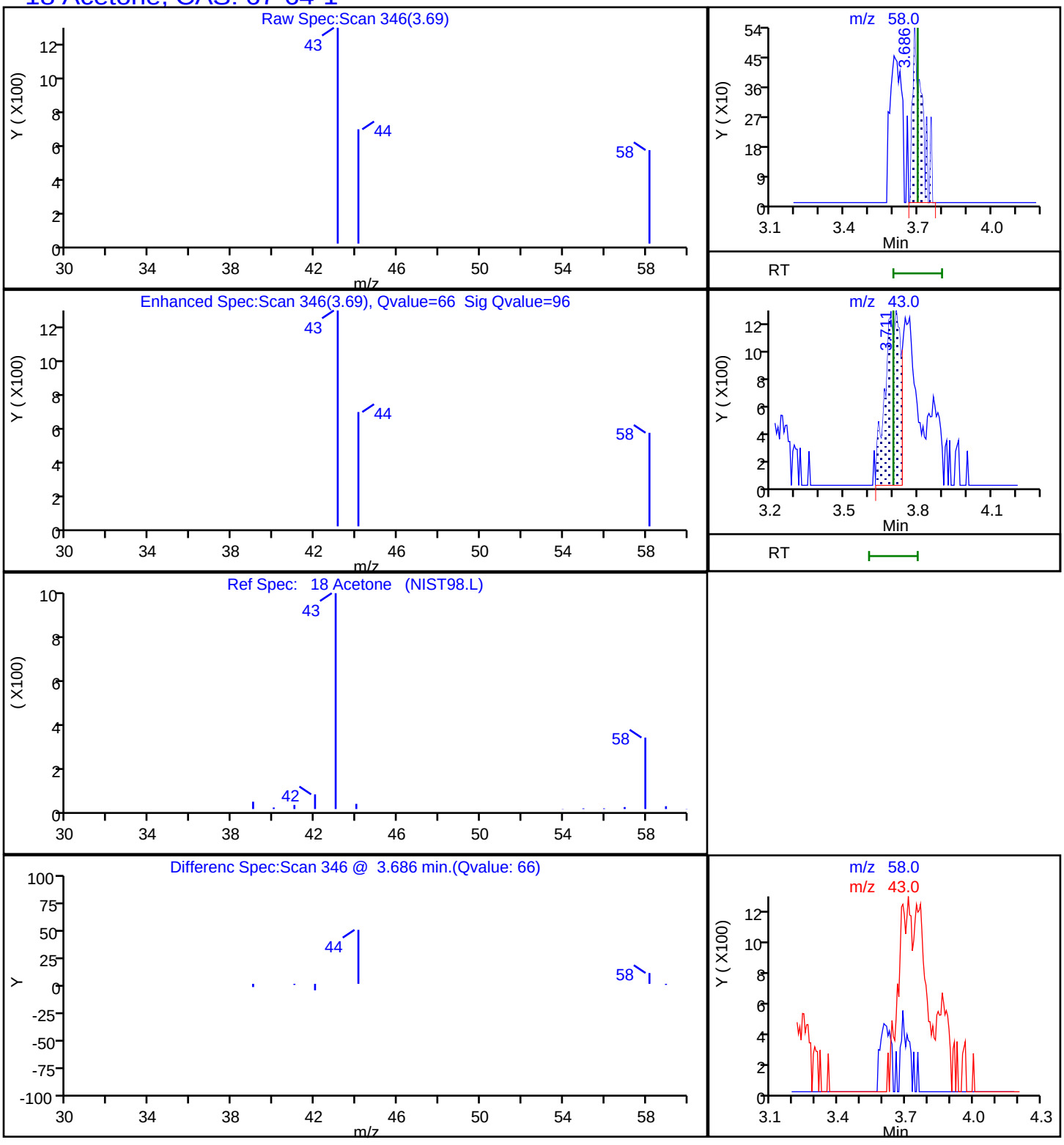
Operator ID: clm27445 ALS Bottle#: 24 Worklist Smp#: 50

Purge Vol: 5.000 mL Dil. Factor: 1.0000

Method: MSVoa_9355 Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Detector MS Quad

18 Acetone, CAS: 67-64-1

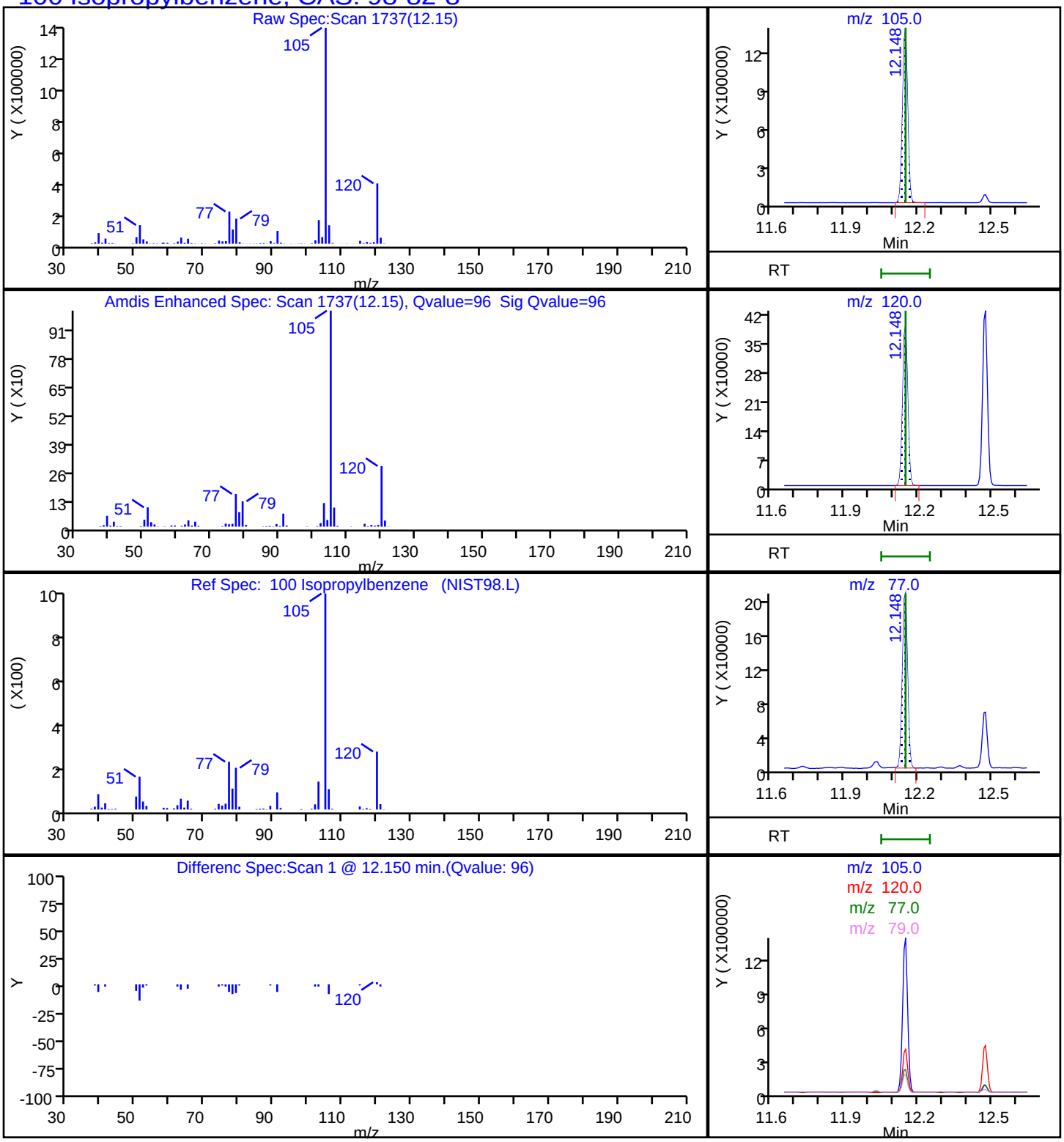


Report Date: 25-Aug-2020 20:21:11 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S16.D				
Injection Date:	19-Aug-2020 17:52:30	Instrument ID:	9355		
Lims ID:	410-10696-G-1	Lab Sample ID:	410-10696-1		
Client ID:	MW-01				
Operator ID:	clm27445	ALS Bottle#:	24	Worklist Smp#:	50
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25 mm)	Detector	MS Quad		

100 Isopropylbenzene, CAS: 98-82-8



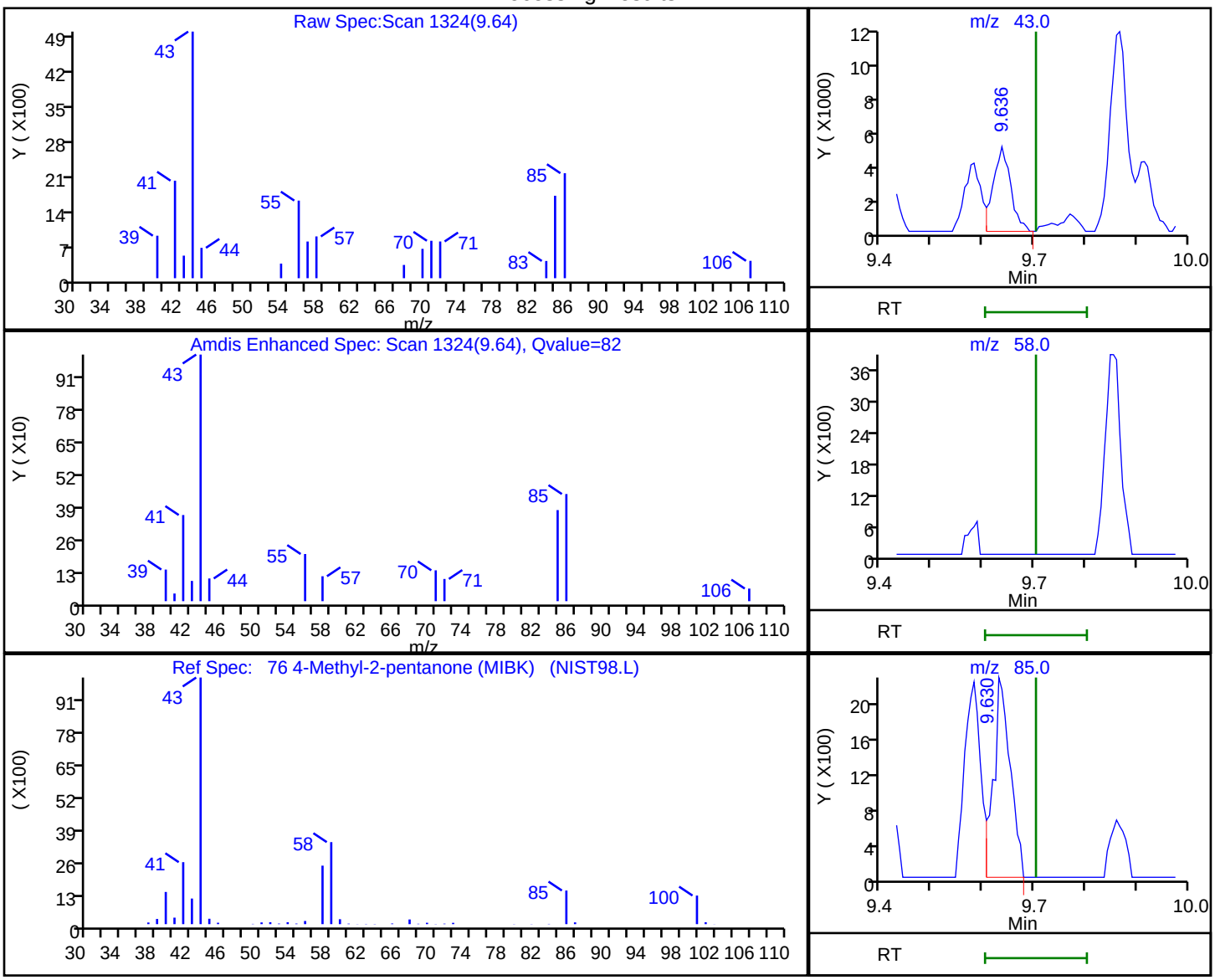
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S16.D				
Injection Date:	19-Aug-2020 17:52:30	Instrument ID:	9355		
Lims ID:	410-10696-G-1	Lab Sample ID:	410-10696-1		
Client ID:	MW-01				
Operator ID:	clm27445	ALS Bottle#:	24	Worklist Smp#:	50
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

76 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results



RT	Mass	Response	Amount
9.64	43.00	11719	0.932238
9.63	85.00	5078	
9.70	58.00	0	
9.70	100.00	0	

Reviewer: campbellme, 19-Aug-2020 18:39:41

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

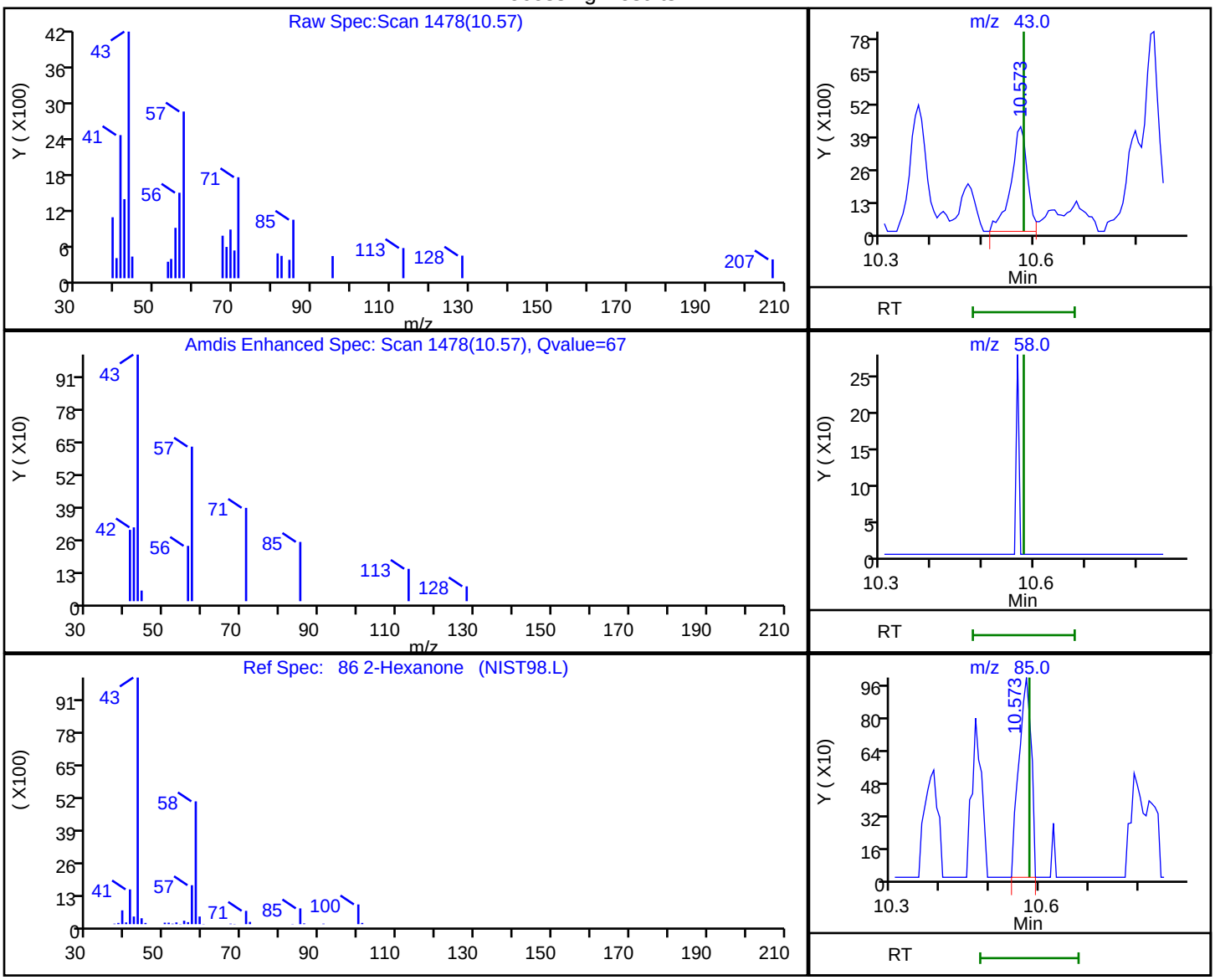
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S16.D				
Injection Date:	19-Aug-2020 17:52:30	Instrument ID:	9355		
Lims ID:	410-10696-G-1	Lab Sample ID:	410-10696-1		
Client ID:	MW-01				
Operator ID:	clm27445	ALS Bottle#:	24	Worklist Smp#:	50
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

86 2-Hexanone, CAS: 591-78-6

Processing Results



RT	Mass	Response	Amount
10.57	43.00	9434	0.915483
10.57	85.00	1724	
10.58	58.00	0	
10.58	100.00	0	

Reviewer: campbellme, 19-Aug-2020 18:39:51

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

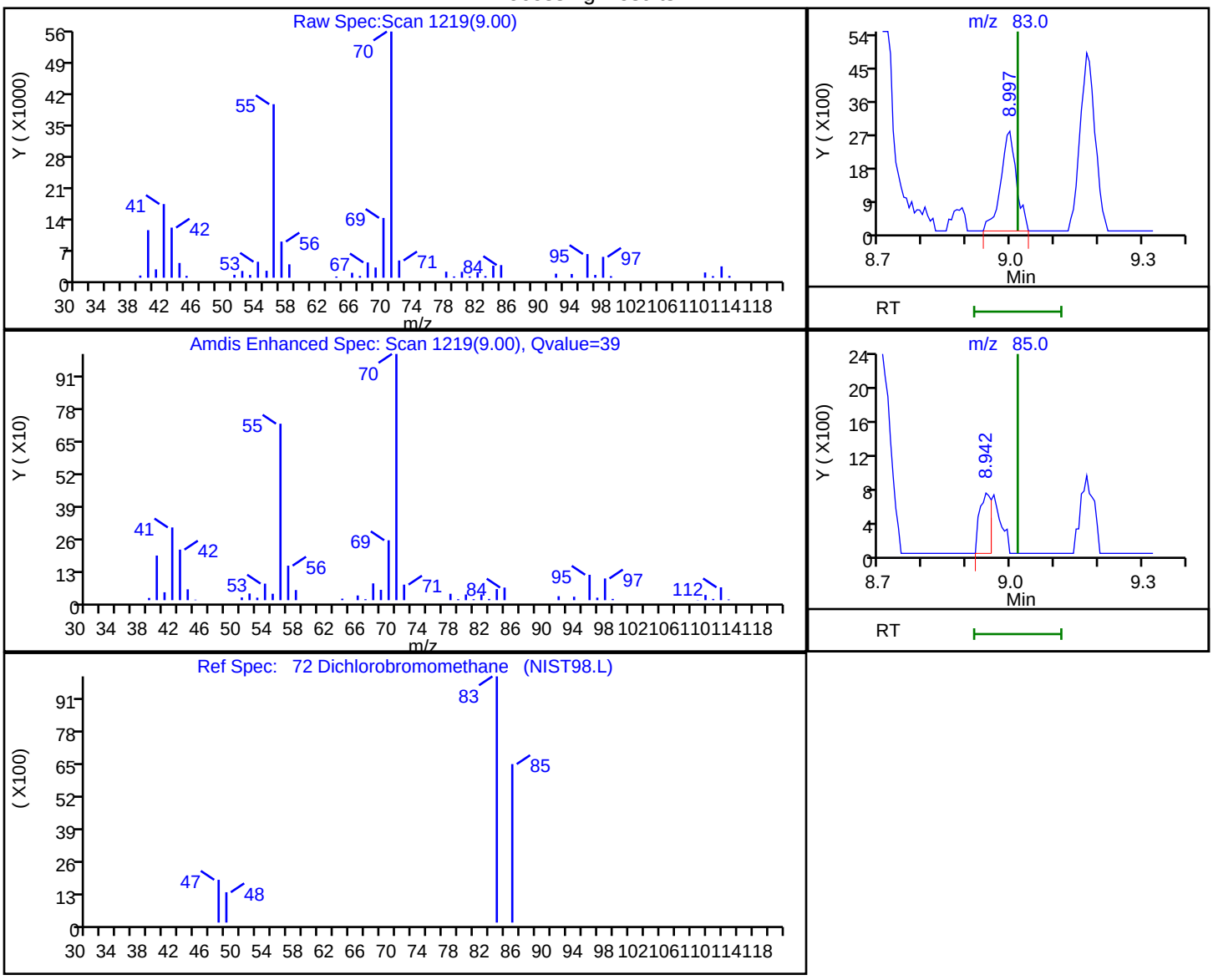
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S16.D				
Injection Date:	19-Aug-2020 17:52:30	Instrument ID:	9355		
Lims ID:	410-10696-G-1	Lab Sample ID:	410-10696-1		
Client ID:	MW-01				
Operator ID:	clm27445	ALS Bottle#:	24	Worklist Smp#:	50
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

72 Dichlorobromomethane, CAS: 75-27-4

Processing Results



RT	Mass	Response	Amount
9.00	83.00	6805	0.954016
8.94	85.00	1290	

Reviewer: campbellme, 25-Aug-2020 20:19:03

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

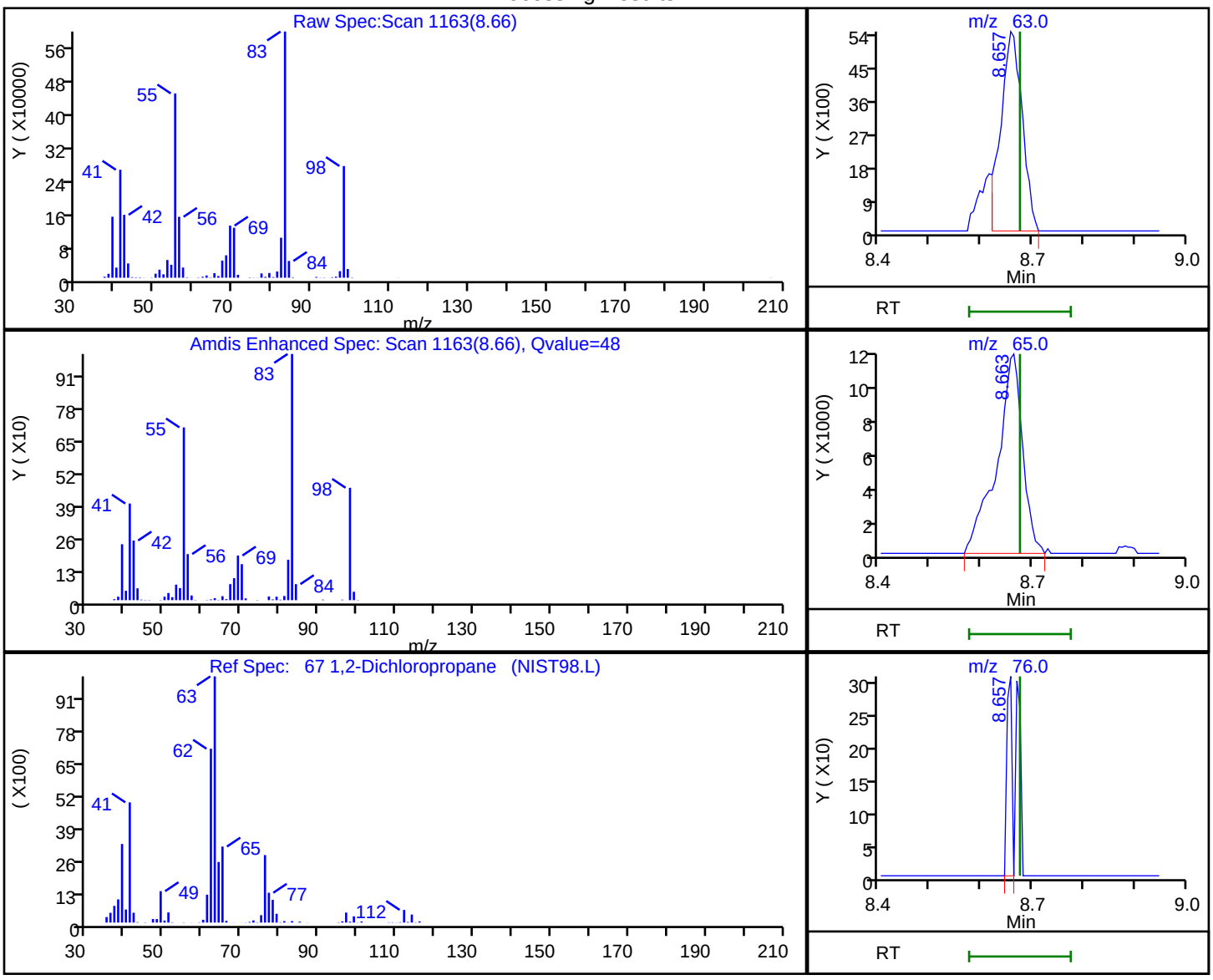
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S16.D				
Injection Date:	19-Aug-2020 17:52:30	Instrument ID:	9355		
Lims ID:	410-10696-G-1	Lab Sample ID:	410-10696-1		
Client ID:	MW-01				
Operator ID:	clm27445	ALS Bottle#:	24	Worklist Smp#:	50
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

67 1,2-Dichloropropane, CAS: 78-87-5

Processing Results



RT	Mass	Response	Amount
8.66	63.00	15921	2.585946
8.66	65.00	39907	
8.66	76.00	213	
8.66	78.00	7056	

Reviewer: campbellme, 25-Aug-2020 20:19:53

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

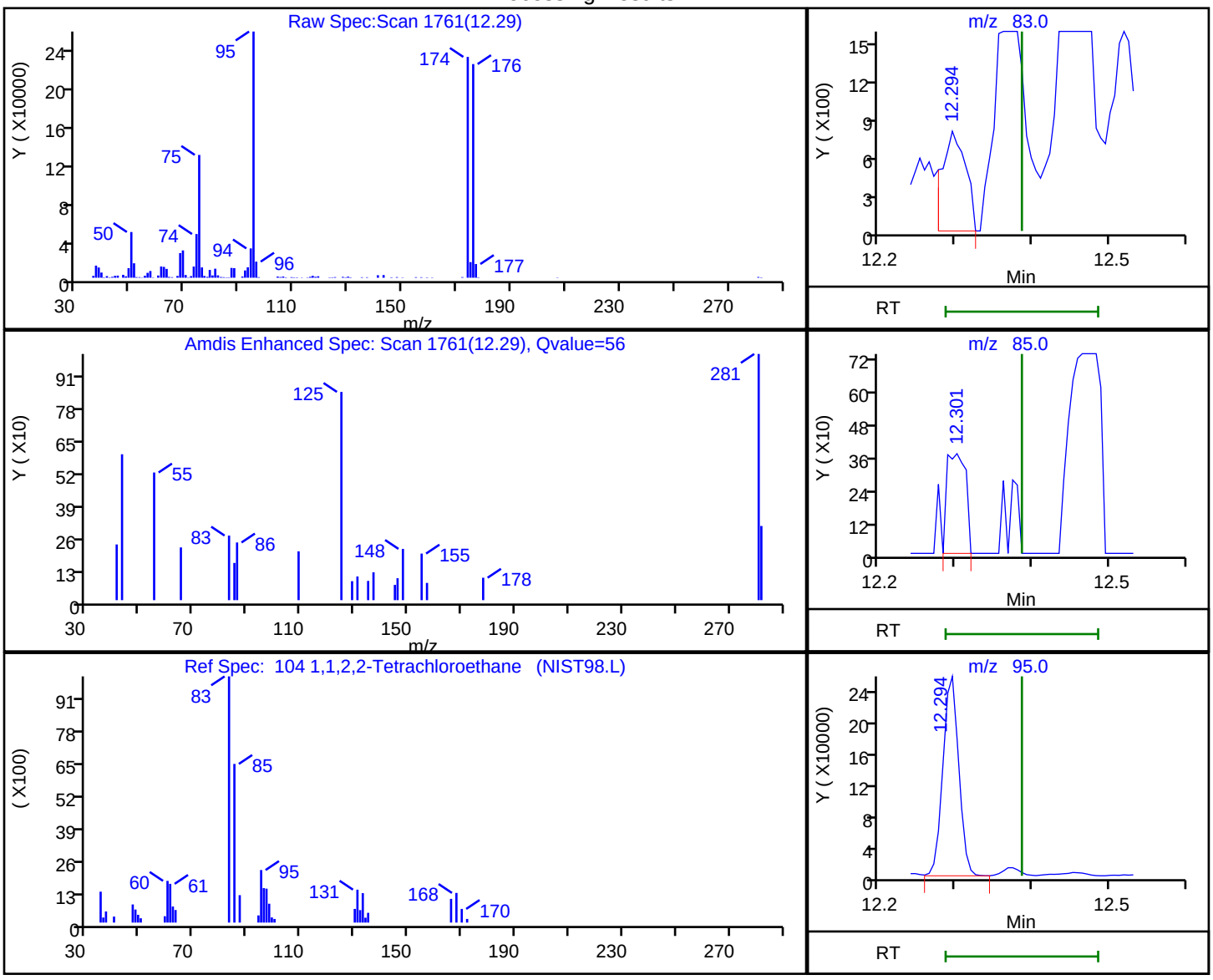
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S16.D				
Injection Date:	19-Aug-2020 17:52:30	Instrument ID:	9355		
Lims ID:	410-10696-G-1	Lab Sample ID:	410-10696-1		
Client ID:	MW-01				
Operator ID:	clm27445	ALS Bottle#:	24	Worklist Smp#:	50
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

104 1,1,2,2-Tetrachloroethane, CAS: 79-34-5

Processing Results



RT	Mass	Response	Amount
12.29	83.00	1604	0.147908
12.30	85.00	629	
12.29	95.00	364755	
12.29	87.00	13857	
12.39	168.00	0	

Reviewer: campbellme, 19-Aug-2020 18:39:58

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-03 Lab Sample ID: 410-10696-2

Matrix: Water Lab File ID: YG19S03.D

Analysis Method: 8260C Date Collected: 08/12/2020 09:40

Sample wt/vol: 5(mL) Date Analyzed: 08/19/2020 13:05

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 34763 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.20
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.20
100-41-4	Ethylbenzene	ND		1.0	0.40
100-42-5	Styrene	ND		5.0	0.20
106-46-7	1,4-Dichlorobenzene	ND		5.0	0.20
106-93-4	1,2-Dibromoethane	ND		1.0	0.20
107-06-2	1,2-Dichloroethane	ND		1.0	0.30
108-10-1	4-Methyl-2-pentanone	ND		10	0.50
108-87-2	Methylcyclohexane	0.54	J	5.0	0.50
108-88-3	Toluene	ND		1.0	0.20
108-90-7	Chlorobenzene	ND		1.0	0.20
110-82-7	Cyclohexane	ND		5.0	1.0
120-82-1	1,2,4-Trichlorobenzene	ND		5.0	0.30
124-48-1	Dibromochloromethane	ND		1.0	0.20
1330-20-7	Xylenes, Total	ND		6.0	1.4
127-18-4	Tetrachloroethene	ND		1.0	0.20
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.20
156-60-5	trans-1,2-Dichloroethene	ND		5.0	0.20
1634-04-4	Methyl tertiary butyl ether	ND		1.0	0.20
541-73-1	1,3-Dichlorobenzene	ND		5.0	0.20
56-23-5	Carbon tetrachloride	ND		1.0	0.20
591-78-6	2-Hexanone	ND		10	0.30
67-64-1	Acetone	1.1	J	20	0.70
67-66-3	Chloroform	ND		1.0	0.20
71-43-2	Benzene	ND		1.0	0.20
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.30
74-83-9	Bromomethane	ND	* F1	1.0	0.30
74-87-3	Chloromethane	ND		1.0	0.20
75-00-3	Chloroethane	ND	F1	1.0	0.20
75-01-4	Vinyl chloride	ND		1.0	0.20
75-09-2	Methylene Chloride	ND		1.0	0.30
75-15-0	Carbon disulfide	ND		5.0	0.20
75-25-2	Bromoform	ND		4.0	1.0
75-27-4	Bromodichloromethane	ND		1.0	0.20
75-34-3	1,1-Dichloroethane	ND		1.0	0.20
75-35-4	1,1-Dichloroethene	ND		1.0	0.20

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-03 Lab Sample ID: 410-10696-2

Matrix: Water Lab File ID: YG19S03.D

Analysis Method: 8260C Date Collected: 08/12/2020 09:40

Sample wt/vol: 5(mL) Date Analyzed: 08/19/2020 13:05

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 34763 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-69-4	Trichlorofluoromethane	ND	F1	1.0	0.20
75-71-8	Dichlorodifluoromethane	ND		1.0	0.20
76-13-1	Freon 113	ND		10	0.20
78-87-5	1,2-Dichloropropane	ND		1.0	0.20
78-93-3	2-Butanone	ND		10	0.30
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.20
79-01-6	Trichloroethene	ND		1.0	0.20
79-20-9	Methyl acetate	ND		5.0	0.30
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.20
95-50-1	1,2-Dichlorobenzene	ND		5.0	0.20
96-12-8	1,2-Dibromo-3-Chloropropane	ND		5.0	0.30
98-82-8	Isopropylbenzene	ND		5.0	0.20

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	103		80-120
1868-53-7	Dibromofluoromethane (Surr)	102		80-120
460-00-4	4-Bromofluorobenzene (Surr)	93		80-120
2037-26-5	Toluene-d8 (Surr)	99		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S03.D
Lims ID: 410-10696-A-2
Client ID: MW-03
Sample Type: Client
Inject. Date: 19-Aug-2020 13:05:30 ALS Bottle#: 11 Worklist Smp#: 37
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0008412-037
Misc. Info.: 410-10696-A-2
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 19-Aug-2020 18:40:21 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1016

First Level Reviewer: campbellme Date: 19-Aug-2020 18:29:35

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
1 Chlorotrifluoroethene	116		2.001				ND	
2 Dichlorodifluoromethane	85		2.050				ND	
3 Chlorodifluoromethane	51		2.062				ND	
4 Chloromethane	50		2.238				ND	
5 Butadiene	39		2.360				ND	
6 Vinyl chloride	62		2.360				ND	
7 2-Chloro-1,1,1-Trifluoroethane	118		2.439				ND	
8 Bromomethane	94		2.695				ND	
9 Chloroethane	64		2.786				ND	
10 Dichlorofluoromethane	67		3.023				ND	
11 Trichlorofluoromethane	101		3.090				ND	
12 Pentane	43		3.151				ND	
13 Ethanol	45		3.206				ND	
14 Ethyl ether	59		3.370				ND	
15 1,2-Dichloro-1,1,2-trifluoroetha	67		3.425				ND	
16 Acrolein	56		3.528				ND	
17 1,1-Dichloroethene	96		3.686				ND	
18 Acetone	58	3.698	3.692	0.006	99	909	1.09	
19 112TCTFE	101		3.710				ND	
20 Isopropyl alcohol	45		3.863				ND	
21 Iodomethane	142		3.893				ND	
22 Carbon disulfide	76		4.009				ND	
23 Acetonitrile	41		4.069				ND	
24 Methyl acetate	43		4.136				ND	
25 3-Chloro-1-propene	41		4.179				ND	
* 26 t-Butyl alcohol-d10 (IS)	65	4.343	4.361	-0.018	28	204092	250.0	
27 Methylene Chloride	84		4.368				ND	
28 2-Methyl-2-propanol	59		4.477				ND	
30 Acrylonitrile	53		4.684				ND	
31 Methyl tert-butyl ether	73		4.781				ND	
32 trans-1,2-Dichloroethene	96		4.799				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
33 Hexane	57		5.225				ND	
35 Vinyl acetate	43		5.438				ND	
36 1,1-Dichloroethane	63		5.450				ND	
37 Isopropyl ether	45		5.505				ND	
38 2-Chloro-1,3-butadiene	53		5.560				ND	
39 Tert-butyl ethyl ether	59		6.034				ND	
S 40 1,2-Dichloroethene, Total	100		6.155				ND	
41 2-Butanone (MEK)	43		6.223				ND	
42 cis-1,2-Dichloroethene	96		6.272				ND	
43 Ethyl acetate	43		6.290				ND	
44 2,2-Dichloropropane	77		6.290				ND	
45 Propionitrile	54		6.296				ND	
46 Methacrylonitrile	67		6.527				ND	
47 Chlorobromomethane	128		6.612				ND	
48 Tetrahydrofuran	71		6.625				ND	
49 Chloroform	83		6.752				ND	
$ 50 Dibromofluoromethane (Surr)	113	6.959	6.965	-0.006	93	220400	51.0	
51 1,1,1-Trichloroethane	97		6.990				ND	
52 Cyclohexane	56		7.099				ND	
53 1,1-Dichloropropene	75		7.196				ND	
54 Carbon tetrachloride	117		7.209				ND	
55 Isobutyl alcohol	41		7.306				ND	
$ 56 1,2-Dichloroethane-d4 (Surr)	102	7.421	7.428	-0.007	98	55378	51.4	
57 Benzene	78		7.464				ND	
58 Isopropyl acetate	43		7.519				ND	
59 1,2-Dichloroethane	62		7.531				ND	
60 Tert-amyl methyl ether	73		7.647				ND	
61 t-Amyl alcohol	73	7.853	7.842	0.011	34	11533	NC	
* 62 Fluorobenzene (IS)	96	7.860	7.866	-0.006	99	897396	50.0	
63 n-Heptane	43		7.878				ND	
64 n-Butanol	56		8.188				ND	
65 Trichloroethene	95		8.346				ND	
66 Methylcyclohexane	83	8.608	8.663	-0.055	69	5348	0.5449	
67 1,2-Dichloropropane	63		8.675				ND	
34 2-ethoxy-2-methyl butane	87		8.675				ND	
68 Methyl methacrylate	69		8.742				ND	
69 1,4-Dioxane	88		8.760				ND	
70 Dibromomethane	93		8.784				ND	
71 n-Propyl acetate	61		8.821				ND	
72 Dichlorobromomethane	83		9.015				ND	
73 2-Nitropropane	41		9.259				ND	
74 2-Chloroethyl vinyl ether	63		9.362				ND	
75 cis-1,3-Dichloropropene	75		9.551				ND	
76 4-Methyl-2-pentanone (MIBK)	43		9.703				ND	
$ 77 Toluene-d8 (Surr)	98	9.855	9.855	0.000	94	921495	49.7	
78 Toluene	92	9.928	9.934	-0.006	95	615	0.0440	7M
S 79 1,3-Dichloropropene, Total	100		10.060				ND	
80 trans-1,3-Dichloropropene	75		10.177				ND	
81 Ethyl methacrylate	69	10.208	10.232	-0.024	76	9545	0.9237	
82 1,1,2-Trichloroethane	97		10.378				ND	
83 Tetrachloroethene	166		10.482				ND	
84 1,3-Dichloropropane	76		10.542				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
86 2-Hexanone	43		10.579				ND	
85 3,4-Dichloro-1-butene	75		10.579				ND	
87 n-Butyl acetate	43		10.701				ND	
88 Chlorodibromomethane	129		10.761				ND	
89 Ethylene Dibromide	107		10.877				ND	
S 90 Xylenes, Total	106		11.245				ND	
* 91 Chlorobenzene-d5 (IS)	117	11.297	11.297	0.000	86	733294	50.0	
92 1-Chlorohexane	91		11.303				ND	U
93 Chlorobenzene	112		11.327				ND	
94 1,1,1,2-Tetrachloroethane	131		11.406				ND	
95 Ethylbenzene	91		11.406				ND	
96 m-Xylene & p-Xylene	106		11.522				ND	
97 o-Xylene	106		11.850				ND	
98 Styrene	104		11.862				ND	
99 Bromoform	173		12.027				ND	
100 Isopropylbenzene	105		12.148				ND	
101 cis-1,4-Dichloro-2-butene	88		12.185				ND	
102 Cyclohexanone	55		12.221				ND	
$ 103 4-Bromofluorobenzene (Surr)	95	12.294	12.294	0.000	92	331553	46.6	
104 1,1,2,2-Tetrachloroethane	83		12.386				ND	
106 trans-1,4-Dichloro-2-butene	53		12.404				ND	
105 Bromobenzene	156		12.410				ND	
107 1,2,3-Trichloropropane	110		12.434				ND	
108 N-Propylbenzene	91		12.477				ND	
109 2-Chlorotoluene	126		12.556				ND	
110 1,3,5-Trimethylbenzene	105		12.611				ND	
111 4-Chlorotoluene	126		12.647				ND	
112 2,3,4-Trichlorobutene	109		12.659				ND	
113 tert-Butylbenzene	134		12.854				ND	
114 Pentachloroethane	167		12.891				ND	
115 1,2,4-Trimethylbenzene	105		12.891				ND	
116 sec-Butylbenzene	105	13.012	13.012	0.000	90	5206	0.1688	
117 1,3-Dichlorobenzene	146		13.116				ND	
118 4-Isopropyltoluene	119		13.122				ND	
* 119 1,4-Dichlorobenzene-d4	152	13.177	13.177	0.000	95	402741	50.0	
121 1,4-Dichlorobenzene	146		13.195				ND	
120 1,2,3-Trimethylbenzene	105		13.195				ND	
122 Benzyl chloride	91		13.262				ND	
123 1,3-Diethylbenzene	119	13.323	13.323	0.000	92	3243	0.1794	
124 p-Diethylbenzene	119	13.396	13.396	0.000	91	3771	0.1964	
125 n-Butylbenzene	92		13.414				ND	
126 1,2-Dichlorobenzene	146		13.450				ND	
127 o-diethylbenzene	119	13.469	13.469	0.000	91	5211	0.3386	
128 Hexachloroethane	201		13.560				ND	
129 1,2-Dibromo-3-Chloropropane	75		13.992				ND	
130 1,3,5-Trichlorobenzene	180		14.120				ND	
131 1,2,4-Trichlorobenzene	180		14.545				ND	
132 Hexachlorobutadiene	225		14.624				ND	
133 Naphthalene	128		14.728				ND	
134 1,2,3-Trichlorobenzene	180		14.868				ND	
135 2-Methylnaphthalene	142		15.519				ND	
136 C4-C10	1		0.000				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
159 1,3-Dichlorobutene-2(total)	1		0.000				ND	
158 Propene oxide	1		0.000				ND	
157 C4-C12	1		0.000				ND	
156 1-Chlorobutane	1		0.000				ND	
155 1,4-Divinylbenzene	1		0.000				ND	
154 trans-1,2,3-Trichlorobutene-2	1		0.000				ND	
153 1,1-Dichloro-1-fluoroethane	1		0.000				ND	
152 cis-1,2,3-Trichlorobutene-2	1		0.000				ND	
151 2,3-Dichloro-1,3-butadiene	1		0.000				ND	
150 Diethoxymethane	1		0.000				ND	
149 C5-C12	1		0.000				ND	
148 1-Bromo-2-chloroethane	1		0.000				ND	
147 C6-C12	1		0.000				ND	
S 146 Total Diethylbenzene	1				0		0.7145	
145 3-chloro-1-Butene	1		0.000				ND	
144 C6-C10	1		0.000				ND	
143 Methyl acrylate	1		0.000				ND	
142 tert-Butyl Formate	1		0.000				ND	
141 1,3-Divinylbenzene	1		0.000				ND	
140 Ethyl bromide	1		0.000				ND	
139 Chloroacetonitrile	1		0.000				ND	
S 138 divinyl benzene	1		0.000				ND	
137 Methylal	1		0.000				ND	
160 n-Decane	57		0.000				ND	
161 Dodecane	57		0.000				ND	
167 Butane	1		0.000				ND	
168 2,3-Dibromo-1-propanol TIC	1		0.000				ND	
169 1-Methyl-2-pyrrilidinone TIC	1		0.000				ND	
170 2-Bromoethanol TIC	1		0.000				ND	
171 Monochloroacetic acid TIC	1		0.000				ND	
172 2-Chloroethanol TIC	1		0.000				ND	
173 Epibromohydrin TIC	1		0.000				ND	
174 Chloroacetaldehyde TIC	1		0.000				ND	
175 Vinyl bromide TIC	1		0.000				ND	
176 Epichlorohydrin TIC	1		0.000				ND	
177 2-Bromo-3-chloropropene TIC	1		0.000				ND	
178 Ethylene oxide TIC	1		0.000				ND	
179 2,3-Dibromopropene TIC	1		0.000				ND	
180 3-Chloro-1,2-propanediol TIC	1		0.000				ND	
181 1-Bromo-2-chloroethane TIC	1		0.000				ND	

QC Flag Legend

Processing Flags

NC - Not Calibrated

7 - Failed Limit of Detection

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

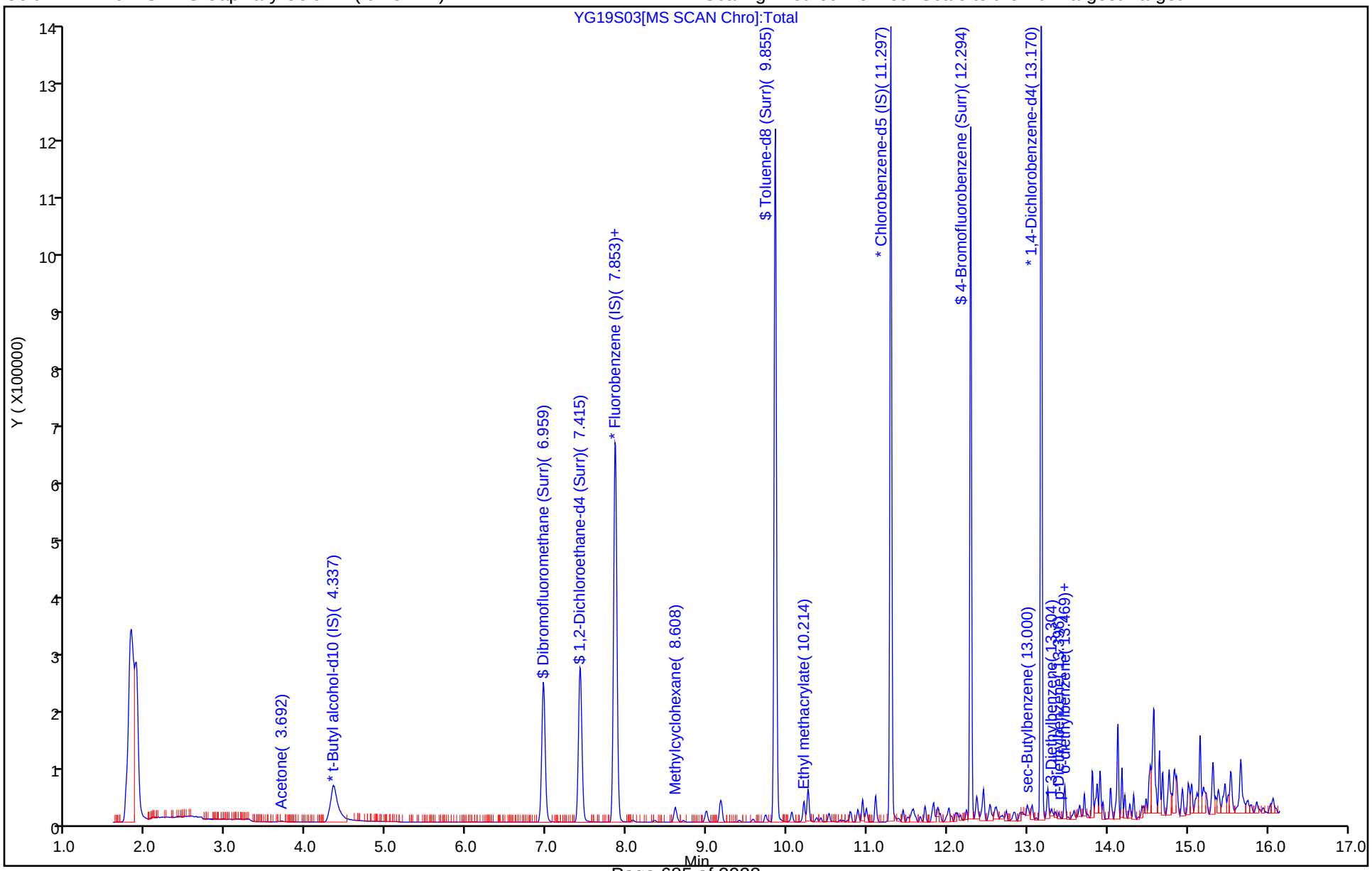
MSV_HP20_ISSS_00023 Amount Added: 1.00 Units: uL Run Reagent

Report Date: 19-Aug-2020 18:40:30 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S03.D				
Injection Date:	19-Aug-2020 13:05:30	Instrument ID:	9355	Operator ID:	clm27445
Lims ID:	410-10696-A-2	Lab Sample ID:	410-10696-2	Worklist Smp#:	37
Client ID:	MW-03				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S03.D
Lims ID: 410-10696-A-2
Client ID: MW-03
Sample Type: Client
Inject. Date: 19-Aug-2020 13:05:30 ALS Bottle#: 11 Worklist Smp#: 37
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0008412-037
Misc. Info.: 410-10696-A-2
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 19-Aug-2020 18:40:21 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1016

First Level Reviewer: campbellme Date: 19-Aug-2020 18:29:35

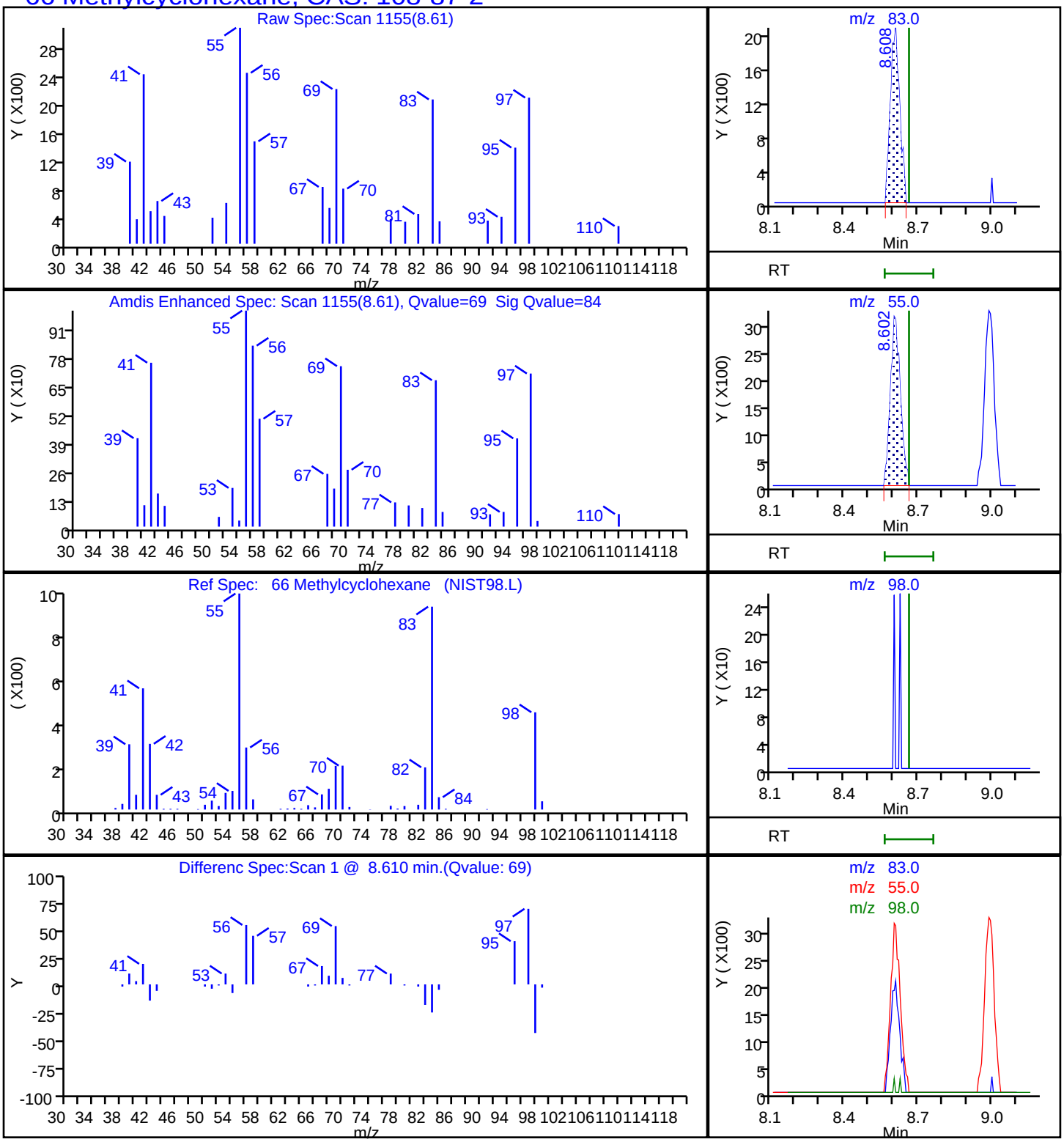
Compound	Amount Added	Amount Recovered	% Rec.
$ 50 Dibromofluoromethane (Surr)	50.0	51.0	102.03
$ 56 1,2-Dichloroethane-d4 (Surr)	50.0	51.4	102.83
$ 77 Toluene-d8 (Surr)	50.0	49.7	99.36
$ 103 4-Bromofluorobenzene (Surr)	50.0	46.6	93.23

Report Date: 19-Aug-2020 18:40:30 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S03.D				
Injection Date:	19-Aug-2020 13:05:30	Instrument ID:	9355		
Lims ID:	410-10696-A-2	Lab Sample ID:	410-10696-2		
Client ID:	MW-03				
Operator ID:	clm27445	ALS Bottle#:	11	Worklist Smp#:	37
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25 mm)	Detector	MS Quad		

66 Methylcyclohexane, CAS: 108-87-2

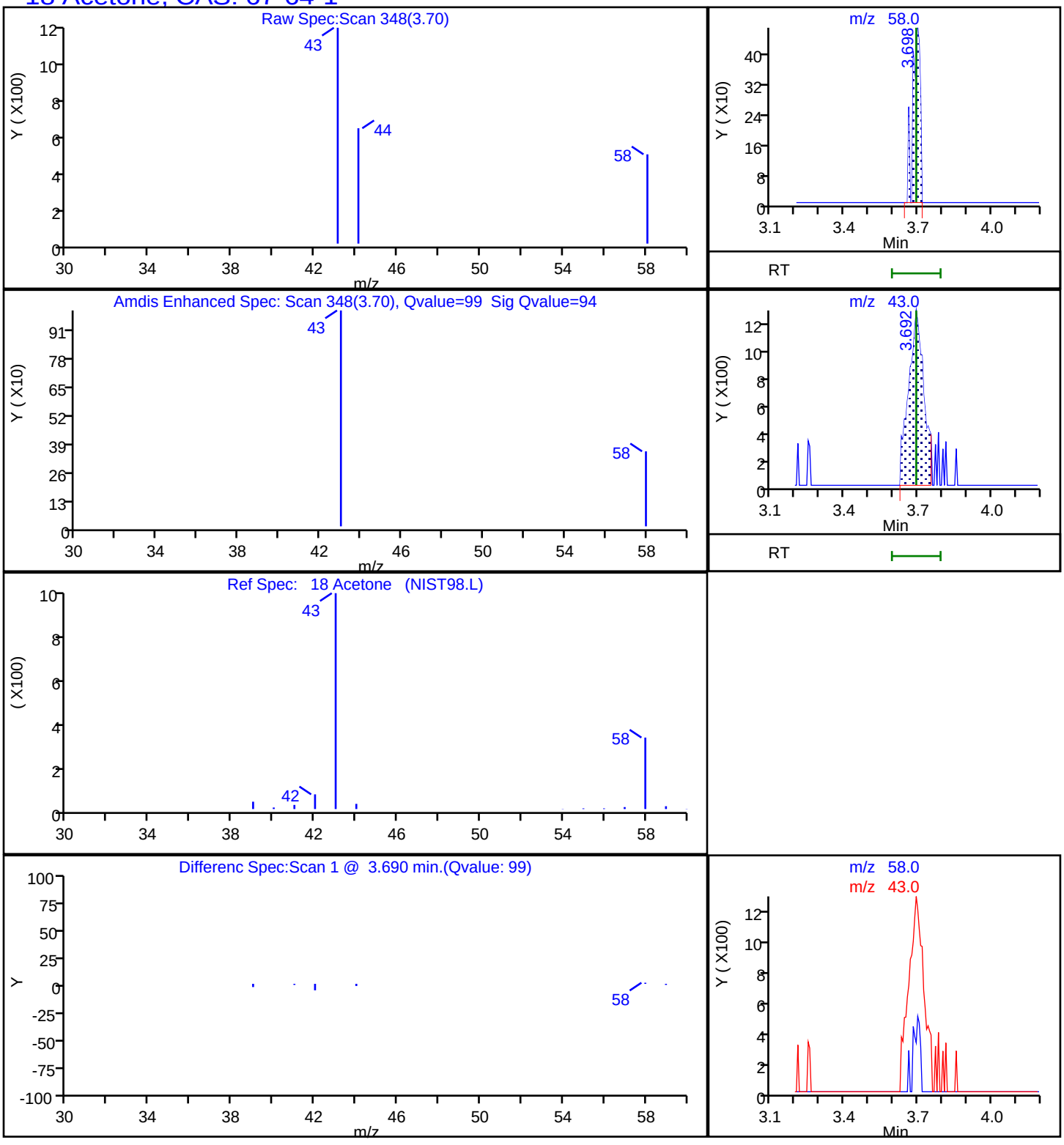


Report Date: 19-Aug-2020 18:40:30 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S03.D				
Injection Date:	19-Aug-2020 13:05:30	Instrument ID:	9355		
Lims ID:	410-10696-A-2	Lab Sample ID:	410-10696-2		
Client ID:	MW-03				
Operator ID:	clm27445	ALS Bottle#:	11	Worklist Smp#:	37
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25 mm)	Detector	MS Quad		

18 Acetone, CAS: 67-64-1



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

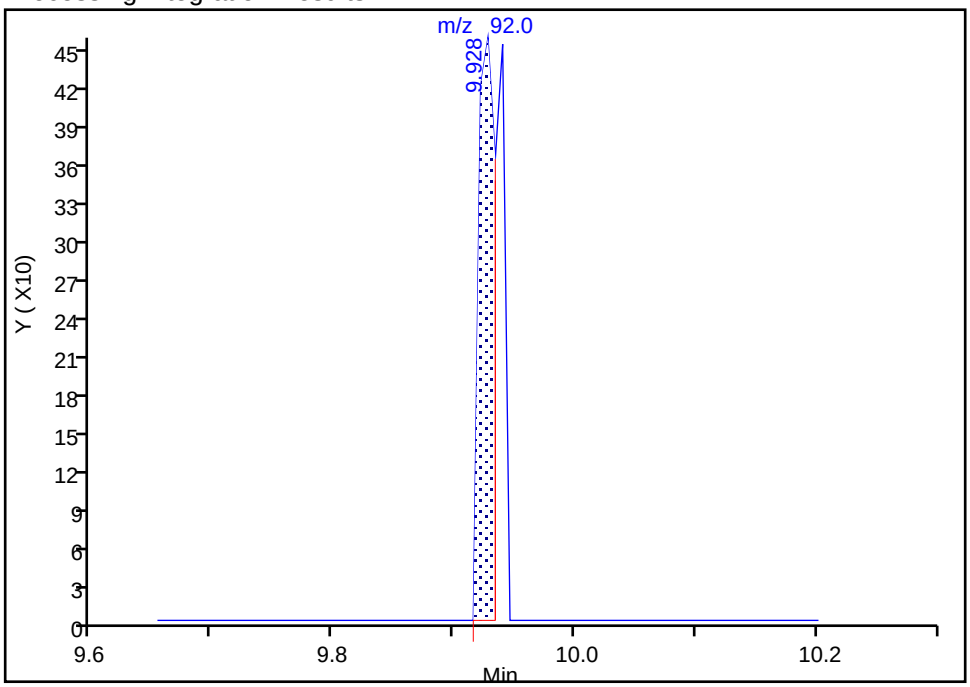
Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S03.D				
Injection Date:	19-Aug-2020 13:05:30	Instrument ID:	9355		
Lims ID:	410-10696-A-2	Lab Sample ID:	410-10696-2		
Client ID:	MW-03				
Operator ID:	clm27445	ALS Bottle#:	11	Worklist Smp#:	37
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

78 Toluene, CAS: 108-88-3

Signal: 1

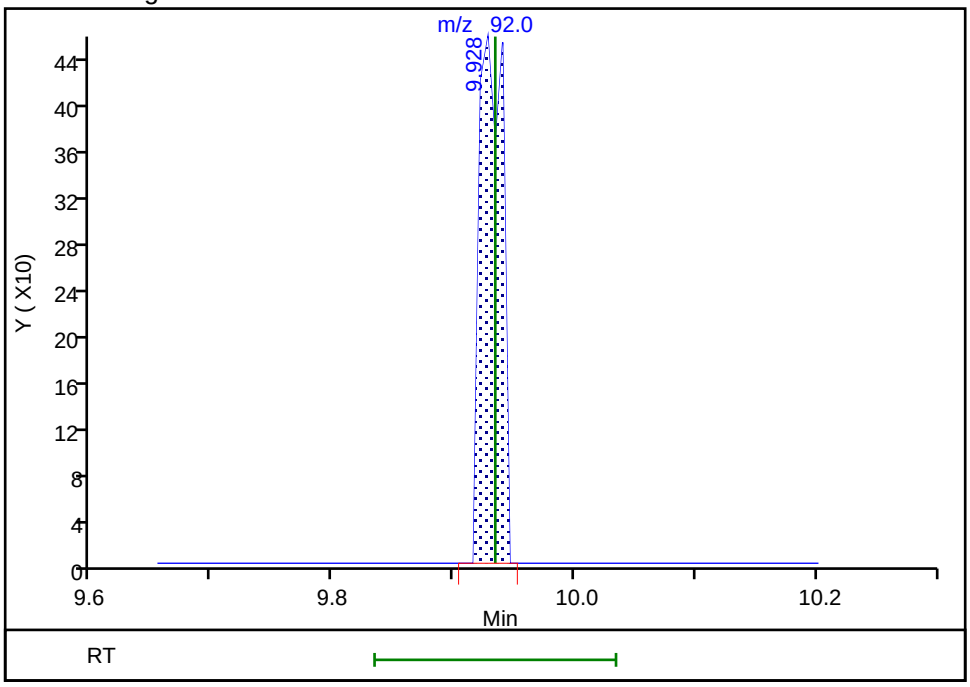
Processing Integration Results

RT: 9.93
Area: 451
Amount: 0.032246
Amount Units: ug/l



Manual Integration Results

RT: 9.93
Area: 615
Amount: 0.043971
Amount Units: ug/l



Reviewer: campbellme, 19-Aug-2020 18:29:12

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-04 Lab Sample ID: 410-10696-3

Matrix: Water Lab File ID: YG21S15.D

Analysis Method: 8260C Date Collected: 08/11/2020 13:40

Sample wt/vol: 5(mL) Date Analyzed: 08/21/2020 18:19

Soil Aliquot Vol: Dilution Factor: 5

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 35697 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
10061-01-5	cis-1,3-Dichloropropene	ND		5.0	1.0
10061-02-6	trans-1,3-Dichloropropene	ND		5.0	1.0
100-41-4	Ethylbenzene	1300		5.0	2.0
100-42-5	Styrene	ND		25	1.0
106-46-7	1,4-Dichlorobenzene	ND		25	1.0
106-93-4	1,2-Dibromoethane	ND		5.0	1.0
107-06-2	1,2-Dichloroethane	ND		5.0	1.5
108-10-1	4-Methyl-2-pentanone	ND		50	2.5
108-87-2	Methylcyclohexane	190		25	2.5
108-88-3	Toluene	1200		5.0	1.0
108-90-7	Chlorobenzene	ND		5.0	1.0
110-82-7	Cyclohexane	430		25	5.0
120-82-1	1,2,4-Trichlorobenzene	ND		25	1.5
124-48-1	Dibromochloromethane	ND		5.0	1.0
1330-20-7	Xylenes, Total	2600		30	7.0
127-18-4	Tetrachloroethene	ND		5.0	1.0
156-59-2	cis-1,2-Dichloroethene	ND		5.0	1.0
156-60-5	trans-1,2-Dichloroethene	ND		25	1.0
1634-04-4	Methyl tertiary butyl ether	ND		5.0	1.0
541-73-1	1,3-Dichlorobenzene	ND		25	1.0
56-23-5	Carbon tetrachloride	ND		5.0	1.0
591-78-6	2-Hexanone	ND		50	1.5
67-64-1	Acetone	34	J	100	3.5
67-66-3	Chloroform	ND		5.0	1.0
71-55-6	1,1,1-Trichloroethane	ND		5.0	1.5
74-83-9	Bromomethane	ND	*	5.0	1.5
74-87-3	Chloromethane	ND		5.0	1.0
75-00-3	Chloroethane	ND		5.0	1.0
75-01-4	Vinyl chloride	ND		5.0	1.0
75-09-2	Methylene Chloride	ND		5.0	1.5
75-15-0	Carbon disulfide	ND		25	1.0
75-25-2	Bromoform	ND		20	5.0
75-27-4	Bromodichloromethane	2.9	J	5.0	1.0
75-34-3	1,1-Dichloroethane	ND		5.0	1.0
75-35-4	1,1-Dichloroethene	ND		5.0	1.0
75-69-4	Trichlorofluoromethane	ND		5.0	1.0

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-04 Lab Sample ID: 410-10696-3

Matrix: Water Lab File ID: YG21S15.D

Analysis Method: 8260C Date Collected: 08/11/2020 13:40

Sample wt/vol: 5(mL) Date Analyzed: 08/21/2020 18:19

Soil Aliquot Vol: Dilution Factor: 5

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 35697 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-71-8	Dichlorodifluoromethane	ND		5.0	1.0
76-13-1	Freon 113	ND		50	1.0
78-87-5	1,2-Dichloropropane	ND		5.0	1.0
78-93-3	2-Butanone	ND		50	1.5
79-00-5	1,1,2-Trichloroethane	ND		5.0	1.0
79-01-6	Trichloroethene	ND		5.0	1.0
79-20-9	Methyl acetate	ND		25	1.5
79-34-5	1,1,2,2-Tetrachloroethane	ND		5.0	1.0
95-50-1	1,2-Dichlorobenzene	ND		25	1.0
96-12-8	1,2-Dibromo-3-Chloropropane	3.4	J	25	1.5
98-82-8	Isopropylbenzene	46		25	1.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		80-120
1868-53-7	Dibromofluoromethane (Surr)	95		80-120
460-00-4	4-Bromofluorobenzene (Surr)	98		80-120
2037-26-5	Toluene-d8 (Surr)	102		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21S15.D
Lims ID: 410-10696-H-3
Client ID: MW-04
Sample Type: Client
Inject. Date: 21-Aug-2020 18:19:30 ALS Bottle#: 26 Worklist Smp#: 27
Purge Vol: 5.000 mL Dil. Factor: 5.0000
Sample Info: 410-0008609-027
Misc. Info.: 410-10696-H-3
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 21-Aug-2020 19:20:40 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1048

First Level Reviewer: campbellme Date: 21-Aug-2020 19:19:30

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
2 Dichlorodifluoromethane	85		2.044				ND	
4 Chloromethane	50		2.232				ND	U
6 Vinyl chloride	62		2.348				ND	
8 Bromomethane	94		2.682				ND	
9 Chloroethane	64		2.774				ND	
11 Trichlorofluoromethane	101		3.084				ND	
17 1,1-Dichloroethene	96		3.674				ND	
18 Acetone	58	3.698	3.686	0.012	98	9233	6.85	M
19 112TCTFE	101		3.711				ND	
22 Carbon disulfide	76		4.003				ND	
24 Methyl acetate	43		4.130				ND	
* 26 t-Butyl alcohol-d10 (IS)	65	4.301	4.355	-0.054	54	329669	250.0	
27 Methylene Chloride	84		4.355				ND	
31 Methyl tert-butyl ether	73		4.775				ND	
32 trans-1,2-Dichloroethene	96		4.793				ND	
36 1,1-Dichloroethane	63		5.438				ND	MU
41 2-Butanone (MEK)	43		6.217				ND	
42 cis-1,2-Dichloroethene	96		6.266				ND	
49 Chloroform	83		6.746				ND	Ua
$ 50 Dibromofluoromethane (Surr)	113	6.959	6.959	0.000	92	222497	47.5	
51 1,1,1-Trichloroethane	97		6.984				ND	
52 Cyclohexane	56	7.099	7.093	0.006	92	803223	86.3	
54 Carbon tetrachloride	117		7.203				ND	
$ 56 1,2-Dichloroethane-d4 (Surr)	102	7.428	7.422	0.006	96	60946	52.2	
57 Benzene	78	7.458	7.458	0.000	97	13270647	592.0	E
59 1,2-Dichloroethane	62		7.525				ND	U
* 62 Fluorobenzene (IS)	96	7.860	7.860	0.000	99	972326	50.0	
65 Trichloroethene	95		8.340				ND	
66 Methylcyclohexane	83	8.663	8.663	0.000	91	407255	38.3	
67 1,2-Dichloropropane	63		8.669				ND	U
72 Dichlorobromomethane	83	8.997	9.009	-0.012	42	4030	0.5737	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
75 cis-1,3-Dichloropropene	75		9.545				ND	
76 4-Methyl-2-pentanone (MIBK)	43		9.703				ND	U
$ 77 Toluene-d8 (Surr)	98	9.855	9.855	0.000	95	970497	50.9	
78 Toluene	92	9.928	9.928	0.000	98	3523759	245.0	
80 trans-1,3-Dichloropropene	75		10.177				ND	
82 1,1,2-Trichloroethane	97		10.378				ND	Ua
83 Tetrachloroethene	166		10.476				ND	
86 2-Hexanone	43		10.579				ND	U
88 Chlorodibromomethane	129		10.761				ND	
89 Ethylene Dibromide	107		10.871				ND	
S 90 Xylenes, Total	106				0		530.7	
* 91 Chlorobenzene-d5 (IS)	117	11.297	11.297	0.000	89	754194	50.0	
93 Chlorobenzene	112		11.321				ND	
95 Ethylbenzene	91	11.406	11.406	0.000	98	7588669	266.1	
96 m-Xylene & p-Xylene	106	11.522	11.522	0.000	98	5263857	467.8	
97 o-Xylene	106	11.850	11.850	0.000	97	693866	62.9	
98 Styrene	104		11.863				ND	U
99 Bromoform	173		12.027				ND	
100 Isopropylbenzene	105	12.149	12.149	-0.001	96	252395	9.14	
$ 103 4-Bromofluorobenzene (Surr)	95	12.295	12.295	0.000	91	357949	48.9	
104 1,1,2,2-Tetrachloroethane	83		12.380				ND	U
117 1,3-Dichlorobenzene	146		13.116				ND	
* 119 1,4-Dichlorobenzene-d4	152	13.177	13.177	0.000	95	436633	50.0	
121 1,4-Dichlorobenzene	146		13.195				ND	
126 1,2-Dichlorobenzene	146		13.450				ND	
129 1,2-Dibromo-3-Chloropropane	75	13.967	13.992	-0.025	38	1795	0.6846	
131 1,2,4-Trichlorobenzene	180		14.545				ND	

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Reagents:

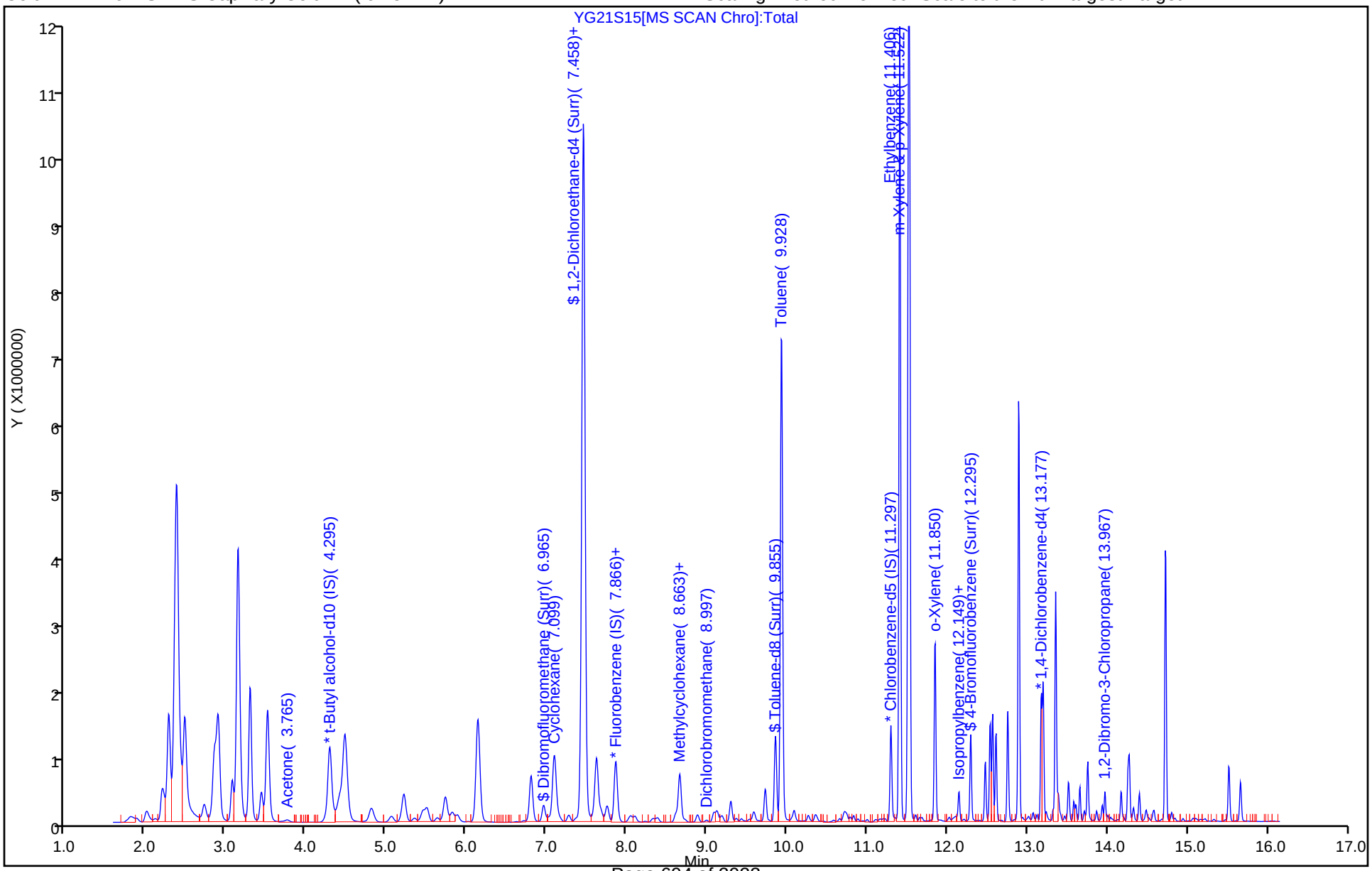
MSV_HP20_ISSS_00023 Amount Added: 1.00 Units: uL Run Reagent

Report Date: 21-Aug-2020 19:21:26 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21S15.D				
Injection Date:	21-Aug-2020 18:19:30	Instrument ID:	9355	Operator ID:	clm27445
Lims ID:	410-10696-H-3	Lab Sample ID:	410-10696-3	Worklist Smp#:	27
Client ID:	MW-04				
Purge Vol:	5.000 mL	Dil. Factor:	5.0000	ALS Bottle#:	26
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21S15.D
Lims ID: 410-10696-H-3
Client ID: MW-04
Sample Type: Client
Inject. Date: 21-Aug-2020 18:19:30 ALS Bottle#: 26 Worklist Smp#: 27
Purge Vol: 5.000 mL Dil. Factor: 5.0000
Sample Info: 410-0008609-027
Misc. Info.: 410-10696-H-3
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 21-Aug-2020 19:20:40 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1048

First Level Reviewer: campbellme Date: 21-Aug-2020 19:19:30

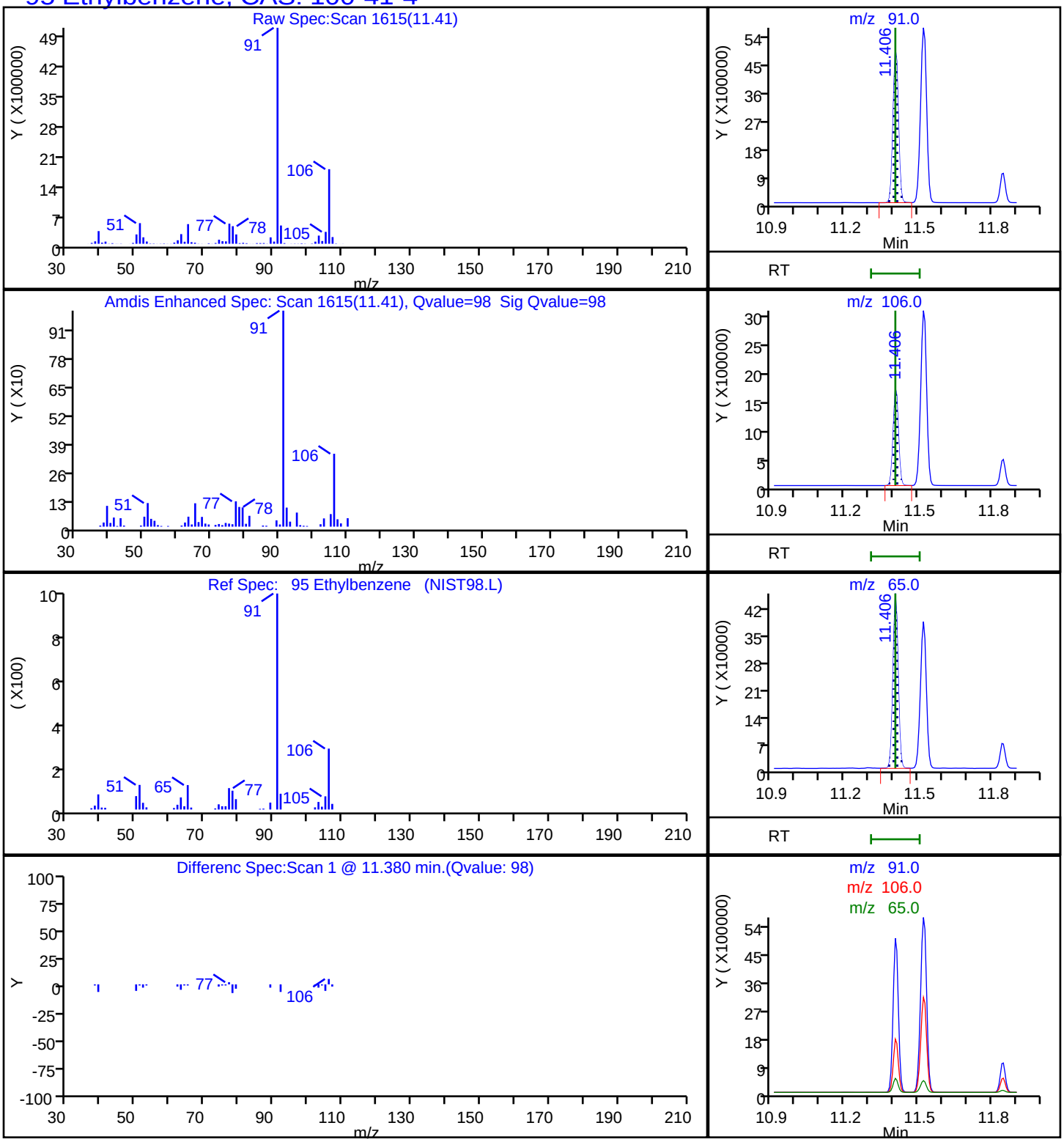
Compound	Amount Added	Amount Recovered	% Rec.
$ 50 Dibromofluoromethane (Surr)	50.0	47.5	95.06
$ 56 1,2-Dichloroethane-d4 (Surr)	50.0	52.2	104.45
$ 77 Toluene-d8 (Surr)	50.0	50.9	101.75
$ 103 4-Bromofluorobenzene (Surr)	50.0	48.9	97.86

Report Date: 21-Aug-2020 19:21:27 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21S15.D		
Injection Date:	21-Aug-2020 18:19:30	Instrument ID:	9355
Lims ID:	410-10696-H-3	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	clm27445	ALS Bottle#:	26 Worklist Smp#: 27
Purge Vol:	5.000 mL	Dil. Factor:	5.0000
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D
Column:	Rxi-624Sil MS Capillary Column (0.25 mm)	Detector	MS Quad

95 Ethylbenzene, CAS: 100-41-4

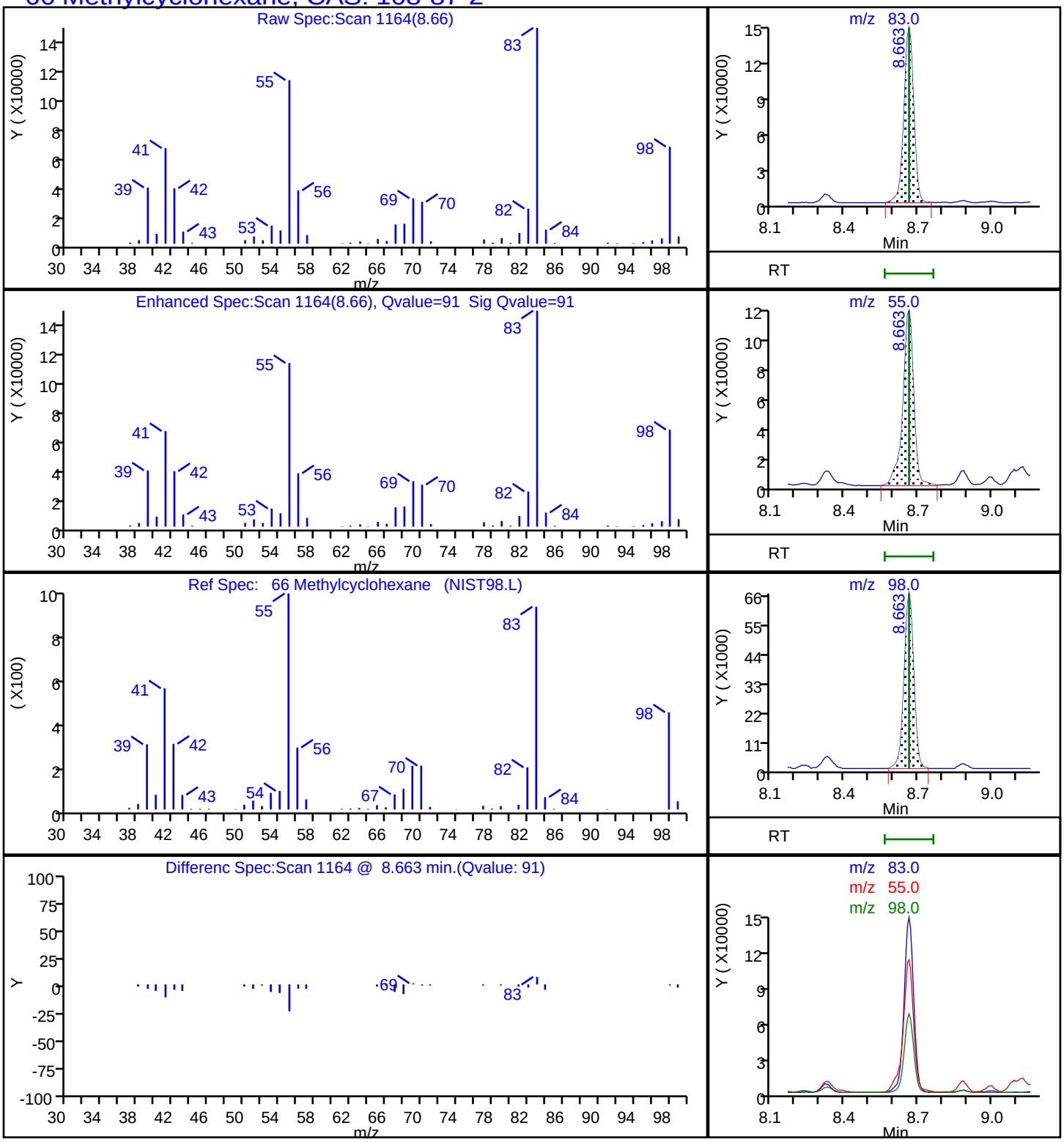


Report Date: 21-Aug-2020 19:21:27 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21S15.D		
Injection Date:	21-Aug-2020 18:19:30	Instrument ID:	9355
Lims ID:	410-10696-H-3	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	clm27445	ALS Bottle#:	26 Worklist Smp#: 27
Purge Vol:	5.000 mL	Dil. Factor:	5.0000
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad

66 Methylcyclohexane, CAS: 108-87-2

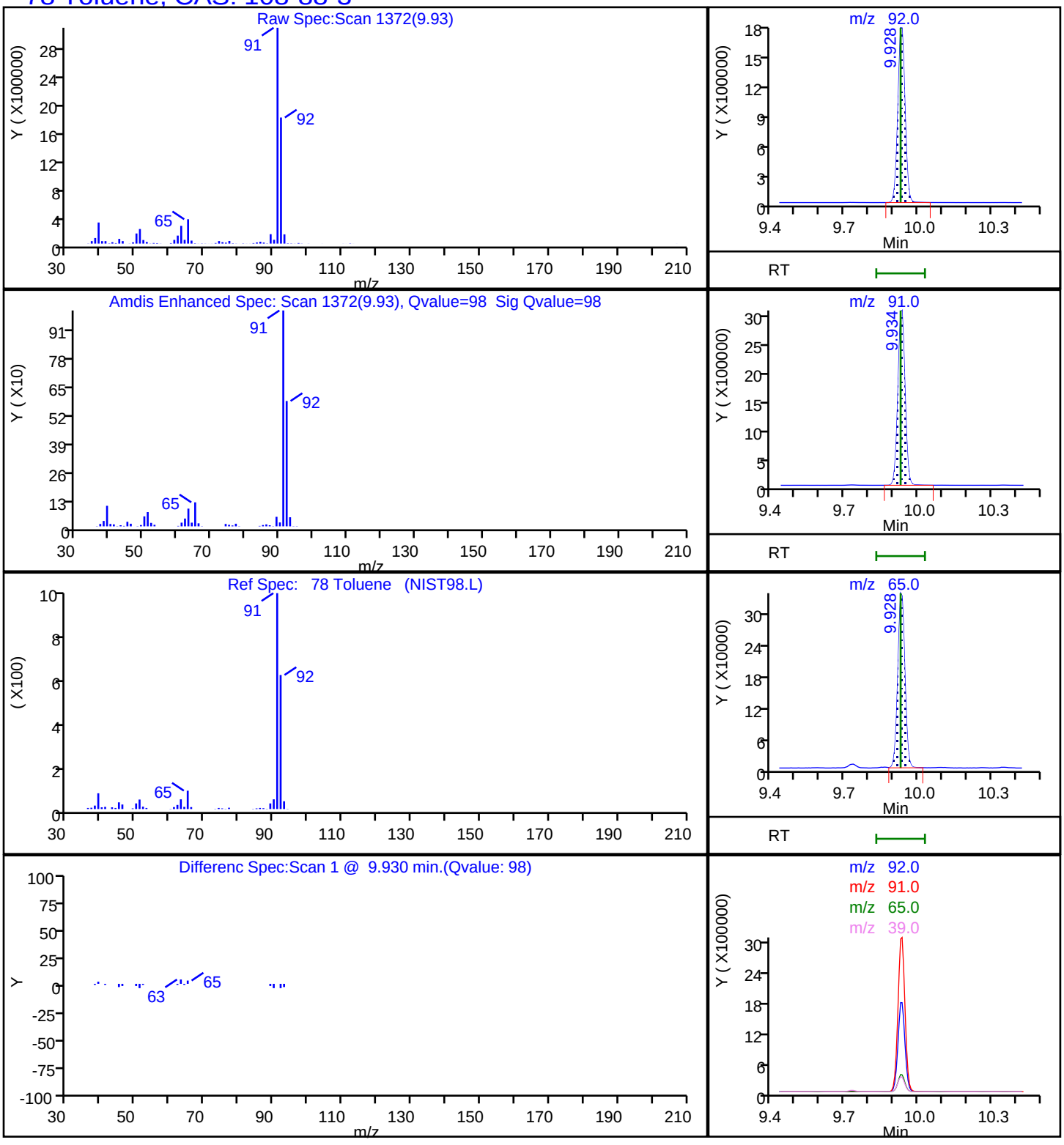


Report Date: 21-Aug-2020 19:21:27 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21S15.D				
Injection Date:	21-Aug-2020 18:19:30	Instrument ID:	9355		
Lims ID:	410-10696-H-3	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	clm27445	ALS Bottle#:	26	Worklist Smp#:	27
Purge Vol:	5.000 mL	Dil. Factor:	5.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25 mm)	Detector	MS Quad		

78 Toluene, CAS: 108-88-3

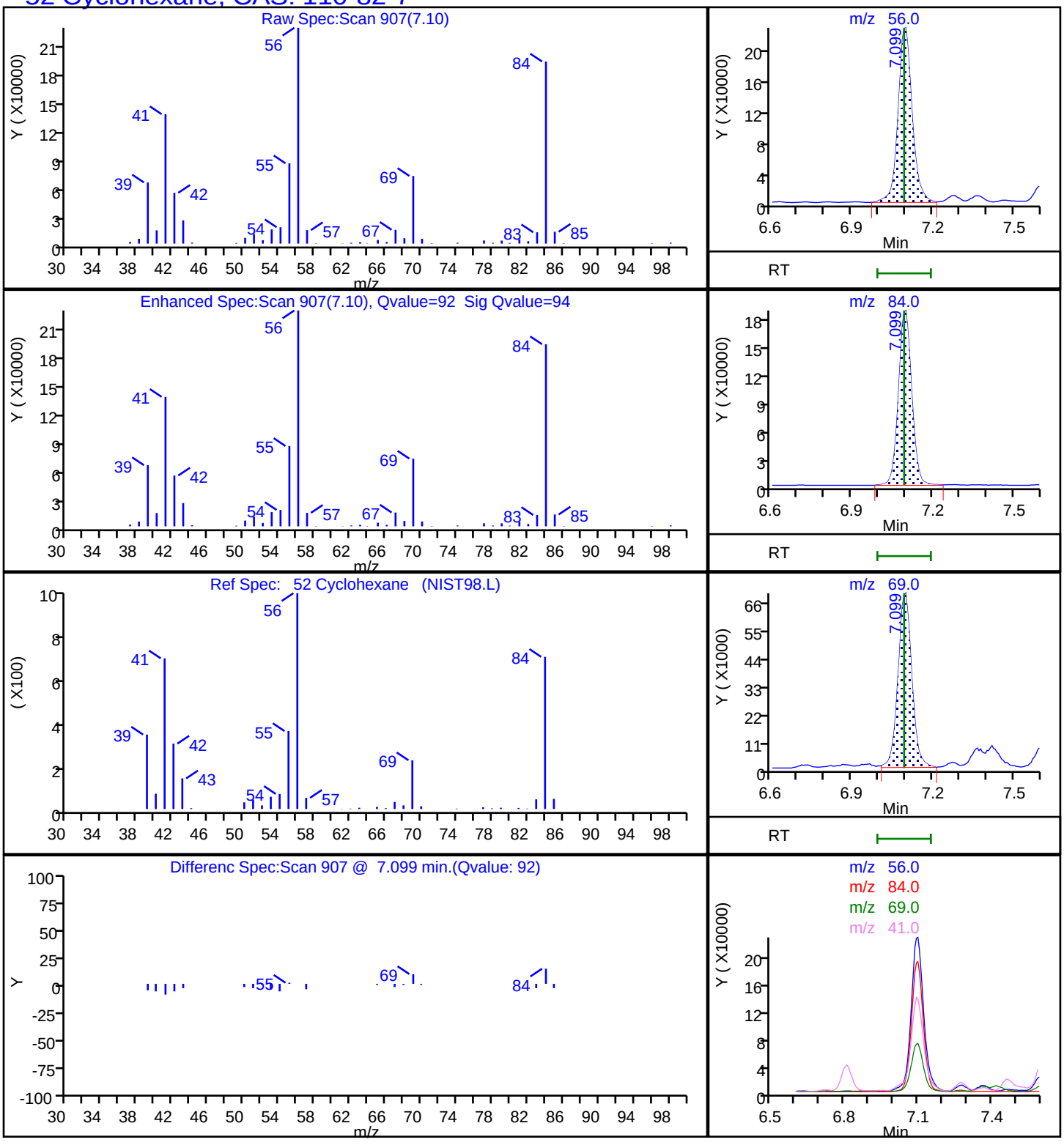


Report Date: 21-Aug-2020 19:21:27 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21S15.D				
Injection Date:	21-Aug-2020 18:19:30	Instrument ID:	9355		
Lims ID:	410-10696-H-3	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	clm27445	ALS Bottle#:	26	Worklist Smp#:	27
Purge Vol:	5.000 mL	Dil. Factor:	5.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25 mm)	Detector	MS Quad		

52 Cyclohexane, CAS: 110-82-7

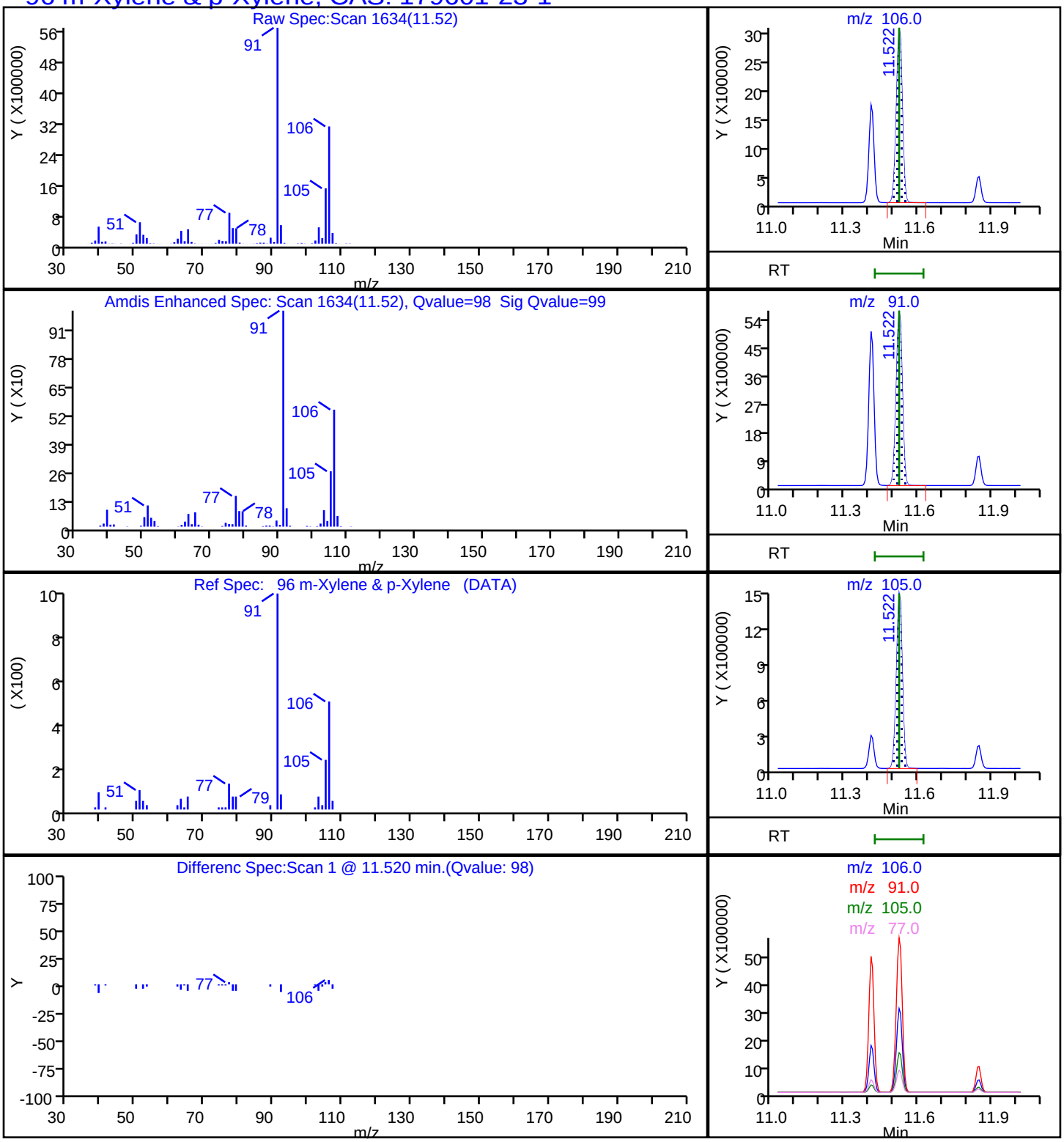


Report Date: 21-Aug-2020 19:21:27 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21S15.D				
Injection Date:	21-Aug-2020 18:19:30	Instrument ID:	9355		
Lims ID:	410-10696-H-3	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	clm27445	ALS Bottle#:	26	Worklist Smp#:	27
Purge Vol:	5.000 mL	Dil. Factor:	5.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25 mm)	Detector	MS Quad		

96 m-Xylene & p-Xylene, CAS: 179601-23-1

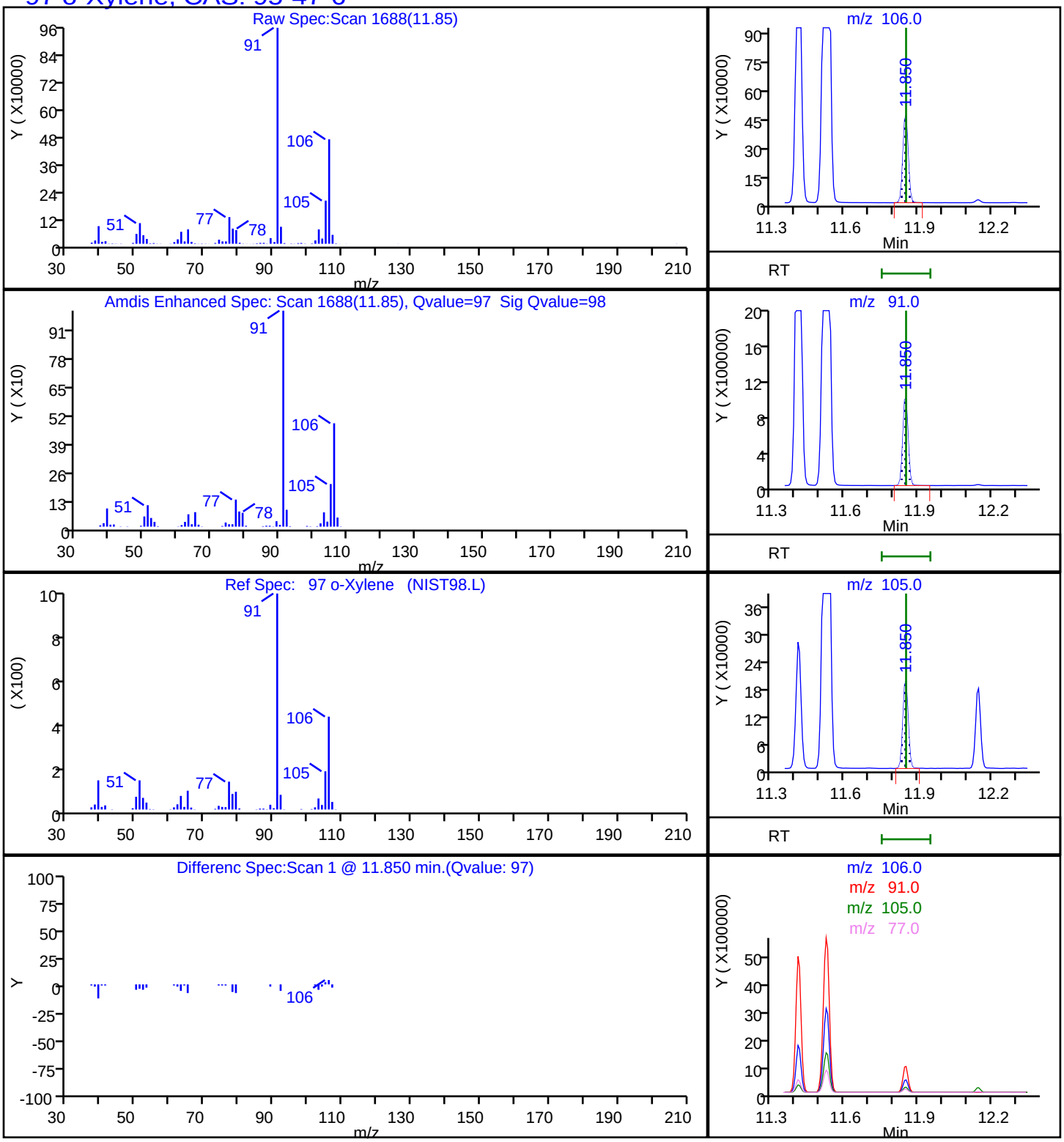


Report Date: 21-Aug-2020 19:21:27 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21S15.D		
Injection Date:	21-Aug-2020 18:19:30	Instrument ID:	9355
Lims ID:	410-10696-H-3	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	clm27445	ALS Bottle#:	26 Worklist Smp#: 27
Purge Vol:	5.000 mL	Dil. Factor:	5.0000
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D
Column:	Rxi-624Sil MS Capillary Column (0.25 mm)	Detector	MS Quad

97 o-Xylene, CAS: 95-47-6



Report Date: 21-Aug-2020 19:21:27 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21S15.D

Injection Date: 21-Aug-2020 18:19:30 Instrument ID: 9355

Lims ID: 410-10696-H-3 Lab Sample ID: 410-10696-3

Client ID: MW-04

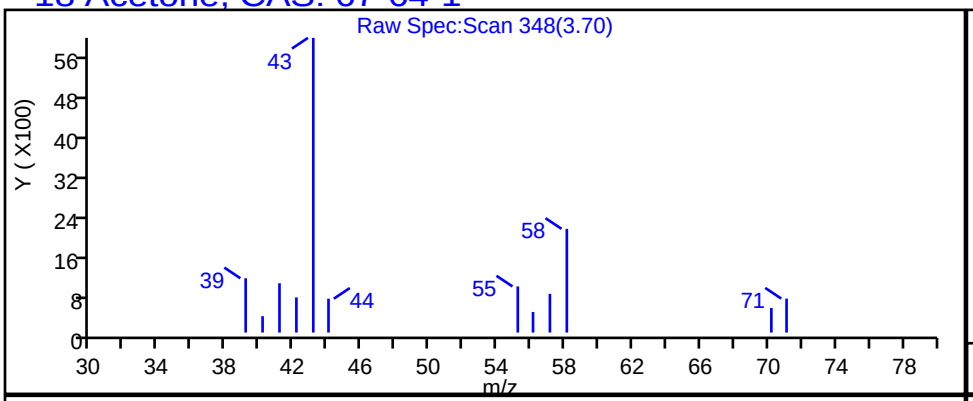
Operator ID: clm27445 ALS Bottle#: 26 Worklist Smp#: 27

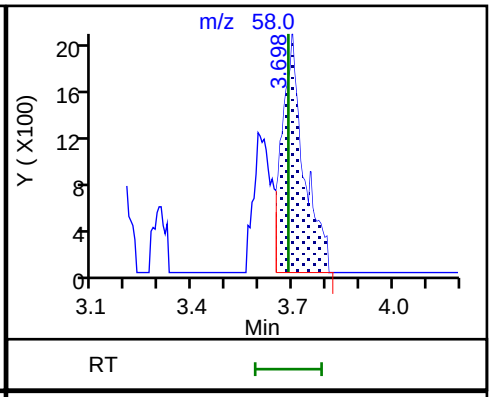
Purge Vol: 5.000 mL Dil. Factor: 5.0000

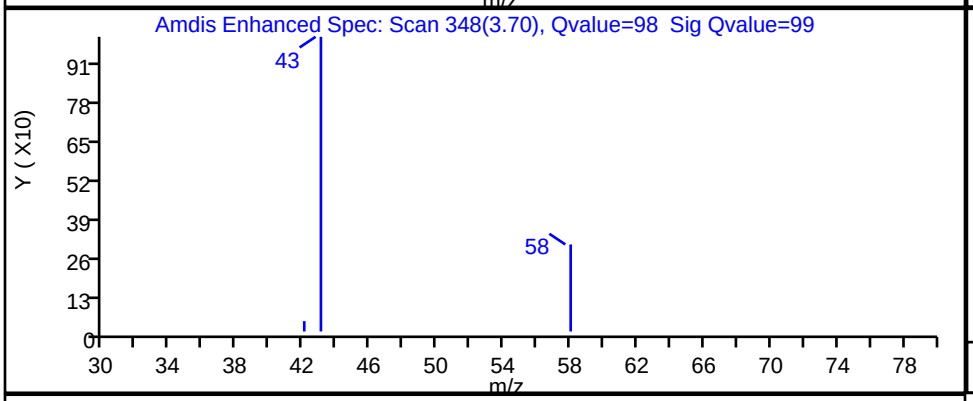
Method: MSVoa_9355 Limit Group: MSV - 8260C_D

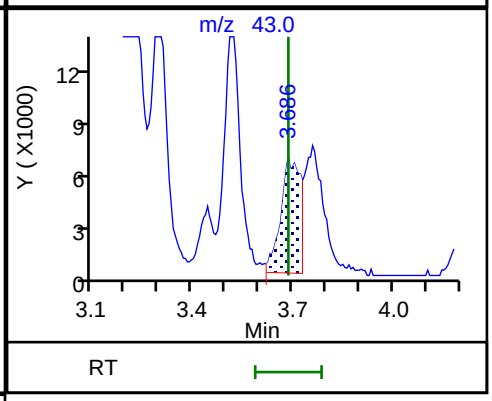
Column: Rxi-624Sil MS Capillary Column (0.25 mm) Detector MS Quad

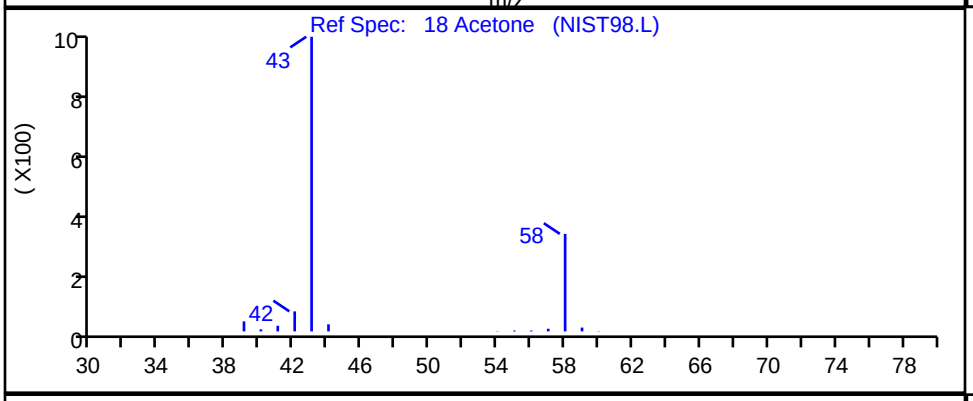
18 Acetone, CAS: 67-64-1

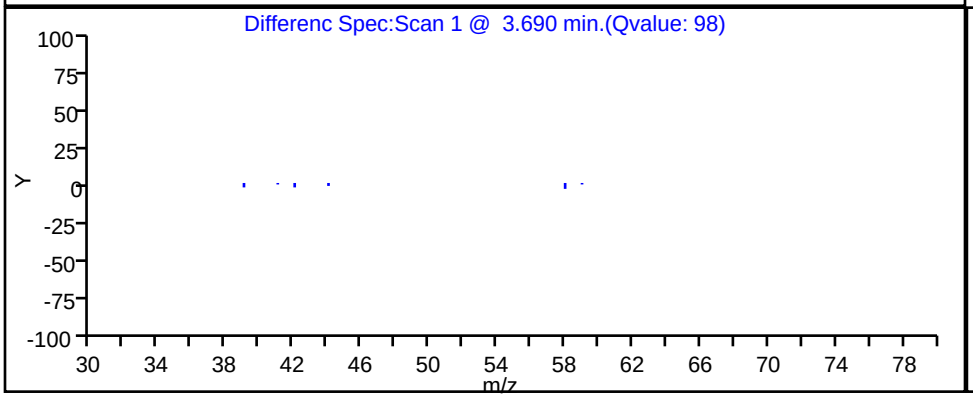


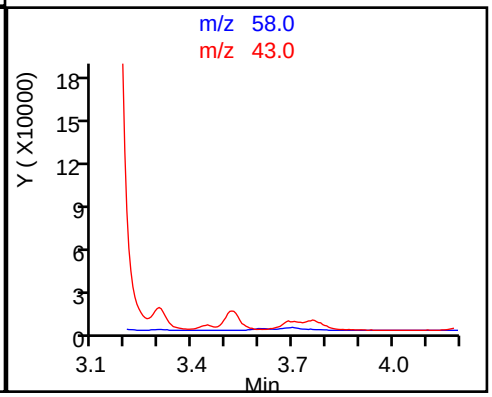










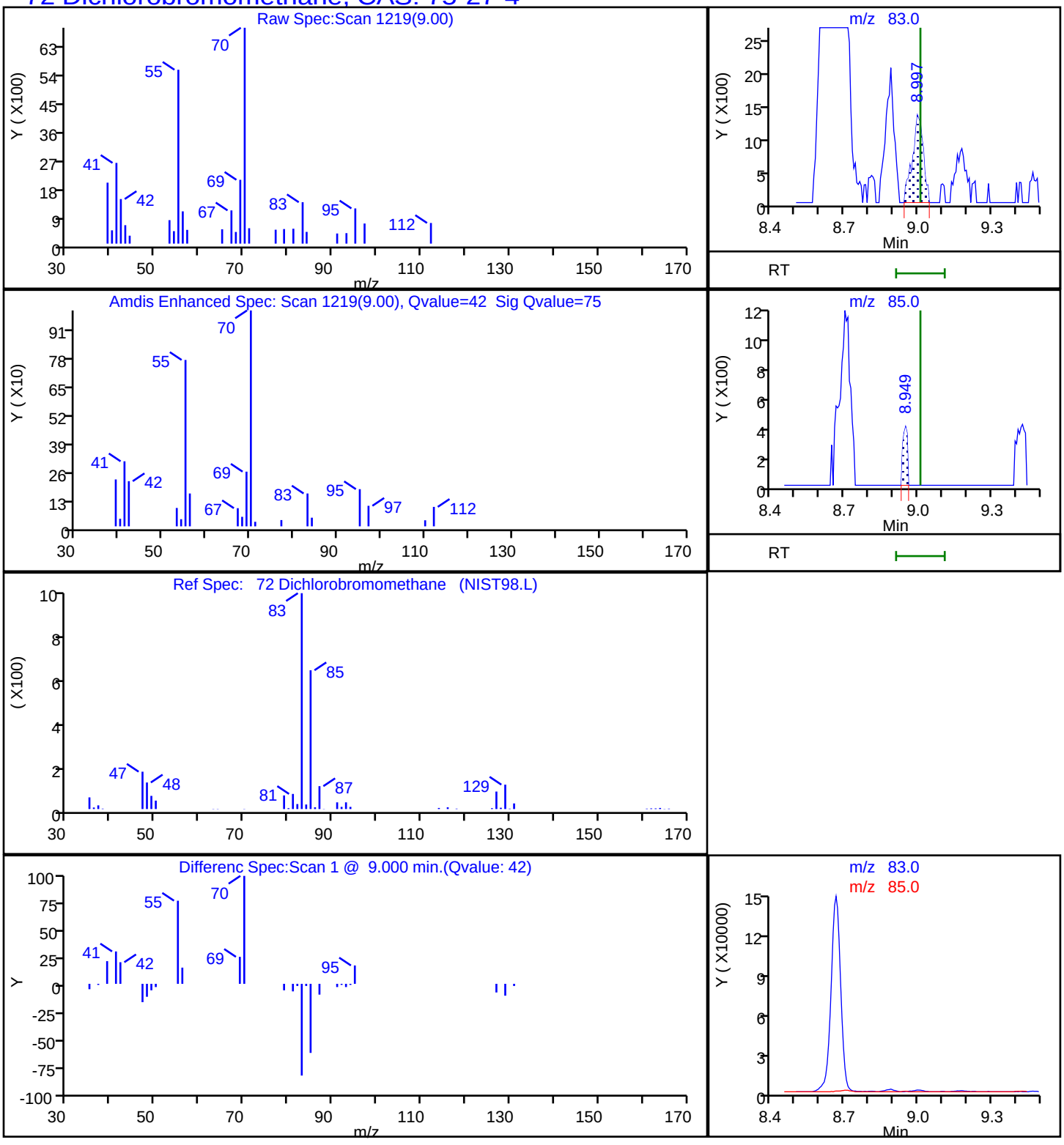


Report Date: 21-Aug-2020 19:21:27 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21S15.D				
Injection Date:	21-Aug-2020 18:19:30	Instrument ID:	9355		
Lims ID:	410-10696-H-3	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	clm27445	ALS Bottle#:	26	Worklist Smp#:	27
Purge Vol:	5.000 mL	Dil. Factor:	5.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25 mm)	Detector	MS Quad		

72 Dichlorobromomethane, CAS: 75-27-4



Report Date: 21-Aug-2020 19:21:27 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21S15.D

Injection Date: 21-Aug-2020 18:19:30 Instrument ID: 9355

Lims ID: 410-10696-H-3 Lab Sample ID: 410-10696-3

Client ID: MW-04

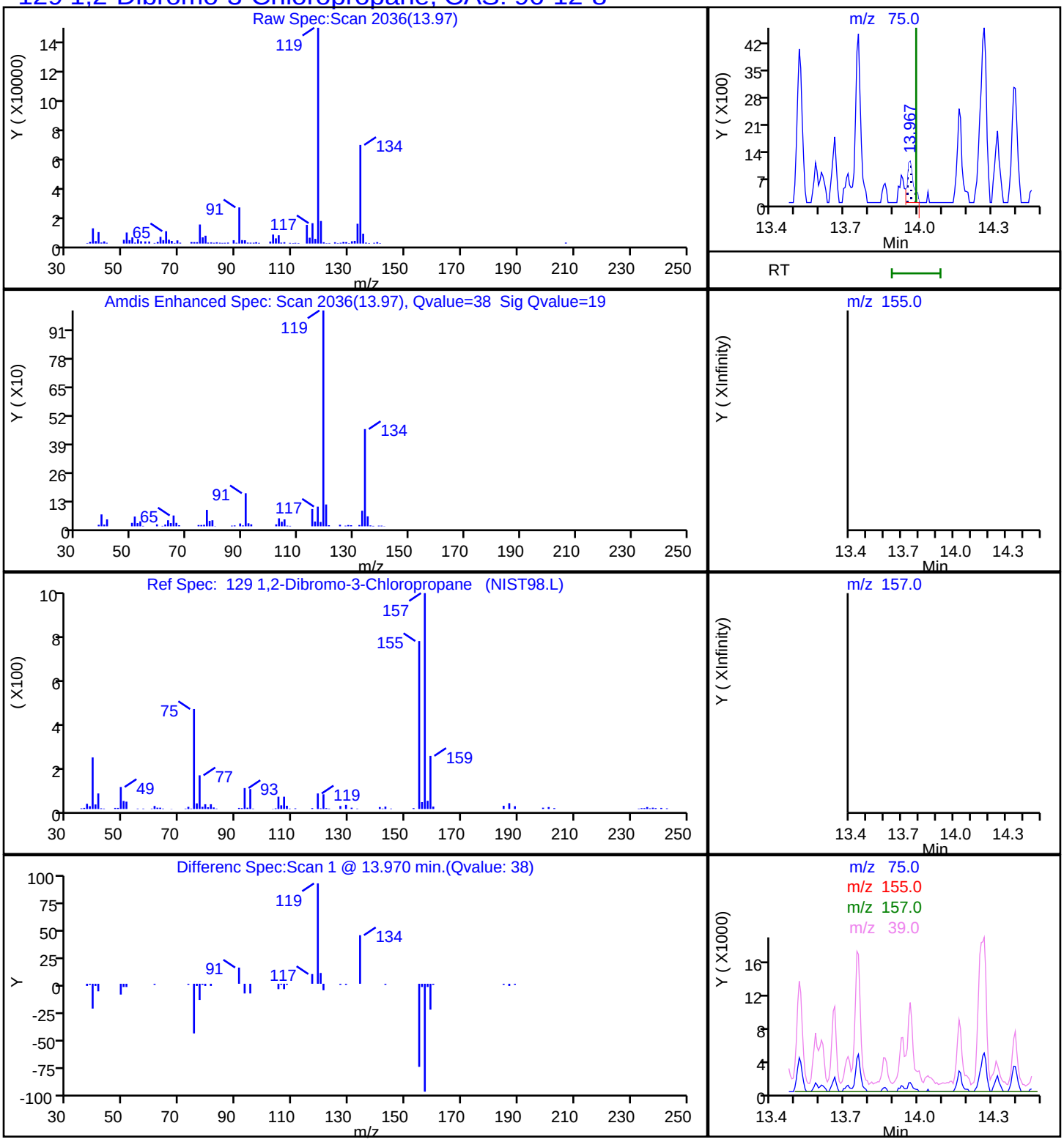
Operator ID: clm27445 ALS Bottle#: 26 Worklist Smp#: 27

Purge Vol: 5.000 mL Dil. Factor: 5.0000

Method: MSVoa_9355 Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Detector MS Quad

129 1,2-Dibromo-3-Chloropropane, CAS: 96-12-8

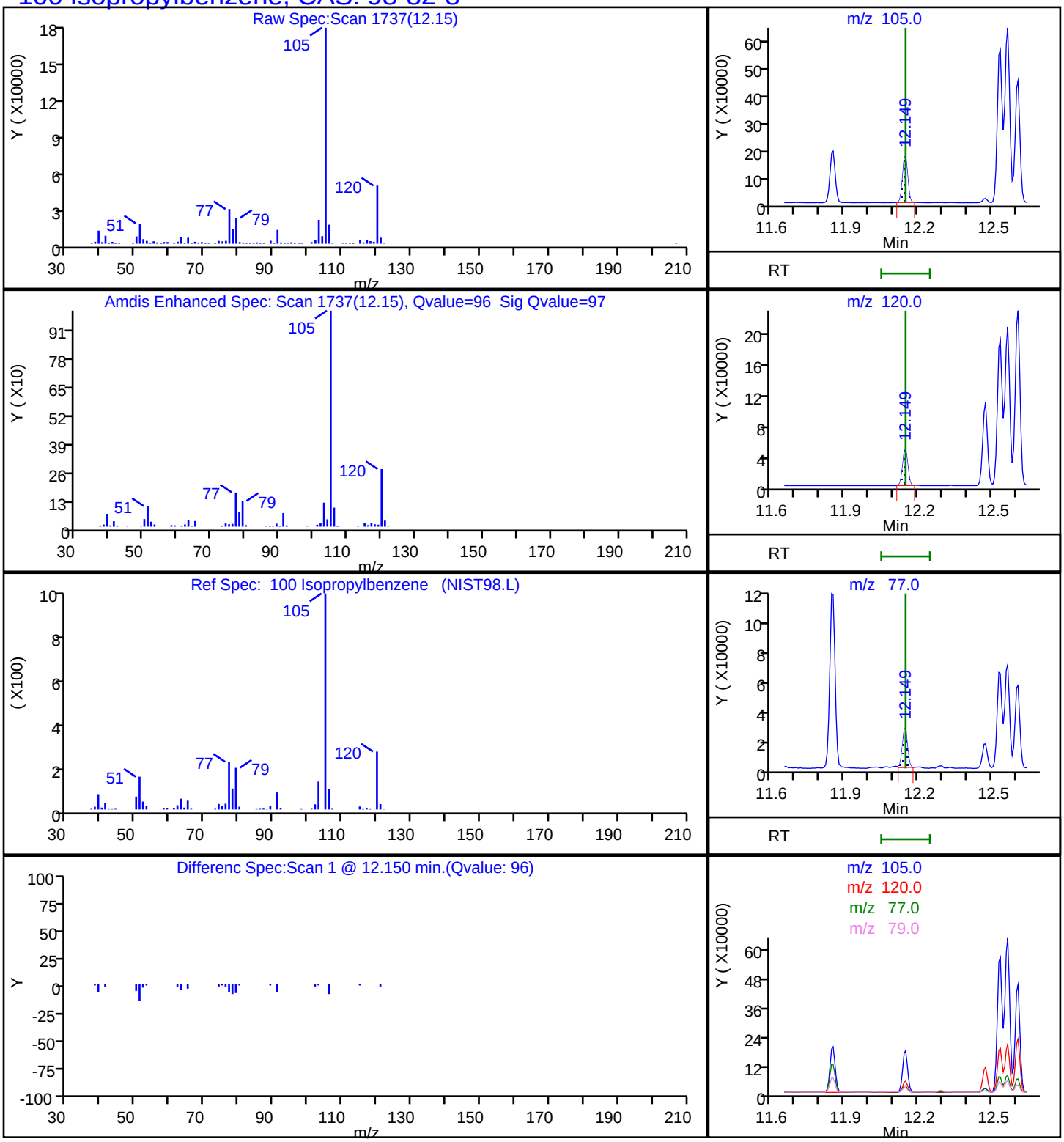


Report Date: 21-Aug-2020 19:21:27 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21S15.D				
Injection Date:	21-Aug-2020 18:19:30	Instrument ID:	9355		
Lims ID:	410-10696-H-3	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	clm27445	ALS Bottle#:	26	Worklist Smp#:	27
Purge Vol:	5.000 mL	Dil. Factor:	5.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25 mm)	Detector	MS Quad		

100 Isopropylbenzene, CAS: 98-82-8



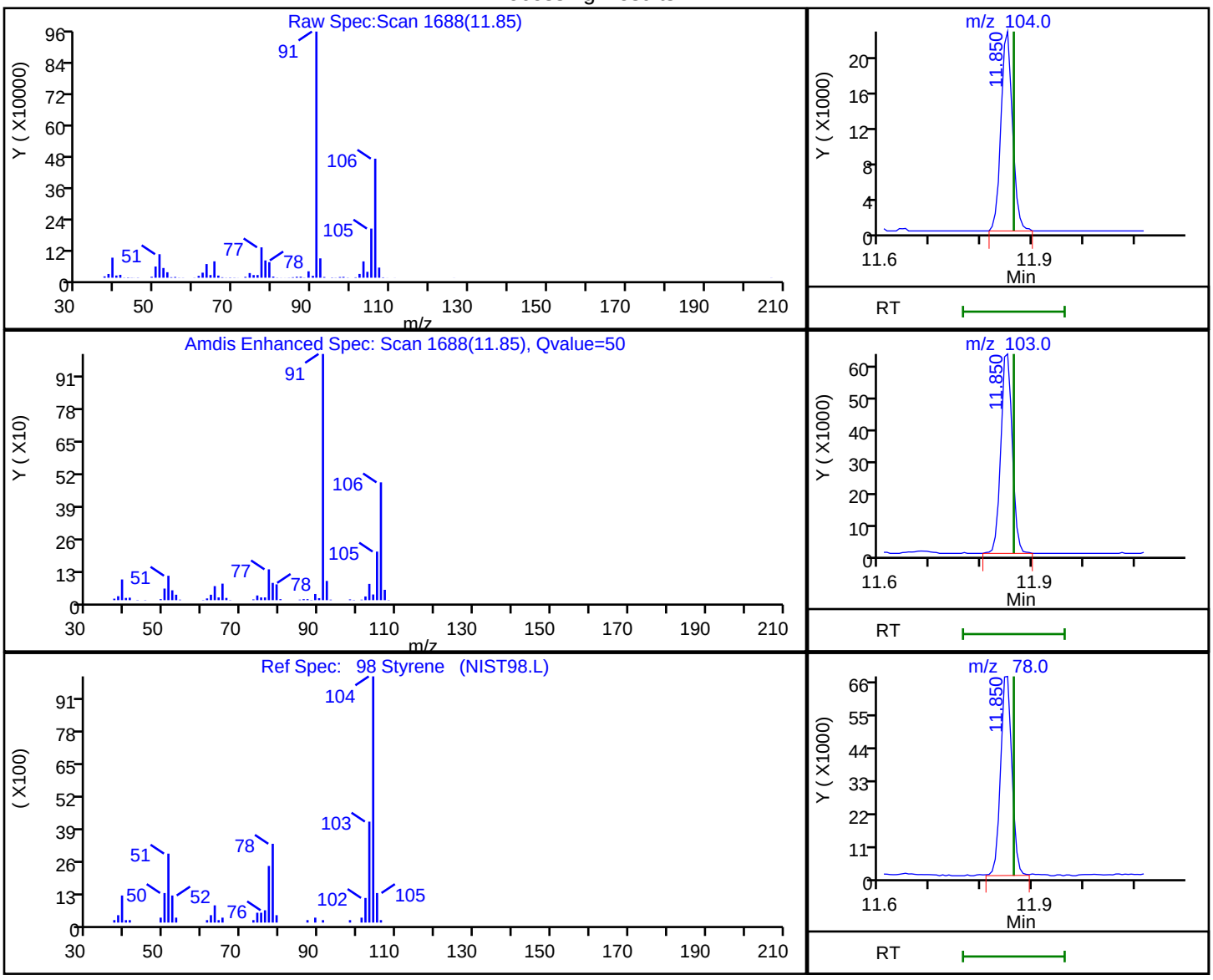
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21S15.D				
Injection Date:	21-Aug-2020 18:19:30	Instrument ID:	9355		
Lims ID:	410-10696-H-3	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	clm27445	ALS Bottle#:	26	Worklist Smp#:	27
Purge Vol:	5.000 mL	Dil. Factor:	5.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

98 Styrene, CAS: 100-42-5

Processing Results



RT	Mass	Response	Amount
11.85	104.00	36048	1.956859
11.85	103.00	98889	
11.85	78.00	103307	
11.84	77.00	181766	

Reviewer: campbellme, 21-Aug-2020 19:19:19

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

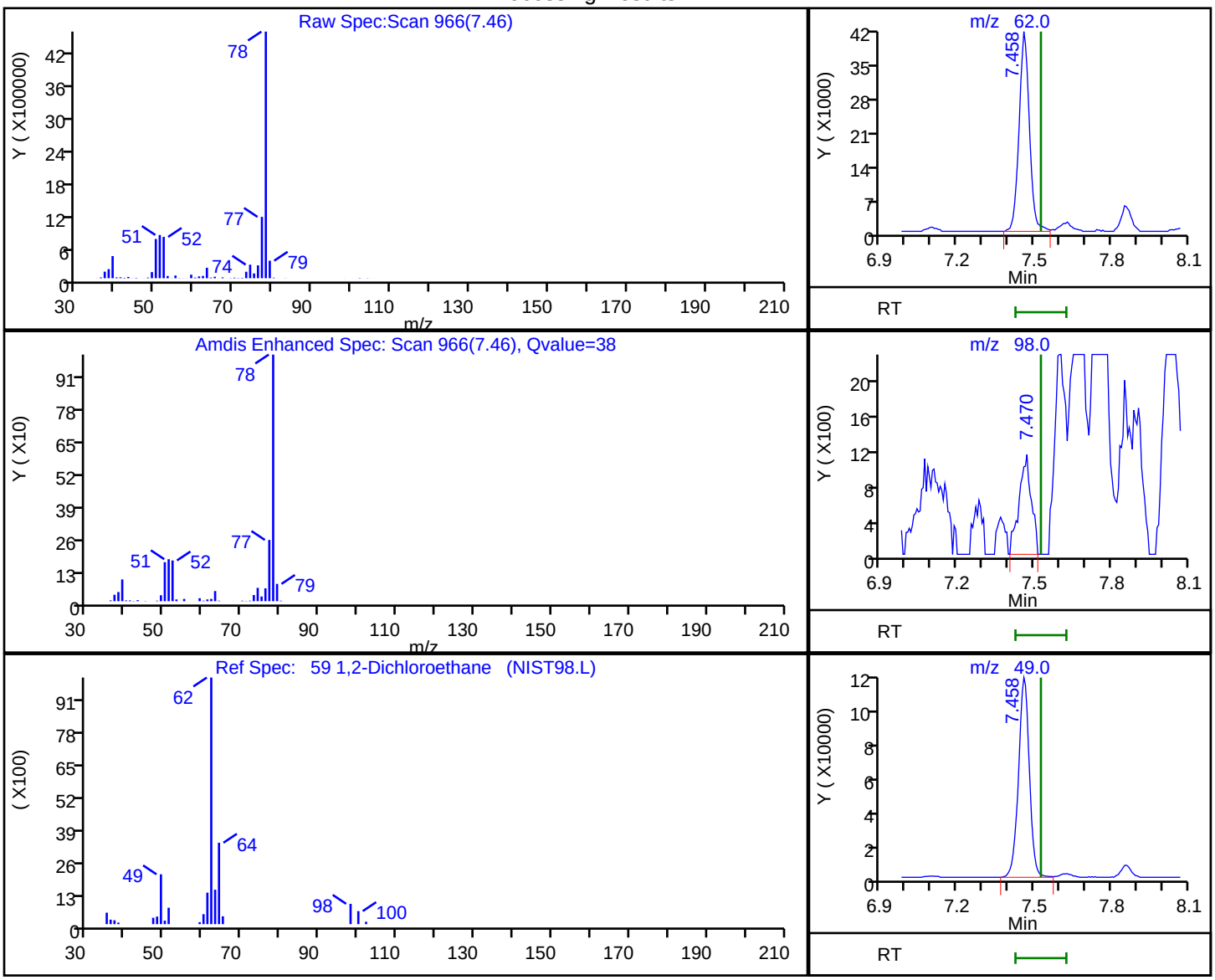
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21S15.D				
Injection Date:	21-Aug-2020 18:19:30	Instrument ID:	9355		
Lims ID:	410-10696-H-3	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	clm27445	ALS Bottle#:	26	Worklist Smp#:	27
Purge Vol:	5.000 mL	Dil. Factor:	5.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

59 1,2-Dichloroethane, CAS: 107-06-2

Processing Results



RT	Mass	Response	Amount
7.46	62.00	117072	13.939057
7.47	98.00	3801	
7.46	49.00	333527	

Reviewer: campbellme, 21-Aug-2020 19:18:35

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

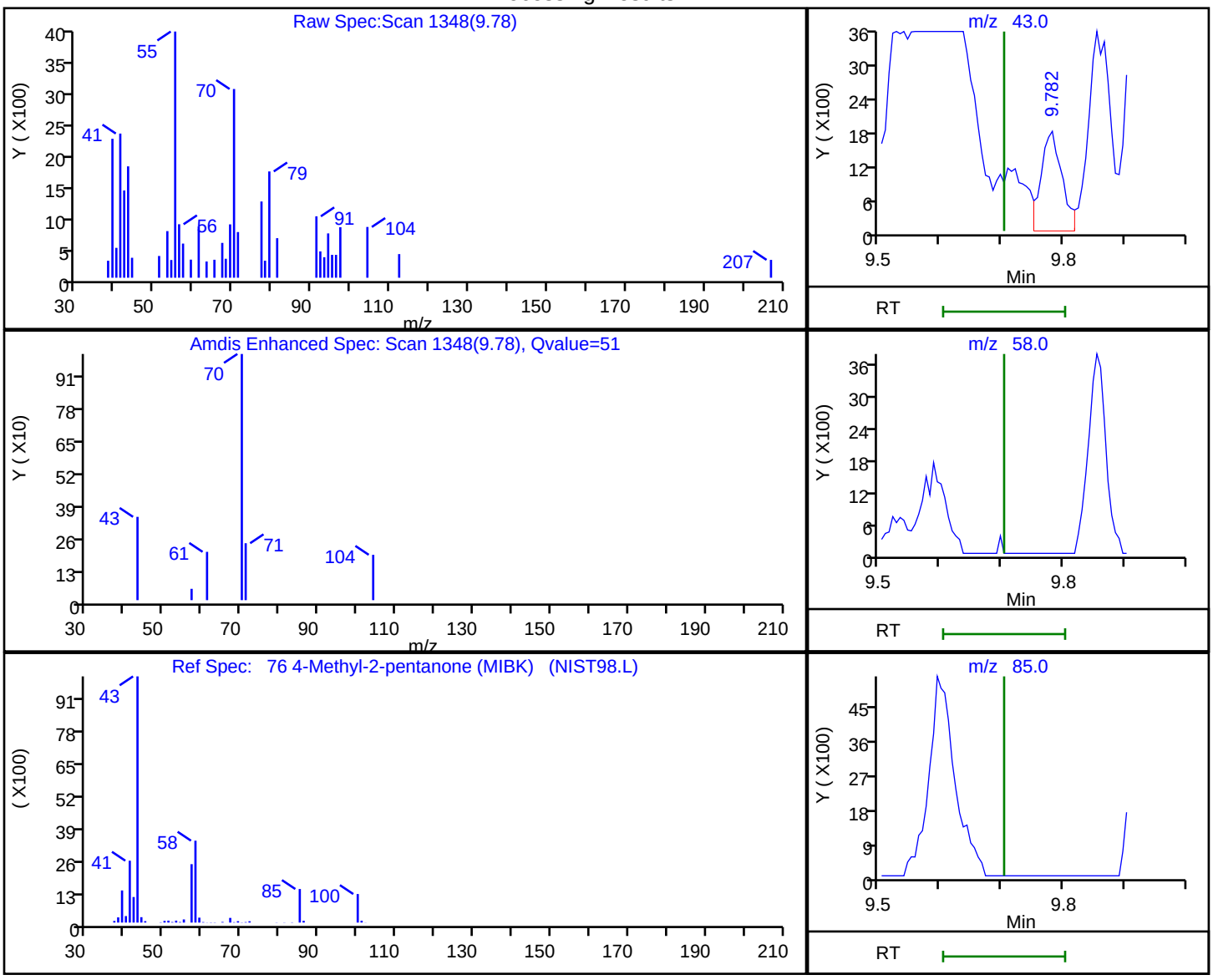
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21S15.D				
Injection Date:	21-Aug-2020 18:19:30	Instrument ID:	9355		
Lims ID:	410-10696-H-3	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	clm27445	ALS Bottle#:	26	Worklist Smp#:	27
Purge Vol:	5.000 mL	Dil. Factor:	5.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

76 4-Methyl-2-pentanone (MIBK), CAS: 108-10-1

Processing Results



RT	Mass	Response	Amount
9.78	43.00	4339	0.350471
9.70	58.00	0	
9.70	85.00	0	
9.70	100.00	0	

Reviewer: campbellme, 21-Aug-2020 19:18:50

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

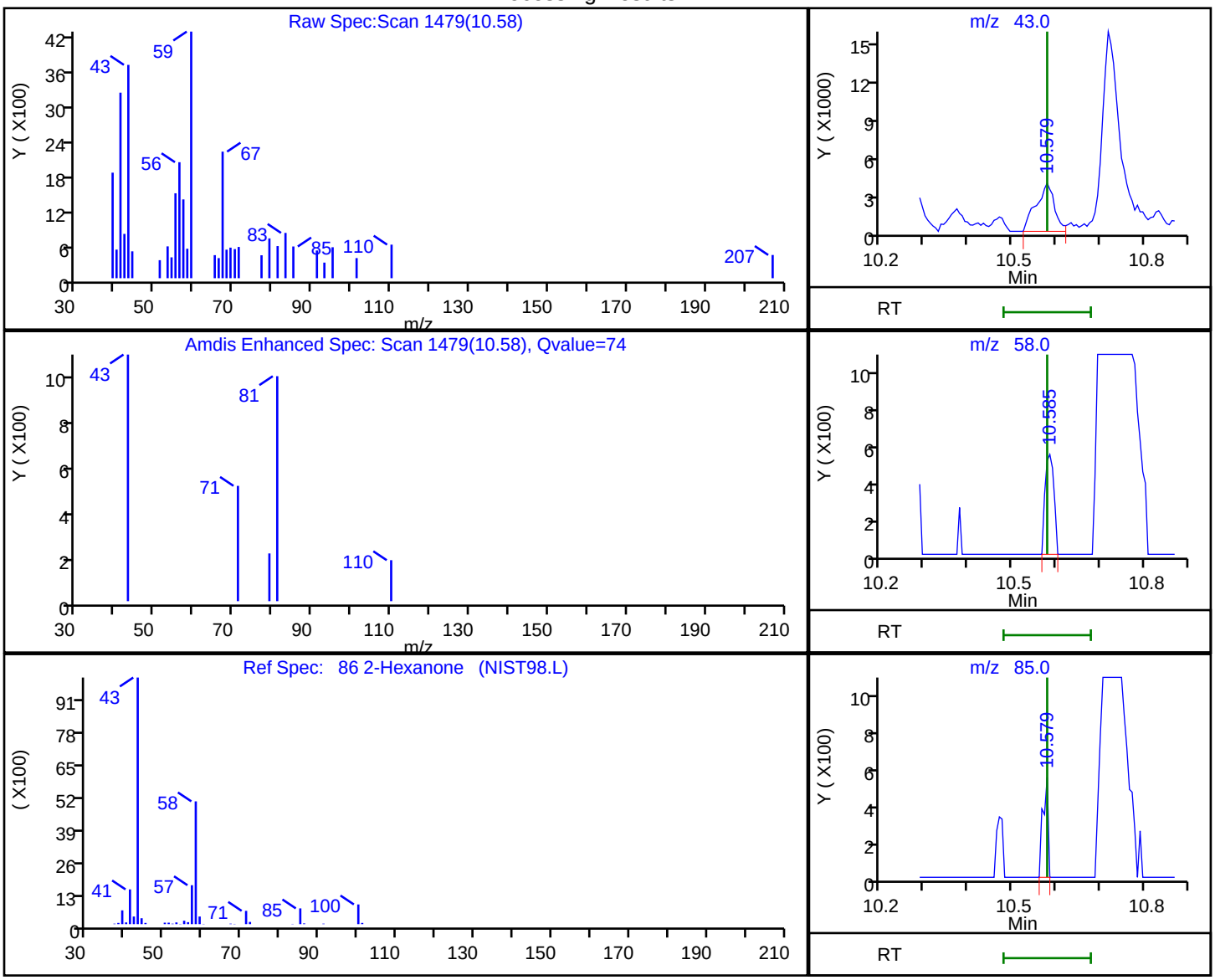
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21S15.D				
Injection Date:	21-Aug-2020 18:19:30	Instrument ID:	9355		
Lims ID:	410-10696-H-3	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	clm27445	ALS Bottle#:	26	Worklist Smp#:	27
Purge Vol:	5.000 mL	Dil. Factor:	5.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

86 2-Hexanone, CAS: 591-78-6

Processing Results



RT	Mass	Response	Amount
10.58	43.00	10708	1.071893
10.59	58.00	769	
10.58	85.00	464	
10.58	100.00	0	

Reviewer: campbellme, 21-Aug-2020 19:19:05

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

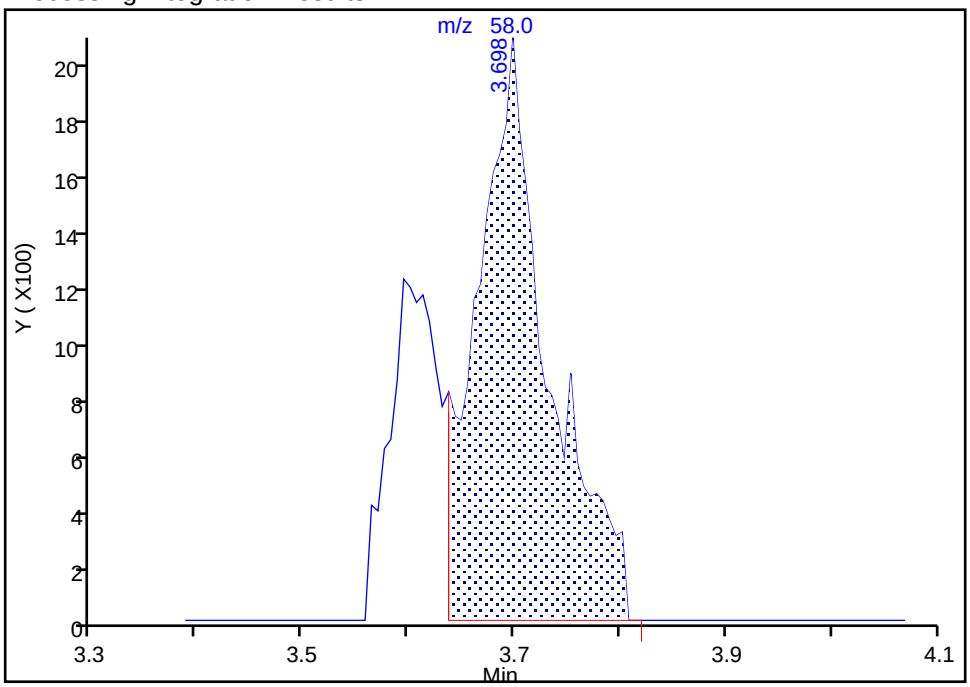
Data File:	\\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21S15.D				
Injection Date:	21-Aug-2020 18:19:30	Instrument ID:	9355		
Lims ID:	410-10696-H-3	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	clm27445	ALS Bottle#:	26	Worklist Smp#:	27
Purge Vol:	5.000 mL	Dil. Factor:	5.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

18 Acetone, CAS: 67-64-1

Signal: 1

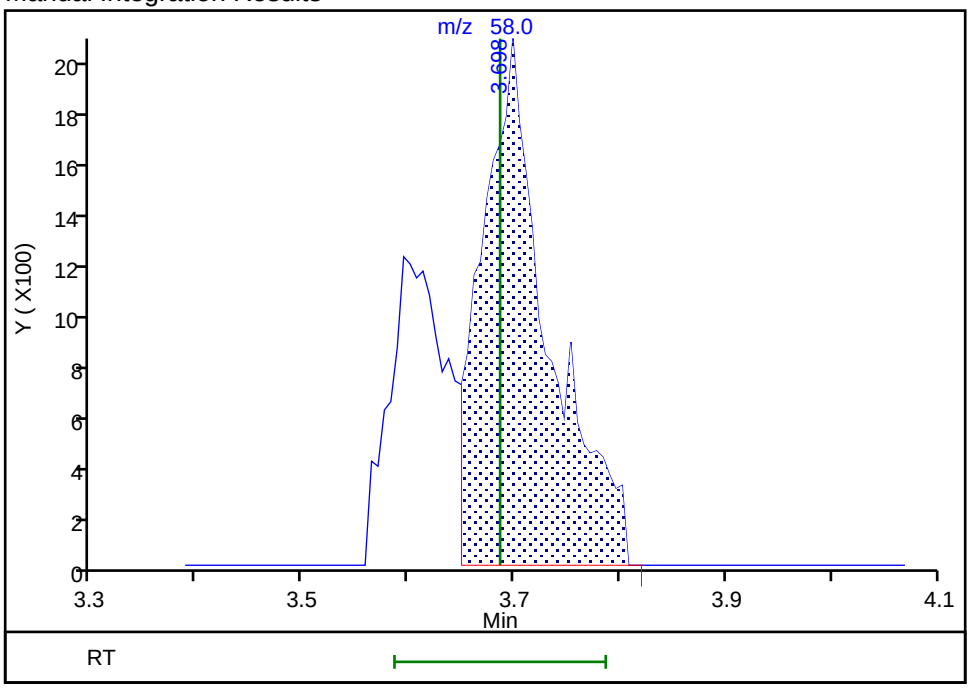
Processing Integration Results

RT: 3.70
Area: 9798
Amount: 7.273610
Amount Units: ug/l



Manual Integration Results

RT: 3.70
Area: 9233
Amount: 6.854179
Amount Units: ug/l



Reviewer: campbellme, 21-Aug-2020 19:17:42

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

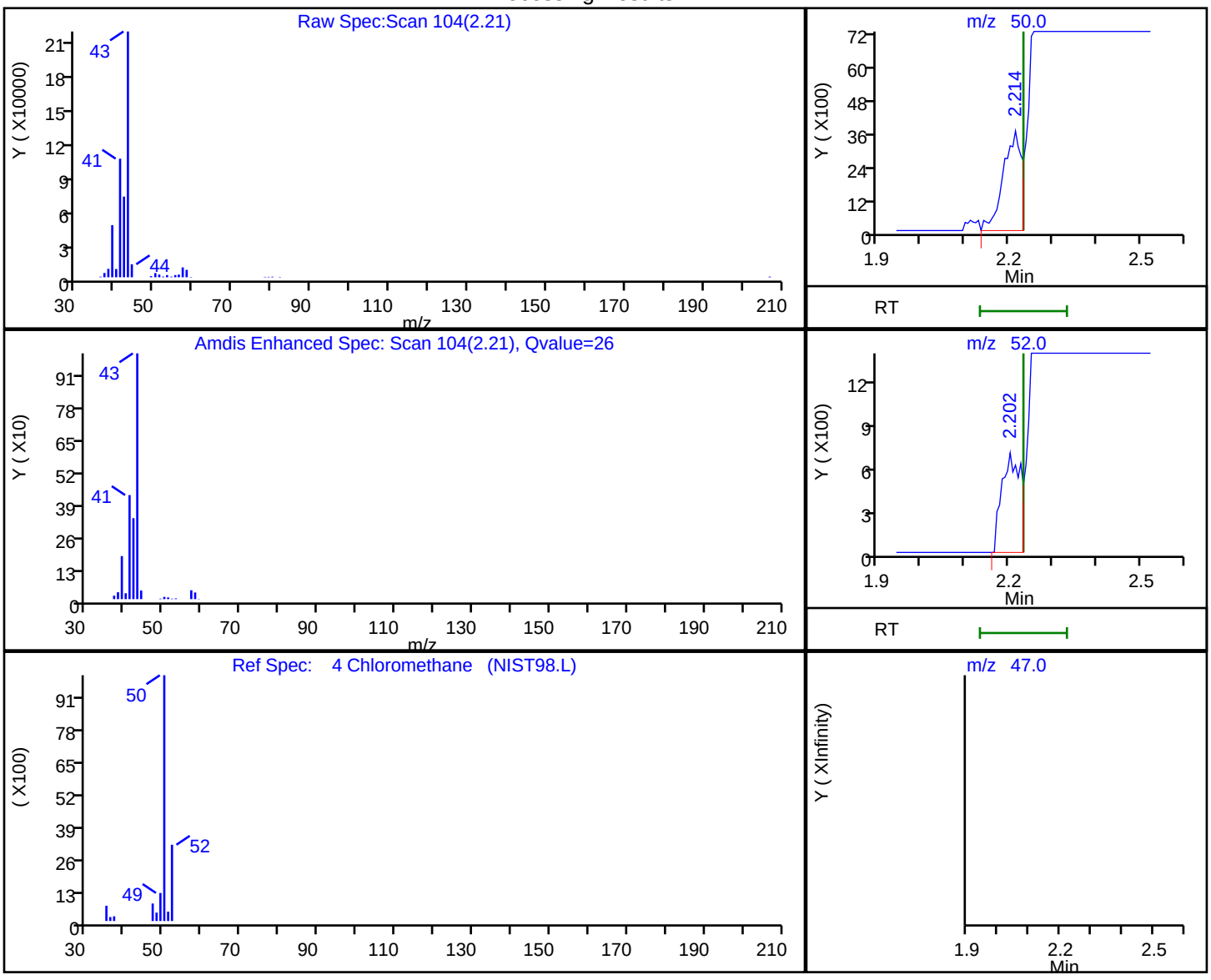
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21S15.D				
Injection Date:	21-Aug-2020 18:19:30	Instrument ID:	9355		
Lims ID:	410-10696-H-3	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	clm27445	ALS Bottle#:	26	Worklist Smp#:	27
Purge Vol:	5.000 mL	Dil. Factor:	5.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25 mm)	Detector	MS Quad		

4 Chloromethane, CAS: 74-87-3

Processing Results



RT	Mass	Response	Amount
2.21	50.00	10751	1.058647
2.20	52.00	2040	
2.23	47.00	0	

Reviewer: campbellme, 21-Aug-2020 19:17:24

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

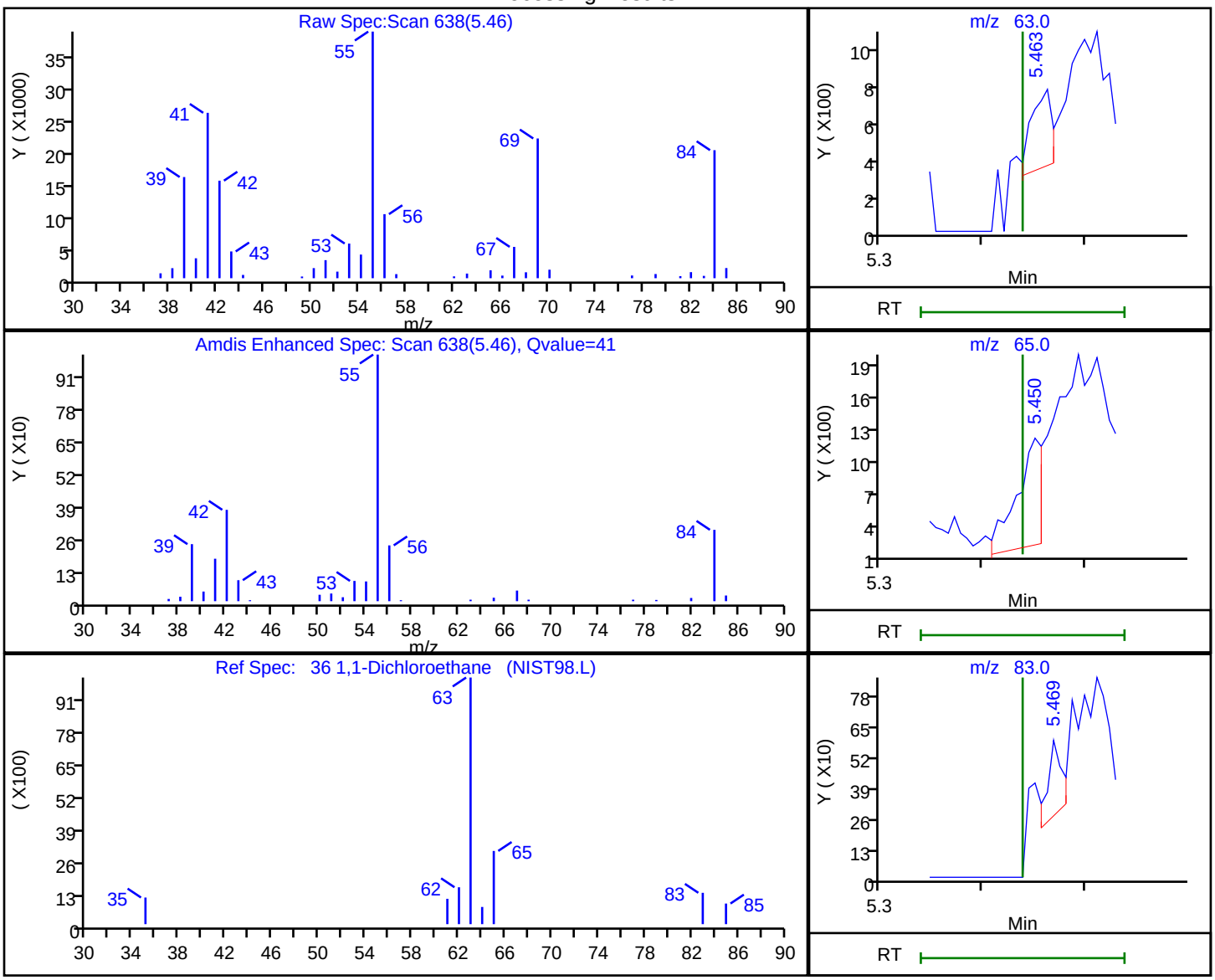
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21S15.D				
Injection Date:	21-Aug-2020 18:19:30	Instrument ID:	9355		
Lims ID:	410-10696-H-3	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	clm27445	ALS Bottle#:	26	Worklist Smp#:	27
Purge Vol:	5.000 mL	Dil. Factor:	5.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

36 1,1-Dichloroethane, CAS: 75-34-3

Processing Results



RT	Mass	Response	Amount
5.46	63.00	563	0.060204
5.45	65.00	1680	
5.47	83.00	312	

Reviewer: campbellme, 21-Aug-2020 19:18:06

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

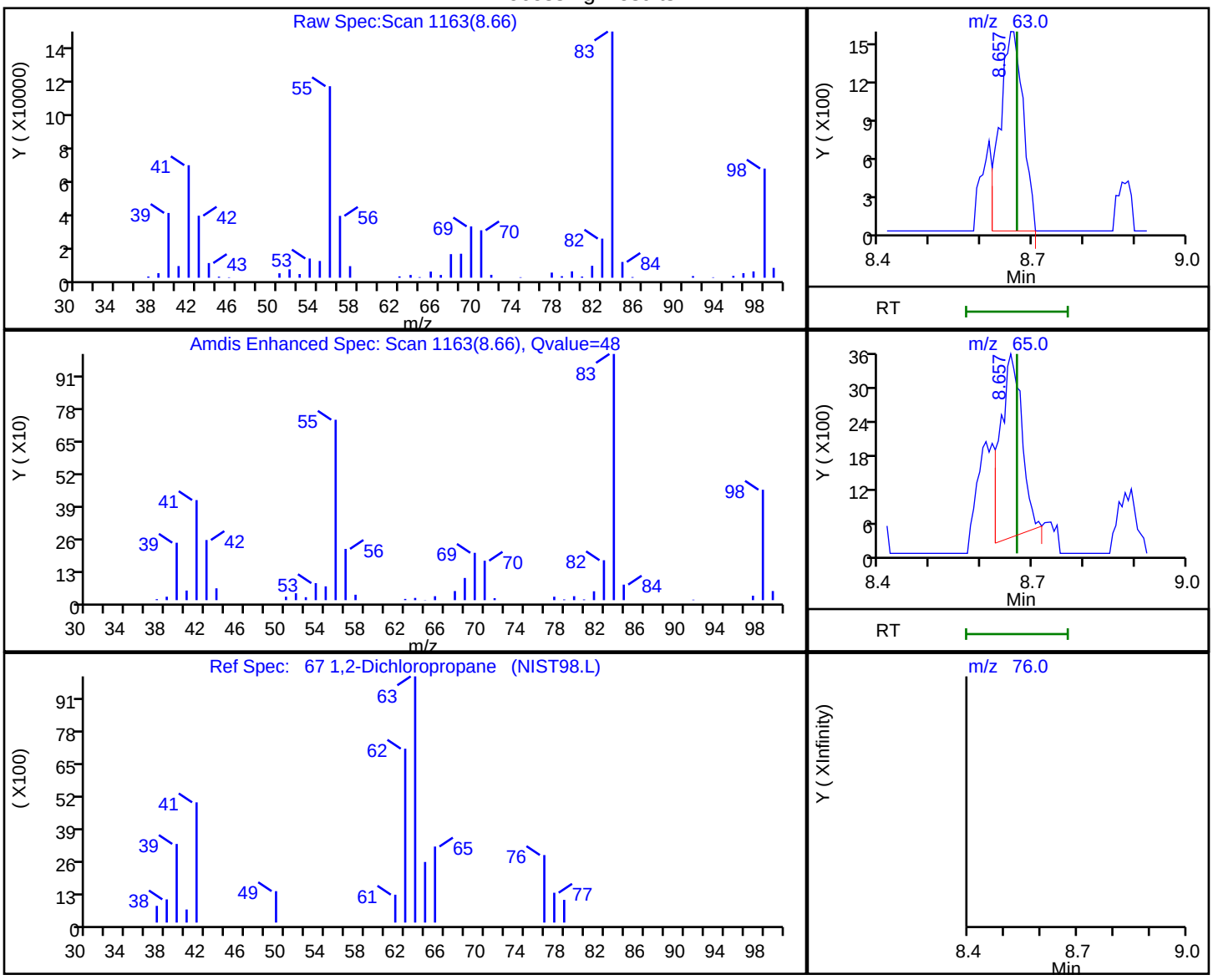
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21S15.D				
Injection Date:	21-Aug-2020 18:19:30	Instrument ID:	9355		
Lims ID:	410-10696-H-3	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	clm27445	ALS Bottle#:	26	Worklist Smp#:	27
Purge Vol:	5.000 mL	Dil. Factor:	5.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

67 1,2-Dichloropropane, CAS: 78-87-5

Processing Results



RT	Mass	Response	Amount
8.66	63.00	4993	0.823448
8.66	65.00	9351	
8.65	78.00	2205	
8.67	76.00	0	

Reviewer: campbellme, 21-Aug-2020 19:18:44

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

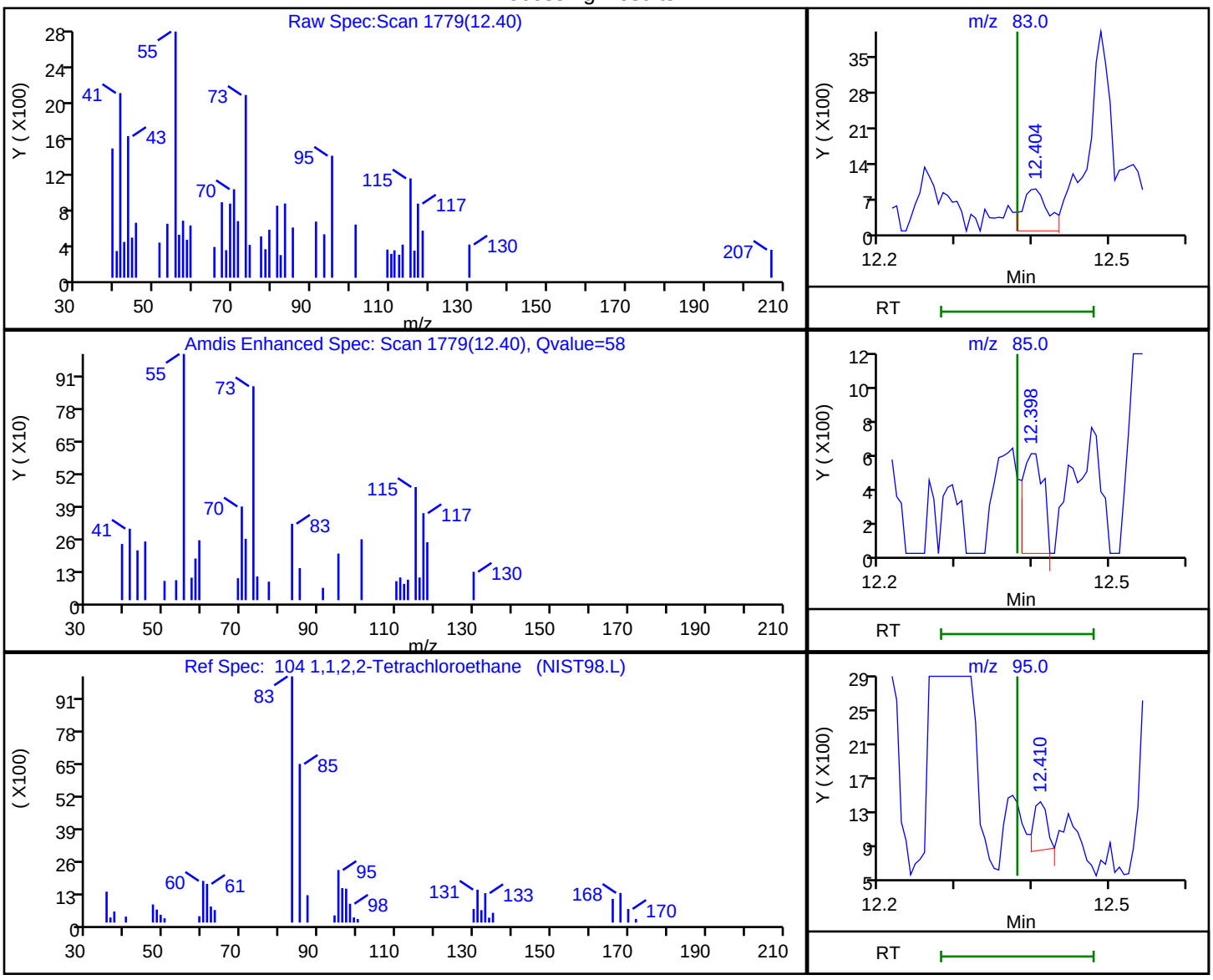
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21S15.D				
Injection Date:	21-Aug-2020 18:19:30	Instrument ID:	9355		
Lims ID:	410-10696-H-3	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	clm27445	ALS Bottle#:	26	Worklist Smp#:	27
Purge Vol:	5.000 mL	Dil. Factor:	5.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

104 1,1,2,2-Tetrachloroethane, CAS: 79-34-5

Processing Results



RT	Mass	Response	Amount
12.40	83.00	1913	0.179346
12.40	85.00	1037	
12.41	95.00	658	
12.38	168.00	0	
12.38	87.00	0	

Reviewer: campbellme, 21-Aug-2020 19:19:25

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-04 DL Lab Sample ID: 410-10696-3 DL

Matrix: Water Lab File ID: YG19S20.D

Analysis Method: 8260C Date Collected: 08/11/2020 13:40

Sample wt/vol: 5(mL) Date Analyzed: 08/19/2020 19:19

Soil Aliquot Vol: Dilution Factor: 10

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 34763 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-43-2	Benzene	2800		10	2.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		80-120
1868-53-7	Dibromofluoromethane (Surr)	96		80-120
460-00-4	4-Bromofluorobenzene (Surr)	97		80-120
2037-26-5	Toluene-d8 (Surr)	101		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S20.D
Lims ID: 410-10696-G-3
Client ID: MW-04
Sample Type: Client
Inject. Date: 19-Aug-2020 19:19:30 ALS Bottle#: 28 Worklist Smp#: 54
Purge Vol: 5.000 mL Dil. Factor: 10.0000
Sample Info: 410-0008412-054
Misc. Info.: 410-10696-G-3
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 25-Aug-2020 20:21:02 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1014

First Level Reviewer: campbellme Date: 19-Aug-2020 21:23:45

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
2 Dichlorodifluoromethane	85		2.050				ND	
4 Chloromethane	50	2.208	2.238	-0.030	1	4082	0.3529	
6 Vinyl chloride	62		2.360				ND	
8 Bromomethane	94		2.695				ND	
9 Chloroethane	64		2.780				ND	
11 Trichlorofluoromethane	101		3.090				ND	
17 1,1-Dichloroethene	96		3.686				ND	
18 Acetone	58	3.698	3.698	0.000	53	5043	7.10	M
19 112TCTFE	101		3.710				ND	
22 Carbon disulfide	76		4.009				ND	
24 Methyl acetate	43		4.136				ND	
* 26 t-Butyl alcohol-d10 (IS)	65	4.331	4.355	-0.024	33	173921	250.0	
27 Methylene Chloride	84		4.361				ND	
31 Methyl tert-butyl ether	73		4.781				ND	
32 trans-1,2-Dichloroethene	96		4.799				ND	
36 1,1-Dichloroethane	63		5.444				ND	
41 2-Butanone (MEK)	43		6.223				ND	
42 cis-1,2-Dichloroethene	96		6.272				ND	
49 Chloroform	83		6.746				ND	
$ 50 Dibromofluoromethane (Surr)	113	6.965	6.965	0.000	93	256806	48.2	
51 1,1,1-Trichloroethane	97		6.983				ND	
52 Cyclohexane	56	7.093	7.099	-0.006	92	407578	38.4	
54 Carbon tetrachloride	117		7.209				ND	
$ 56 1,2-Dichloroethane-d4 (Surr)	102	7.421	7.428	-0.007	97	67680	50.9	
57 Benzene	78	7.458	7.464	-0.006	97	7264981	284.5	
59 1,2-Dichloroethane	62		7.531				ND	U
* 62 Fluorobenzene (IS)	96	7.860	7.859	0.001	99	1107571	50.0	
65 Trichloroethene	95		8.346				ND	
66 Methylcyclohexane	83	8.663	8.663	0.001	91	196448	16.2	
67 1,2-Dichloropropane	63		8.675				ND	U
72 Dichlorobromomethane	83		9.015				ND	U

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
75 cis-1,3-Dichloropropene	75		9.551				ND	
76 4-Methyl-2-pentanone (MIBK)	43		9.703				ND	
$ 77 Toluene-d8 (Surr)	98	9.855	9.855	0.000	94	1106743	50.7	
78 Toluene	92	9.928	9.934	-0.006	98	1926055	117.1	
80 trans-1,3-Dichloropropene	75		10.177				ND	
82 1,1,2-Trichloroethane	97		10.378				ND	
83 Tetrachloroethene	166		10.482				ND	
86 2-Hexanone	43	10.585	10.579	0.006	46	3606	0.3156	
88 Chlorodibromomethane	129		10.761				ND	
89 Ethylene Dibromide	107		10.877				ND	
S 90 Xylenes, Total	106				0		234.4	
* 91 Chlorobenzene-d5 (IS)	117	11.297	11.297	0.000	86	862540	50.0	
93 Chlorobenzene	112		11.327				ND	
95 Ethylbenzene	91	11.406	11.406	0.000	98	3942810	120.9	
96 m-Xylene & p-Xylene	106	11.522	11.522	0.000	99	2624919	204.0	
97 o-Xylene	106	11.850	11.850	0.000	97	383585	30.4	
98 Styrene	104		11.862				ND	U
99 Bromoform	173		12.027				ND	
100 Isopropylbenzene	105	12.148	12.148	0.000	96	139086	4.40	
$ 103 4-Bromofluorobenzene (Surr)	95	12.294	12.294	0.000	92	405237	48.4	
104 1,1,2,2-Tetrachloroethane	83		12.386				ND	U
117 1,3-Dichlorobenzene	146		13.122				ND	
* 119 1,4-Dichlorobenzene-d4	152	13.177	13.177	0.000	95	494439	50.0	
121 1,4-Dichlorobenzene	146		13.195				ND	
126 1,2-Dichlorobenzene	146		13.450				ND	
129 1,2-Dibromo-3-Chloropropane	75		13.992				ND	U
131 1,2,4-Trichlorobenzene	180		14.545				ND	

QC Flag Legend

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

MSV_HP20_ISSS_00023 Amount Added: 1.00 Units: uL Run Reagent

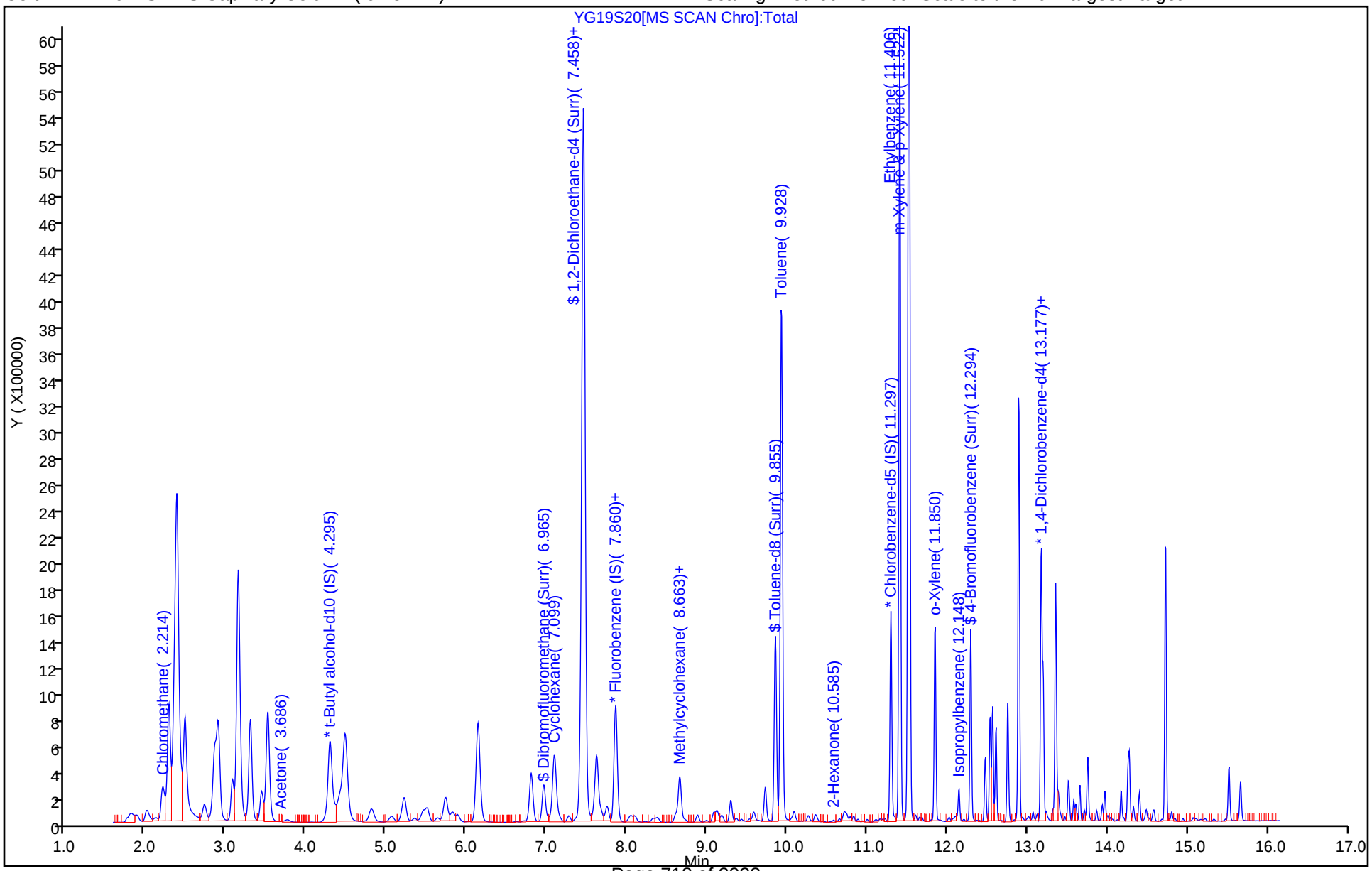
Report Date: 25-Aug-2020 20:21:14 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S20.D

Injection Date:	19-Aug-2020 19:19:30	Instrument ID:	9355	Operator ID:	clm27445
Lims ID:	410-10696-G-3	Lab Sample ID:	410-10696-3	Worklist Smp#:	54
Client ID:	MW-04				
Purge Vol:	5.000 mL	Dil. Factor:	10.0000	ALS Bottle#:	28
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S20.D
Lims ID: 410-10696-G-3
Client ID: MW-04
Sample Type: Client
Inject. Date: 19-Aug-2020 19:19:30 ALS Bottle#: 28 Worklist Smp#: 54
Purge Vol: 5.000 mL Dil. Factor: 10.0000
Sample Info: 410-0008412-054
Misc. Info.: 410-10696-G-3
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 25-Aug-2020 20:21:02 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1014

First Level Reviewer: campbellme Date: 19-Aug-2020 21:23:45

Compound	Amount Added	Amount Recovered	% Rec.
$ 50 Dibromofluoromethane (Surr)	50.0	48.2	96.32
$ 56 1,2-Dichloroethane-d4 (Surr)	50.0	50.9	101.83
$ 77 Toluene-d8 (Surr)	50.0	50.7	101.46
$ 103 4-Bromofluorobenzene (Surr)	50.0	48.4	96.88

Report Date: 25-Aug-2020 20:21:14 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S20.D

Injection Date: 19-Aug-2020 19:19:30 Instrument ID: 9355

Lims ID: 410-10696-G-3 Lab Sample ID: 410-10696-3

Client ID: MW-04

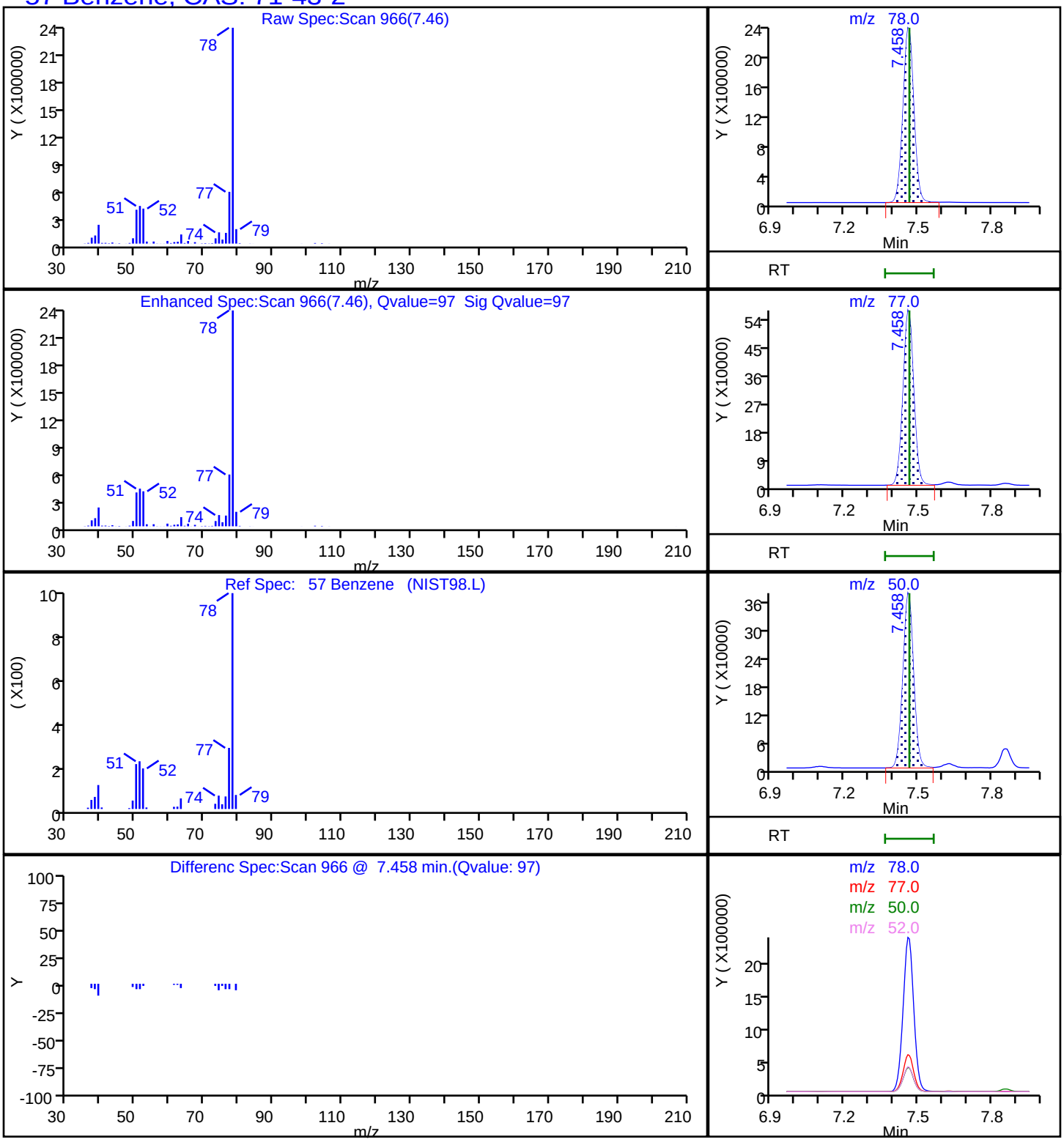
Operator ID: clm27445 ALS Bottle#: 28 Worklist Smp#: 54

Purge Vol: 5.000 mL Dil. Factor: 10.0000

Method: MSVoa_9355 Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Detector MS Quad

57 Benzene, CAS: 71-43-2



FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-05 Lab Sample ID: 410-10696-4

Matrix: Water Lab File ID: YG19S14.D

Analysis Method: 8260C Date Collected: 08/12/2020 14:30

Sample wt/vol: 5(mL) Date Analyzed: 08/19/2020 17:08

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 34763 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.20
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.20
100-41-4	Ethylbenzene	ND		1.0	0.40
100-42-5	Styrene	ND		5.0	0.20
106-46-7	1,4-Dichlorobenzene	ND		5.0	0.20
106-93-4	1,2-Dibromoethane	ND		1.0	0.20
107-06-2	1,2-Dichloroethane	ND		1.0	0.30
108-10-1	4-Methyl-2-pentanone	ND		10	0.50
108-87-2	Methylcyclohexane	ND		5.0	0.50
108-88-3	Toluene	ND		1.0	0.20
108-90-7	Chlorobenzene	ND		1.0	0.20
110-82-7	Cyclohexane	ND		5.0	1.0
120-82-1	1,2,4-Trichlorobenzene	ND		5.0	0.30
124-48-1	Dibromochloromethane	ND		1.0	0.20
1330-20-7	Xylenes, Total	ND		6.0	1.4
127-18-4	Tetrachloroethene	ND		1.0	0.20
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.20
156-60-5	trans-1,2-Dichloroethene	ND		5.0	0.20
1634-04-4	Methyl tertiary butyl ether	ND		1.0	0.20
541-73-1	1,3-Dichlorobenzene	ND		5.0	0.20
56-23-5	Carbon tetrachloride	ND		1.0	0.20
591-78-6	2-Hexanone	ND		10	0.30
67-64-1	Acetone	ND		20	0.70
67-66-3	Chloroform	ND		1.0	0.20
71-43-2	Benzene	ND		1.0	0.20
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.30
74-83-9	Bromomethane	ND	*	1.0	0.30
74-87-3	Chloromethane	ND		1.0	0.20
75-00-3	Chloroethane	ND		1.0	0.20
75-01-4	Vinyl chloride	ND		1.0	0.20
75-09-2	Methylene Chloride	ND		1.0	0.30
75-15-0	Carbon disulfide	ND		5.0	0.20
75-25-2	Bromoform	ND		4.0	1.0
75-27-4	Bromodichloromethane	ND		1.0	0.20
75-34-3	1,1-Dichloroethane	ND		1.0	0.20
75-35-4	1,1-Dichloroethene	ND		1.0	0.20

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-05 Lab Sample ID: 410-10696-4

Matrix: Water Lab File ID: YG19S14.D

Analysis Method: 8260C Date Collected: 08/12/2020 14:30

Sample wt/vol: 5(mL) Date Analyzed: 08/19/2020 17:08

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 34763 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-69-4	Trichlorofluoromethane	ND		1.0	0.20
75-71-8	Dichlorodifluoromethane	ND		1.0	0.20
76-13-1	Freon 113	ND		10	0.20
78-87-5	1,2-Dichloropropane	ND		1.0	0.20
78-93-3	2-Butanone	ND		10	0.30
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.20
79-01-6	Trichloroethene	ND		1.0	0.20
79-20-9	Methyl acetate	ND		5.0	0.30
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.20
95-50-1	1,2-Dichlorobenzene	ND		5.0	0.20
96-12-8	1,2-Dibromo-3-Chloropropane	ND		5.0	0.30
98-82-8	Isopropylbenzene	ND		5.0	0.20

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	103		80-120
1868-53-7	Dibromofluoromethane (Surr)	103		80-120
460-00-4	4-Bromofluorobenzene (Surr)	92		80-120
2037-26-5	Toluene-d8 (Surr)	100		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S14.D
Lims ID: 410-10696-A-4
Client ID: MW-05
Sample Type: Client
Inject. Date: 19-Aug-2020 17:08:30 ALS Bottle#: 22 Worklist Smp#: 48
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0008412-048
Misc. Info.: 410-10696-A-4
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 19-Aug-2020 18:40:21 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1016

First Level Reviewer: campbellme Date: 19-Aug-2020 18:37:28

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
2 Dichlorodifluoromethane	85		2.050				ND	
4 Chloromethane	50		2.238				ND	
6 Vinyl chloride	62		2.360				ND	
8 Bromomethane	94		2.695				ND	
9 Chloroethane	64		2.786				ND	
11 Trichlorofluoromethane	101		3.090				ND	
17 1,1-Dichloroethene	96		3.686				ND	
18 Acetone	58		3.692				ND	
19 112TCTFE	101		3.710				ND	
22 Carbon disulfide	76		4.009				ND	
24 Methyl acetate	43		4.136				ND	
* 26 t-Butyl alcohol-d10 (IS)	65	4.355	4.361	-0.006	29	190808	250.0	
27 Methylene Chloride	84		4.368				ND	
31 Methyl tert-butyl ether	73		4.781				ND	
32 trans-1,2-Dichloroethene	96		4.799				ND	
36 1,1-Dichloroethane	63		5.450				ND	
41 2-Butanone (MEK)	43		6.223				ND	
42 cis-1,2-Dichloroethene	96		6.272				ND	
49 Chloroform	83		6.752				ND	
$ 50 Dibromofluoromethane (Surr)	113	6.965	6.965	0.000	93	215497	51.3	
51 1,1,1-Trichloroethane	97		6.990				ND	
52 Cyclohexane	56		7.099				ND	
54 Carbon tetrachloride	117		7.209				ND	
$ 56 1,2-Dichloroethane-d4 (Surr)	102	7.422	7.428	-0.006	97	53742	51.3	
57 Benzene	78		7.464				ND	
59 1,2-Dichloroethane	62	7.531	7.531	0.000	81	2133	0.2829	
* 62 Fluorobenzene (IS)	96	7.860	7.866	-0.006	99	872816	50.0	
65 Trichloroethene	95		8.346				ND	
66 Methylcyclohexane	83		8.663				ND	
67 1,2-Dichloropropane	63		8.675				ND	
72 Dichlorobromomethane	83		9.015				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
75 cis-1,3-Dichloropropene	75		9.551				ND	
76 4-Methyl-2-pentanone (MIBK)	43		9.703				ND	
$ 77 Toluene-d8 (Surr)	98	9.855	9.855	0.000	94	862290	50.2	
78 Toluene	92		9.934				ND	
80 trans-1,3-Dichloropropene	75		10.177				ND	
82 1,1,2-Trichloroethane	97		10.378				ND	
83 Tetrachloroethene	166		10.482				ND	
86 2-Hexanone	43		10.579				ND	
88 Chlorodibromomethane	129		10.761				ND	
89 Ethylene Dibromide	107		10.877				ND	
S 90 Xylenes, Total	106		11.245				ND	
* 91 Chlorobenzene-d5 (IS)	117	11.297	11.297	0.000	86	679282	50.0	
93 Chlorobenzene	112		11.327				ND	
95 Ethylbenzene	91		11.406				ND	
96 m-Xylene & p-Xylene	106		11.522				ND	
97 o-Xylene	106		11.850				ND	
98 Styrene	104		11.862				ND	
99 Bromoform	173		12.027				ND	
100 Isopropylbenzene	105		12.148				ND	
$ 103 4-Bromofluorobenzene (Surr)	95	12.294	12.294	0.000	91	301639	45.8	
104 1,1,2,2-Tetrachloroethane	83		12.386				ND	
117 1,3-Dichlorobenzene	146		13.116				ND	
* 119 1,4-Dichlorobenzene-d4	152	13.177	13.177	0.000	95	382298	50.0	
121 1,4-Dichlorobenzene	146		13.195				ND	
126 1,2-Dichlorobenzene	146		13.450				ND	
129 1,2-Dibromo-3-Chloropropane	75		13.992				ND	
131 1,2,4-Trichlorobenzene	180		14.545				ND	

Reagents:

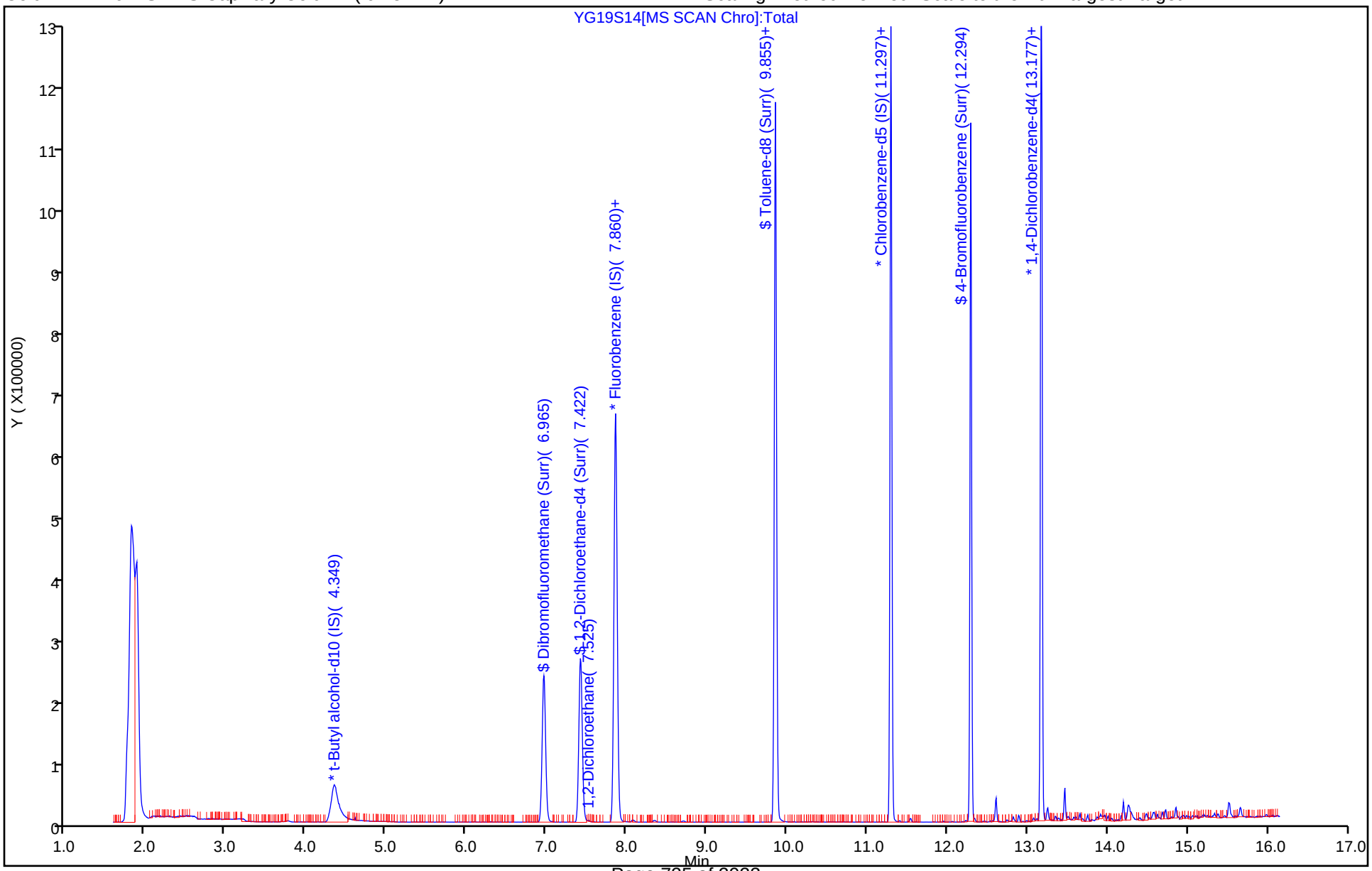
MSV_HP20_ISSS_00023 Amount Added: 1.00 Units: uL Run Reagent

Report Date: 19-Aug-2020 18:40:49 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S14.D				
Injection Date:	19-Aug-2020 17:08:30	Instrument ID:	9355	Operator ID:	clm27445
Lims ID:	410-10696-A-4	Lab Sample ID:	410-10696-4	Worklist Smp#:	48
Client ID:	MW-05				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	22
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S14.D
Lims ID: 410-10696-A-4
Client ID: MW-05
Sample Type: Client
Inject. Date: 19-Aug-2020 17:08:30 ALS Bottle#: 22 Worklist Smp#: 48
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0008412-048
Misc. Info.: 410-10696-A-4
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 19-Aug-2020 18:40:21 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1016

First Level Reviewer: campbellme Date: 19-Aug-2020 18:37:28

Compound	Amount Added	Amount Recovered	% Rec.
$ 50 Dibromofluoromethane (Surr)	50.0	51.3	102.57
$ 56 1,2-Dichloroethane-d4 (Surr)	50.0	51.3	102.61
$ 77 Toluene-d8 (Surr)	50.0	50.2	100.37
$ 103 4-Bromofluorobenzene (Surr)	50.0	45.8	91.56

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: TB-01 Lab Sample ID: 410-10696-5

Matrix: Water Lab File ID: YG19S02.D

Analysis Method: 8260C Date Collected: 08/11/2020 07:00

Sample wt/vol: 5(mL) Date Analyzed: 08/19/2020 12:43

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 34763 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.20
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.20
100-41-4	Ethylbenzene	ND		1.0	0.40
100-42-5	Styrene	ND		5.0	0.20
106-46-7	1,4-Dichlorobenzene	ND		5.0	0.20
106-93-4	1,2-Dibromoethane	ND		1.0	0.20
107-06-2	1,2-Dichloroethane	ND		1.0	0.30
108-10-1	4-Methyl-2-pentanone	ND		10	0.50
108-87-2	Methylcyclohexane	ND		5.0	0.50
108-88-3	Toluene	ND		1.0	0.20
108-90-7	Chlorobenzene	ND		1.0	0.20
110-82-7	Cyclohexane	ND		5.0	1.0
120-82-1	1,2,4-Trichlorobenzene	ND		5.0	0.30
124-48-1	Dibromochloromethane	ND		1.0	0.20
1330-20-7	Xylenes, Total	ND		6.0	1.4
127-18-4	Tetrachloroethene	ND		1.0	0.20
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.20
156-60-5	trans-1,2-Dichloroethene	ND		5.0	0.20
1634-04-4	Methyl tertiary butyl ether	ND		1.0	0.20
541-73-1	1,3-Dichlorobenzene	ND		5.0	0.20
56-23-5	Carbon tetrachloride	ND		1.0	0.20
591-78-6	2-Hexanone	ND		10	0.30
67-64-1	Acetone	ND		20	0.70
67-66-3	Chloroform	ND		1.0	0.20
71-43-2	Benzene	ND		1.0	0.20
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.30
74-83-9	Bromomethane	ND	*	1.0	0.30
74-87-3	Chloromethane	ND		1.0	0.20
75-00-3	Chloroethane	ND		1.0	0.20
75-01-4	Vinyl chloride	ND		1.0	0.20
75-09-2	Methylene Chloride	ND		1.0	0.30
75-15-0	Carbon disulfide	ND		5.0	0.20
75-25-2	Bromoform	ND		4.0	1.0
75-27-4	Bromodichloromethane	ND		1.0	0.20
75-34-3	1,1-Dichloroethane	ND		1.0	0.20
75-35-4	1,1-Dichloroethene	ND		1.0	0.20

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: TB-01 Lab Sample ID: 410-10696-5

Matrix: Water Lab File ID: YG19S02.D

Analysis Method: 8260C Date Collected: 08/11/2020 07:00

Sample wt/vol: 5(mL) Date Analyzed: 08/19/2020 12:43

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 34763 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-69-4	Trichlorofluoromethane	ND		1.0	0.20
75-71-8	Dichlorodifluoromethane	ND		1.0	0.20
76-13-1	Freon 113	ND		10	0.20
78-87-5	1,2-Dichloropropane	ND		1.0	0.20
78-93-3	2-Butanone	ND		10	0.30
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.20
79-01-6	Trichloroethene	ND		1.0	0.20
79-20-9	Methyl acetate	ND		5.0	0.30
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.20
95-50-1	1,2-Dichlorobenzene	ND		5.0	0.20
96-12-8	1,2-Dibromo-3-Chloropropane	ND		5.0	0.30
98-82-8	Isopropylbenzene	ND		5.0	0.20

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		80-120
1868-53-7	Dibromofluoromethane (Surr)	102		80-120
460-00-4	4-Bromofluorobenzene (Surr)	89		80-120
2037-26-5	Toluene-d8 (Surr)	100		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S02.D
Lims ID: 410-10696-A-5
Client ID: TB-01
Sample Type: Client
Inject. Date: 19-Aug-2020 12:43:30 ALS Bottle#: 10 Worklist Smp#: 36
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0008412-036
Misc. Info.: 410-10696-A-5
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 19-Aug-2020 18:40:21 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1016

First Level Reviewer: campbellme Date: 19-Aug-2020 18:28:42

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
2 Dichlorodifluoromethane	85		2.050				ND	
4 Chloromethane	50		2.238				ND	
6 Vinyl chloride	62		2.360				ND	
8 Bromomethane	94		2.695				ND	
9 Chloroethane	64		2.786				ND	
11 Trichlorofluoromethane	101		3.090				ND	
17 1,1-Dichloroethene	96		3.686				ND	
18 Acetone	58		3.692				ND	
19 112TCTFE	101		3.710				ND	
22 Carbon disulfide	76		4.009				ND	
24 Methyl acetate	43		4.136				ND	
* 26 t-Butyl alcohol-d10 (IS)	65	4.349	4.361	-0.012	28	186925	250.0	
27 Methylene Chloride	84		4.368				ND	
31 Methyl tert-butyl ether	73		4.781				ND	
32 trans-1,2-Dichloroethene	96		4.799				ND	
36 1,1-Dichloroethane	63		5.450				ND	
41 2-Butanone (MEK)	43		6.223				ND	
42 cis-1,2-Dichloroethene	96		6.272				ND	
49 Chloroform	83		6.752				ND	
$ 50 Dibromofluoromethane (Surr)	113	6.965	6.965	0.000	93	225607	50.9	
51 1,1,1-Trichloroethane	97		6.990				ND	
52 Cyclohexane	56		7.099				ND	
54 Carbon tetrachloride	117		7.209				ND	
$ 56 1,2-Dichloroethane-d4 (Surr)	102	7.428	7.428	0.000	98	56181	50.8	
57 Benzene	78		7.464				ND	
59 1,2-Dichloroethane	62		7.531				ND	
* 62 Fluorobenzene (IS)	96	7.859	7.866	-0.007	99	920771	50.0	
65 Trichloroethene	95		8.346				ND	
66 Methylcyclohexane	83		8.663				ND	
67 1,2-Dichloropropane	63		8.675				ND	
72 Dichlorobromomethane	83		9.015				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
75 cis-1,3-Dichloropropene	75		9.551				ND	
76 4-Methyl-2-pentanone (MIBK)	43		9.703				ND	
$ 77 Toluene-d8 (Surr)	98	9.855	9.855	0.000	94	897495	50.2	
78 Toluene	92	9.922	9.934	-0.012	75	1263	0.0936	a
80 trans-1,3-Dichloropropene	75		10.177				ND	
82 1,1,2-Trichloroethane	97		10.378				ND	
83 Tetrachloroethene	166		10.482				ND	
86 2-Hexanone	43		10.579				ND	
88 Chlorodibromomethane	129		10.761				ND	
89 Ethylene Dibromide	107		10.877				ND	
S 90 Xylenes, Total	106		11.245				ND	
* 91 Chlorobenzene-d5 (IS)	117	11.297	11.297	0.000	86	707179	50.0	
93 Chlorobenzene	112		11.327				ND	
95 Ethylbenzene	91		11.406				ND	
96 m-Xylene & p-Xylene	106		11.522				ND	
97 o-Xylene	106		11.850				ND	
98 Styrene	104		11.862				ND	
99 Bromoform	173		12.027				ND	
100 Isopropylbenzene	105		12.148				ND	
$ 103 4-Bromofluorobenzene (Surr)	95	12.294	12.294	0.000	92	306204	44.6	
104 1,1,2,2-Tetrachloroethane	83		12.386				ND	
117 1,3-Dichlorobenzene	146		13.116				ND	
* 119 1,4-Dichlorobenzene-d4	152	13.176	13.177	-0.001	95	381229	50.0	
121 1,4-Dichlorobenzene	146		13.195				ND	
126 1,2-Dichlorobenzene	146		13.450				ND	
129 1,2-Dibromo-3-Chloropropane	75		13.992				ND	
131 1,2,4-Trichlorobenzene	180		14.545				ND	

QC Flag Legend

Review Flags

a - User Assigned ID

Reagents:

MSV_HP20_ISSS_00023 Amount Added: 1.00 Units: uL Run Reagent

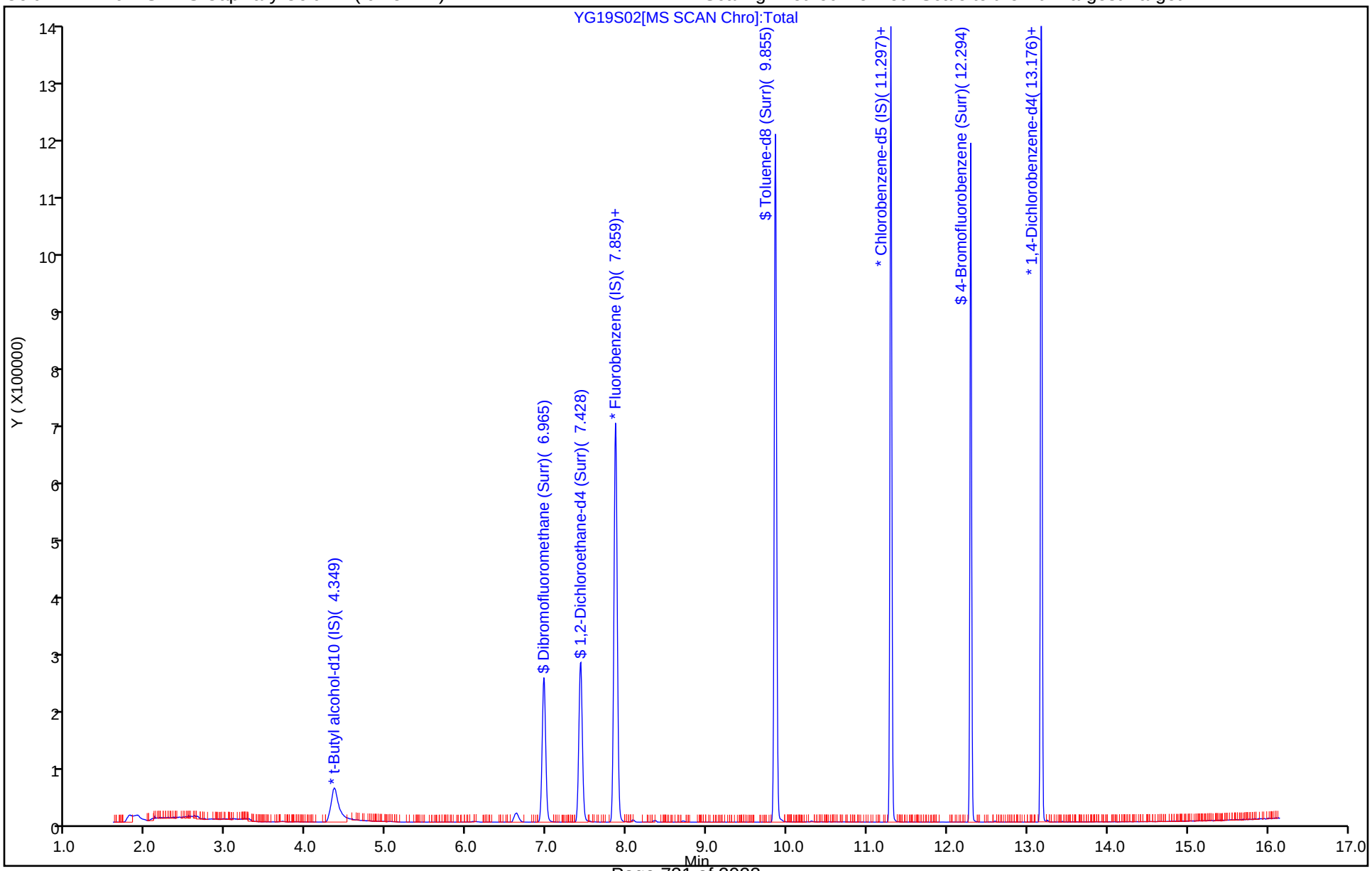
Report Date: 19-Aug-2020 18:40:29 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S02.D

Injection Date:	19-Aug-2020 12:43:30	Instrument ID:	9355	Operator ID:	clm27445
Lims ID:	410-10696-A-5	Lab Sample ID:	410-10696-5	Worklist Smp#:	36
Client ID:	TB-01				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S02.D
Lims ID: 410-10696-A-5
Client ID: TB-01
Sample Type: Client
Inject. Date: 19-Aug-2020 12:43:30 ALS Bottle#: 10 Worklist Smp#: 36
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0008412-036
Misc. Info.: 410-10696-A-5
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 19-Aug-2020 18:40:21 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1016

First Level Reviewer: campbellme Date: 19-Aug-2020 18:28:42

Compound	Amount Added	Amount Recovered	% Rec.
$ 50 Dibromofluoromethane (Surr)	50.0	50.9	101.79
$ 56 1,2-Dichloroethane-d4 (Surr)	50.0	50.8	101.68
$ 77 Toluene-d8 (Surr)	50.0	50.2	100.35
$ 103 4-Bromofluorobenzene (Surr)	50.0	44.6	89.28

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

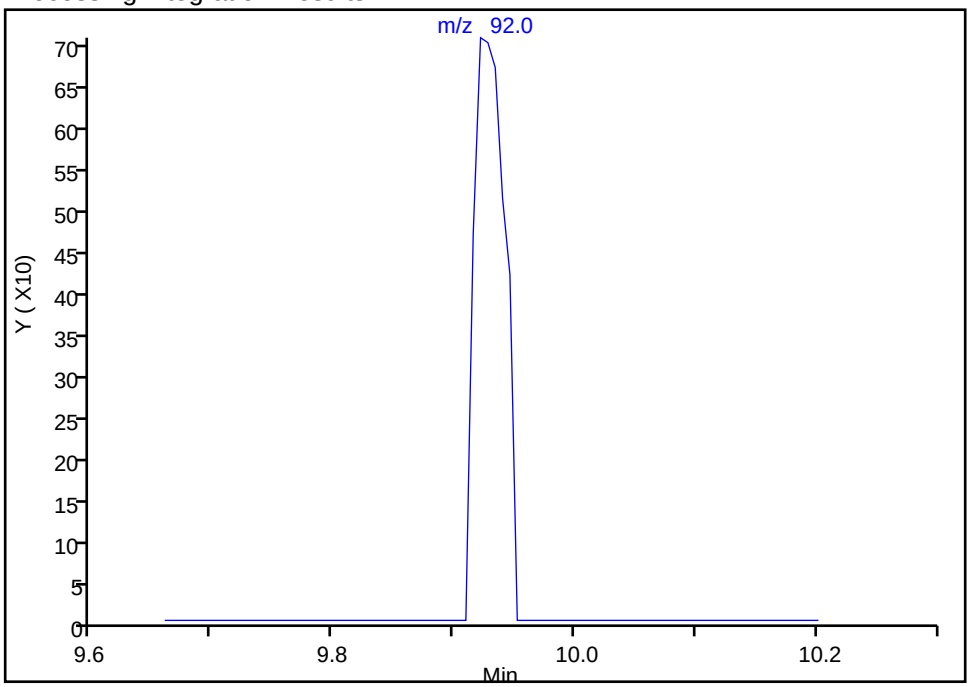
Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S02.D				
Injection Date:	19-Aug-2020 12:43:30	Instrument ID:	9355		
Lims ID:	410-10696-A-5	Lab Sample ID:	410-10696-5		
Client ID:	TB-01				
Operator ID:	clm27445	ALS Bottle#:	10	Worklist Smp#:	36
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

78 Toluene, CAS: 108-88-3

Signal: 1

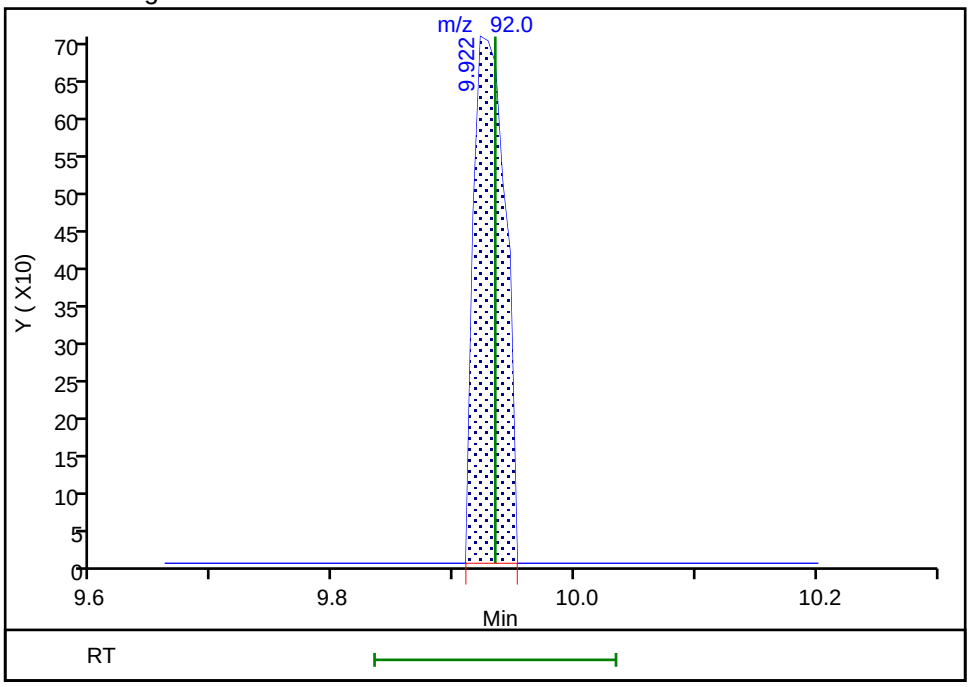
Not Detected
Expected RT: 9.93

Processing Integration Results



Manual Integration Results

RT: 9.92
Area: 1263
Amount: 0.093637
Amount Units: ug/l



Reviewer: campbellme, 19-Aug-2020 18:28:33
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: WPA-GW-02 Lab Sample ID: 410-10696-6

Matrix: Water Lab File ID: YG19S18.D

Analysis Method: 8260C Date Collected: 08/11/2020 14:15

Sample wt/vol: 5(mL) Date Analyzed: 08/19/2020 18:36

Soil Aliquot Vol: Dilution Factor: 5

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 34763 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
10061-01-5	cis-1,3-Dichloropropene	ND		5.0	1.0
10061-02-6	trans-1,3-Dichloropropene	ND		5.0	1.0
100-41-4	Ethylbenzene	150		5.0	2.0
100-42-5	Styrene	ND		25	1.0
106-46-7	1,4-Dichlorobenzene	ND		25	1.0
106-93-4	1,2-Dibromoethane	ND		5.0	1.0
107-06-2	1,2-Dichloroethane	ND		5.0	1.5
108-10-1	4-Methyl-2-pentanone	ND		50	2.5
108-87-2	Methylcyclohexane	78		25	2.5
108-88-3	Toluene	95		5.0	1.0
108-90-7	Chlorobenzene	ND		5.0	1.0
110-82-7	Cyclohexane	130		25	5.0
120-82-1	1,2,4-Trichlorobenzene	ND		25	1.5
124-48-1	Dibromochloromethane	ND		5.0	1.0
1330-20-7	Xylenes, Total	200		30	7.0
127-18-4	Tetrachloroethene	ND		5.0	1.0
156-59-2	cis-1,2-Dichloroethene	ND		5.0	1.0
156-60-5	trans-1,2-Dichloroethene	ND		25	1.0
1634-04-4	Methyl tertiary butyl ether	ND		5.0	1.0
541-73-1	1,3-Dichlorobenzene	ND		25	1.0
56-23-5	Carbon tetrachloride	ND		5.0	1.0
591-78-6	2-Hexanone	ND		50	1.5
67-64-1	Acetone	43	J	100	3.5
67-66-3	Chloroform	ND		5.0	1.0
71-55-6	1,1,1-Trichloroethane	ND		5.0	1.5
74-83-9	Bromomethane	ND	*	5.0	1.5
74-87-3	Chloromethane	ND		5.0	1.0
75-00-3	Chloroethane	ND		5.0	1.0
75-01-4	Vinyl chloride	ND		5.0	1.0
75-09-2	Methylene Chloride	ND		5.0	1.5
75-15-0	Carbon disulfide	ND		25	1.0
75-25-2	Bromoform	ND		20	5.0
75-27-4	Bromodichloromethane	ND		5.0	1.0
75-34-3	1,1-Dichloroethane	ND		5.0	1.0
75-35-4	1,1-Dichloroethene	ND		5.0	1.0
75-69-4	Trichlorofluoromethane	ND		5.0	1.0

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: WPA-GW-02 Lab Sample ID: 410-10696-6

Matrix: Water Lab File ID: YG19S18.D

Analysis Method: 8260C Date Collected: 08/11/2020 14:15

Sample wt/vol: 5(mL) Date Analyzed: 08/19/2020 18:36

Soil Aliquot Vol: Dilution Factor: 5

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 34763 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-71-8	Dichlorodifluoromethane	ND		5.0	1.0
76-13-1	Freon 113	ND		50	1.0
78-87-5	1,2-Dichloropropane	ND		5.0	1.0
78-93-3	2-Butanone	8.4	J	50	1.5
79-00-5	1,1,2-Trichloroethane	ND		5.0	1.0
79-01-6	Trichloroethene	ND		5.0	1.0
79-20-9	Methyl acetate	ND		25	1.5
79-34-5	1,1,2,2-Tetrachloroethane	ND		5.0	1.0
95-50-1	1,2-Dichlorobenzene	ND		25	1.0
96-12-8	1,2-Dibromo-3-Chloropropane	ND		25	1.5
98-82-8	Isopropylbenzene	17	J	25	1.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	101		80-120
1868-53-7	Dibromofluoromethane (Surr)	96		80-120
460-00-4	4-Bromofluorobenzene (Surr)	96		80-120
2037-26-5	Toluene-d8 (Surr)	102		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S18.D
Lims ID: 410-10696-G-6
Client ID: WPA-GW-02
Sample Type: Client
Inject. Date: 19-Aug-2020 18:36:30 ALS Bottle#: 26 Worklist Smp#: 55
Purge Vol: 5.000 mL Dil. Factor: 5.0000
Sample Info: 410-0008412-055
Misc. Info.: 410-10696-G-6
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 25-Aug-2020 20:21:02 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1014

First Level Reviewer: campbellme Date: 19-Aug-2020 19:47:07

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
2 Dichlorodifluoromethane	85		2.050				ND	
4 Chloromethane	50		2.238				ND	
6 Vinyl chloride	62		2.360				ND	
8 Bromomethane	94		2.695				ND	
9 Chloroethane	64		2.780				ND	
11 Trichlorofluoromethane	101		3.090				ND	
17 1,1-Dichloroethene	96		3.686				ND	
18 Acetone	58	3.698	3.698	0.000	98	10357	8.51	M
19 112TCTFE	101		3.710				ND	
22 Carbon disulfide	76		4.009				ND	
24 Methyl acetate	43		4.136				ND	
* 26 t-Butyl alcohol-d10 (IS)	65	4.349	4.355	-0.006	39	297680	250.0	
27 Methylene Chloride	84		4.361				ND	
31 Methyl tert-butyl ether	73		4.781				ND	
32 trans-1,2-Dichloroethene	96		4.799				ND	
36 1,1-Dichloroethane	63		5.444				ND	
41 2-Butanone (MEK)	43	6.223	6.223	0.000	92	11888	1.68	Ma
42 cis-1,2-Dichloroethene	96		6.272				ND	
49 Chloroform	83		6.746				ND	Ua
$ 50 Dibromofluoromethane (Surr)	113	6.965	6.965	0.000	93	253219	48.2	
51 1,1,1-Trichloroethane	97		6.983				ND	
52 Cyclohexane	56	7.099	7.099	0.000	92	281108	26.9	
54 Carbon tetrachloride	117		7.209				ND	
$ 56 1,2-Dichloroethane-d4 (Surr)	102	7.422	7.428	-0.006	97	66342	50.7	
57 Benzene	78	7.458	7.464	-0.006	96	8103168	322.1	E
59 1,2-Dichloroethane	62		7.531				ND	U
* 62 Fluorobenzene (IS)	96	7.860	7.859	0.001	98	1091198	50.0	
65 Trichloroethene	95		8.346				ND	
66 Methylcyclohexane	83	8.663	8.663	0.001	91	186436	15.6	
67 1,2-Dichloropropane	63		8.675				ND	MU
72 Dichlorobromomethane	83		9.015				ND	MU

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
75 cis-1,3-Dichloropropene	75		9.551				ND	
76 4-Methyl-2-pentanone (MIBK)	43		9.703				ND	
$ 77 Toluene-d8 (Surr)	98	9.855	9.855	0.000	94	1082737	51.1	
78 Toluene	92	9.928	9.934	-0.006	97	303965	19.0	
80 trans-1,3-Dichloropropene	75		10.177				ND	
82 1,1,2-Trichloroethane	97		10.378				ND	Ua
83 Tetrachloroethene	166		10.482				ND	
86 2-Hexanone	43		10.579				ND	U
88 Chlorodibromomethane	129		10.761				ND	
89 Ethylene Dibromide	107		10.877				ND	
S 90 Xylenes, Total	106				0		38.8	
* 91 Chlorobenzene-d5 (IS)	117	11.297	11.297	0.000	86	836895	50.0	
93 Chlorobenzene	112		11.327				ND	
95 Ethylbenzene	91	11.406	11.406	0.000	98	936850	29.6	
96 m-Xylene & p-Xylene	106	11.528	11.522	0.006	99	447472	35.8	
97 o-Xylene	106	11.850	11.850	0.000	97	36171	2.96	
98 Styrene	104		11.862				ND	U
99 Bromoform	173		12.027				ND	
100 Isopropylbenzene	105	12.148	12.148	0.000	96	103980	3.39	
$ 103 4-Bromofluorobenzene (Surr)	95	12.294	12.294	0.000	92	391531	48.2	
104 1,1,2,2-Tetrachloroethane	83		12.386				ND	
117 1,3-Dichlorobenzene	146		13.122				ND	
* 119 1,4-Dichlorobenzene-d4	152	13.171	13.177	-0.006	96	474032	50.0	
121 1,4-Dichlorobenzene	146		13.195				ND	
126 1,2-Dichlorobenzene	146		13.450				ND	
129 1,2-Dibromo-3-Chloropropane	75		13.992				ND	
131 1,2,4-Trichlorobenzene	180		14.545				ND	

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Reagents:

MSV_HP20_ISSS_00023 Amount Added: 1.00 Units: uL Run Reagent

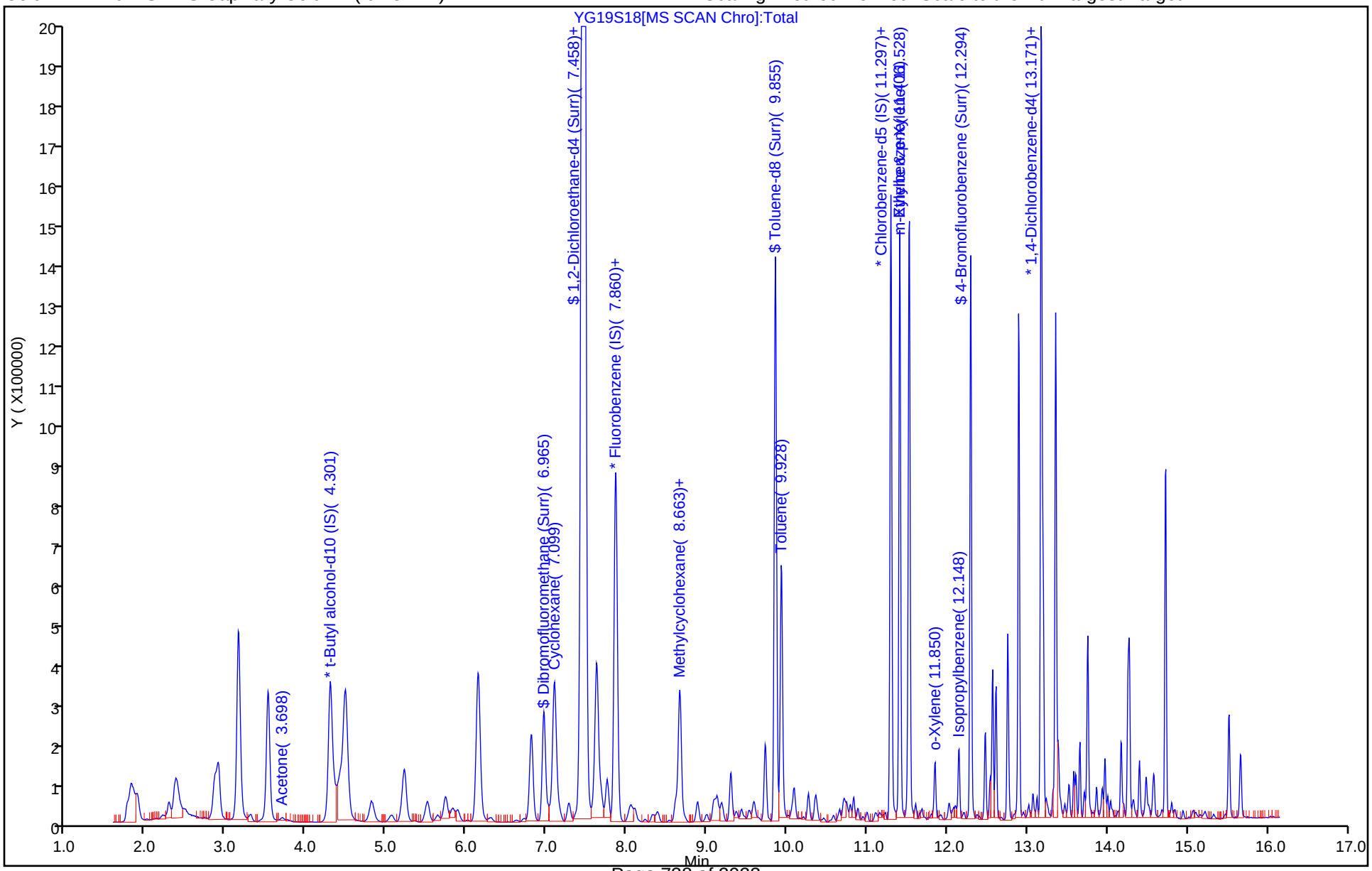
Report Date: 25-Aug-2020 20:21:12 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S18.D

Injection Date:	19-Aug-2020 18:36:30	Instrument ID:	9355	Operator ID:	clm27445
Lims ID:	410-10696-G-6	Lab Sample ID:	410-10696-6	Worklist Smp#:	55
Client ID:	WPA-GW-02				
Purge Vol:	5.000 mL	Dil. Factor:	5.0000	ALS Bottle#:	26
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S18.D
Lims ID: 410-10696-G-6
Client ID: WPA-GW-02
Sample Type: Client
Inject. Date: 19-Aug-2020 18:36:30 ALS Bottle#: 26 Worklist Smp#: 55
Purge Vol: 5.000 mL Dil. Factor: 5.0000
Sample Info: 410-0008412-055
Misc. Info.: 410-10696-G-6
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 25-Aug-2020 20:21:02 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1014

First Level Reviewer: campbellme Date: 19-Aug-2020 19:47:07

Compound	Amount Added	Amount Recovered	% Rec.
$ 50 Dibromofluoromethane (Surr)	50.0	48.2	96.40
$ 56 1,2-Dichloroethane-d4 (Surr)	50.0	50.7	101.31
$ 77 Toluene-d8 (Surr)	50.0	51.1	102.30
$ 103 4-Bromofluorobenzene (Surr)	50.0	48.2	96.47

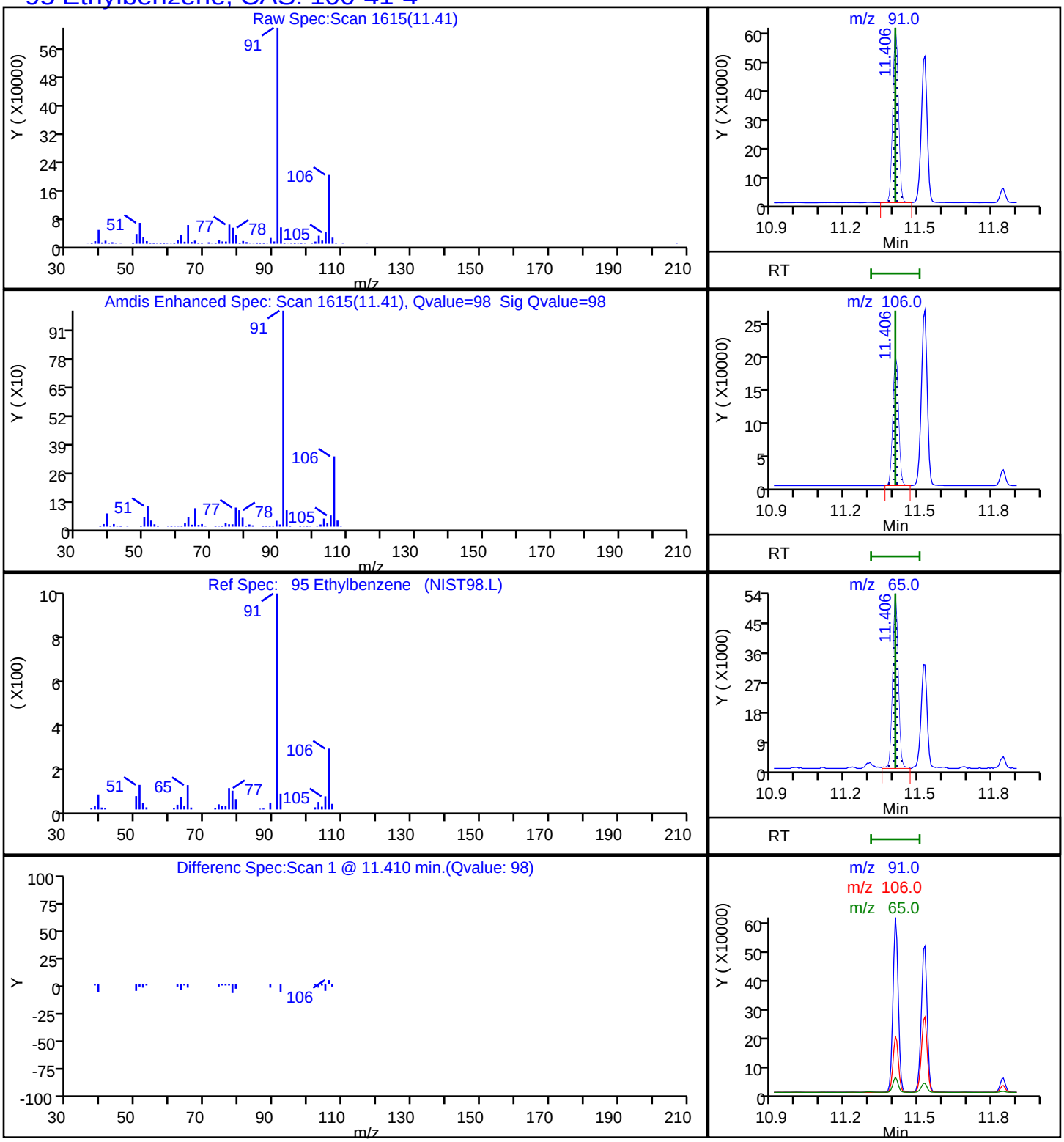
Report Date: 25-Aug-2020 20:21:13 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S18.D

Injection Date:	19-Aug-2020 18:36:30	Instrument ID:	9355		
Lims ID:	410-10696-G-6	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	clm27445	ALS Bottle#:	26	Worklist Smp#:	55
Purge Vol:	5.000 mL	Dil. Factor:	5.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

95 Ethylbenzene, CAS: 100-41-4



Report Date: 25-Aug-2020 20:21:12 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S18.D

Injection Date: 19-Aug-2020 18:36:30 Instrument ID: 9355

Lims ID: 410-10696-G-6 Lab Sample ID: 410-10696-6

Client ID: WPA-GW-02

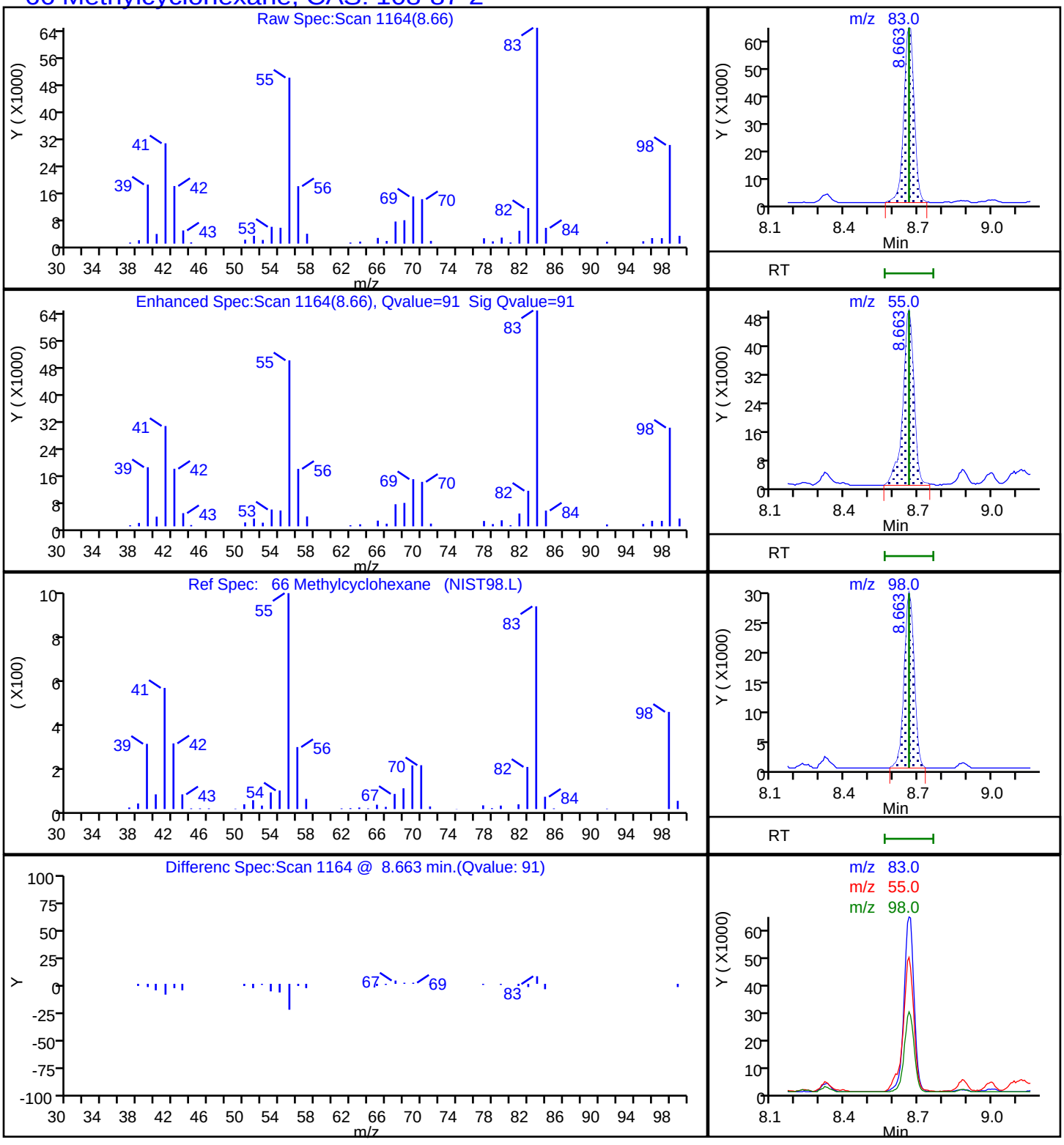
Operator ID: clm27445 ALS Bottle#: 26 Worklist Smp#: 55

Purge Vol: 5.000 mL Dil. Factor: 5.0000

Method: MSVoa_9355 Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Detector MS Quad

66 Methylcyclohexane, CAS: 108-87-2



Report Date: 25-Aug-2020 20:21:13 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S18.D

Injection Date: 19-Aug-2020 18:36:30 Instrument ID: 9355

Lims ID: 410-10696-G-6 Lab Sample ID: 410-10696-6

Client ID: WPA-GW-02

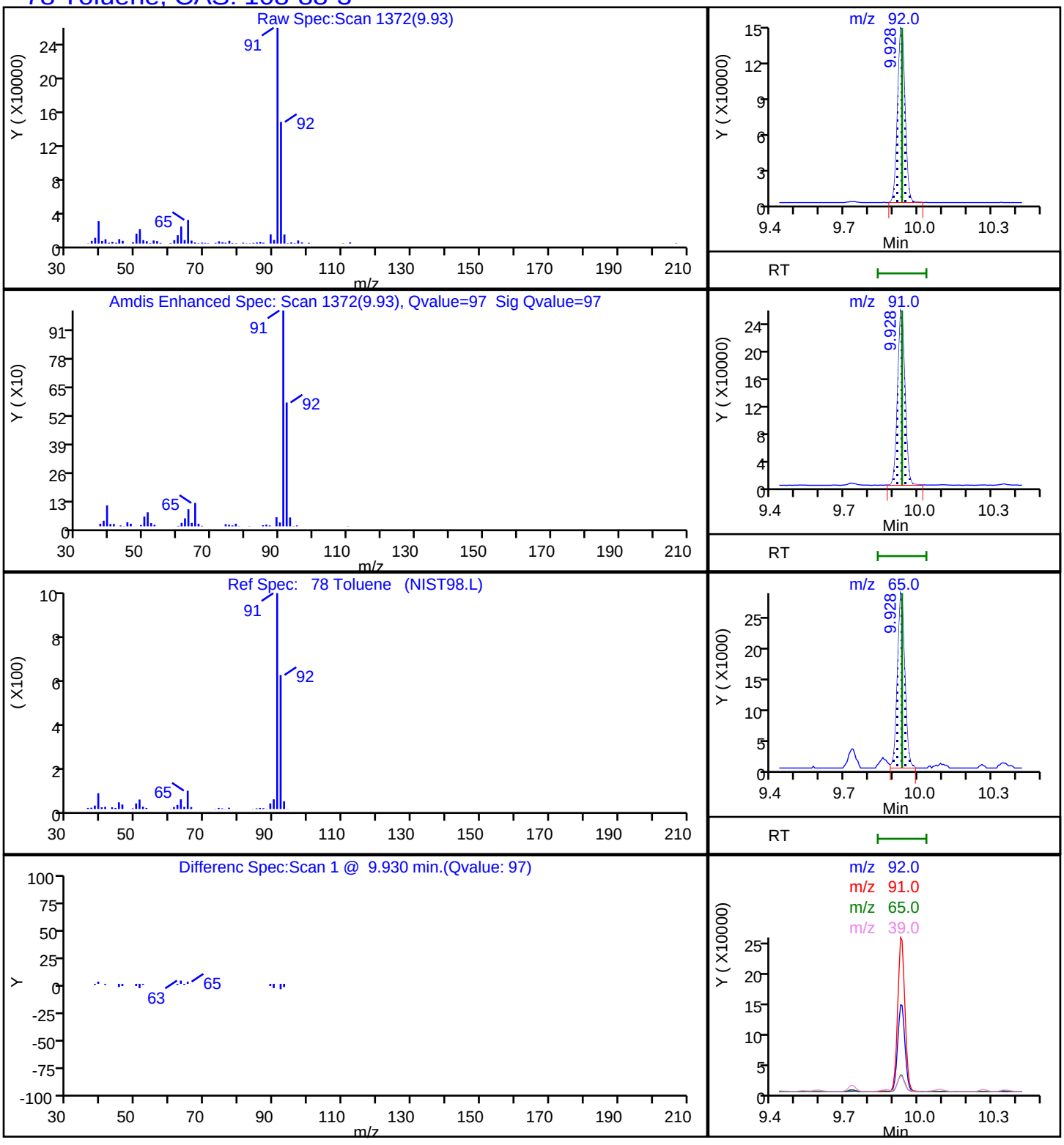
Operator ID: clm27445 ALS Bottle#: 26 Worklist Smp#: 55

Purge Vol: 5.000 mL Dil. Factor: 5.0000

Method: MSVoa_9355 Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Detector MS Quad

78 Toluene, CAS: 108-88-3

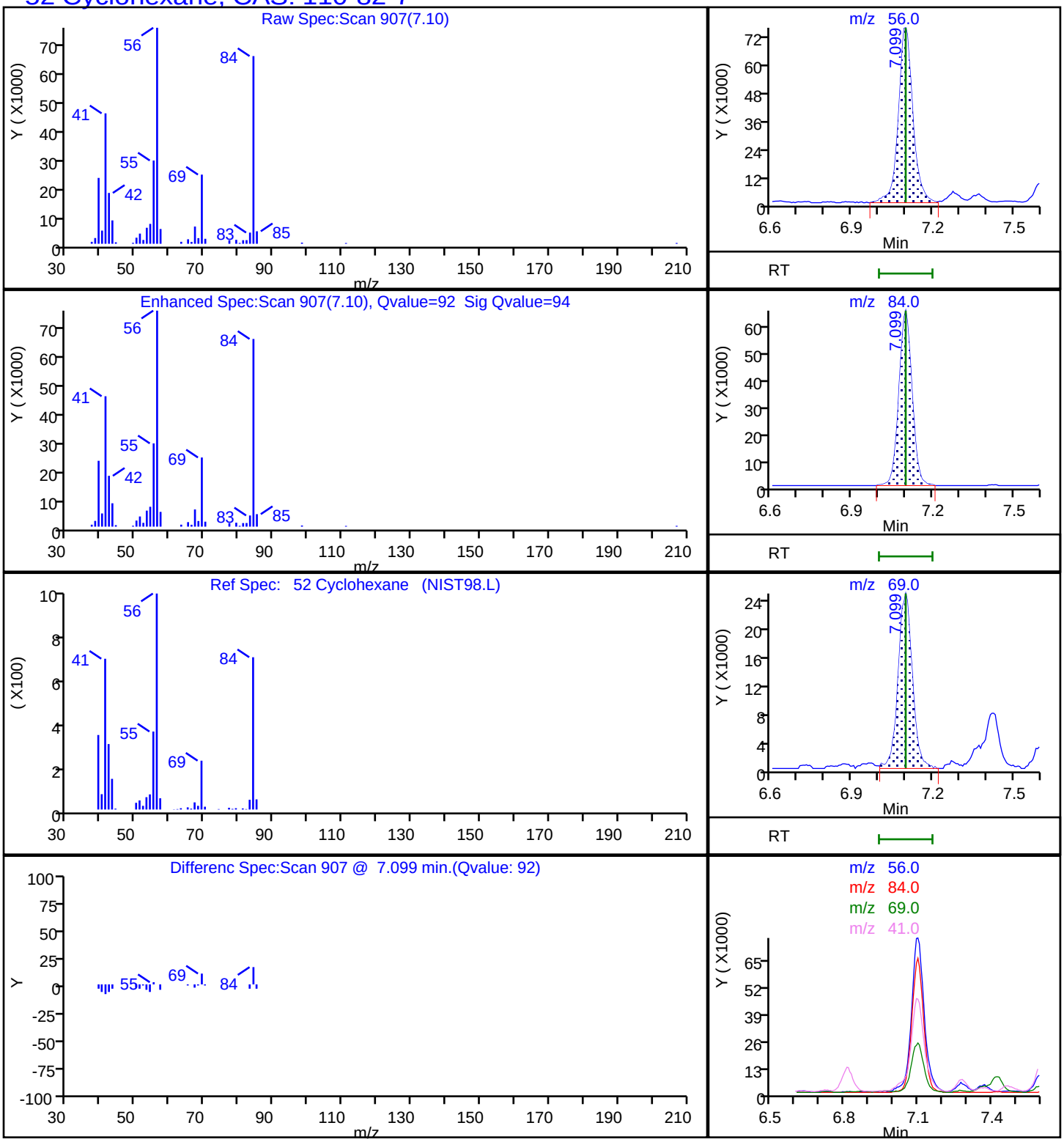


Report Date: 25-Aug-2020 20:21:12 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S18.D				
Injection Date:	19-Aug-2020 18:36:30	Instrument ID:	9355		
Lims ID:	410-10696-G-6	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	clm27445	ALS Bottle#:	26	Worklist Smp#:	55
Purge Vol:	5.000 mL	Dil. Factor:	5.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

52 Cyclohexane, CAS: 110-82-7

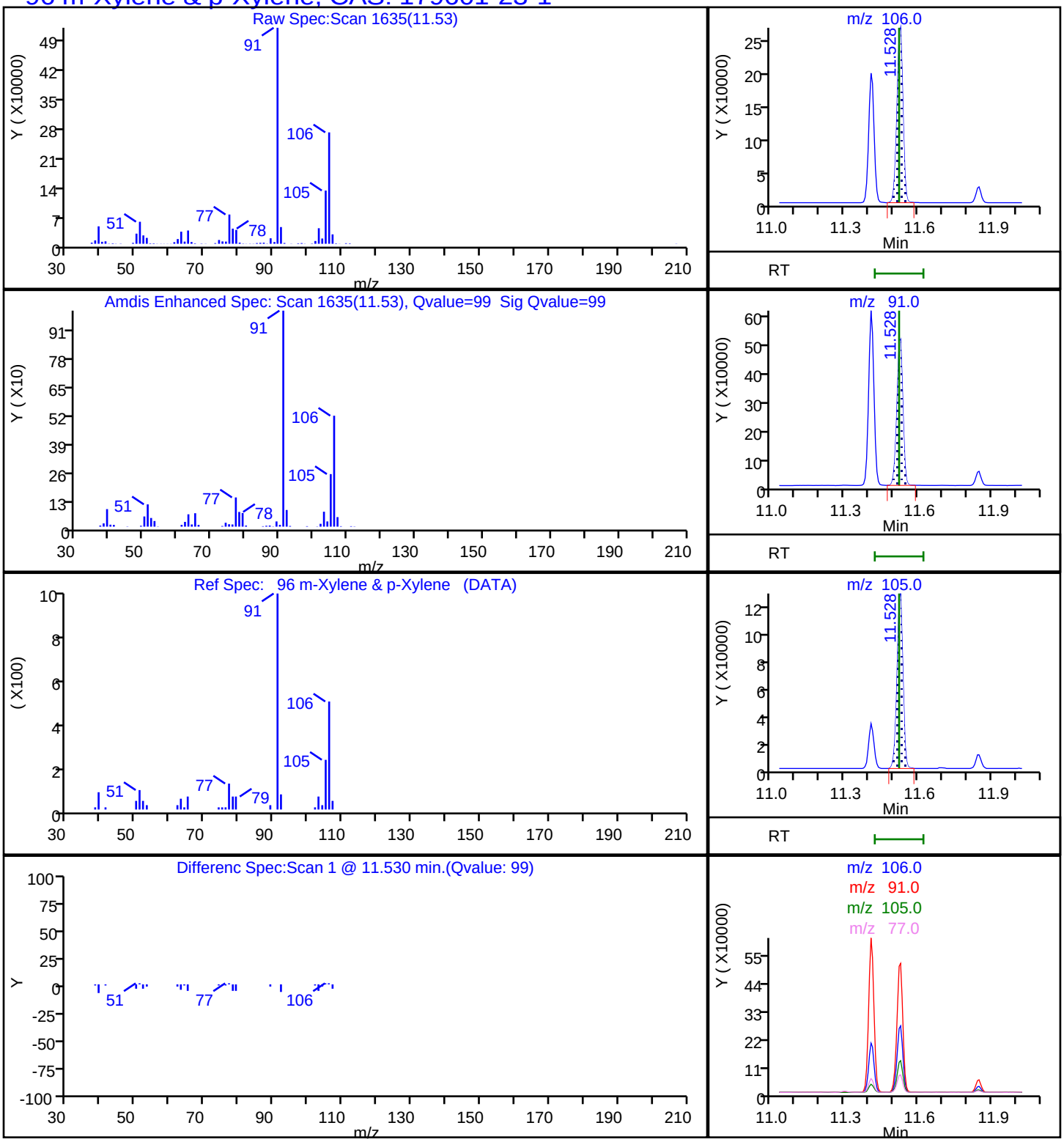


Report Date: 25-Aug-2020 20:21:13 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S18.D				
Injection Date:	19-Aug-2020 18:36:30	Instrument ID:	9355		
Lims ID:	410-10696-G-6	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	clm27445	ALS Bottle#:	26	Worklist Smp#:	55
Purge Vol:	5.000 mL	Dil. Factor:	5.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25 mm)	Detector	MS Quad		

96 m-Xylene & p-Xylene, CAS: 179601-23-1



Report Date: 25-Aug-2020 20:21:13 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S18.D

Injection Date: 19-Aug-2020 18:36:30 Instrument ID: 9355

Lims ID: 410-10696-G-6 Lab Sample ID: 410-10696-6

Client ID: WPA-GW-02

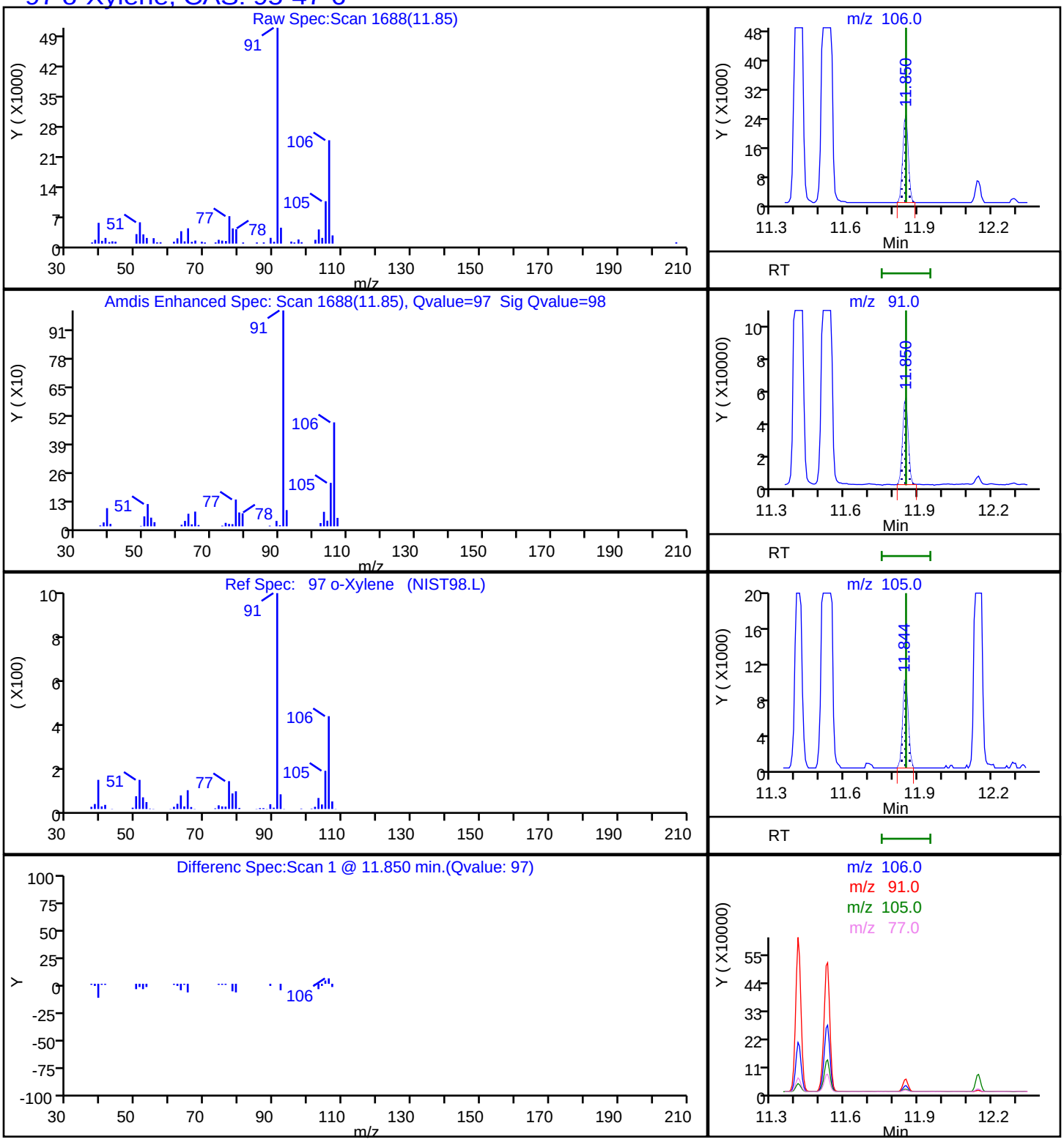
Operator ID: clm27445 ALS Bottle#: 26 Worklist Smp#: 55

Purge Vol: 5.000 mL Dil. Factor: 5.0000

Method: MSVoa_9355 Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Detector MS Quad

97 o-Xylene, CAS: 95-47-6



Report Date: 25-Aug-2020 20:21:12 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S18.D

Injection Date: 19-Aug-2020 18:36:30 Instrument ID: 9355

Lims ID: 410-10696-G-6 Lab Sample ID: 410-10696-6

Client ID: WPA-GW-02

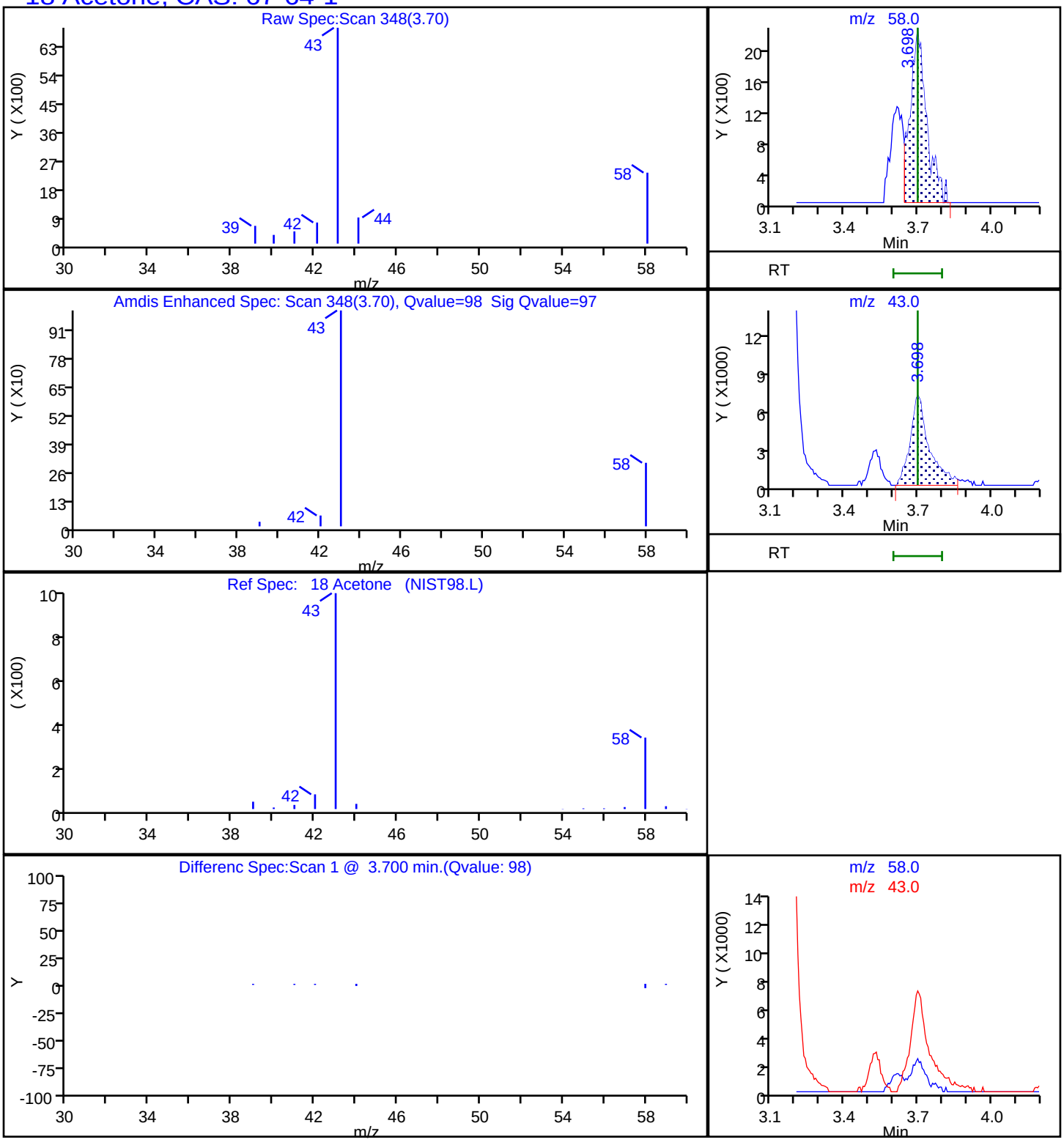
Operator ID: clm27445 ALS Bottle#: 26 Worklist Smp#: 55

Purge Vol: 5.000 mL Dil. Factor: 5.0000

Method: MSVoa_9355 Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Detector MS Quad

18 Acetone, CAS: 67-64-1



Report Date: 25-Aug-2020 20:21:12 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S18.D

Injection Date: 19-Aug-2020 18:36:30 Instrument ID: 9355

Lims ID: 410-10696-G-6 Lab Sample ID: 410-10696-6

Client ID: WPA-GW-02

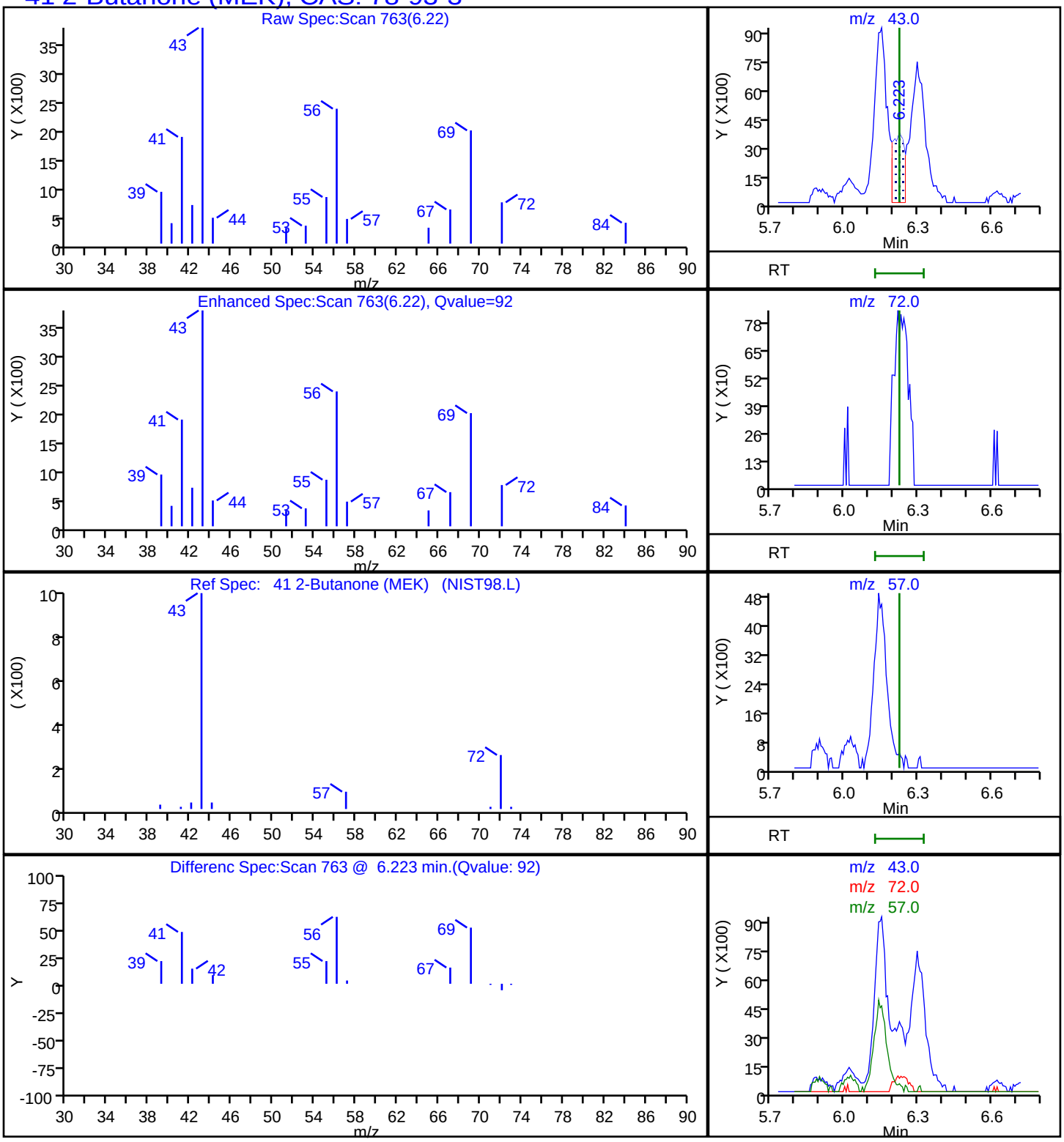
Operator ID: clm27445 ALS Bottle#: 26 Worklist Smp#: 55

Purge Vol: 5.000 mL Dil. Factor: 5.0000

Method: MSVoa_9355 Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

41 2-Butanone (MEK), CAS: 78-93-3



Report Date: 25-Aug-2020 20:21:13 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S18.D

Injection Date: 19-Aug-2020 18:36:30 Instrument ID: 9355

Lims ID: 410-10696-G-6 Lab Sample ID: 410-10696-6

Client ID: WPA-GW-02

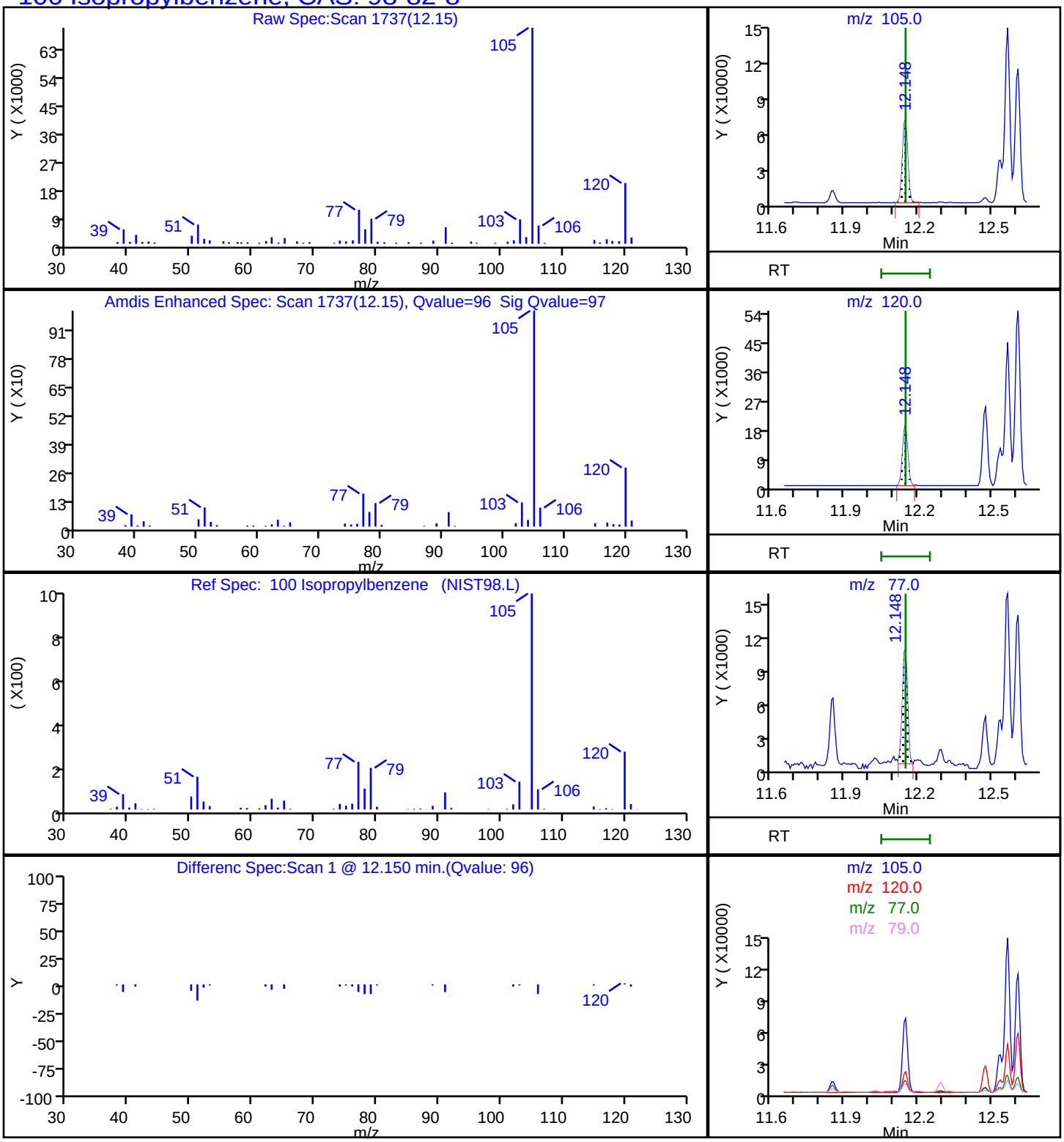
Operator ID: clm27445 ALS Bottle#: 26 Worklist Smp#: 55

Purge Vol: 5.000 mL Dil. Factor: 5.0000

Method: MSVoa_9355 Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

100 Isopropylbenzene, CAS: 98-82-8



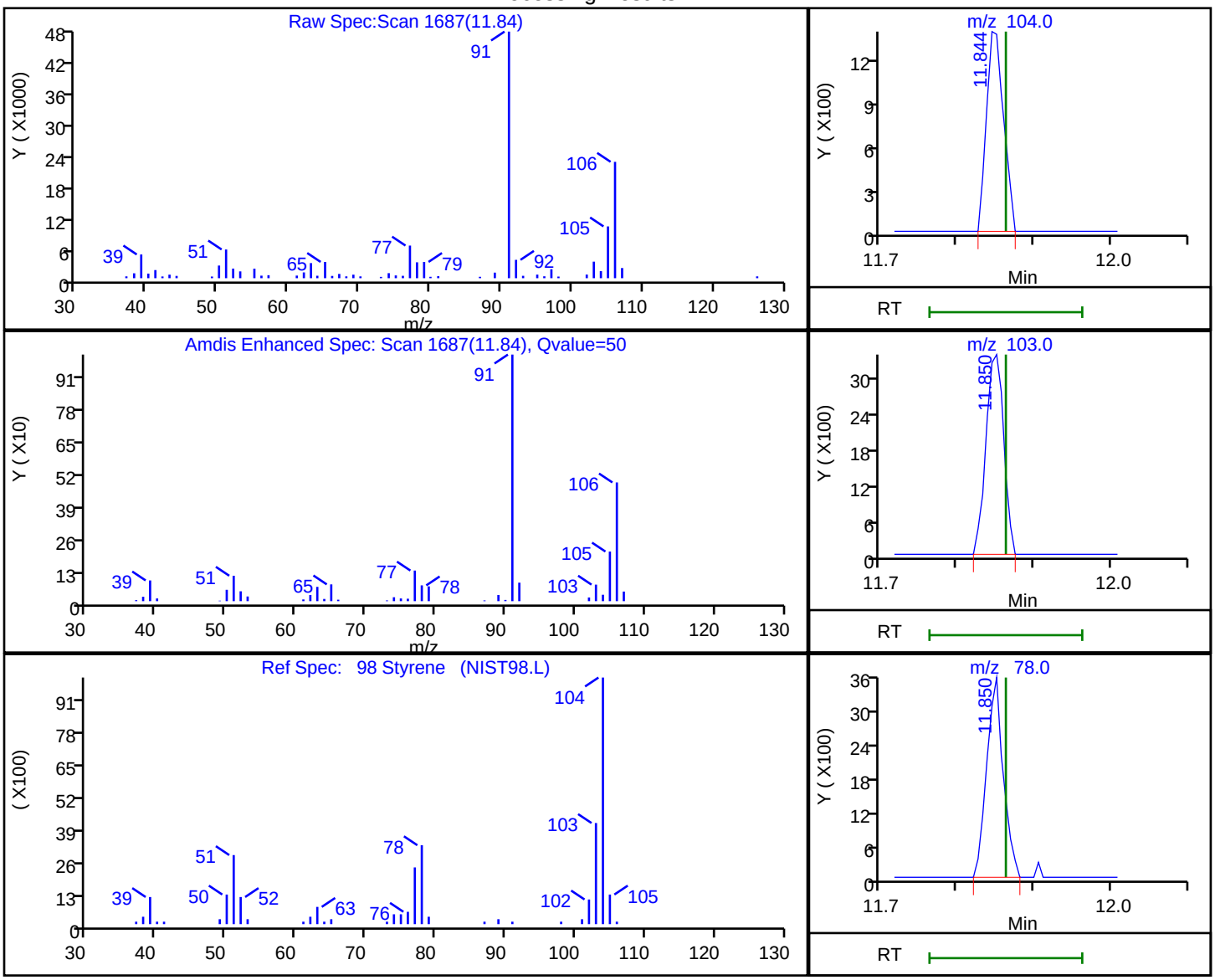
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S18.D				
Injection Date:	19-Aug-2020 18:36:30	Instrument ID:	9355		
Lims ID:	410-10696-G-6	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	clm27445	ALS Bottle#:	26	Worklist Smp#:	55
Purge Vol:	5.000 mL	Dil. Factor:	5.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

98 Styrene, CAS: 100-42-5

Processing Results



RT	Mass	Response	Amount
11.84	104.00	2100	0.102733
11.85	103.00	5329	
11.85	78.00	5352	
11.85	77.00	9363	

Reviewer: campbellme, 19-Aug-2020 19:47:00

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

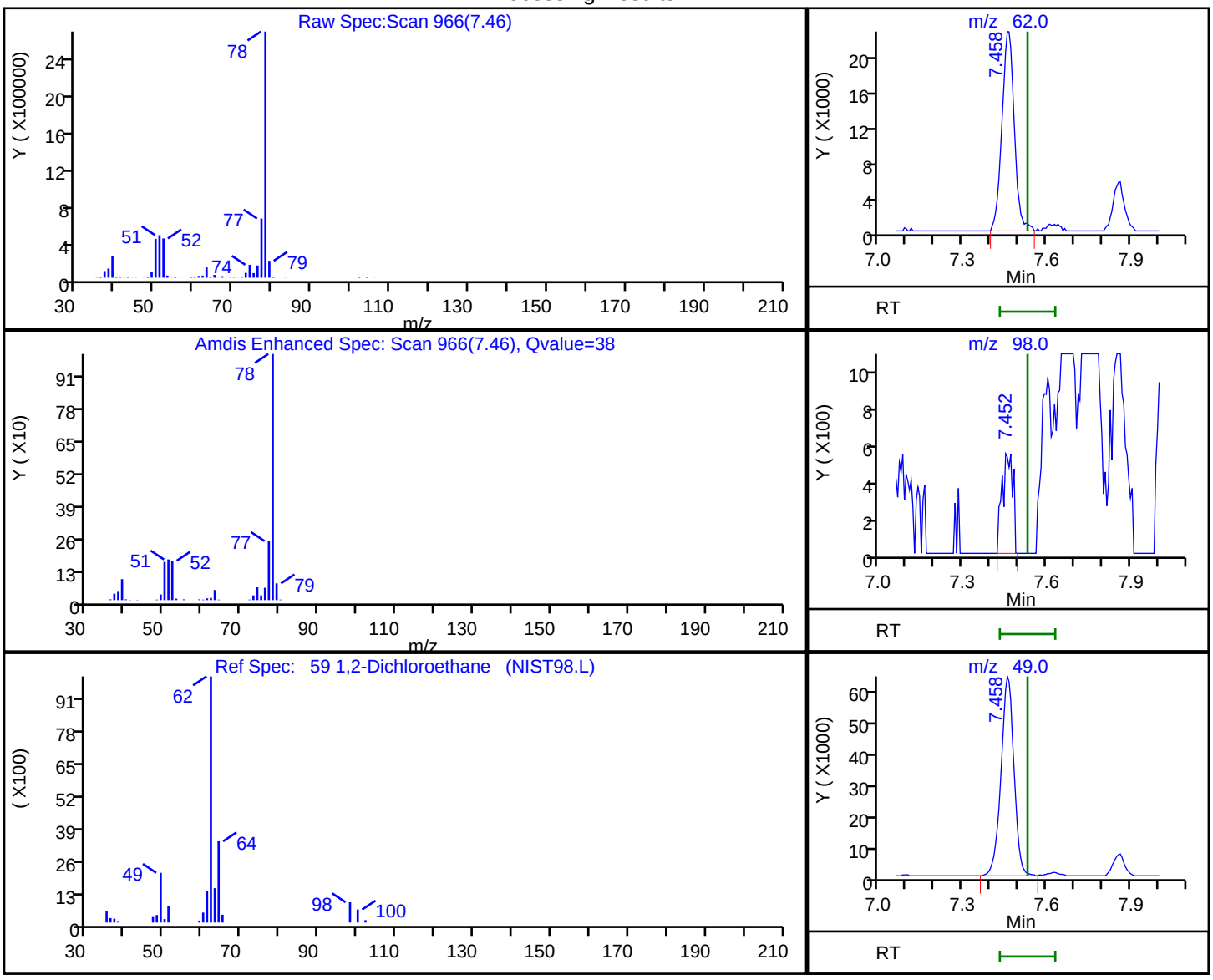
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S18.D				
Injection Date:	19-Aug-2020 18:36:30	Instrument ID:	9355		
Lims ID:	410-10696-G-6	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	clm27445	ALS Bottle#:	26	Worklist Smp#:	55
Purge Vol:	5.000 mL	Dil. Factor:	5.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

59 1,2-Dichloroethane, CAS: 107-06-2

Processing Results



RT	Mass	Response	Amount
7.46	62.00	71038	7.536669
7.45	98.00	1471	
7.46	49.00	208159	

Reviewer: campbellme, 19-Aug-2020 19:46:26

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

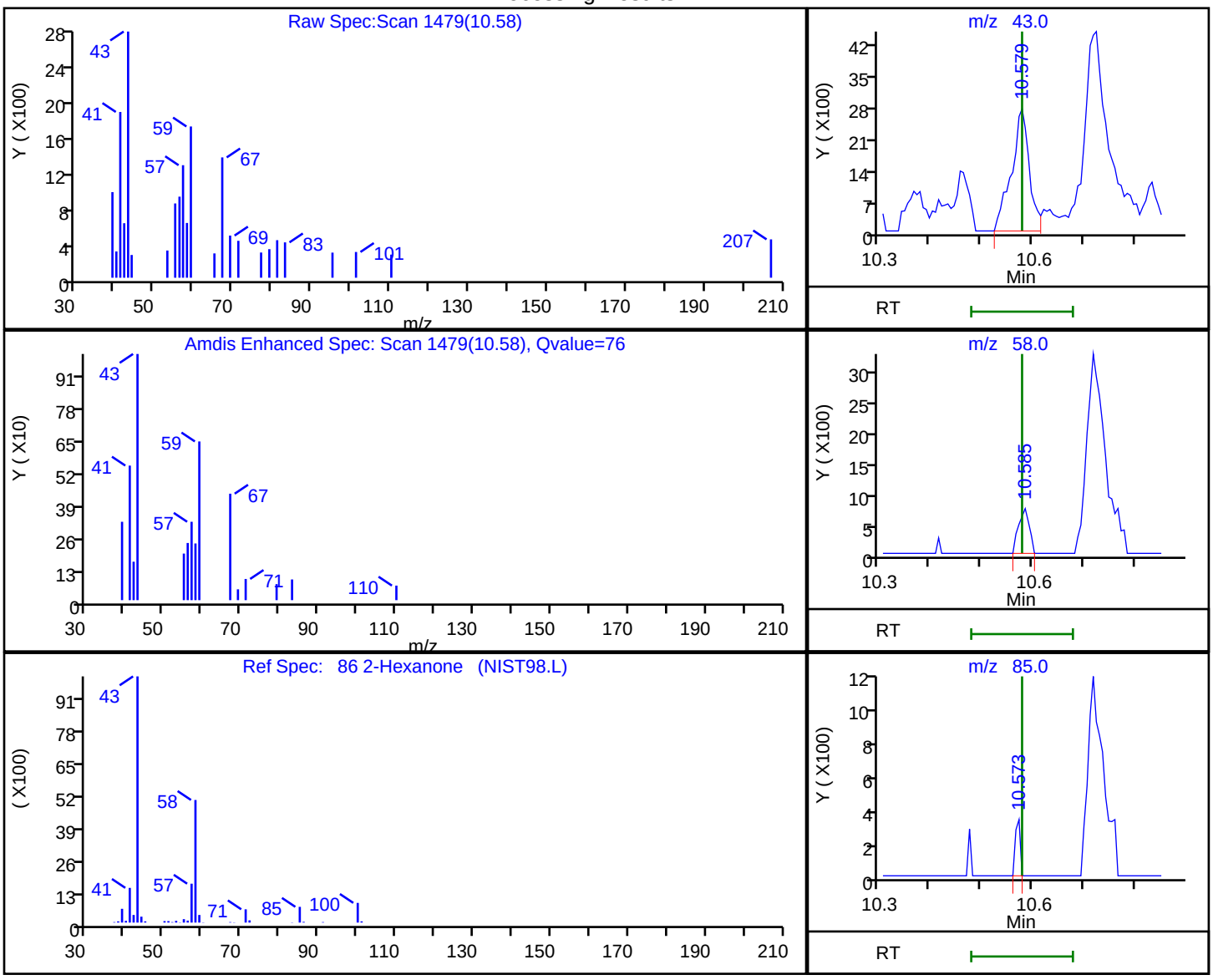
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S18.D				
Injection Date:	19-Aug-2020 18:36:30	Instrument ID:	9355		
Lims ID:	410-10696-G-6	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	clm27445	ALS Bottle#:	26	Worklist Smp#:	55
Purge Vol:	5.000 mL	Dil. Factor:	5.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

86 2-Hexanone, CAS: 591-78-6

Processing Results



RT	Mass	Response	Amount
10.58	43.00	6639	0.598905
10.59	58.00	1071	
10.57	85.00	219	
10.58	100.00	0	

Reviewer: campbellme, 19-Aug-2020 19:46:53

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

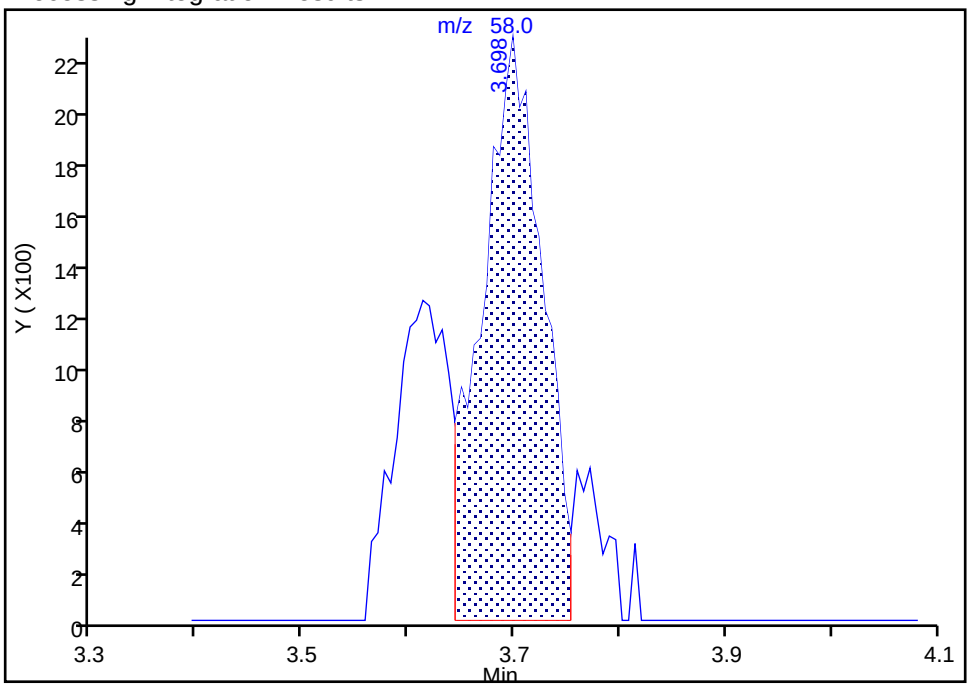
Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S18.D				
Injection Date:	19-Aug-2020 18:36:30	Instrument ID:	9355		
Lims ID:	410-10696-G-6	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	clm27445	ALS Bottle#:	26	Worklist Smp#:	55
Purge Vol:	5.000 mL	Dil. Factor:	5.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

18 Acetone, CAS: 67-64-1

Signal: 1

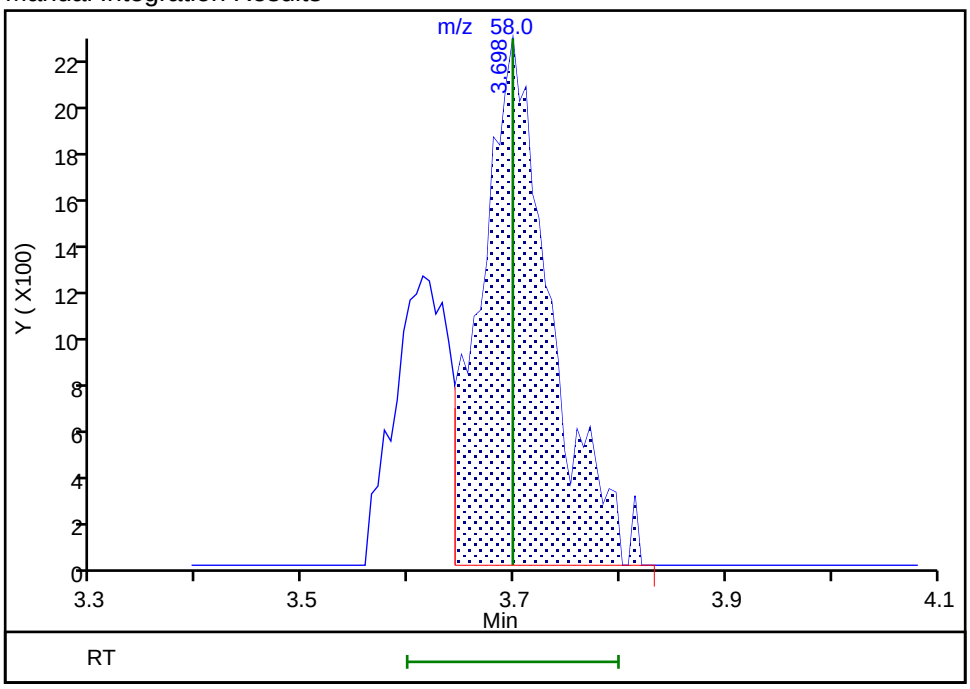
Processing Integration Results

RT: 3.70
Area: 9157
Amount: 7.528254
Amount Units: ug/l



Manual Integration Results

RT: 3.70
Area: 10357
Amount: 8.514811
Amount Units: ug/l



Reviewer: campbellme, 25-Aug-2020 20:19:29

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

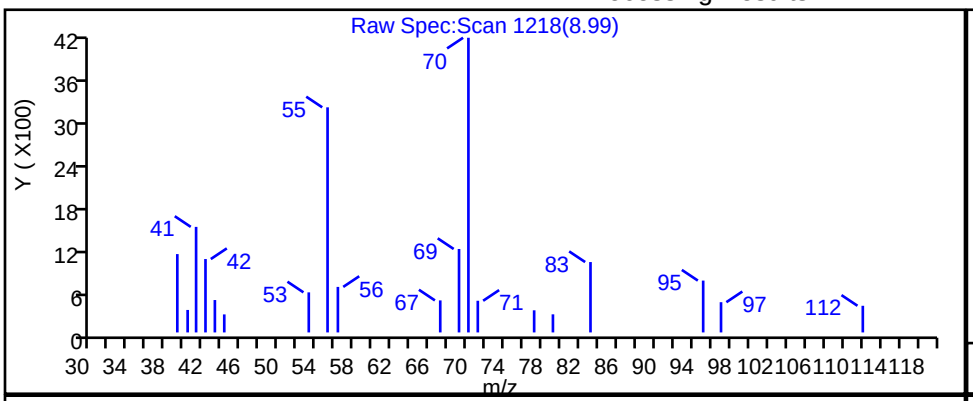
User Disabled Compound Report

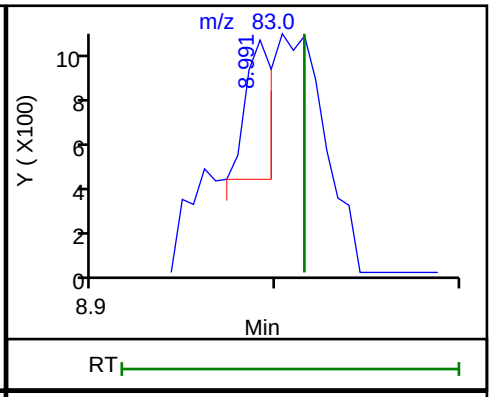
Eurofins Lancaster Laboratories Env, LLC

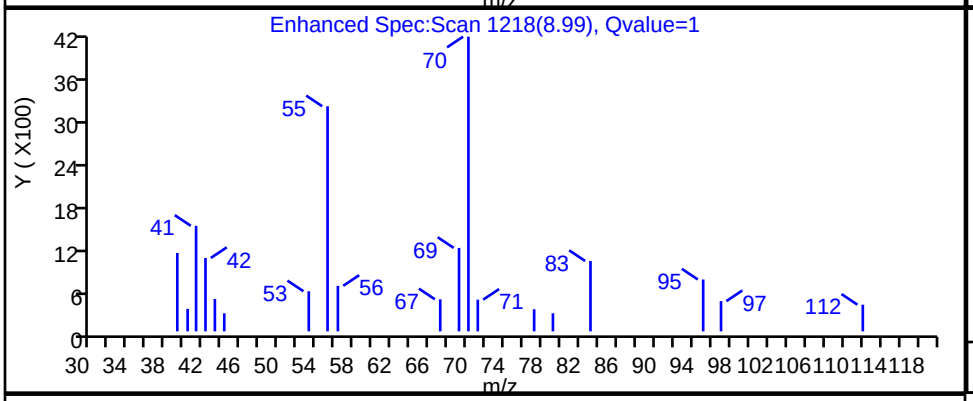
Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S18.D				
Injection Date:	19-Aug-2020 18:36:30	Instrument ID:	9355		
Lims ID:	410-10696-G-6	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	clm27445	ALS Bottle#:	26	Worklist Smp#:	55
Purge Vol:	5.000 mL	Dil. Factor:	5.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

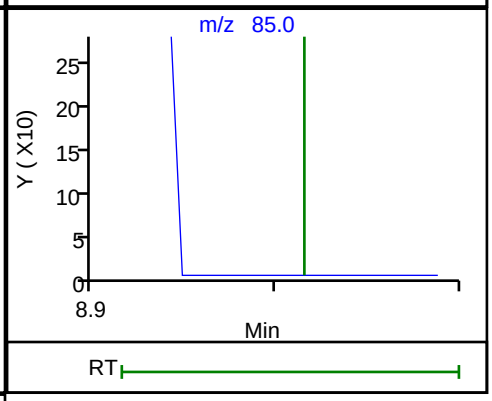
72 Dichlorobromomethane, CAS: 75-27-4

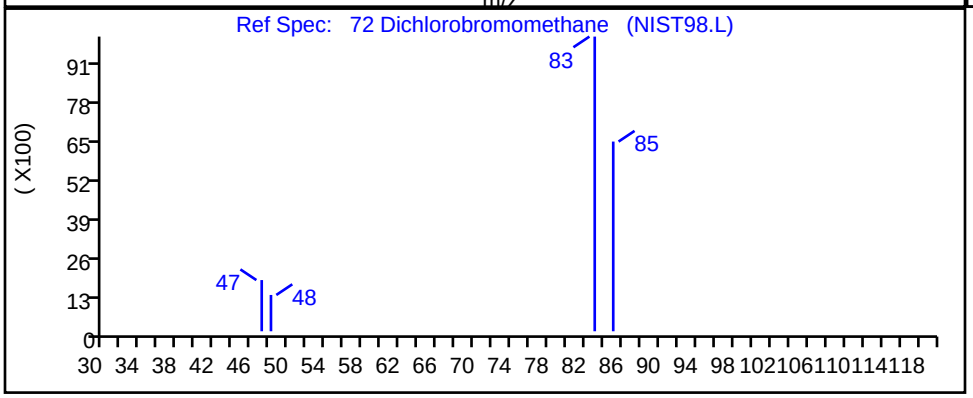
Processing Results











RT	Mass	Response	Amount
8.99	83.00	589	0.074710
9.02	85.00	0	

Reviewer: campbellme, 19-Aug-2020 19:46:40

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

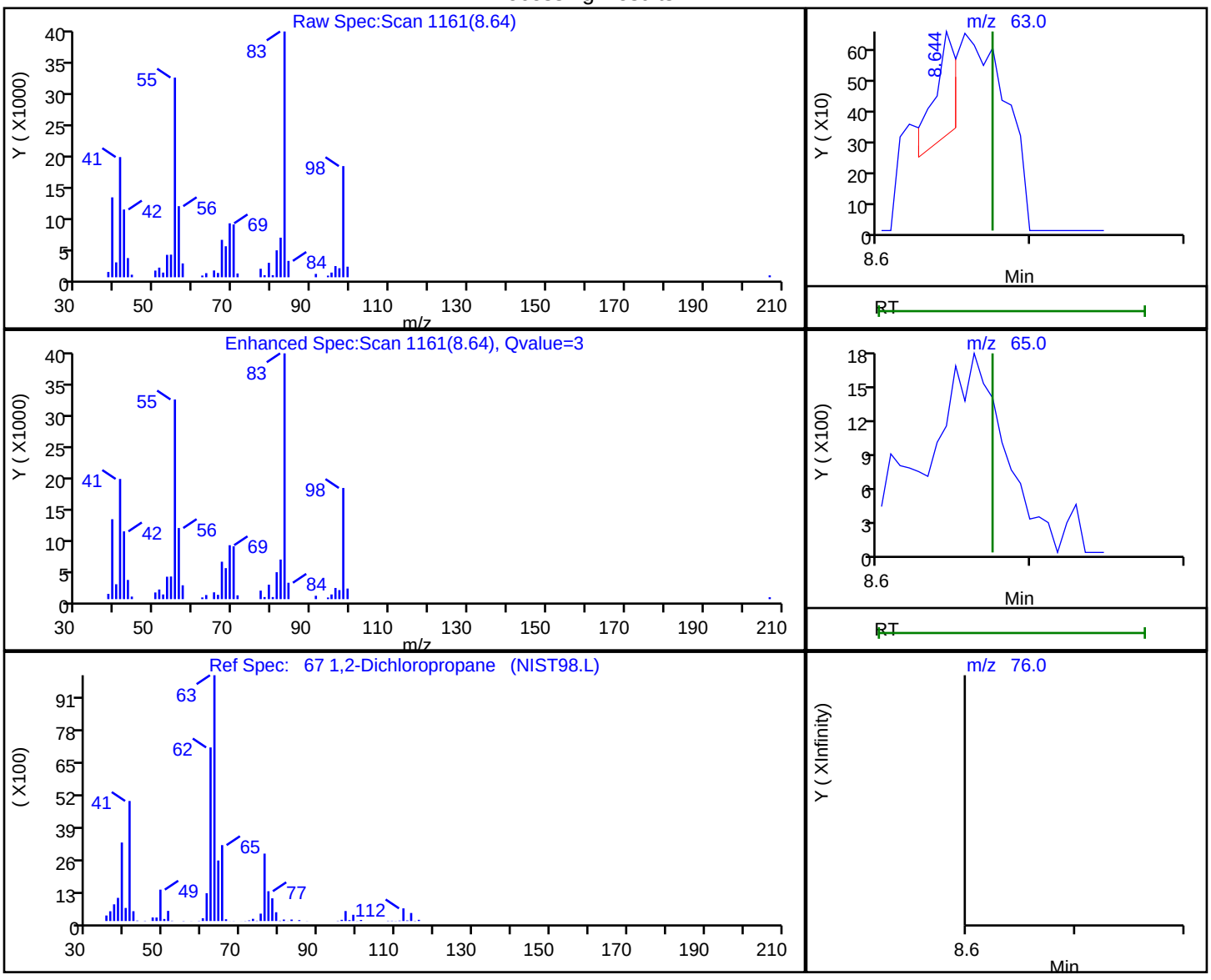
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S18.D				
Injection Date:	19-Aug-2020 18:36:30	Instrument ID:	9355		
Lims ID:	410-10696-G-6	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	clm27445	ALS Bottle#:	26	Worklist Smp#:	55
Purge Vol:	5.000 mL	Dil. Factor:	5.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

67 1,2-Dichloropropane, CAS: 78-87-5

Processing Results



RT	Mass	Response	Amount
8.64	63.00	349	0.051287
8.63	78.00	481	
8.67	65.00	0	
8.67	76.00	0	

Reviewer: campbellme, 25-Aug-2020 20:19:45

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

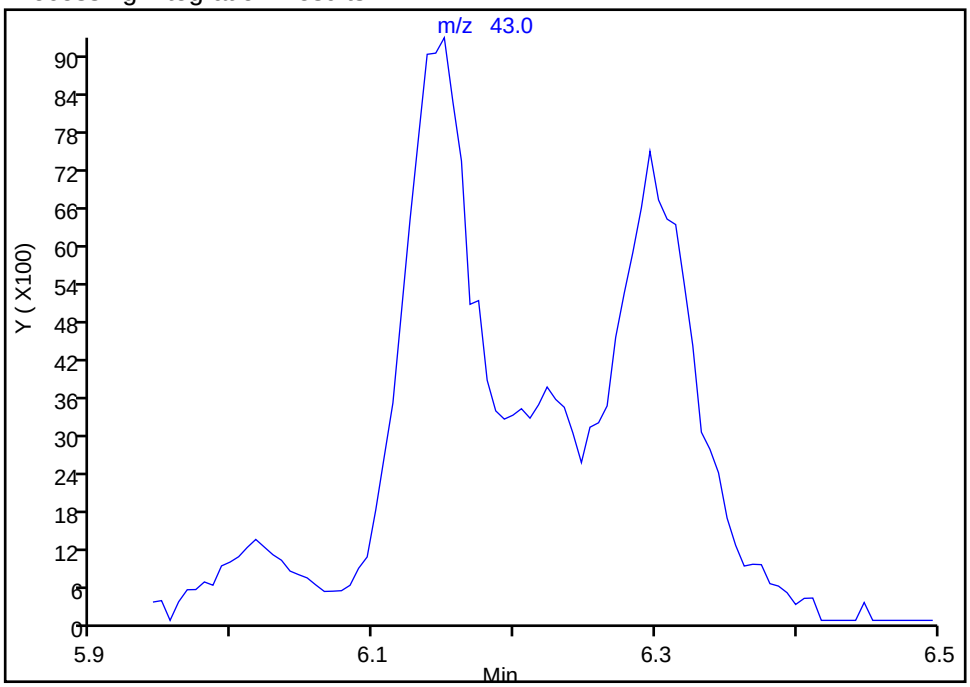
Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S18.D				
Injection Date:	19-Aug-2020 18:36:30	Instrument ID:	9355		
Lims ID:	410-10696-G-6	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	clm27445	ALS Bottle#:	26	Worklist Smp#:	55
Purge Vol:	5.000 mL	Dil. Factor:	5.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

41 2-Butanone (MEK), CAS: 78-93-3

Signal: 1

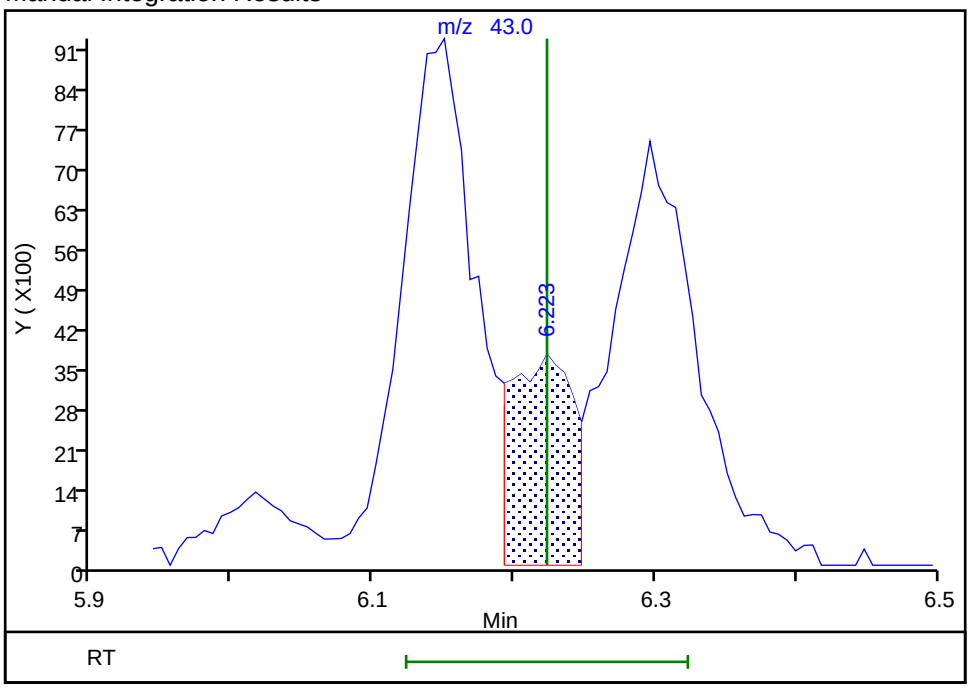
Not Detected
Expected RT: 6.22

Processing Integration Results



Manual Integration Results

RT: 6.22
Area: 11888
Amount: 1.675750
Amount Units: ug/l



Reviewer: campbellme, 19-Aug-2020 19:46:00
Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: WPA-GW-02 DL Lab Sample ID: 410-10696-6 DL

Matrix: Water Lab File ID: YG19S19.D

Analysis Method: 8260C Date Collected: 08/11/2020 14:15

Sample wt/vol: 5(mL) Date Analyzed: 08/19/2020 18:57

Soil Aliquot Vol: Dilution Factor: 50

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 34763 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
71-43-2	Benzene	1500		50	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		80-120
1868-53-7	Dibromofluoromethane (Surr)	99		80-120
460-00-4	4-Bromofluorobenzene (Surr)	93		80-120
2037-26-5	Toluene-d8 (Surr)	102		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S19.D
Lims ID: 410-10696-G-6
Client ID: WPA-GW-02
Sample Type: Client
Inject. Date: 19-Aug-2020 18:57:30 ALS Bottle#: 27 Worklist Smp#: 51
Purge Vol: 5.000 mL Dil. Factor: 50.0000
Sample Info: 410-0008412-051
Misc. Info.: 410-10696-G-6
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 19-Aug-2020 19:47:57 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1016

First Level Reviewer: campbellme Date: 19-Aug-2020 19:47:57

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
2 Dichlorodifluoromethane	85		2.050				ND	
4 Chloromethane	50		2.238				ND	
6 Vinyl chloride	62		2.360				ND	
8 Bromomethane	94		2.695				ND	
9 Chloroethane	64		2.786				ND	
11 Trichlorofluoromethane	101		3.090				ND	
17 1,1-Dichloroethene	96		3.686				ND	
18 Acetone	58	3.662	3.692	-0.030	98	684	0.6596	
19 112TCTFE	101		3.710				ND	
22 Carbon disulfide	76		4.009				ND	
24 Methyl acetate	43		4.136				ND	
* 26 t-Butyl alcohol-d10 (IS)	65	4.343	4.361	-0.018	30	253798	250.0	
27 Methylene Chloride	84		4.368				ND	
31 Methyl tert-butyl ether	73		4.781				ND	
32 trans-1,2-Dichloroethene	96		4.799				ND	
36 1,1-Dichloroethane	63		5.450				ND	
41 2-Butanone (MEK)	43		6.223				ND	
42 cis-1,2-Dichloroethene	96		6.272				ND	
49 Chloroform	83		6.752				ND	
$ 50 Dibromofluoromethane (Surr)	113	6.959	6.965	-0.006	93	249767	49.3	
51 1,1,1-Trichloroethane	97		6.990				ND	
52 Cyclohexane	56	7.093	7.099	-0.006	92	18948	1.88	
54 Carbon tetrachloride	117		7.209				ND	
$ 56 1,2-Dichloroethane-d4 (Surr)	102	7.415	7.428	-0.013	97	62974	49.9	
57 Benzene	78	7.458	7.464	-0.006	97	736665	30.4	
59 1,2-Dichloroethane	62		7.531				ND	U
* 62 Fluorobenzene (IS)	96	7.853	7.866	-0.013	99	1051848	50.0	
65 Trichloroethene	95		8.346				ND	
66 Methylcyclohexane	83	8.662	8.663	-0.001	90	11470	1.00	
67 1,2-Dichloropropane	63		8.675				ND	
72 Dichlorobromomethane	83		9.015				ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/l	Flags
75 cis-1,3-Dichloropropene	75		9.551				ND	
76 4-Methyl-2-pentanone (MIBK)	43		9.703				ND	
$ 77 Toluene-d8 (Surr)	98	9.855	9.855	0.000	94	1016842	50.9	
78 Toluene	92	9.928	9.934	-0.006	98	28570	1.90	
80 trans-1,3-Dichloropropene	75		10.177				ND	
82 1,1,2-Trichloroethane	97		10.378				ND	
83 Tetrachloroethene	166		10.482				ND	
86 2-Hexanone	43		10.579				ND	
88 Chlorodibromomethane	129		10.761				ND	
89 Ethylene Dibromide	107		10.877				ND	
S 90 Xylenes, Total	106				0		3.15	
* 91 Chlorobenzene-d5 (IS)	117	11.297	11.297	0.000	86	789932	50.0	
93 Chlorobenzene	112		11.327				ND	
95 Ethylbenzene	91	11.406	11.406	0.000	98	74939	2.51	
96 m-Xylene & p-Xylene	106	11.528	11.522	0.006	98	34287	2.91	
97 o-Xylene	106	11.844	11.850	-0.006	96	2731	0.2364	
98 Styrene	104		11.862				ND	
99 Bromoform	173		12.027				ND	
100 Isopropylbenzene	105	12.142	12.148	-0.006	95	7004	0.2421	
$ 103 4-Bromofluorobenzene (Surr)	95	12.294	12.294	0.000	92	357906	46.7	
104 1,1,2,2-Tetrachloroethane	83		12.386				ND	
117 1,3-Dichlorobenzene	146		13.116				ND	
* 119 1,4-Dichlorobenzene-d4	152	13.177	13.177	-0.001	95	439410	50.0	
121 1,4-Dichlorobenzene	146		13.195				ND	
126 1,2-Dichlorobenzene	146		13.450				ND	
129 1,2-Dibromo-3-Chloropropane	75		13.992				ND	
131 1,2,4-Trichlorobenzene	180		14.545				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

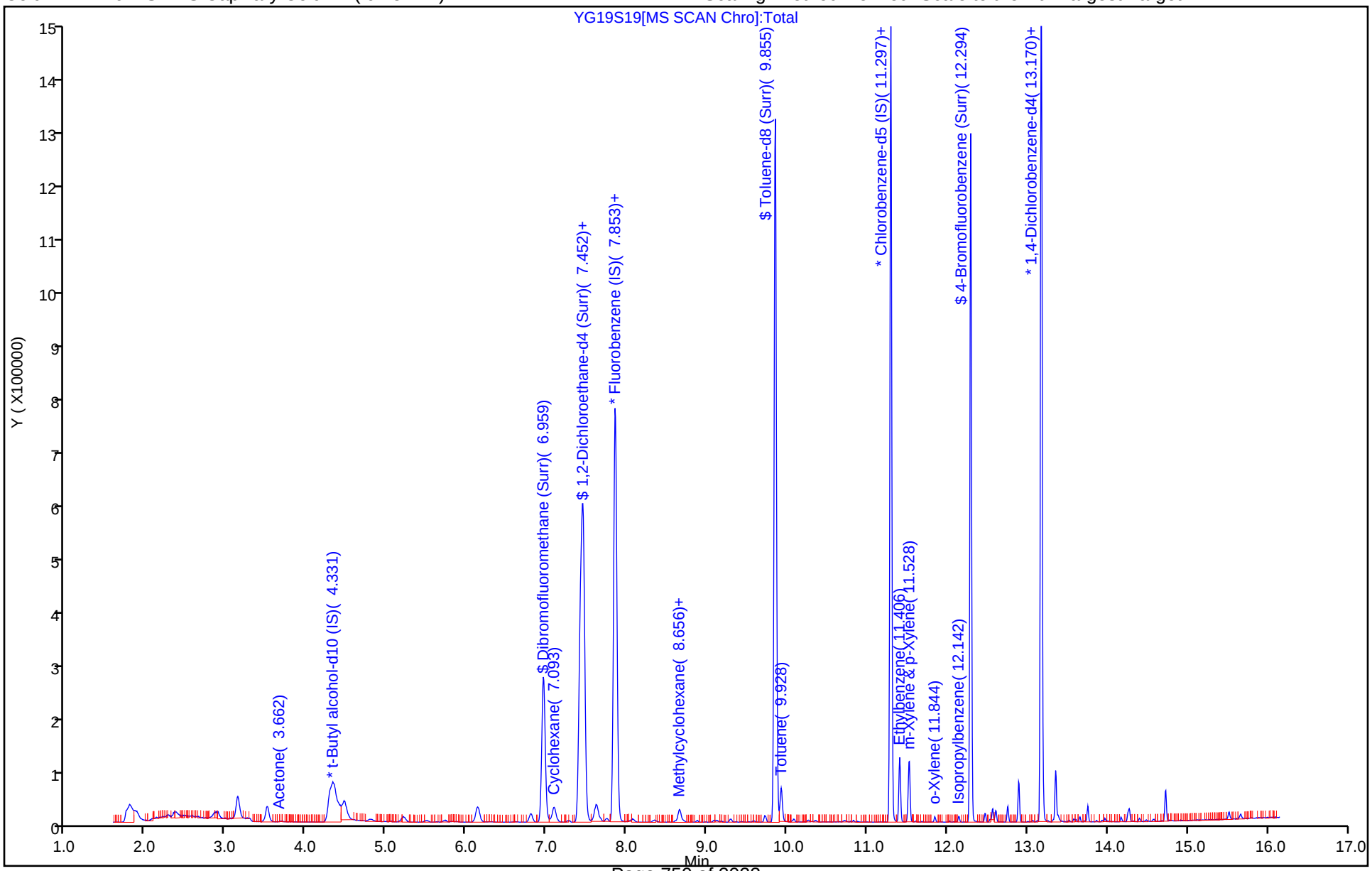
MSV_HP20_ISSS_00023 Amount Added: 1.00 Units: uL Run Reagent

Report Date: 19-Aug-2020 19:49:44 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S19.D				
Injection Date:	19-Aug-2020 18:57:30	Instrument ID:	9355	Operator ID:	clm27445
Lims ID:	410-10696-G-6	Lab Sample ID:	410-10696-6	Worklist Smp#:	51
Client ID:	WPA-GW-02				
Purge Vol:	5.000 mL	Dil. Factor:	50.0000	ALS Bottle#:	27
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S19.D				
Lims ID:	410-10696-G-6				
Client ID:	WPA-GW-02				
Sample Type:	Client				
Inject. Date:	19-Aug-2020 18:57:30	ALS Bottle#:	27	Worklist Smp#:	51
Purge Vol:	5.000 mL	Dil. Factor:	50.0000		
Sample Info:	410-0008412-051				
Misc. Info.:	410-10696-G-6				
Operator ID:	clm27445	Instrument ID:	9355		
Method:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m				
Limit Group:	MSV - 8260C_D				
Last Update:	19-Aug-2020 19:47:57	Calib Date:	14-Jul-2020 18:39:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D				
Column 1 :	Rxi-624Sil MS Capillary Column (0.25 mm)		Det: MS Quad		
Process Host:	CTX1016				

First Level Reviewer: campbellme Date: 19-Aug-2020 19:47:57

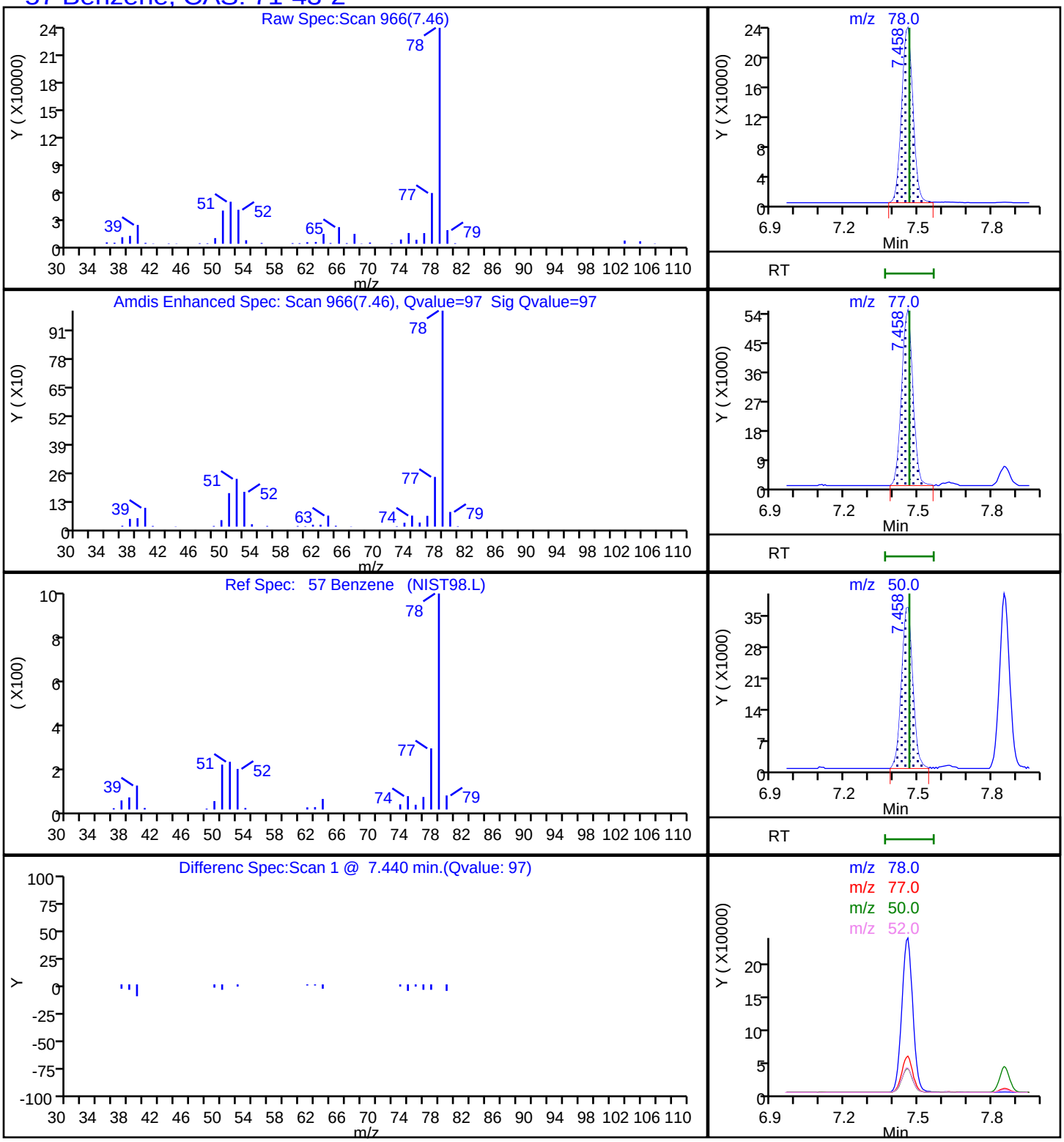
Compound	Amount Added	Amount Recovered	% Rec.
$ 50 Dibromofluoromethane (Surr)	50.0	49.3	98.65
$ 56 1,2-Dichloroethane-d4 (Surr)	50.0	49.9	99.77
$ 77 Toluene-d8 (Surr)	50.0	50.9	101.78
$ 103 4-Bromofluorobenzene (Surr)	50.0	46.7	93.43

Report Date: 19-Aug-2020 19:49:44 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S19.D				
Injection Date:	19-Aug-2020 18:57:30	Instrument ID:	9355		
Lims ID:	410-10696-G-6	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	clm27445	ALS Bottle#:	27	Worklist Smp#:	51
Purge Vol:	5.000 mL	Dil. Factor:	50.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25 mm)	Detector	MS Quad		

57 Benzene, CAS: 71-43-2



FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 22126

SDG No.:

Instrument ID: 9355 GC Column: R-624SilMS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/14/2020 13:31 Calibration End Date: 07/14/2020 15:43 Calibration ID: 6832

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-22126/9	YL14I07.D
Level 2	IC 410-22126/8	YL14I06.D
Level 3	IC 410-22126/7	YL14I05.D
Level 4	IC 410-22126/6	YL14I04.D
Level 5	ICIS 410-22126/5	YL14I03.D
Level 6	IC 410-22126/4	YL14I02.D
Level 7	IC 410-22126/3	YL14I01.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dichlorodifluoromethane	0.3380 0.5174	0.5605 0.4521	0.5084	0.4917	0.5235	Ave		0.4845			0.1000	15.0		20.0			
Chloromethane	0.5213 0.5132	0.5856 0.4552	0.5306	0.5023	0.5473	Ave		0.5222			0.1000	7.7		20.0			
1,3-Butadiene	0.3958 0.3498	0.4812 0.3194	0.3751	0.3712	0.3554	Ave		0.3783				13.6		20.0			
Vinyl chloride	0.4079 0.5021	0.5411 0.4498	0.5081	0.4833	0.5265	Ave		0.4884			0.1000	9.5		20.0			
Bromomethane	0.3253 0.3676	0.3882 0.3227	0.3689	0.3564	0.3823	Ave		0.3588			0.1000	7.2		20.0			
Chloroethane	0.2659 0.2967	0.3103 0.2661	0.2988	0.2857	0.3106	Ave		0.2906			0.1000	6.5		20.0			
Dichlorofluoromethane	0.6558 0.6991	0.7212 0.6149	0.7025	0.6686	0.7301	Ave		0.6846			0.1000	5.9		20.0			
Trichlorofluoromethane	0.4784 0.6206	0.6818 0.5614	0.6143	0.5909	0.6368	Ave		0.5977			0.1000	10.8		20.0			
n-Pentane	0.4655 0.5514	0.6279 0.5217	0.5322	0.5346	0.5299	Ave		0.5376				9.0		20.0			
Ethyl ether	0.2797 0.3328	0.3109 0.3203	0.3017	0.3299	0.3911	Ave		0.3238				10.7		20.0			
Freon 123a	0.2646 0.3268	0.3359 0.3068	0.3085	0.3208	0.3460	Ave		0.3156				8.4		20.0			
Acrolein	2.2276 2.5133	2.3010 2.5586	2.3880	2.0369	2.4906	Ave		2.3594				7.9		20.0			
1,1-Dichloroethene	0.1939 0.2359	0.2269 0.2277	0.2206	0.2257	0.2342	Ave		0.2235			0.1000	6.3		20.0			
Acetone	0.9380 1.0514	1.0404 1.0285	1.0595	0.9719	1.0611	Ave		1.0215			0.1000	4.7		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 22126

SDG No.:

Instrument ID: 9355 GC Column: R-624SilMS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/14/2020 13:31 Calibration End Date: 07/14/2020 15:43 Calibration ID: 6832

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Freon 113	0.1748 0.2581	0.2617 0.2464	0.2326	0.2402	0.2481	Ave		0.2374			0.1000	12.4		20.0			
2-Propanol	+++++ 0.7687	0.6502 0.7132	0.7175	0.6983	0.7548	Ave		0.7171				5.9		20.0			
Methyl iodide	0.3836 0.4723	0.4524 0.4442	0.4425	0.4550	0.4729	Ave		0.4461				6.7		20.0			
Carbon disulfide	0.5996 0.7896	0.7165 0.7386	0.6982	0.7298	0.7842	Ave		0.7224			0.1000	8.8		20.0			
Methyl acetate	0.4714 0.4611	0.4266 0.4203	0.4393	0.4362	0.4537	Ave		0.4441			0.1000	4.2		20.0			
Allyl chloride	0.4220 0.4925	0.4874 0.4501	0.4638	0.4745	0.4864	Ave		0.4681				5.4		20.0			
Methylene Chloride	0.2767 0.2883	0.2804 0.2636	0.2681	0.2774	0.2866	Ave		0.2773			0.1000	3.3		20.0			
t-Butyl alcohol	5.0338 1.3314	1.2820 1.1818	1.3208	1.2558	1.3066	Lin2	19.271	1.1714							0.9950		0.9900
Acrylonitrile	0.1943 0.2309	0.2152 0.2123	0.2304	0.1997	0.2417	Ave		0.2178				8.0		20.0			
Methyl tertiary butyl ether	0.8538 0.9623	0.9363 0.8758	0.8894	0.9001	0.9530	Ave		0.9101			0.1000	4.5		20.0			
trans-1,2-Dichloroethene	0.2404 0.2836	0.2787 0.2752	0.2614	0.2734	0.2822	Ave		0.2707			0.1000	5.6		20.0			
n-Hexane	0.3140 0.4268	0.4540 0.4053	0.4077	0.4068	0.4049	Ave		0.4028				10.7		20.0			
1,1-Dichloroethane	0.4189 0.5084	0.5023 0.4728	0.4715	0.4872	0.5050	Ave		0.4809			0.2000	6.5		20.0			
di-Isopropyl ether	0.8968 1.0486	0.9943 0.9555	0.9842	0.9966	1.0457	Ave		0.9888				5.3		20.0			
2-Chloro-1,3-butadiene	0.3596 0.5020	0.4683 0.4842	0.4480	0.4723	0.4986	Ave		0.4619				10.6		20.0			
Ethyl t-butyl ether	0.8486 0.9575	0.9300 0.8428	0.9243	0.9298	0.9669	Ave		0.9143				5.4		20.0			
2-Butanone	0.3085 0.3383	0.3270 0.3174	0.3332	0.2968	0.3542	Ave		0.3251			0.1000	5.9		20.0			
cis-1,2-Dichloroethene	0.2969 0.3299	0.3103 0.3281	0.3026	0.3103	0.3242	Ave		0.3146			0.1000	4.1		20.0			
2,2-Dichloropropane	0.3214 0.4283	0.3863 0.4208	0.3756	0.3893	0.4216	Ave		0.3919				9.5		20.0			
Propionitrile	+++++ 1.5907	1.5634 1.5636	1.5718	1.4839	1.5388	Ave		1.5520				2.4		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 22126

SDG No.:

Instrument ID: 9355 GC Column: R-624SilMS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/14/2020 13:31 Calibration End Date: 07/14/2020 15:43 Calibration ID: 6832

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Methacrylonitrile	+++++ 0.2428	0.2296 0.2361	0.2314	0.2289	0.2374	Ave		0.2344				2.3		20.0			
Bromochloromethane	0.1562 0.1864	0.1811 0.1808	0.1730	0.1779	0.1813	Ave		0.1767				5.6		20.0			
Tetrahydrofuran	1.5165 1.7164	1.5879 1.7510	1.6599	1.4173	1.7153	Ave		1.6235				7.5		20.0			
Chloroform	0.4362 0.5194	0.4988 0.4908	0.4896	0.4973	0.5196	Ave		0.4931			0.2000	5.7		20.0			
1,1,1-Trichloroethane	0.3507 0.4444	0.4439 0.4226	0.4114	0.4260	0.4462	Ave		0.4207			0.1000	8.0		20.0			
Cyclohexane	0.3645 0.5103	0.5425 0.4791	0.4698	0.4876	0.4974	Ave		0.4787			0.1000	11.6		20.0			
1,1-Dichloropropene	0.3263 0.4021	0.3973 0.3966	0.3795	0.3818	0.4036	Ave		0.3839				7.1		20.0			
Carbon tetrachloride	0.2761 0.3877	0.3569 0.3887	0.3419	0.3543	0.3817	Ave		0.3553			0.1000	11.1		20.0			
Isobutyl alcohol	+++++ 0.4599	0.4547 0.4514	0.4550	0.4428	0.4493	Ave		0.4522				1.3		20.0			
Benzene	1.0375 1.1995	1.1904 1.1407	1.1370	1.1582	1.2063	Ave		1.1528			0.5000	5.0		20.0			
1,2-Dichloroethane	0.4459 0.4394	0.4375 0.4168	0.4245	0.4210	0.4380	Ave		0.4319			0.1000	2.5		20.0			
t-Amyl methyl ether	0.8771 0.9664	0.9456 0.8462	0.9280	0.9446	0.9785	Ave		0.9266				5.2		20.0			
n-Heptane	0.3904 0.5028	0.5408 0.4873	0.4885	0.4749	0.4717	Ave		0.4795				9.5		20.0			
n-Butanol	1.4864 0.4396	0.4177 0.4144	0.4253	0.4250	0.4392	Lin	21.993	0.4132							1.0000		0.9900
Trichloroethene	0.2508 0.3236	0.3159 0.3161	0.2996	0.3062	0.3203	Ave		0.3046			0.2000	8.3		20.0			
Methylcyclohexane	0.3945 0.5992	0.5932 0.6117	0.5200	0.5601	0.5495	Ave		0.5469			0.1000	13.6		20.0			
1,2-Dichloropropane	0.2675 0.3359	0.3028 0.3506	0.2978	0.3036	0.3245	Ave		0.3118			0.1000	8.8		20.0			
t-Amyl ethyl ether	0.4082 0.5491	0.4687 0.5633	0.4606	0.4780	0.5227	Ave		0.4930				11.1		20.0			
Methyl methacrylate	0.2969 0.3881	0.3455 0.3844	0.3406	0.3490	0.3757	Ave		0.3543				9.0		20.0			
1,4-Dioxane	+++++ 0.1045	0.0972 0.1012	0.0999	0.0979	0.1038	Ave		0.1007			0.0050	3.0		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 22126

SDG No.:

Instrument ID: 9355 GC Column: R-624SilMS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/14/2020 13:31 Calibration End Date: 07/14/2020 15:43 Calibration ID: 6832

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
Dibromomethane	0.1765 0.2240	0.2033 0.2173	0.2004	0.2044	0.2190	Ave		0.2064				7.7		20.0			
Bromodichloromethane	0.3011 0.4041	0.3399 0.3893	0.3429	0.3595	0.3919	Ave		0.3612			0.2000	10.1		20.0			
2-Nitropropane	2.5545 3.6499	2.7612 3.6958	3.1303	2.8338	3.6153	Ave		3.1773				15.0		20.0			
2-Chloroethyl vinyl ether	0.2338 0.2943	0.2755 0.2856	0.2678	0.2770	0.2839	Ave		0.2740				7.2		20.0			
cis-1,3-Dichloropropene	0.3699 0.5114	0.4320 0.4968	0.4461	0.4616	0.5023	Ave		0.4600			0.2000	10.8		20.0			
4-Methyl-2-pentanone	0.5431 0.6915	0.6234 0.6410	0.6540	0.5873	0.7161	Ave		0.6366			0.1000	9.3		20.0			
Toluene	0.8693 0.9980	0.9884 0.9216	0.9449	0.9520	1.0015	Ave		0.9537			0.4000	5.0		20.0			
trans-1,3-Dichloropropene	0.4453 0.6430	0.5234 0.5921	0.5454	0.5731	0.6256	Ave		0.5640			0.1000	11.9		20.0			
Ethyl methacrylate	0.5669 0.7899	0.6754 0.7258	0.6909	0.7117	0.7714	Ave		0.7046				10.4		20.0			
1,1,2-Trichloroethane	0.3448 0.3931	0.3790 0.3588	0.3738	0.3727	0.3894	Ave		0.3731			0.1000	4.5		20.0			
Tetrachloroethene	0.3770 0.5701	0.4986 0.4875	0.4619	0.4838	0.5147	Ave		0.4848			0.2000	12.1		20.0			
1,3-Dichloropropane	0.5918 0.6700	0.6489 0.6118	0.6398	0.6377	0.6666	Ave		0.6381				4.4		20.0			
2-Hexanone	0.5695 0.7129	0.6531 0.6252	0.6987	0.6222	0.7543	Ave		0.6623			0.1000	9.6		20.0			
Dibromochloromethane	0.2725 0.4305	0.3323 0.4048	0.3513	0.3689	0.4142	Ave		0.3678				14.9		20.0			
1,2-Dibromoethane	0.3742 0.4494	0.4182 0.4051	0.4195	0.4213	0.4429	Ave		0.4187			0.1000	5.9		20.0			
1-Chlorohexane	0.5220 0.5732	0.5862 0.5507	0.5287	0.5369	0.5628	Ave		0.5515				4.3		20.0			
Chlorobenzene	0.9902 1.1436	1.1213 1.0869	1.0815	1.0785	1.1384	Ave		1.0915			0.5000	4.8		20.0			
1,1,1,2-Tetrachloroethane	0.2775 0.4273	0.3430 0.4304	0.3468	0.3644	0.4017	Ave		0.3702				14.7		20.0			
Ethylbenzene	1.6330 2.0621	1.9542 1.7935	1.8592	1.9096	2.0217	Ave		1.8905			0.1000	7.7		20.0			
m&p-Xylene	0.6251 0.8179	0.7621 0.7590	0.7258	0.7406	0.7912	Ave		0.7460			0.1000	8.2		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 22126

SDG No.:

Instrument ID: 9355 GC Column: R-624SilMS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/14/2020 13:31 Calibration End Date: 07/14/2020 15:43 Calibration ID: 6832

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
o-Xylene	0.6127 0.8010	0.7357 0.7703	0.7025	0.7185	0.7780	Ave		0.7312			0.3000	8.6		20.0			
Styrene	0.9248 1.4072	1.1720 1.3081	1.1666	1.2182	1.3520	Ave		1.2213			0.3000	13.1		20.0			
Bromoform	+++++ 0.3430	0.2259 0.3366	0.2443	0.2697	0.3158	Ave		0.2892			0.1000	17.1		20.0			
Isopropylbenzene	1.5454 1.9857	1.9483 1.6582	1.8303	1.8726	1.9796	Ave		1.8314			0.1000	9.3		20.0			
Cyclohexanone	0.4103 0.5016	0.4576 0.5068	0.4587	0.4781	0.5030	Ave		0.4737				7.3		20.0			
1,1,2,2-Tetrachloroethane	1.0938 1.2997	1.1944 1.2924	1.1818	1.2166	1.2714	Ave		1.2215			0.3000	6.0		20.0			
trans-1,4-Dichloro-2-butene	+++++ 0.5603	0.4515 0.5080	0.4666	0.4972	0.5228	Ave		0.5011				7.8		20.0			
Bromobenzene	0.8841 1.1135	0.9599 1.1164	0.9128	0.9562	1.0217	Ave		0.9950				9.3		20.0			
1,2,3-Trichloropropane	0.3950 0.4374	0.4109 0.4427	0.4009	0.4016	0.4165	Ave		0.4150				4.5		20.0			
N-Propylbenzene	3.6859 4.4026	4.4058 3.5761	4.1428	4.2328	4.4011	Ave		4.1210				8.5		20.0			
2-Chlorotoluene	0.7513 0.9152	0.8793 0.9334	0.8240	0.8425	0.8914	Ave		0.8624				7.2		20.0			
1,3,5-Trimethylbenzene	2.5088 3.3064	3.0909 3.0129	2.9773	3.0520	3.2428	Ave		3.0273				8.5		20.0			
4-Chlorotoluene	0.8016 0.9767	0.9187 1.0122	0.8810	0.9036	0.9498	Ave		0.9205				7.5		20.0			
tert-Butylbenzene	0.5289 0.6895	0.6687 0.7194	0.6152	0.6288	0.6727	Ave		0.6462				9.7		20.0			
Pentachloroethane	0.3817 0.4317	0.4128 0.5631	0.4356	0.4418	0.4747	Ave		0.4488				12.9		20.0			
1,2,4-Trimethylbenzene	2.6668 3.5665	3.1834 3.2048	3.0887	3.1832	3.4302	Ave		3.1891				8.9		20.0			
sec-Butylbenzene	3.1944 4.1805	4.0797 3.4259	3.8761	3.9293	4.1091	Ave		3.8279				9.8		20.0			
1,3-Dichlorobenzene	1.6041 2.0599	1.7974 1.9395	1.7250	1.7773	1.9312	Ave		1.8335			0.6000	8.4		20.0			
p-Isopropyltoluene	2.7191 3.9169	3.4110 3.3100	3.3163	3.4454	3.7139	Ave		3.4047				11.0		20.0			
1,4-Dichlorobenzene	1.6921 2.1173	1.8823 2.0061	1.8083	1.8406	2.0131	Ave		1.9085			0.5000	7.6		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 22126

SDG No.:

Instrument ID: 9355 GC Column: R-624SilMS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/14/2020 13:31 Calibration End Date: 07/14/2020 15:43 Calibration ID: 6832

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5		B	M1	M2								
1,2,3-Trimethylbenzene	3.1442 4.0080	3.5741 3.3858	3.4779	3.6062	3.8089	Ave		3.5722				7.9		20.0			
Benzyl chloride	1.6321 2.9895	2.0446 2.7682	2.2263	2.4281	2.7877	Ave		2.4109				19.9		20.0			
1,3-Diethylbenzene	1.7989 2.4646	2.2457 2.3392	2.1907	2.2924	2.3755	Ave		2.2438				9.6		20.0			
1,4-Diethylbenzene	1.8881 2.6582	2.3948 2.5092	2.3067	2.4118	2.5146	Ave		2.3833				10.3		20.0			
n-Butylbenzene	1.4705 1.9872	1.7925 1.9660	1.7422	1.7657	1.8966	Ave		1.8029				9.7		20.0			
1,2-Dichlorobenzene	1.5897 1.9349	1.7291 1.9140	1.6658	1.6961	1.8493	Ave		1.7684			0.4000	7.5		20.0			
1,2-Diethylbenzene	1.5850 2.1085	1.8743 2.0526	1.8497	1.9096	1.9949	Ave		1.9107				9.0		20.0			
1,2-Dibromo-3-Chloropropane	0.2455 0.3423	0.2695 0.3420	0.2812	0.2934	0.3277	Ave		0.3002			0.0500	12.6		20.0			
1,3,5-Trichlorobenzene	1.1810 1.4425	1.3231 1.4621	1.2524	1.2786	1.3757	Ave		1.3308				7.7		20.0			
1,2,4-Trichlorobenzene	1.1138 1.3603	1.2117 1.3576	1.1830	1.2014	1.2933	Ave		1.2459			0.2000	7.5		20.0			
Hexachlorobutadiene	0.4981 0.5798	0.5465 0.5938	0.5161	0.5335	0.5433	Ave		0.5444				6.2		20.0			
Naphthalene	3.7662 4.5941	4.1687 3.5851	4.1186	4.2064	4.4922	Ave		4.1330				8.7		20.0			
1,2,3-Trichlorobenzene	1.1236 1.2938	1.1789 1.2923	1.1424	1.1528	1.2315	Ave		1.2022				5.9		20.0			
2-Methylnaphthalene	2.3628 3.0591	2.5729 2.7422	2.5933	2.7742	2.9515	Ave		2.7223				8.7		20.0			
Dibromofluoromethane (Surr)	0.2411 0.2413	0.2418 0.2335	0.2421	0.2442	0.2410	Ave		0.2407				1.4		20.0			
1,2-Dichloroethane-d4 (Surr)	0.0605 0.0596	0.0601 0.0579	0.0608	0.0610	0.0601	Ave		0.0600				1.7		20.0			
Toluene-d8 (Surr)	1.3148 1.2387	1.3191 1.1081	1.3018	1.2979	1.2725	Ave		1.2647				5.9		20.0			
4-Bromofluorobenzene (Surr)	0.4949 0.4800	0.5027 0.4289	0.4977	0.4986	0.4920	Ave		0.4850				5.3		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 22126

SDG No.:

Instrument ID: 9355 GC Column: R-624SilMS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/14/2020 13:31 Calibration End Date: 07/14/2020 15:43 Calibration ID: 6832

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-22126/9	YL14I07.D
Level 2	IC 410-22126/8	YL14I06.D
Level 3	IC 410-22126/7	YL14I05.D
Level 4	IC 410-22126/6	YL14I04.D
Level 5	ICIS 410-22126/5	YL14I03.D
Level 6	IC 410-22126/4	YL14I02.D
Level 7	IC 410-22126/3	YL14I01.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Dichlorodifluoromethane	FB	Ave	8140 1362042	54212 3732850	126148	247803	671975	1.00 100	4.00 300	10.0	20.0	50.0
Chloromethane	FB	Ave	12556 1351062	56643 3758400	131655	253132	702508	1.00 100	4.00 300	10.0	20.0	50.0
1,3-Butadiene	FB	Ave	9534 920841	46547 2636925	93072	187087	456158	1.00 100	4.00 300	10.0	20.0	50.0
Vinyl chloride	FB	Ave	9824 1321792	52338 3713529	126069	243547	675858	1.00 100	4.00 300	10.0	20.0	50.0
Bromomethane	FB	Ave	7834 967676	37549 2664204	91535	179623	490686	1.00 100	4.00 300	10.0	20.0	50.0
Chloroethane	FB	Ave	6404 781161	30018 2196679	74127	143962	398756	1.00 100	4.00 300	10.0	20.0	50.0
Dichlorofluoromethane	FB	Ave	15795 1840370	69765 5076783	174309	336934	937246	1.00 100	4.00 300	10.0	20.0	50.0
Trichlorofluoromethane	FB	Ave	11522 1633629	65948 4634866	152415	297794	817484	1.00 100	4.00 300	10.0	20.0	50.0
n-Pentane	FB	Ave	11211 1451670	60737 4306819	132042	269401	680236	1.00 100	4.00 300	10.0	20.0	50.0
Ethyl ether	FB	Ave	6735 876024	30068 2643867	74843	166233	501992	1.000 100.0	4.00 300	10.00	20.0	50.0
Freon 123a	FB	Ave	6373 860396	32491 2532756	76542	161670	444133	1.00 100	4.00 300	10.0	20.0	50.0
Acrolein	TBAd 10	Ave	28511 3629305	121694 10982500	323316	575282	1800704	10.00 1000	40.0 3000	100.0	200	500
1,1-Dichloroethene	FB	Ave	4669 620932	21952 1879509	54735	113718	300659	1.00 100	4.00 300	10.0	20.0	50.0
Acetone	TBAd 10	Ave	2401 303647	11005 882959	28689	54899	153437	2.00 200	8.00 600	20.0	40.0	100
Freon 113	FB	Ave	4210 679521	25314 2033883	57703	121027	318438	1.00 100	4.00 300	10.0	20.0	50.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 22126

SDG No.:

Instrument ID: 9355 GC Column: R-624SilMS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/14/2020 13:31 Calibration End Date: 07/14/2020 15:43 Calibration ID: 6832

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
2-Propanol	TBAd 10	Ave	+++++ 555028	68780 1530800	97146	197215	272871	+++++ 500	80.0 1500	100	200	250
Methyl iodide	FB	Ave	9240 1243443	43761 3667577	109800	229298	606972	1.00 100	4.00 300	10.0	20.0	50.0
Carbon disulfide	FB	Ave	14442 2078535	69302 6097723	173240	367780	1006656	1.00 100	4.00 300	10.0	20.0	50.0
Methyl acetate	FB	Ave	11354 1213868	41269 3469960	108990	219818	582432	1.00 100	4.00 300	10.0	20.0	50.0
Allyl chloride	FB	Ave	10165 1296574	47142 3715735	115077	239137	624332	1.00 100	4.00 300	10.0	20.0	50.0
Methylene Chloride	FB	Ave	6664 758867	27126 2176232	66511	139772	367894	1.00 100	4.00 300	10.0	20.0	50.0
t-Butyl alcohol	TBAd 10	Lin2	32214 961295	135608 2536426	178827	354688	472346	5.00 500	80.0 1500	100	200	250
Acrylonitrile	FB	Ave	4680 607745	20812 1752790	57162	100635	310222	1.00 100	4.00 300	10.0	20.0	50.0
Methyl tertiary butyl ether	FB	Ave	20563 2533191	90567 7230658	220684	453600	1223334	1.00 100	4.00 300	10.0	20.0	50.0
trans-1,2-Dichloroethene	FB	Ave	5791 746632	26956 2272102	64869	137794	362184	1.00 100	4.00 300	10.0	20.0	50.0
n-Hexane	FB	Ave	7562 1123505	43915 3346520	101159	205022	519689	1.00 100	4.00 300	10.0	20.0	50.0
1,1-Dichloroethane	FB	Ave	10089 1338269	48591 3903694	116993	245546	648201	1.00 100	4.00 300	10.0	20.0	50.0
di-Isopropyl ether	FB	Ave	21600 2760309	96174 7888644	244189	502264	1342361	1.00 100	4.00 300	10.0	20.0	50.0
2-Chloro-1,3-butadiene	FB	Ave	8661 1321635	45302 3997525	111159	237994	640060	1.00 100	4.00 300	10.0	20.0	50.0
Ethyl t-butyl ether	FB	Ave	20438 2520599	89955 6958151	229334	468565	1241126	1.00 100	4.00 300	10.0	20.0	50.0
2-Butanone	FB	Ave	14861 1781303	63253 5240801	165334	299158	909442	2.00 200	8.00 600	20.0	40.0	100
cis-1,2-Dichloroethene	FB	Ave	7151 868359	30013 2708710	75076	156363	416207	1.00 100	4.00 300	10.0	20.0	50.0
2,2-Dichloropropane	FB	Ave	7742 1127581	37363 3473868	93202	196179	541186	1.00 100	4.00 300	10.0	20.0	50.0
Propionitrile	TBAd 10	Ave	+++++ 1148510	165370 3355778	212812	419102	556290	+++++ 500	80.0 1500	100	200	250
Methacrylonitrile	FB	Ave	+++++ 1597706	222123 4873001	287117	576840	761845	+++++ 250	40.0 750	50.0	100	125
Bromochloromethane	FB	Ave	3762 490776	17516 1492632	42916	89640	232677	1.00 100	4.00 300	10.0	20.0	50.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 22126

SDG No.:

Instrument ID: 9355 GC Column: R-624SilMS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/14/2020 13:31 Calibration End Date: 07/14/2020 15:43 Calibration ID: 6832

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Tetrahydrofuran	TBAd 10	Ave	3882 495709	16796 1503267	44949	80057	248038	2.00 200	8.00 600	20.0	40.0	100
Chloroform	FB	Ave	10507 1367369	48252 4052077	121484	250637	666968	1.00 100	4.00 300	10.0	20.0	50.0
1,1,1-Trichloroethane	FB	Ave	8447 1169757	42936 3488794	102063	214666	572732	1.00 100	4.00 300	10.0	20.0	50.0
Cyclohexane	FB	Ave	8780 1343480	52476 3955213	116558	245706	638512	1.00 100	4.00 300	10.0	20.0	50.0
1,1-Dichloropropene	FB	Ave	7859 1058650	38430 3273921	94158	192424	518065	1.00 100	4.00 300	10.0	20.0	50.0
Carbon tetrachloride	FB	Ave	6650 1020498	34520 3208972	84842	178542	489930	1.00 100	4.00 300	10.0	20.0	50.0
Isobutyl alcohol	TBAd 10	Ave	+++++ 830130	120242 2422085	154021	312658	406071	+++++ 1250	200 3750	250	500	625
Benzene	FB	Ave	24987 3157782	115148 9417913	282104	583657	1548520	1.00 100	4.00 300	10.0	20.0	50.0
1,2-Dichloroethane	FB	Ave	10739 1156822	42323 3441318	105326	212187	562260	1.00 100	4.00 300	10.0	20.0	50.0
t-Amyl methyl ether	FB	Ave	21124 2544098	91467 6986541	230242	476034	1256085	1.00 100	4.00 300	10.0	20.0	50.0
n-Heptane	FB	Ave	9402 1323492	52315 4023292	121201	239343	605539	1.00 100	4.00 300	10.0	20.0	50.0
n-Butanol	TBAd 10	Lin	47562 1586968	220918 4447448	287934	600195	793903	25.0 2500	400 7500	500	1000	1250
Trichloroethene	FB	Ave	6040 851883	30558 2609490	74344	154304	411163	1.00 100	4.00 300	10.0	20.0	50.0
Methylcyclohexane	FB	Ave	9501 1577472	57383 5050336	129015	282257	705351	1.00 100	4.00 300	10.0	20.0	50.0
1,2-Dichloropropane	FB	Ave	6442 884255	29287 2894305	73898	153001	416515	1.00 100	4.00 300	10.0	20.0	50.0
t-Amyl ethyl ether	FB	Ave	9832 1445595	45340 4650359	114275	240901	671008	1.00 100	4.00 300	10.0	20.0	50.0
Methyl methacrylate	FB	Ave	7152 1021790	33417 3173543	84505	175875	482315	1.00 100	4.00 300	10.0	20.0	50.0
1,4-Dioxane	TBAd 10	Ave	+++++ 188591	25703 543076	33802	69153	93789	+++++ 1250	200 3750	250	500	625
Dibromomethane	FB	Ave	4252 589726	19666 1794407	49713	102991	281135	1.00 100	4.00 300	10.0	20.0	50.0
Bromodichloromethane	FB	Ave	7253 1063786	32878 3213865	85076	181176	503076	1.00 100	4.00 300	10.0	20.0	50.0
2-Nitropropane	TBAd 10	Ave	6539 1054138	29207 3172814	84764	160072	522790	2.00 200	8.00 600	20.0	40.0	100

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 22126

SDG No.:

Instrument ID: 9355 GC Column: R-624SilMS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/14/2020 13:31 Calibration End Date: 07/14/2020 15:43 Calibration ID: 6832

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
2-Chloroethyl vinyl ether	FB	Ave	5632 774793	26650 2357724	66444	139617	364380	1.00 100	4.00 300	10.0	20.0	50.0
cis-1,3-Dichloropropene	FB	Ave	8908 1346342	41787 4101710	110688	232637	644711	1.00 100	4.00 300	10.0	20.0	50.0
4-Methyl-2-pentanone	FB	Ave	26159 3640868	120610 10584071	324529	591979	1838563	2.00 200	8.00 600	20.0	40.0	100
Toluene	CBZd5	Ave	16006 2084757	72972 6428792	180591	371759	1008793	1.00 100	4.00 300	10.0	20.0	50.0
trans-1,3-Dichloropropene	CBZd5	Ave	8199 1343208	38646 4130283	104236	223810	630182	1.00 100	4.00 300	10.0	20.0	50.0
Ethyl methacrylate	CBZd5	Ave	10438 1649941	49864 5062938	132035	277941	777013	1.00 100	4.00 300	10.0	20.0	50.0
1,1,2-Trichloroethane	CBZd5	Ave	6348 821079	27984 2502669	71443	145522	392266	1.00 100	4.00 300	10.0	20.0	50.0
Tetrachloroethene	CBZd5	Ave	6942 1190863	36811 3400846	88272	188918	518451	1.00 100	4.00 300	10.0	20.0	50.0
1,3-Dichloropropane	CBZd5	Ave	10896 1399437	47906 4267833	122282	249019	671449	1.00 100	4.00 300	10.0	20.0	50.0
2-Hexanone	CBZd5	Ave	20973 2978398	96435 8723353	267077	485954	1519505	2.00 200	8.00 600	20.0	40.0	100
Dibromochloromethane	CBZd5	Ave	5017 899282	24536 2823968	67147	144047	417210	1.00 100	4.00 300	10.0	20.0	50.0
1,2-Dibromoethane	CBZd5	Ave	6890 938696	30878 2825797	80174	164539	446168	1.00 100	4.00 300	10.0	20.0	50.0
1-Chlorohexane	CBZd5	Ave	9611 1197393	43278 3841797	101046	209659	566951	1.00 100	4.00 300	10.0	20.0	50.0
Chlorobenzene	CBZd5	Ave	18231 2388843	82786 7582041	206690	421144	1146679	1.00 100	4.00 300	10.0	20.0	50.0
1,1,1,2-Tetrachloroethane	CBZd5	Ave	5110 892531	25322 3002805	66274	142314	404585	1.00 100	4.00 300	10.0	20.0	50.0
Ethylbenzene	CBZd5	Ave	30067 4307486	144280 12511499	355333	745701	2036482	1.00 100	4.00 300	10.0	20.0	50.0
m&p-Xylene	CBZd5	Ave	23018 3417116	112535 10589267	277429	578428	1594012	2.00 200	8.00 600	20.0	40.0	100
o-Xylene	CBZd5	Ave	11282 1673140	54317 5373565	134263	280578	783647	1.00 100	4.00 300	10.0	20.0	50.0
Styrene	CBZd5	Ave	17027 2939377	86532 9125223	222958	475696	1361860	1.00 100	4.00 300	10.0	20.0	50.0
Bromoform	CBZd5	Ave	+++++ 716545	16675 2347982	46697	105330	318132	+++++ 100	4.00 300	10.0	20.0	50.0
Isopropylbenzene	CBZd5	Ave	28454 4147796	143839 11567424	349800	731260	1994018	1.00 100	4.00 300	10.0	20.0	50.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 22126

SDG No.:

Instrument ID: 9355 GC Column: R-624SilMS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/14/2020 13:31 Calibration End Date: 07/14/2020 15:43 Calibration ID: 6832

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
Cyclohexanone	TBAd 10	Ave	26260 905377	121016 2719489	155269	337595	454615	50.0 1250	200 3750	250	500	625
1,1,2,2-Tetrachloroethane	DCBd 4	Ave	10548 1448329	47457 4569883	120395	253279	686096	1.00 100	4.00 300	10.0	20.0	50.0
trans-1,4-Dichloro-2-butene	DCBd 4	Ave	+++++ 1560970	179373 4490540	237679	517512	705303	+++++ 250	40.0 750	50.0	100	125
Bromobenzene	DCBd 4	Ave	8526 1240841	38137 3947661	92996	199064	551345	1.00 100	4.00 300	10.0	20.0	50.0
1,2,3-Trichloropropane	DCBd 4	Ave	3809 487398	16324 1565404	40845	83612	224745	1.00 100	4.00 300	10.0	20.0	50.0
N-Propylbenzene	DCBd 4	Ave	35546 4905953	175051 12644777	422053	881214	2374946	1.00 100	4.00 300	10.0	20.0	50.0
2-Chlorotoluene	DCBd 4	Ave	7245 1019817	34937 3300484	83945	175393	481022	1.00 100	4.00 300	10.0	20.0	50.0
1,3,5-Trimethylbenzene	DCBd 4	Ave	24194 3684392	122806 10653364	303316	635392	1749920	1.00 100	4.00 300	10.0	20.0	50.0
4-Chlorotoluene	DCBd 4	Ave	7730 1088418	36501 3578918	89752	188115	512562	1.00 100	4.00 300	10.0	20.0	50.0
tert-Butylbenzene	DCBd 4	Ave	5101 768348	26569 2543855	62672	130903	362990	1.00 100	4.00 300	10.0	20.0	50.0
Pentachloroethane	DCBd 4	Ave	3681 481063	16403 1990971	44379	91985	256181	1.00 100	4.00 300	10.0	20.0	50.0
1,2,4-Trimethylbenzene	DCBd 4	Ave	25718 3974258	126482 11331857	314663	662697	1851018	1.00 100	4.00 300	10.0	20.0	50.0
sec-Butylbenzene	DCBd 4	Ave	30806 4658502	162093 12113870	394879	818027	2217395	1.00 100	4.00 300	10.0	20.0	50.0
1,3-Dichlorobenzene	DCBd 4	Ave	15470 2295409	71414 6857744	175734	370007	1042101	1.00 100	4.00 300	10.0	20.0	50.0
p-Isopropyltoluene	DCBd 4	Ave	26222 4364748	135525 11703900	337853	717292	2004120	1.00 100	4.00 300	10.0	20.0	50.0
1,4-Dichlorobenzene	DCBd 4	Ave	16318 2359331	74789 7093452	184224	383189	1086333	1.00 100	4.00 300	10.0	20.0	50.0
1,2,3-Trimethylbenzene	DCBd 4	Ave	30322 4466248	142005 11971922	354314	750758	2055367	1.00 100	4.00 300	10.0	20.0	50.0
Benzyl chloride	DCBd 4	Ave	15740 3331310	81234 9788043	226805	505497	1504327	1.00 100	4.00 300	10.0	20.0	50.0
1,3-Diethylbenzene	DCBd 4	Ave	17348 2746331	89226 8271119	223178	477241	1281881	1.00 100	4.00 300	10.0	20.0	50.0
1,4-Diethylbenzene	DCBd 4	Ave	18208 2962085	95149 8872452	234999	502108	1356955	1.00 100	4.00 300	10.0	20.0	50.0
n-Butylbenzene	DCBd 4	Ave	14181 2214405	71218 6951595	177485	367591	1023440	1.00 100	4.00 300	10.0	20.0	50.0

FORM VI
GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 22126

SDG No.:

Instrument ID: 9355 GC Column: R-624SilMS ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/14/2020 13:31 Calibration End Date: 07/14/2020 15:43 Calibration ID: 6832

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5
1,2-Dichlorobenzene	DCBd 4	Ave	15331 2156071	68700 6767917	169705	353097	997924	1.00 100	4.00 300	10.0	20.0	50.0
1,2-Diethylbenzene	DCBd 4	Ave	15285 2349576	74471 7257771	188441	397553	1076485	1.00 100	4.00 300	10.0	20.0	50.0
1,2-Dibromo-3-Chloropropane	DCBd 4	Ave	2368 381467	10706 1209334	28651	61078	176820	1.00 100	4.00 300	10.0	20.0	50.0
1,3,5-Trichlorobenzene	DCBd 4	Ave	11389 1607462	52568 5169748	127586	266192	742384	1.00 100	4.00 300	10.0	20.0	50.0
1,2,4-Trichlorobenzene	DCBd 4	Ave	10741 1515817	48144 4800202	120524	250112	697924	1.00 100	4.00 300	10.0	20.0	50.0
Hexachlorobutadiene	DCBd 4	Ave	4804 646082	21714 2099547	52576	111064	293164	1.00 100	4.00 300	10.0	20.0	50.0
Naphthalene	DCBd 4	Ave	36320 5119364	165629 12676648	419587	875720	2424134	1.00 100	4.00 300	10.0	20.0	50.0
1,2,3-Trichlorobenzene	DCBd 4	Ave	10836 1441682	46838 4569301	116383	239992	664560	1.00 100	4.00 300	10.0	20.0	50.0
2-Methylnaphthalene	DCBd 4	Ave	22786 3408833	102227 9696108	264198	577557	1592726	1.00 100	4.00 300	10.0	20.0	50.0
Dibromofluoromethane (Surr)	FB	Ave	290290 317601	292322 321332	300298	307726	309390	50.0 50.0	50.0 50.0	50.0	50.0	50.0
1,2-Dichloroethane-d4 (Surr)	FB	Ave	72909 78501	72638 79661	75449	76874	77119	50.0 50.0	50.0 50.0	50.0	50.0	50.0
Toluene-d8 (Surr)	CBZd 5	Ave	1210419 1293689	1217343 1288395	1243985	1267133	1281783	50.0 50.0	50.0 50.0	50.0	50.0	50.0
4-Bromofluorobenzene (Surr)	CBZd 5	Ave	455635 501321	463932 498647	475615	486745	495565	50.0 50.0	50.0 50.0	50.0	50.0	50.0

Curve Type Legend:

Ave = Average ISTD
Lin = Linear ISTD
Lin2 = Linear 1/conc^2 ISTD

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I01.D
Lims ID: IC level7 300
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 14-Jul-2020 13:31:30 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0005480-003
Misc. Info.: IC LEVEL7 300
Operator ID: JTL32685 Instrument ID: 9355
Sublist: chrom-MSVoa_9355*sub2

Method: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 15-Jul-2020 11:00:07 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1014

First Level Reviewer: riehlc Date: 15-Jul-2020 11:00:07

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Dichlorodifluoromethane	85	2.038	2.050	-0.012	100	3732850	300.0	280.0	M
4 Chloromethane	50	2.238	2.251	-0.013	99	3758400	300.0	261.5	M
5 Butadiene	39	2.354	2.366	-0.012	90	2636925	300.0	253.3	M
6 Vinyl chloride	62	2.354	2.366	-0.012	98	3713529	300.0	276.3	
8 Bromomethane	94	2.682	2.701	-0.019	90	2664204	300.0	269.8	
9 Chloroethane	64	2.774	2.786	-0.012	100	2196679	300.0	274.7	
10 Dichlorofluoromethane	67	3.017	3.029	-0.012	98	5076783	300.0	269.5	
11 Trichlorofluoromethane	101	3.084	3.096	-0.012	100	4634866	300.0	281.8	
12 Pentane	43	3.133	3.151	-0.018	97	4306819	300.0	291.1	
14 Ethyl ether	59	3.346	3.364	-0.018	91	2643867	300.0	296.7	
15 1,2-Dichloro-1,1,2-trifluoroetha	67	3.413	3.425	-0.012	92	2532756	300.0	291.6	
16 Acrolein	56	3.516	3.534	-0.018	98	10982500	2999.9	3253.1	
17 1,1-Dichloroethene	96	3.668	3.686	-0.018	99	1879509	300.0	305.5	
18 Acetone	58	3.686	3.705	-0.018	99	882959	600.0	604.1	
19 1,1,2-Trichloro-1,2,2-trifluoroe	101	3.705	3.723	-0.018	93	2033883	300.0	311.3	
20 Isopropyl alcohol	45	3.857	3.863	-0.006	99	1530800	1500.0	1491.9	M
21 Iodomethane	142	3.881	3.893	-0.012	99	3667577	300.0	298.7	
22 Carbon disulfide	76	3.997	4.015	-0.018	100	6097723	300.0	306.7	
24 Methyl acetate	43	4.124	4.136	-0.012	98	3469960	300.0	283.9	
25 3-Chloro-1-propene	41	4.161	4.179	-0.018	89	3715735	300.0	288.4	
* 26 t-Butyl alcohol-d10 (IS)	65	4.349	4.355	-0.006	85	357709	250.0	250.0	M
27 Methylene Chloride	84	4.355	4.368	-0.013	93	2176232	300.0	285.2	
28 2-Methyl-2-propanol	59	4.477	4.489	-0.012	98	2536426	1500.0	1496.9	
30 Acrylonitrile	53	4.672	4.690	-0.018	98	1752790	300.0	292.5	
31 Methyl tert-butyl ether	73	4.769	4.781	-0.012	97	7230658	300.0	288.7	
32 trans-1,2-Dichloroethene	96	4.787	4.800	-0.013	99	2272102	300.0	305.0	
33 Hexane	57	5.207	5.225	-0.018	95	3346520	300.0	301.9	
36 1,1-Dichloroethane	63	5.432	5.444	-0.012	97	3903694	300.0	295.0	
37 Isopropyl ether	45	5.493	5.499	-0.006	92	7888644	300.0	289.9	
38 2-Chloro-1,3-butadiene	53	5.542	5.560	-0.018	93	3997525	300.0	314.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
39 Tert-butyl ethyl ether	59	6.028	6.041	-0.013	97	6958151	300.0	276.6	
S 40 1,2-Dichloroethene, Total	100				0			617.8	
41 2-Butanone (MEK)	43	6.223	6.217	0.006	100	5240801	600.0	585.8	
42 cis-1,2-Dichloroethene	96	6.266	6.272	-0.006	85	2708710	300.0	312.9	
44 2,2-Dichloropropane	77	6.284	6.284	0.000	89	3473868	300.0	322.1	
45 Propionitrile	54	6.296	6.296	0.000	99	3355778	1500.0	1511.1	
46 Methacrylonitrile	67	6.527	6.527	0.000	93	4873001	750.0	755.5	
47 Chlorobromomethane	128	6.600	6.606	-0.006	95	1492632	300.0	307.0	
48 Tetrahydrofuran	71	6.619	6.619	0.000	89	1503267	600.0	647.1	
49 Chloroform	83	6.740	6.752	-0.012	96	4052077	300.0	298.6	
$ 50 Dibromofluoromethane (Surr)	113	6.959	6.965	-0.006	92	321332	50.0	48.5	
51 1,1,1-Trichloroethane	97	6.984	6.990	-0.006	98	3488794	300.0	301.3	
52 Cyclohexane	56	7.093	7.099	-0.006	92	3955213	300.0	300.2	
53 1,1-Dichloropropene	75	7.197	7.203	-0.007	95	3273921	300.0	309.9	
54 Carbon tetrachloride	117	7.203	7.203	0.000	99	3208972	300.0	328.2	
55 Isobutyl alcohol	41	7.312	7.306	0.006	93	2422085	3750.0	3743.5	
$ 56 1,2-Dichloroethane-d4 (Surr)	102	7.428	7.428	0.000	97	79661	50.0	48.2	
57 Benzene	78	7.458	7.464	-0.006	97	9417913	300.0	296.9	
59 1,2-Dichloroethane	62	7.525	7.531	-0.006	98	3441318	300.0	289.5	
60 Tert-amyl methyl ether	73	7.647	7.647	0.000	97	6986541	300.0	274.0	
* 62 Fluorobenzene (IS)	96	7.860	7.860	0.000	99	1375992	50.0	50.0	
63 n-Heptane	43	7.872	7.878	-0.006	91	4023292	300.0	304.9	
64 n-Butanol	56	8.194	8.188	0.006	90	4447448	7500.0	7468.8	M
65 Trichloroethene	95	8.340	8.346	-0.006	99	2609490	300.0	311.3	
66 Methylcyclohexane	83	8.663	8.663	0.000	95	5050336	300.0	335.6	
67 1,2-Dichloropropane	63	8.675	8.675	0.000	86	2894305	300.0	337.3	
34 2-ethoxy-2-methyl butane	87	8.675	8.675	0.000	92	4650359	300.0	342.8	
68 Methyl methacrylate	69	8.742	8.742	0.000	90	3173543	300.0	325.5	
69 1,4-Dioxane	88	8.760	8.760	0.000	89	543076	3750.0	3767.5	M
70 Dibromomethane	93	8.784	8.790	-0.006	97	1794407	300.0	315.9	
72 Dichlorobromomethane	83	9.016	9.015	0.001	99	3213865	300.0	323.3	
73 2-Nitropropane	41	9.259	9.259	0.000	99	3172814	600.0	697.9	
74 2-Chloroethyl vinyl ether	63	9.362	9.362	0.000	93	2357724	300.0	312.7	
75 cis-1,3-Dichloropropene	75	9.551	9.551	0.000	94	4101710	300.0	324.0	
76 4-Methyl-2-pentanone (MIBK)	43	9.703	9.703	0.000	95	10584071	600.0	604.1	
$ 77 Toluene-d8 (Surr)	98	9.855	9.855	0.000	94	1288395	50.0	43.8	
78 Toluene	92	9.934	9.934	0.000	98	6428792	300.0	289.9	
S 79 1,3-Dichloropropene, Total	100				0			638.9	
80 trans-1,3-Dichloropropene	75	10.177	10.177	0.000	95	4130283	300.0	314.9	
81 Ethyl methacrylate	69	10.232	10.232	0.000	89	5062938	300.0	309.0	
82 1,1,2-Trichloroethane	97	10.384	10.384	0.000	92	2502669	300.0	288.5	
83 Tetrachloroethene	166	10.482	10.482	0.000	96	3400846	300.0	301.7	
84 1,3-Dichloropropane	76	10.542	10.542	0.000	93	4267833	300.0	287.6	
86 2-Hexanone	43	10.579	10.579	0.000	95	8723353	600.0	566.4	
88 Chlorodibromomethane	129	10.761	10.761	0.000	90	2823968	300.0	330.2	
89 Ethylene Dibromide	107	10.877	10.877	0.000	98	2825797	300.0	290.3	
S 90 Xylenes, Total	106				0			926.5	
* 91 Chlorobenzene-d5 (IS)	117	11.303	11.297	0.006	90	1162675	50.0	50.0	
92 1-Chlorohexane	91	11.303	11.303	0.000	98	3841797	300.0	299.6	
93 Chlorobenzene	112	11.327	11.327	0.000	93	7582041	300.0	298.7	
94 1,1,1,2-Tetrachloroethane	131	11.406	11.406	0.000	96	3002805	300.0	348.9	
95 Ethylbenzene	91	11.412	11.406	0.006	97	12511499	300.0	284.6	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
96 m-Xylene & p-Xylene	106	11.522	11.522	0.000	89	10589267	600.0	610.5	
97 o-Xylene	106	11.850	11.850	0.000	95	5373565	300.0	316.0	
98 Styrene	104	11.863	11.863	0.000	93	9125223	300.0	321.3	
99 Bromoform	173	12.027	12.027	0.000	96	2347982	300.0	349.1	
100 Isopropylbenzene	105	12.149	12.149	0.001	97	11567424	300.0	271.6	
102 Cyclohexanone	55	12.222	12.222	0.000	94	2719489	3750.1	4012.0	
$ 103 4-Bromofluorobenzene (Surr)	95	12.295	12.295	0.001	88	498647	50.0	44.2	
104 1,1,2,2-Tetrachloroethane	83	12.386	12.386	0.000	97	4569883	300.0	317.4	
106 trans-1,4-Dichloro-2-butene	53	12.410	12.410	0.000	85	4490540	750.0	760.4	
105 Bromobenzene	156	12.410	12.410	0.000	93	3947661	300.0	336.6	
107 1,2,3-Trichloropropane	110	12.434	12.434	0.000	87	1565404	300.0	320.0	
108 N-Propylbenzene	91	12.477	12.477	0.000	94	12644777	300.0	260.3	
109 2-Chlorotoluene	126	12.556	12.556	0.000	97	3300484	300.0	324.7	
110 1,3,5-Trimethylbenzene	105	12.611	12.611	0.000	96	10653364	300.0	298.6	
111 4-Chlorotoluene	126	12.647	12.647	0.000	96	3578918	300.0	329.9	
113 tert-Butylbenzene	134	12.854	12.854	0.000	91	2543855	300.0	334.0	
114 Pentachloroethane	167	12.891	12.891	0.000	89	1990971	300.0	376.4	
115 1,2,4-Trimethylbenzene	105	12.897	12.897	0.000	95	11331857	300.0	301.5	
116 sec-Butylbenzene	105	13.018	13.018	0.000	95	12113870	300.0	268.5	
117 1,3-Dichlorobenzene	146	13.122	13.122	0.000	95	6857744	300.0	317.3	
118 4-Isopropyltoluene	119	13.128	13.122	0.006	92	11703900	300.0	291.7	
* 119 1,4-Dichlorobenzene-d4	152	13.177	13.177	0.000	91	589320	50.0	50.0	
121 1,4-Dichlorobenzene	146	13.195	13.195	0.000	93	7093452	300.0	315.3	
120 1,2,3-Trimethylbenzene	105	13.201	13.201	0.000	94	11971922	300.0	284.3	
122 Benzyl chloride	91	13.268	13.262	0.006	99	9788043	300.0	344.5	
123 1,3-Diethylbenzene	119	13.323	13.323	0.000	92	8271119	300.0	312.7	
124 p-Diethylbenzene	119	13.396	13.396	0.000	94	8872452	300.0	315.8	
125 n-Butylbenzene	92	13.420	13.414	0.006	93	6951595	300.0	327.1	
126 1,2-Dichlorobenzene	146	13.450	13.450	0.000	96	6767917	300.0	324.7	
127 o-diethylbenzene	119	13.469	13.469	0.000	96	7257771	300.0	322.3	
129 1,2-Dibromo-3-Chloropropane	75	13.992	13.992	0.000	85	1209334	300.0	341.7	
130 1,3,5-Trichlorobenzene	180	14.126	14.120	0.006	97	5169748	300.0	329.6	
131 1,2,4-Trichlorobenzene	180	14.545	14.545	0.000	95	4800202	300.0	326.9	
132 Hexachlorobutadiene	225	14.625	14.625	0.000	99	2099547	300.0	327.2	
133 Naphthalene	128	14.728	14.728	0.000	98	12676648	300.0	260.2	
134 1,2,3-Trichlorobenzene	180	14.874	14.868	0.006	96	4569301	300.0	322.5	
135 2-Methylnaphthalene	142	15.519	15.519	0.000	90	9696108	300.0	302.2	
S 146 Total Diethylbenzene	1				0			950.9	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MSV_VCYC_00002	Amount Added:	30.00	Units: uL	
MSV_V_EE_00003	Amount Added:	15.00	Units: uL	
MSV_DCFM_00018	Amount Added:	7.50	Units: uL	
MSV_V_2CEVE_00086	Amount Added:	15.00	Units: uL	
MSV_V_VOA1_00074	Amount Added:	15.00	Units: uL	
MSV_V_VOA3_00036	Amount Added:	6.00	Units: uL	
MSV_V_VOA6_00043	Amount Added:	15.00	Units: uL	
MSV_V_Gas_00108	Amount Added:	7.50	Units: uL	
MSV_HP20_ISSS_00016	Amount Added:	1.00	Units: uL	Run Reagent

Report Date: 15-Jul-2020 11:00:09 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I01.D

Injection Date: 14-Jul-2020 13:31:30 Instrument ID: 9355 Operator ID: JTL32685

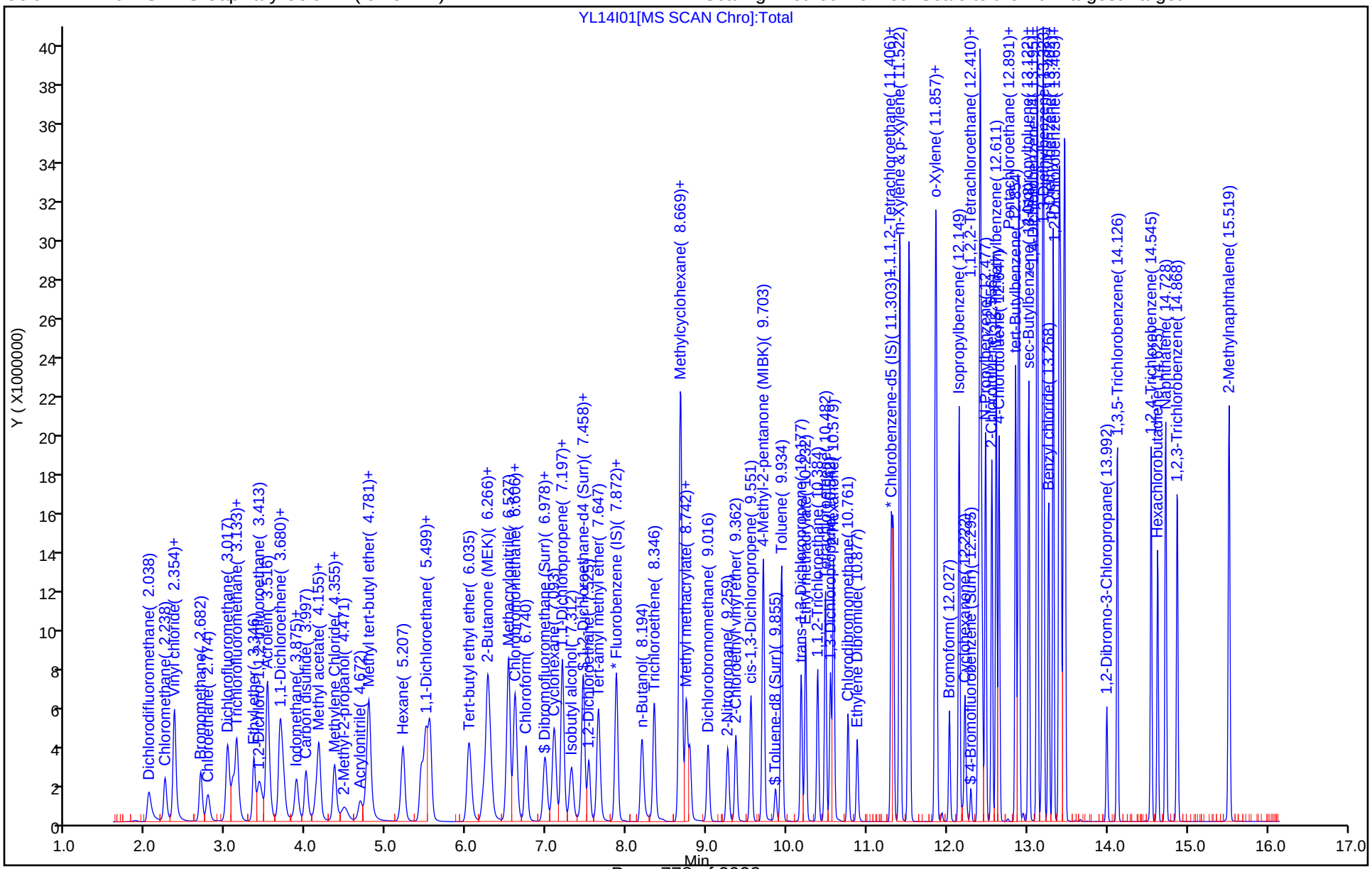
Lims ID: IC level7 300 Worklist Smp#: 3

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 2

Method: MSVoa_9355 Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

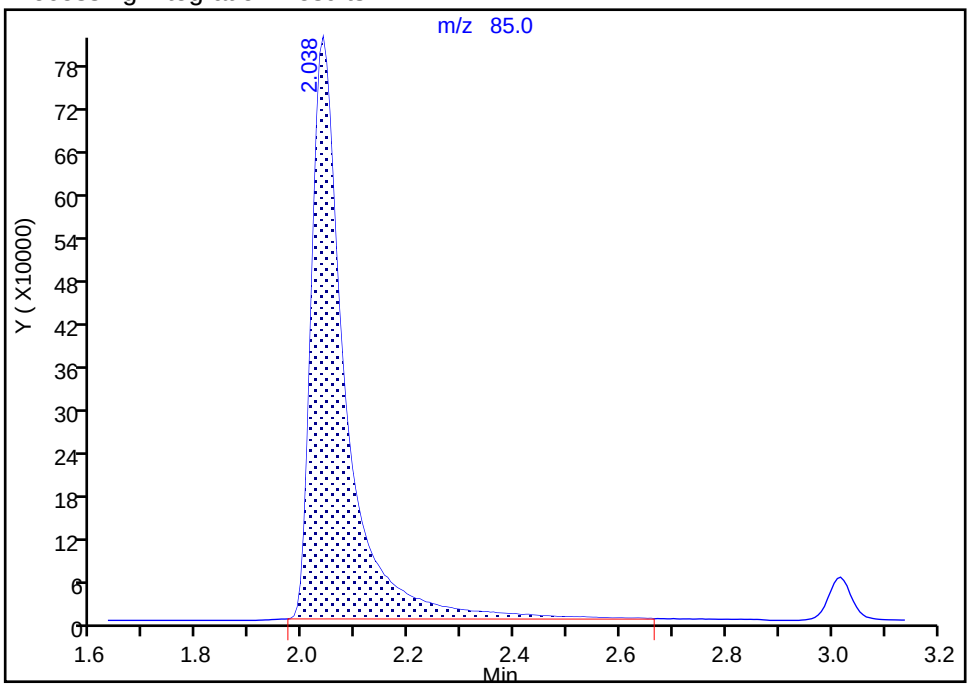
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I01.D
Injection Date: 14-Jul-2020 13:31:30 Instrument ID: 9355
Lims ID: IC level7 300
Client ID:
Operator ID: JTL32685 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

2 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

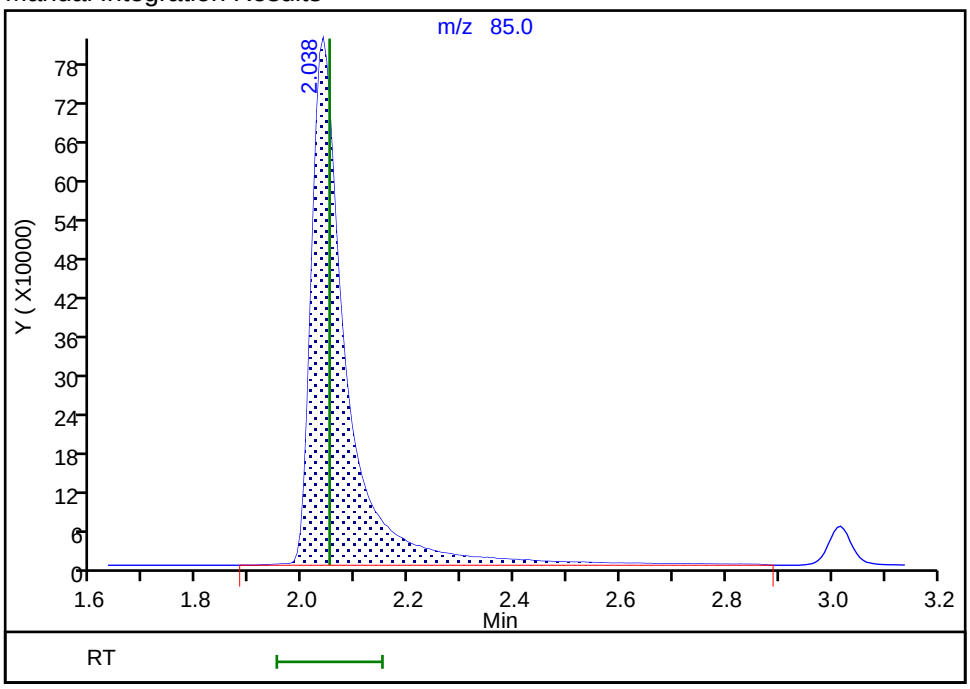
Processing Integration Results

RT: 2.04
Area: 3627749
Amount: 280.0473
Amount Units: ug/l



Manual Integration Results

RT: 2.04
Area: 3732850
Amount: 279.9551
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:20:16
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

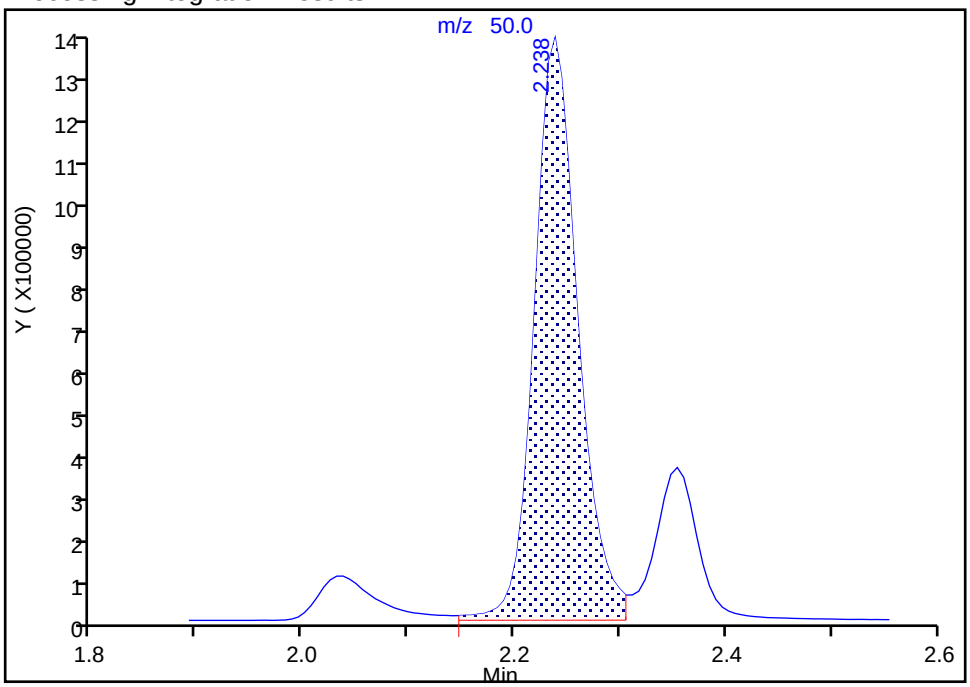
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I01.D
Injection Date: 14-Jul-2020 13:31:30 Instrument ID: 9355
Lims ID: IC level7 300
Client ID:
Operator ID: JTL32685 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

4 Chloromethane, CAS: 74-87-3

Signal: 1

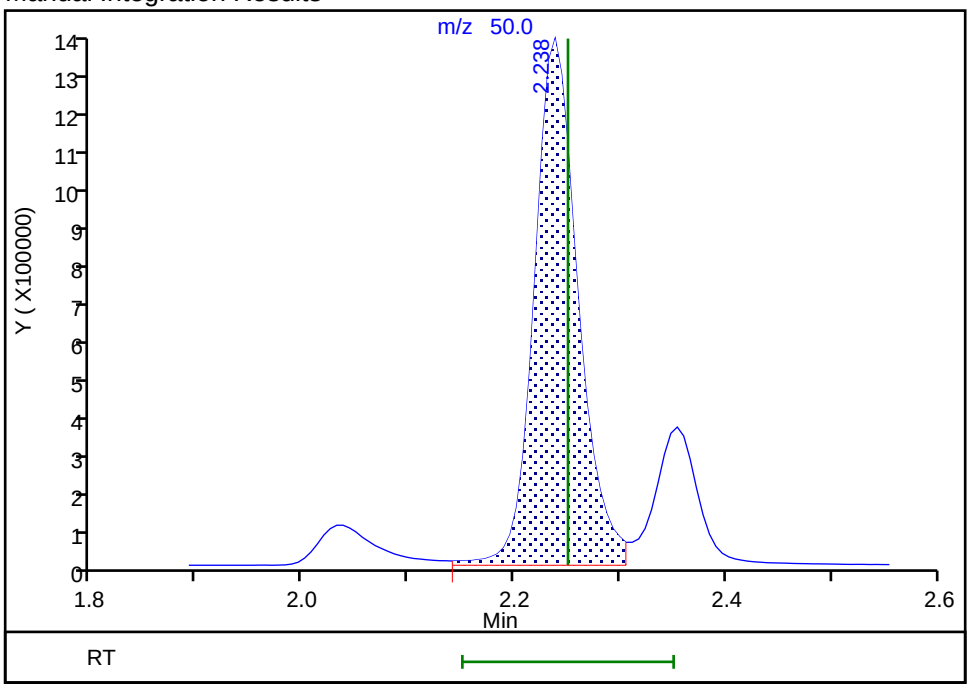
Processing Integration Results

RT: 2.24
Area: 3750446
Amount: 261.7909
Amount Units: ug/l



Manual Integration Results

RT: 2.24
Area: 3758400
Amount: 261.5178
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:21:09
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

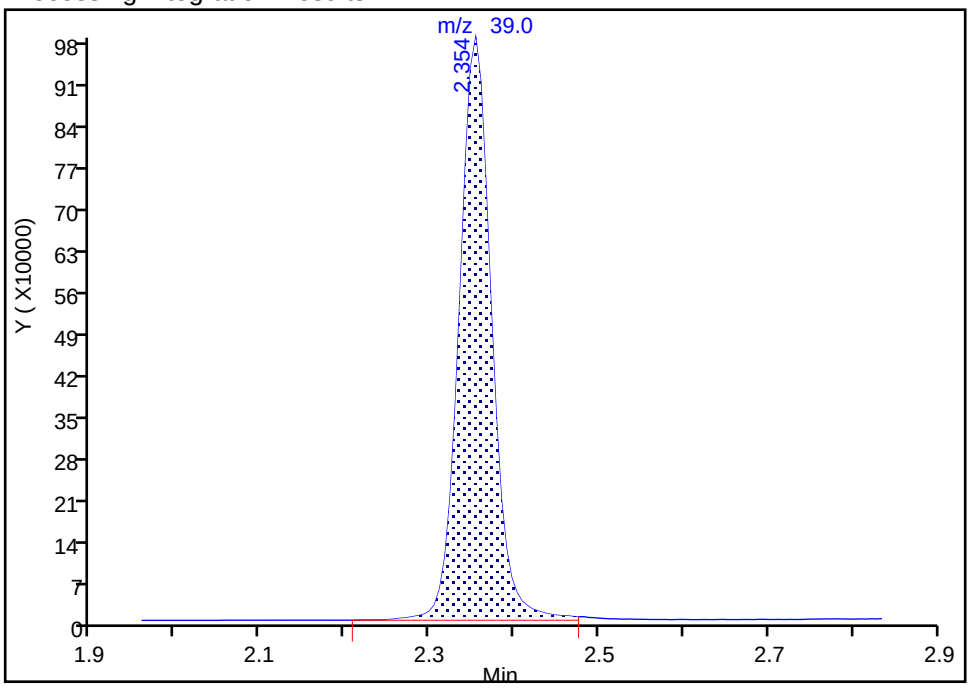
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I01.D
Injection Date: 14-Jul-2020 13:31:30 Instrument ID: 9355
Lims ID: IC level7 300
Client ID:
Operator ID: JTL32685 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

5 Butadiene, CAS: 106-99-0

Signal: 1

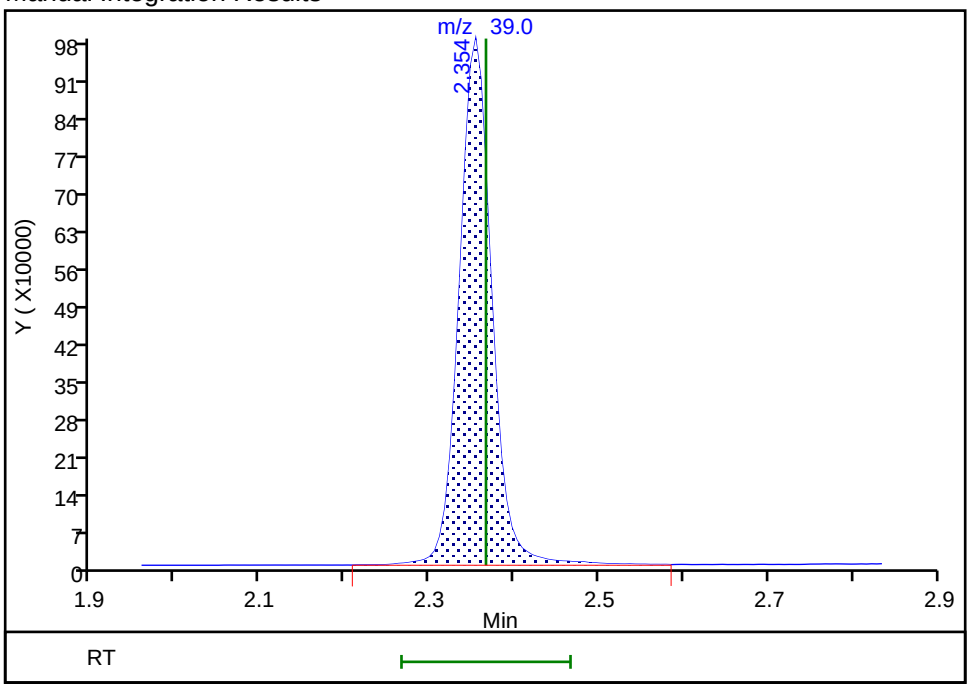
Processing Integration Results

RT: 2.35
Area: 2615192
Amount: 255.3153
Amount Units: ug/l



Manual Integration Results

RT: 2.35
Area: 2636925
Amount: 253.3006
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:21:46
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

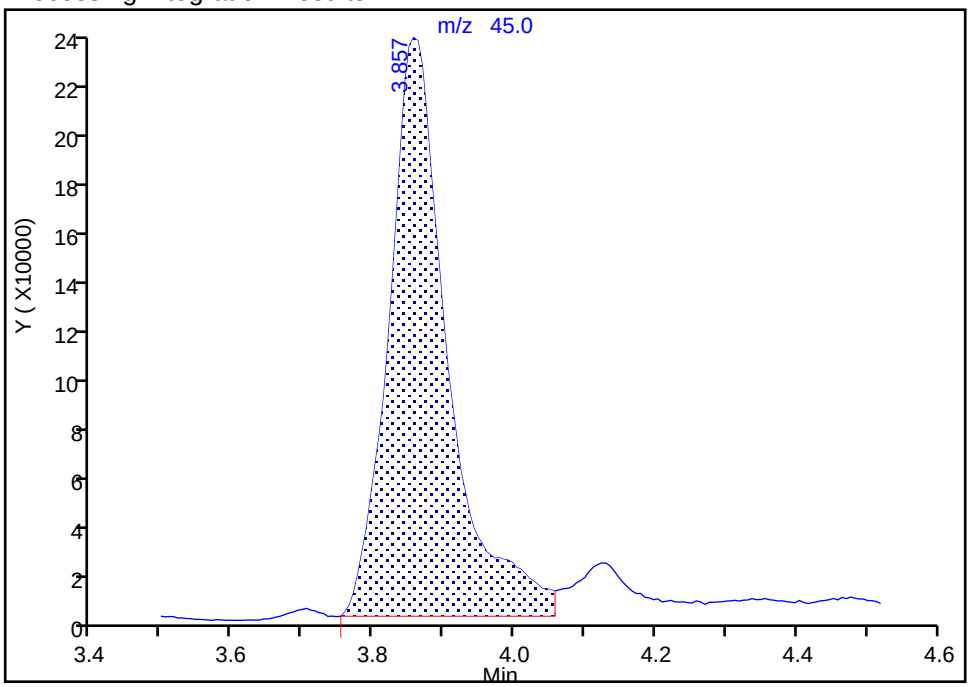
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I01.D
Injection Date: 14-Jul-2020 13:31:30 Instrument ID: 9355
Lims ID: IC level7 300
Client ID:
Operator ID: JTL32685 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

20 Isopropyl alcohol, CAS: 67-63-0

Signal: 1

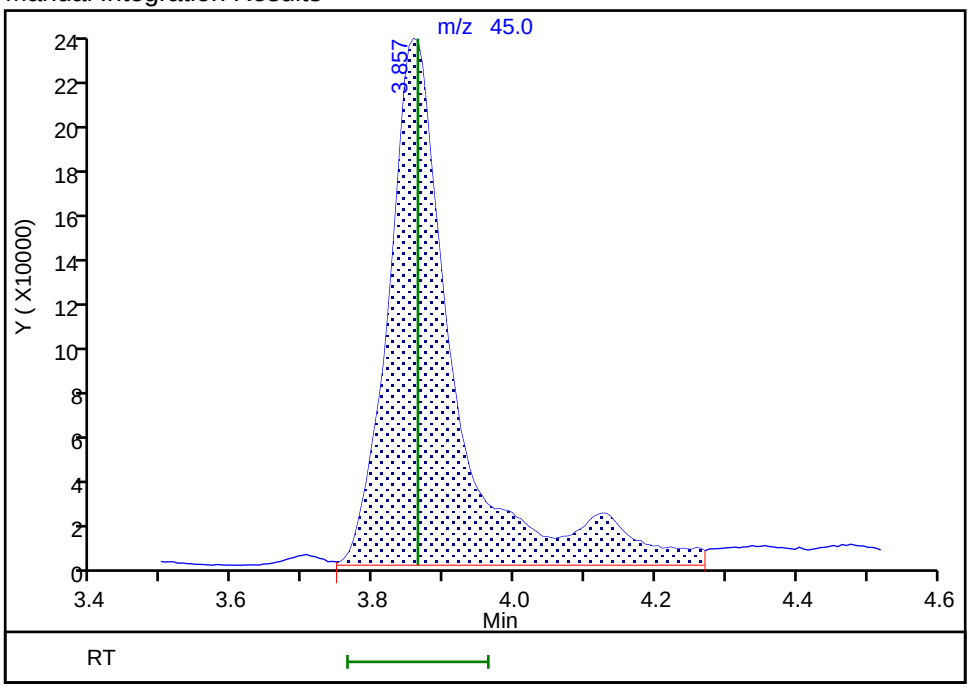
Processing Integration Results

RT: 3.86
Area: 1338840
Amount: 1420.3009
Amount Units: ug/l



Manual Integration Results

RT: 3.86
Area: 1530800
Amount: 1491.8660
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:47:03
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

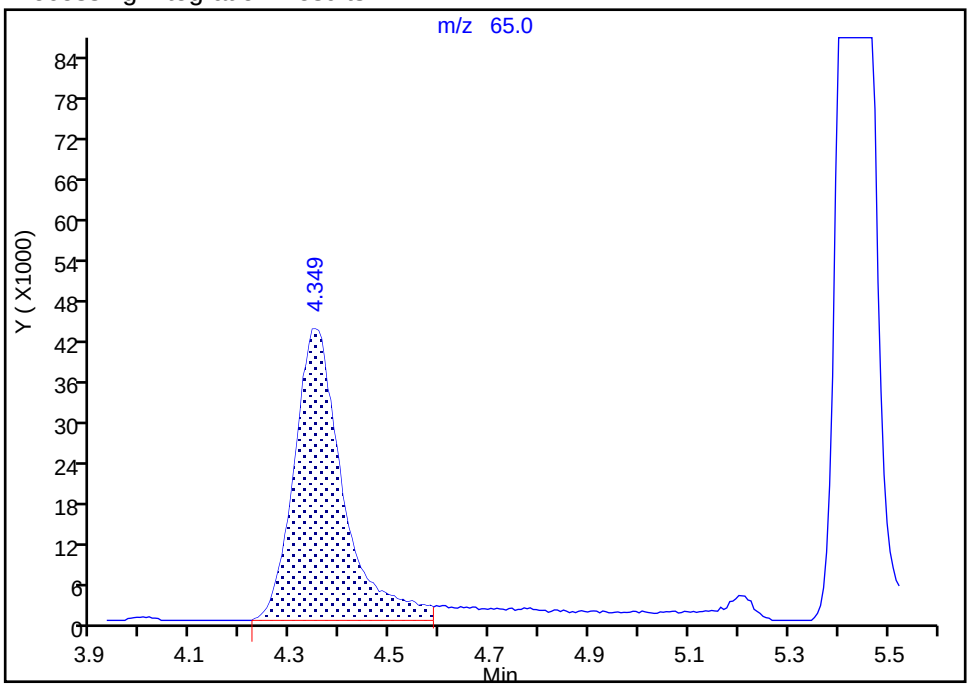
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I01.D
Injection Date: 14-Jul-2020 13:31:30 Instrument ID: 9355
Lims ID: IC level7 300
Client ID:
Operator ID: JTL32685 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

* 26 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2

Signal: 1

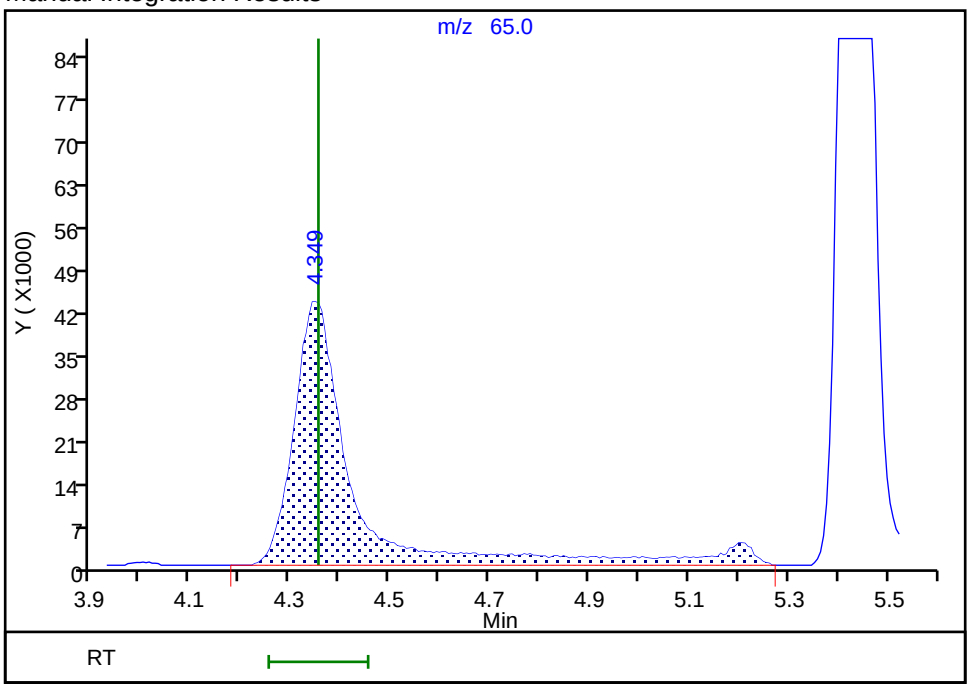
Processing Integration Results

RT: 4.35
Area: 293852
Amount: 250.0000
Amount Units: ug/l



Manual Integration Results

RT: 4.35
Area: 357709
Amount: 250.0000
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:22:22
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

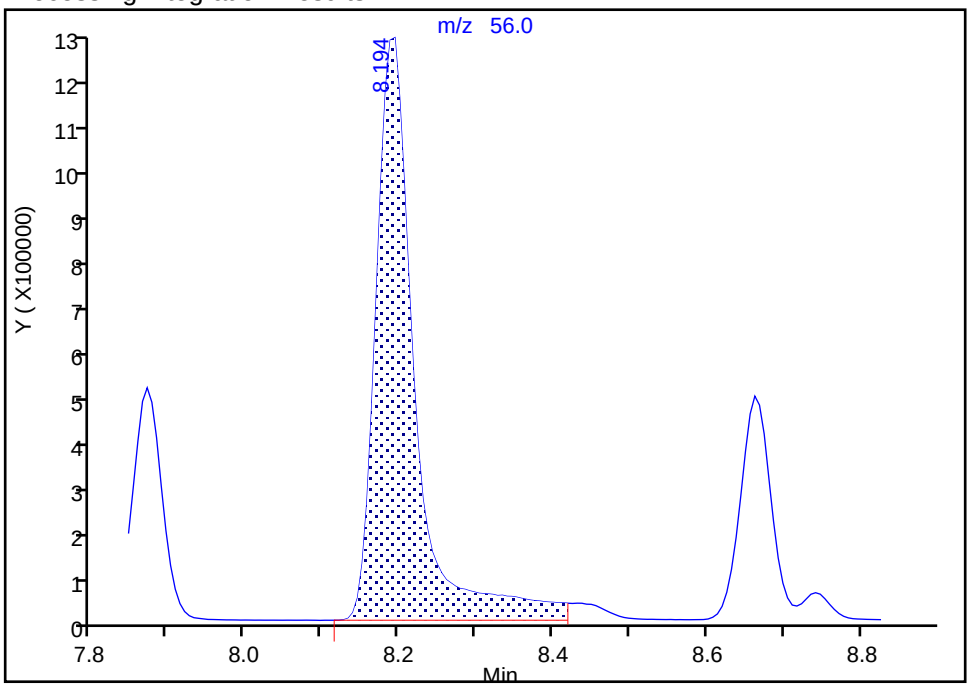
Data File:	\\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I01.D				
Injection Date:	14-Jul-2020 13:31:30	Instrument ID:	9355		
Lims ID:	IC level7 300				
Client ID:					
Operator ID:	JTL32685	ALS Bottle#:	2	Worklist Smp#:	3
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

64 n-Butanol, CAS: 71-36-3

Signal: 1

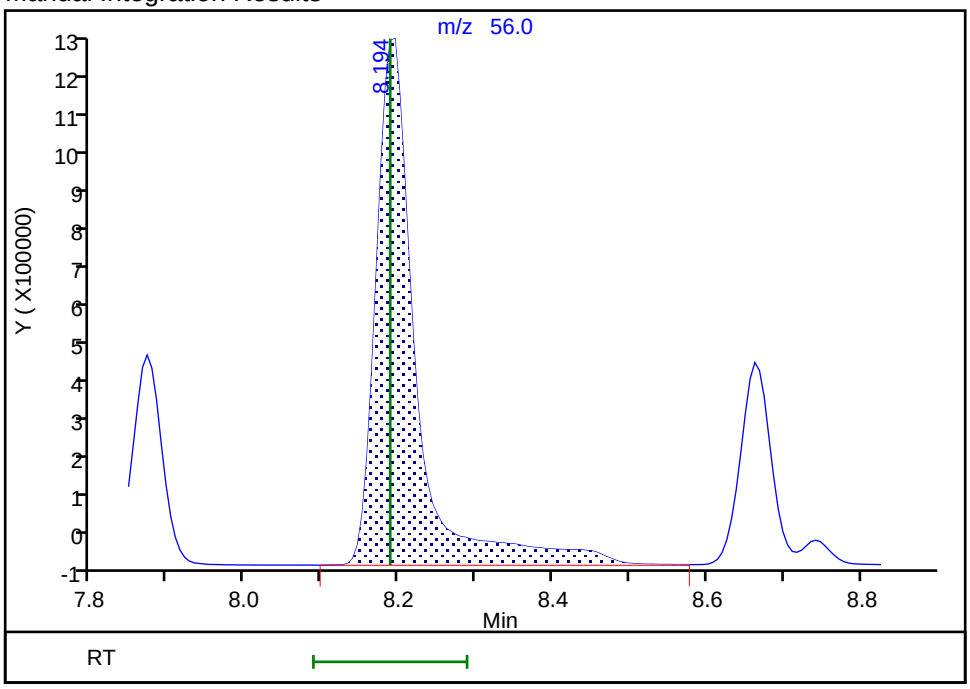
Processing Integration Results

RT: 8.19
Area: 4319847
Amount: 6909.5176
Amount Units: ug/l



Manual Integration Results

RT: 8.19
Area: 4447448
Amount: 7468.7756
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:23:08
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

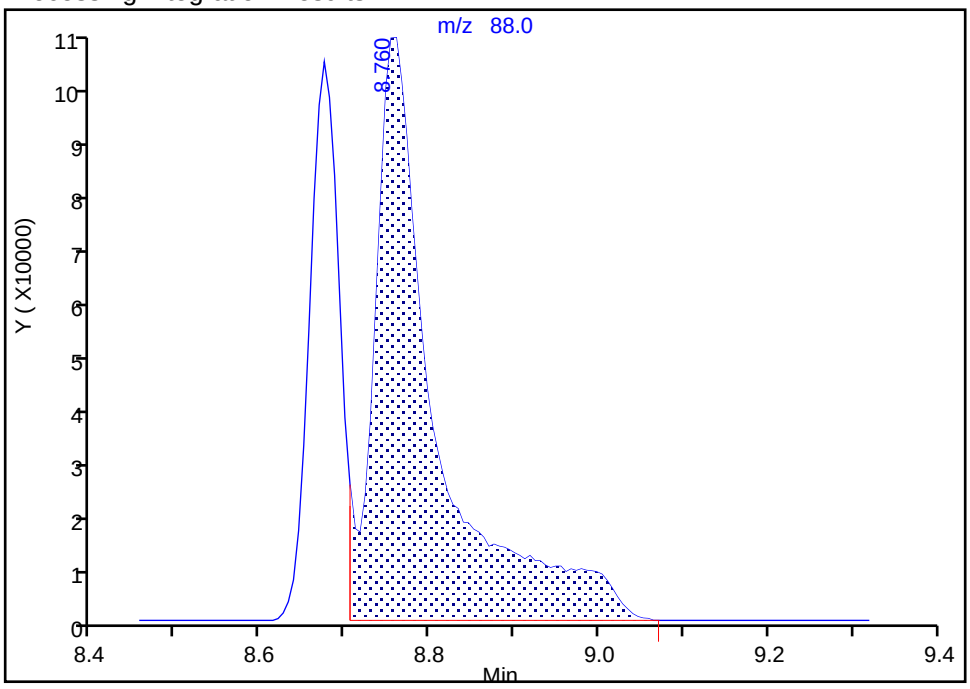
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I01.D
Injection Date: 14-Jul-2020 13:31:30 Instrument ID: 9355
Lims ID: IC level7 300
Client ID:
Operator ID: JTL32685 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

69 1,4-Dioxane, CAS: 123-91-1

Signal: 1

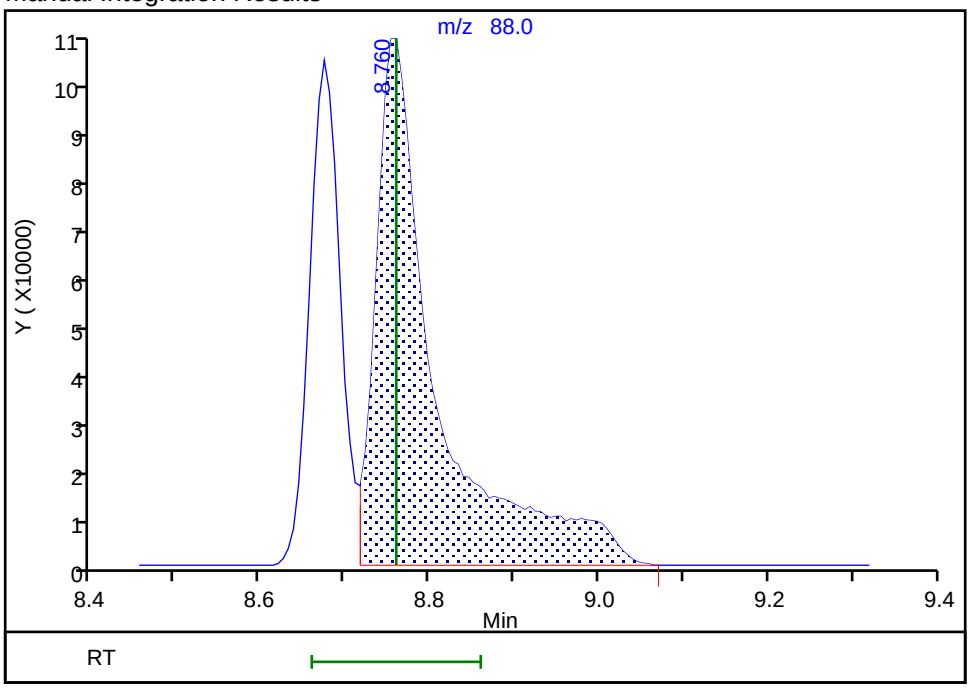
Processing Integration Results

RT: 8.76
Area: 558575
Amount: 2692.8503
Amount Units: ug/l



Manual Integration Results

RT: 8.76
Area: 543076
Amount: 3767.4611
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:24:31
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I02.D
Lims ID: IC std6 100
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 14-Jul-2020 13:53:30 ALS Bottle#: 3 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0005480-004
Misc. Info.: IC STD6 100
Operator ID: JTL32685 Instrument ID: 9355
Sublist: chrom-MSVoa_9355*sub2

Method: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 15-Jul-2020 11:00:21 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1014

First Level Reviewer: campbellme Date: 14-Jul-2020 18:29:53

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Dichlorodifluoromethane	85	2.050	2.050	0.000	100	1362042	100.0	106.8	M
4 Chloromethane	50	2.251	2.251	0.000	100	1351062	100.0	98.3	M
5 Butadiene	39	2.366	2.366	0.000	93	920841	100.0	92.5	
6 Vinyl chloride	62	2.372	2.366	0.006	99	1321792	100.0	102.8	
8 Bromomethane	94	2.701	2.701	0.000	90	967676	100.0	102.5	
9 Chloroethane	64	2.792	2.786	0.006	100	781161	100.0	102.1	
10 Dichlorofluoromethane	67	3.029	3.029	0.000	98	1840370	100.0	102.1	
11 Trichlorofluoromethane	101	3.102	3.096	0.006	100	1633629	100.0	103.8	
12 Pentane	43	3.151	3.151	0.000	97	1451670	100.0	102.6	
14 Ethyl ether	59	3.358	3.364	-0.006	93	876024	100.0	102.8	
15 1,2-Dichloro-1,1,2-trifluoroetha	67	3.425	3.425	0.000	93	860396	100.0	103.6	
16 Acrolein	56	3.528	3.534	-0.006	99	3629305	1000.0	1065.2	
17 1,1-Dichloroethene	96	3.686	3.686	0.000	99	620932	100.0	105.5	
18 Acetone	58	3.698	3.705	-0.006	99	303647	200.0	205.8	
19 1,1,2-Trichloro-1,2,2-trifluoroe	101	3.723	3.723	0.000	94	679521	100.0	108.7	
20 Isopropyl alcohol	45	3.863	3.863	0.000	99	555028	500.0	536.0	M
21 Iodomethane	142	3.893	3.893	0.000	99	1243443	100.0	105.9	
22 Carbon disulfide	76	4.009	4.015	-0.006	100	2078535	100.0	109.3	
24 Methyl acetate	43	4.136	4.136	0.000	98	1213868	100.0	103.8	
25 3-Chloro-1-propene	41	4.173	4.179	-0.006	89	1296574	100.0	105.2	
* 26 t-Butyl alcohol-d10 (IS)	65	4.362	4.355	0.007	86	361012	250.0	250.0	M
27 Methylene Chloride	84	4.368	4.368	0.000	93	758867	100.0	104.0	M
28 2-Methyl-2-propanol	59	4.489	4.489	0.000	98	961295	500.0	551.9	
30 Acrylonitrile	53	4.684	4.690	-0.006	99	607745	100.0	106.0	
31 Methyl tert-butyl ether	73	4.781	4.781	0.000	96	2533191	100.0	105.7	
32 trans-1,2-Dichloroethene	96	4.800	4.800	0.000	99	746632	100.0	104.8	
33 Hexane	57	5.219	5.225	-0.006	96	1123505	100.0	106.0	
36 1,1-Dichloroethane	63	5.444	5.444	0.000	97	1338269	100.0	105.7	
37 Isopropyl ether	45	5.505	5.499	0.006	94	2760309	100.0	106.0	
38 2-Chloro-1,3-butadiene	53	5.560	5.560	0.000	94	1321635	100.0	108.7	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
39 Tert-butyl ethyl ether	59	6.041	6.041	0.000	97	2520599	100.0	104.7	
S 40 1,2-Dichloroethene, Total	100				0			209.6	
41 2-Butanone (MEK)	43	6.229	6.217	0.012	100	1781303	200.0	208.2	
42 cis-1,2-Dichloroethene	96	6.272	6.272	0.000	85	868359	100.0	104.8	
44 2,2-Dichloropropane	77	6.290	6.284	0.006	90	1127581	100.0	109.3	
45 Propionitrile	54	6.302	6.296	0.006	99	1148510	500.0	512.5	
46 Methacrylonitrile	67	6.527	6.527	0.000	92	1597706	250.0	258.9	
47 Chlorobromomethane	128	6.606	6.606	0.000	96	490776	100.0	105.5	
48 Tetrahydrofuran	71	6.619	6.619	0.000	91	495709	200.0	211.4	
49 Chloroform	83	6.752	6.752	0.000	96	1367369	100.0	105.3	
$ 50 Dibromofluoromethane (Surr)	113	6.965	6.965	0.000	93	317601	50.0	50.1	
51 1,1,1-Trichloroethane	97	6.990	6.990	0.000	98	1169757	100.0	105.6	
52 Cyclohexane	56	7.099	7.099	0.000	93	1343480	100.0	106.6	
53 1,1-Dichloropropene	75	7.203	7.203	0.000	97	1058650	100.0	104.8	
54 Carbon tetrachloride	117	7.209	7.203	0.006	99	1020498	100.0	109.1	
55 Isobutyl alcohol	41	7.312	7.306	0.006	93	830130	1250.0	1271.3	
$ 56 1,2-Dichloroethane-d4 (Surr)	102	7.428	7.428	0.000	98	78501	50.0	49.7	
57 Benzene	78	7.464	7.464	0.000	97	3157782	100.0	104.1	
59 1,2-Dichloroethane	62	7.531	7.531	0.000	98	1156822	100.0	101.7	
60 Tert-amyl methyl ether	73	7.647	7.647	0.000	97	2544098	100.0	104.3	
* 62 Fluorobenzene (IS)	96	7.866	7.860	0.006	99	1316244	50.0	50.0	
63 n-Heptane	43	7.878	7.878	0.000	92	1323492	100.0	104.9	
64 n-Butanol	56	8.188	8.188	0.000	90	1586968	2500.0	2606.3	M
65 Trichloroethene	95	8.346	8.346	0.000	98	851883	100.0	106.2	
66 Methylcyclohexane	83	8.669	8.663	0.006	95	1577472	100.0	109.6	
67 1,2-Dichloropropane	63	8.675	8.675	0.000	69	884255	100.0	107.7	
34 2-ethoxy-2-methyl butane	87	8.681	8.675	0.006	93	1445595	100.0	111.4	
68 Methyl methacrylate	69	8.742	8.742	0.000	91	1021790	100.0	109.5	
69 1,4-Dioxane	88	8.760	8.760	0.000	91	188591	1250.0	1296.3	M
70 Dibromomethane	93	8.790	8.790	0.000	96	589726	100.0	108.5	
72 Dichlorobromomethane	83	9.016	9.015	0.001	99	1063786	100.0	111.9	
73 2-Nitropropane	41	9.259	9.259	0.000	99	1054138	200.0	229.8	
74 2-Chloroethyl vinyl ether	63	9.362	9.362	0.000	93	774793	100.0	107.4	
75 cis-1,3-Dichloropropene	75	9.551	9.551	0.000	93	1346342	100.0	111.2	
76 4-Methyl-2-pentanone (MIBK)	43	9.703	9.703	0.000	97	3640868	200.0	217.2	
$ 77 Toluene-d8 (Surr)	98	9.861	9.855	0.006	94	1293689	50.0	49.0	
78 Toluene	92	9.934	9.934	0.000	97	2084757	100.0	104.7	
S 79 1,3-Dichloropropene, Total	100				0			225.2	
80 trans-1,3-Dichloropropene	75	10.177	10.177	0.000	96	1343208	100.0	114.0	
81 Ethyl methacrylate	69	10.232	10.232	0.000	90	1649941	100.0	112.1	
82 1,1,2-Trichloroethane	97	10.384	10.384	0.000	92	821079	100.0	105.4	
83 Tetrachloroethene	166	10.482	10.482	0.000	96	1190863	100.0	117.6	
84 1,3-Dichloropropane	76	10.543	10.542	0.000	95	1399437	100.0	105.0	
86 2-Hexanone	43	10.579	10.579	0.000	98	2978398	200.0	215.3	
88 Chlorodibromomethane	129	10.762	10.761	0.001	90	899282	100.0	117.1	
89 Ethylene Dibromide	107	10.877	10.877	0.000	98	938696	100.0	107.3	
S 90 Xylenes, Total	106				0			328.8	
* 91 Chlorobenzene-d5 (IS)	117	11.303	11.297	0.006	91	1044421	50.0	50.0	
92 1-Chlorohexane	91	11.303	11.303	0.000	98	1197393	100.0	103.9	
93 Chlorobenzene	112	11.327	11.327	0.000	94	2388843	100.0	104.8	
94 1,1,1,2-Tetrachloroethane	131	11.406	11.406	0.000	95	892531	100.0	115.4	
95 Ethylbenzene	91	11.412	11.406	0.006	98	4307486	100.0	109.1	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
96 m-Xylene & p-Xylene	106	11.522	11.522	0.000	99	3417116	200.0	219.3	
97 o-Xylene	106	11.850	11.850	0.000	97	1673140	100.0	109.5	
98 Styrene	104	11.863	11.863	0.000	94	2939377	100.0	115.2	
99 Bromoform	173	12.027	12.027	0.000	96	716545	100.0	118.6	
100 Isopropylbenzene	105	12.149	12.149	0.001	96	4147796	100.0	108.4	
102 Cyclohexanone	55	12.222	12.222	0.000	94	905377	1250.0	1323.5	
$ 103 4-Bromofluorobenzene (Surr)	95	12.295	12.295	0.001	88	501321	50.0	49.5	
104 1,1,2,2-Tetrachloroethane	83	12.386	12.386	0.000	97	1448329	100.0	106.4	
106 trans-1,4-Dichloro-2-butene	53	12.410	12.410	0.000	84	1560970	250.0	279.6	
105 Bromobenzene	156	12.410	12.410	0.000	89	1240841	100.0	111.9	
107 1,2,3-Trichloropropane	110	12.434	12.434	0.000	87	487398	100.0	105.4	
108 N-Propylbenzene	91	12.477	12.477	0.000	98	4905953	100.0	106.8	
109 2-Chlorotoluene	126	12.556	12.556	0.000	96	1019817	100.0	106.1	
110 1,3,5-Trimethylbenzene	105	12.611	12.611	0.000	94	3684392	100.0	109.2	
111 4-Chlorotoluene	126	12.647	12.647	0.000	98	1088418	100.0	106.1	
113 tert-Butylbenzene	134	12.854	12.854	0.000	93	768348	100.0	106.7	
114 Pentachloroethane	167	12.891	12.891	0.000	83	481063	100.0	96.2	
115 1,2,4-Trimethylbenzene	105	12.897	12.897	0.000	98	3974258	100.0	111.8	
116 sec-Butylbenzene	105	13.019	13.018	0.000	95	4658502	100.0	109.2	
117 1,3-Dichlorobenzene	146	13.122	13.122	0.000	97	2295409	100.0	112.3	
118 4-Isopropyltoluene	119	13.122	13.122	0.000	97	4364748	100.0	115.0	
* 119 1,4-Dichlorobenzene-d4	152	13.177	13.177	0.000	96	557164	50.0	50.0	
121 1,4-Dichlorobenzene	146	13.195	13.195	0.000	94	2359331	100.0	110.9	
120 1,2,3-Trimethylbenzene	105	13.201	13.201	0.000	98	4466248	100.0	112.2	
122 Benzyl chloride	91	13.262	13.262	0.000	99	3331310	100.0	124.0	
123 1,3-Diethylbenzene	119	13.323	13.323	0.000	94	2746331	100.0	109.8	
124 p-Diethylbenzene	119	13.396	13.396	0.000	95	2962085	100.0	111.5	
125 n-Butylbenzene	92	13.414	13.414	0.000	98	2214405	100.0	110.2	
126 1,2-Dichlorobenzene	146	13.450	13.450	0.000	97	2156071	100.0	109.4	
127 o-diethylbenzene	119	13.469	13.469	0.000	96	2349576	100.0	110.4	
129 1,2-Dibromo-3-Chloropropane	75	13.992	13.992	0.000	84	381467	100.0	114.0	
130 1,3,5-Trichlorobenzene	180	14.126	14.120	0.006	98	1607462	100.0	108.4	
131 1,2,4-Trichlorobenzene	180	14.545	14.545	0.000	95	1515817	100.0	109.2	
132 Hexachlorobutadiene	225	14.625	14.625	0.000	98	646082	100.0	106.5	
133 Naphthalene	128	14.728	14.728	0.000	97	5119364	100.0	111.2	
134 1,2,3-Trichlorobenzene	180	14.874	14.868	0.006	96	1441682	100.0	107.6	
135 2-Methylnaphthalene	142	15.519	15.519	0.000	91	3408833	100.0	112.4	
S 146 Total Diethylbenzene	1				0			331.7	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MSV_VCYC_00002	Amount Added:	10.00	Units: uL	
MSV_V_EE_00003	Amount Added:	5.00	Units: uL	
MSV_DCFM_00018	Amount Added:	2.50	Units: uL	
MSV_V_VOA1_00074	Amount Added:	5.00	Units: uL	
MSV_V_VOA3_00036	Amount Added:	2.00	Units: uL	
MSV_V_VOA6_00043	Amount Added:	5.00	Units: uL	
MSV_V_2CEVE_00086	Amount Added:	5.00	Units: uL	
MSV_V_Gas_00108	Amount Added:	2.50	Units: uL	
MSV_HP20_ISSS_00016	Amount Added:	1.00	Units: uL	Run Reagent

Report Date: 15-Jul-2020 11:00:22 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I02.D

Injection Date: 14-Jul-2020 13:53:30 Instrument ID: 9355 Operator ID: JTL32685

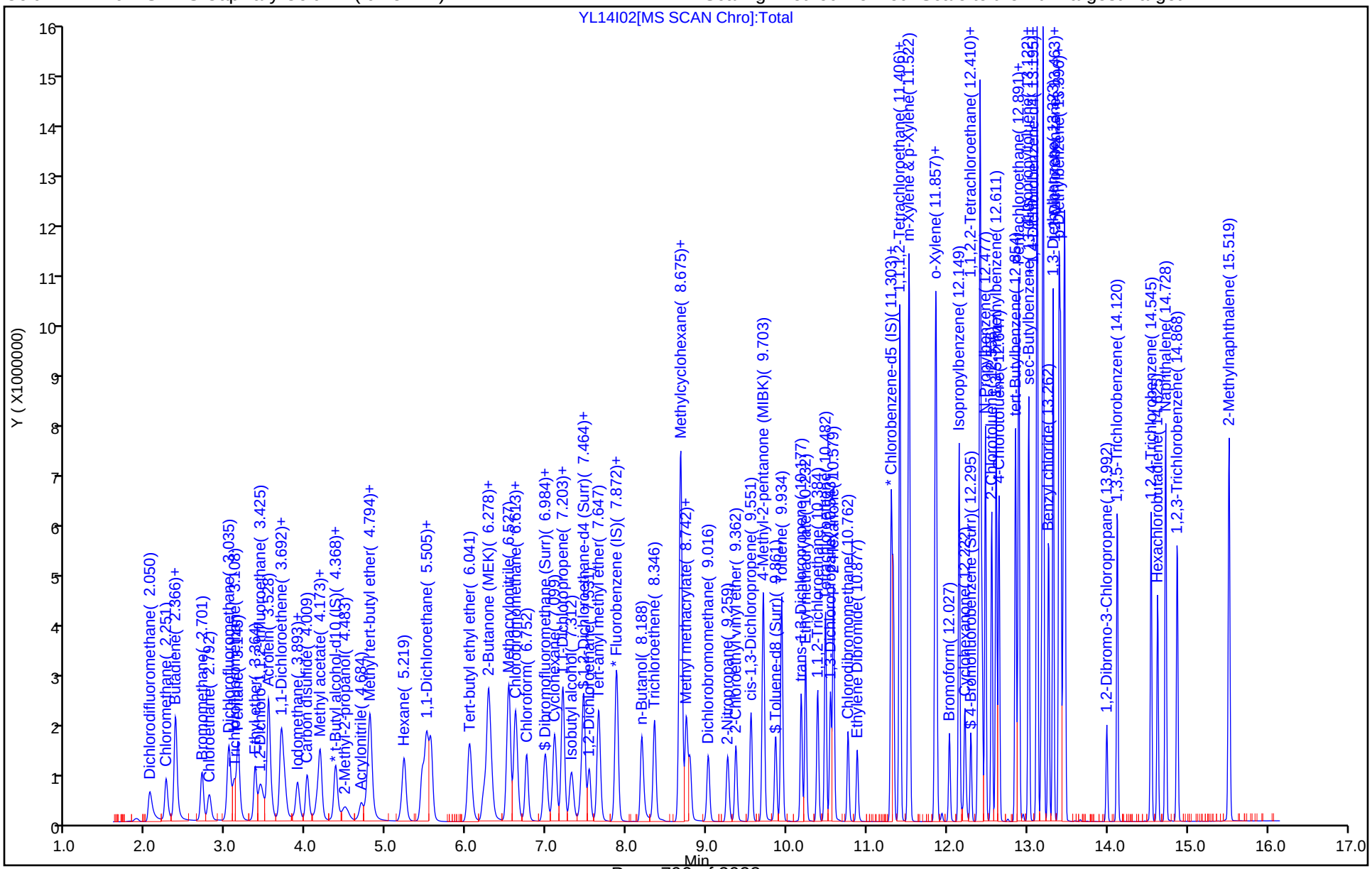
Lims ID: IC std6 100 Worklist Smp#: 4

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 3

Method: MSVoa_9355 Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

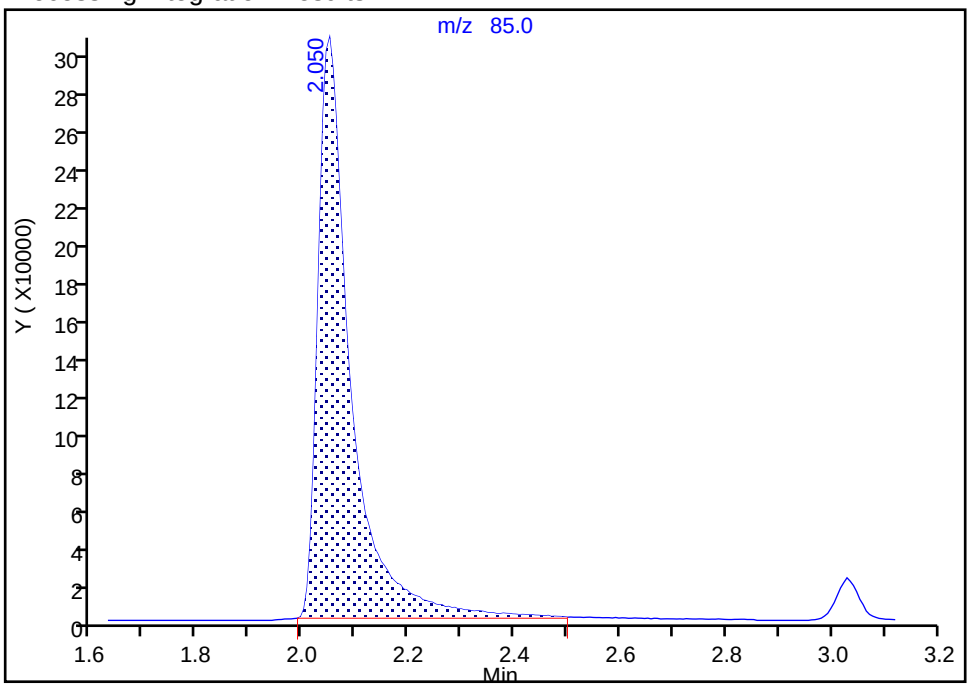
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I02.D
Injection Date: 14-Jul-2020 13:53:30 Instrument ID: 9355
Lims ID: IC std6 100
Client ID:
Operator ID: JTL32685 ALS Bottle#: 3 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

2 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

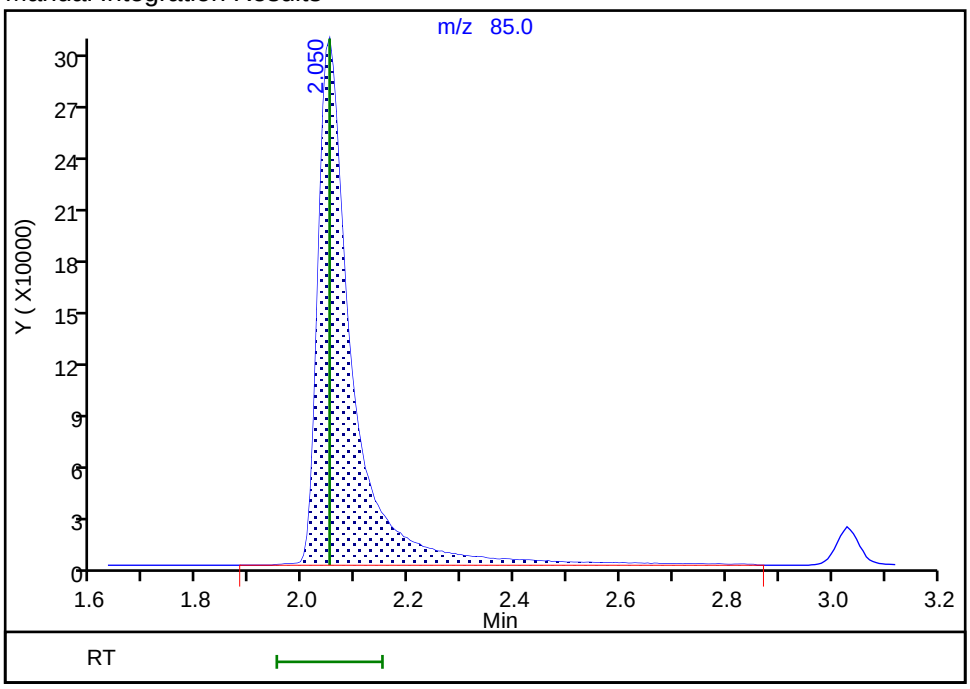
Processing Integration Results

RT: 2.05
Area: 1304685
Amount: 104.8592
Amount Units: ug/l



Manual Integration Results

RT: 2.05
Area: 1362042
Amount: 106.7869
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:27:53
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

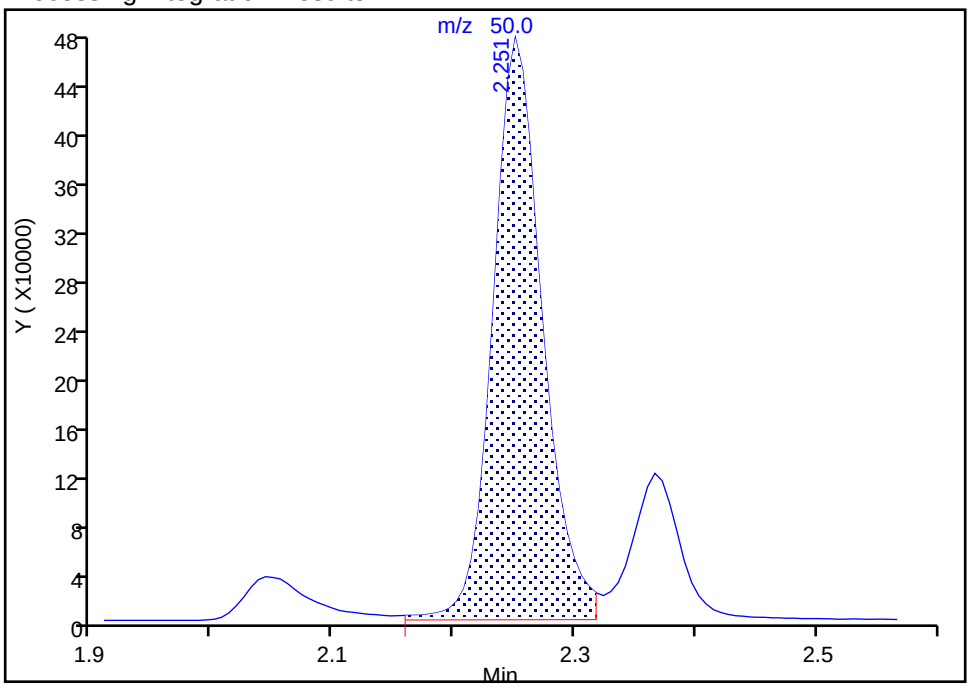
Data File:	\\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I02.D				
Injection Date:	14-Jul-2020 13:53:30	Instrument ID:	9355		
Lims ID:	IC std6 100				
Client ID:					
Operator ID:	JTL32685	ALS Bottle#:	3	Worklist Smp#:	4
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

4 Chloromethane, CAS: 74-87-3

Signal: 1

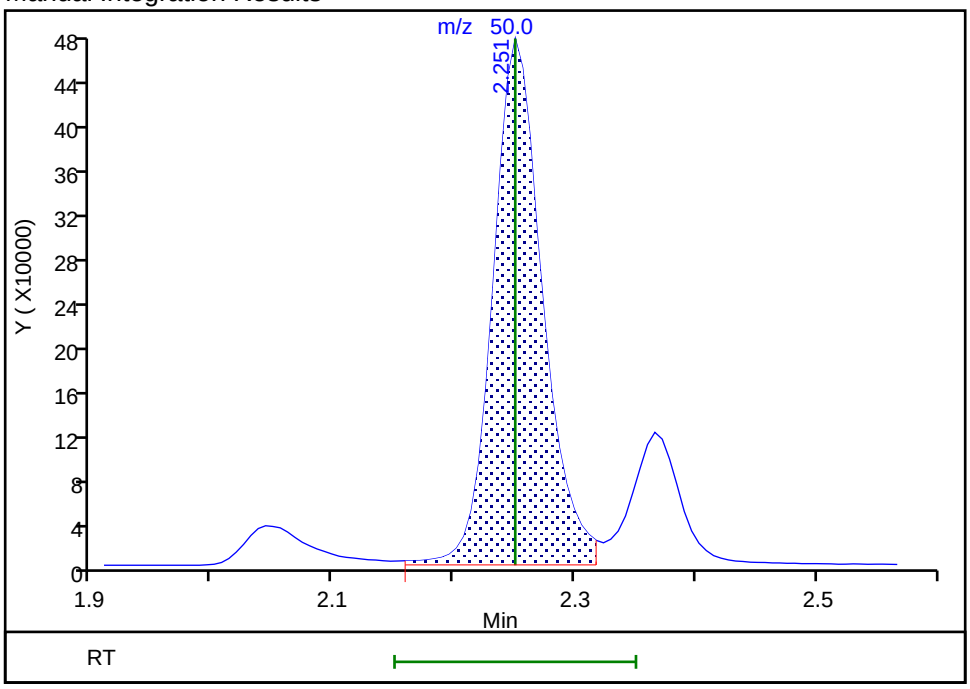
Processing Integration Results

RT: 2.25
Area: 1349658
Amount: 98.439003
Amount Units: ug/l



Manual Integration Results

RT: 2.25
Area: 1351062
Amount: 98.277246
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:28:06
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

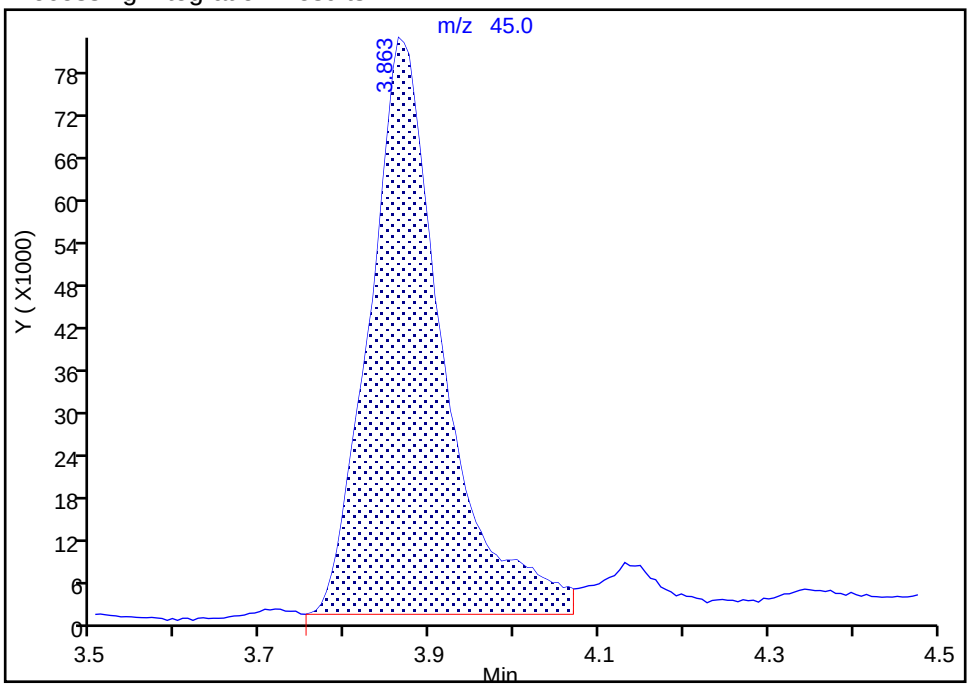
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I02.D
Injection Date: 14-Jul-2020 13:53:30 Instrument ID: 9355
Lims ID: IC std6 100
Client ID:
Operator ID: JTL32685 ALS Bottle#: 3 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

20 Isopropyl alcohol, CAS: 67-63-0

Signal: 1

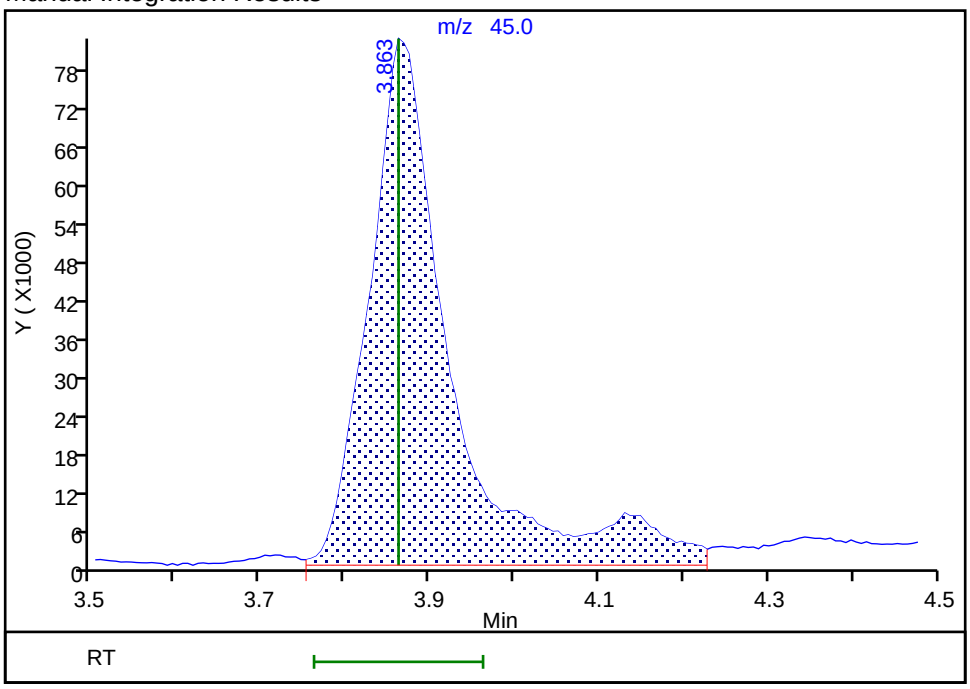
Processing Integration Results

RT: 3.86
Area: 489698
Amount: 520.8315
Amount Units: ug/l



Manual Integration Results

RT: 3.86
Area: 555028
Amount: 535.9626
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:46:06
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

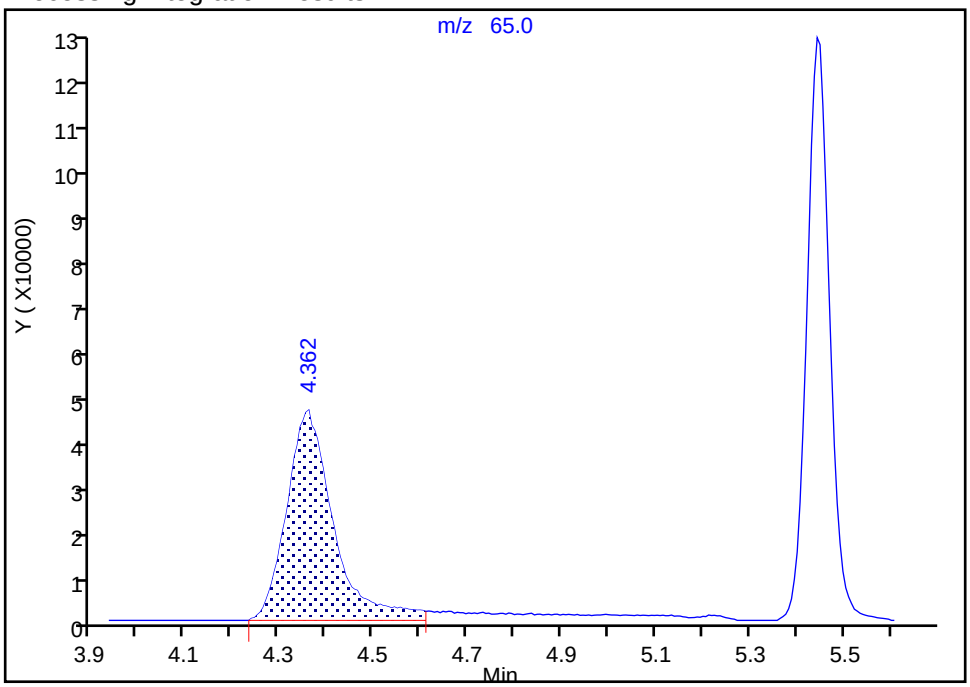
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I02.D
Injection Date: 14-Jul-2020 13:53:30 Instrument ID: 9355
Lims ID: IC std6 100
Client ID:
Operator ID: JTL32685 ALS Bottle#: 3 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

* 26 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2

Signal: 1

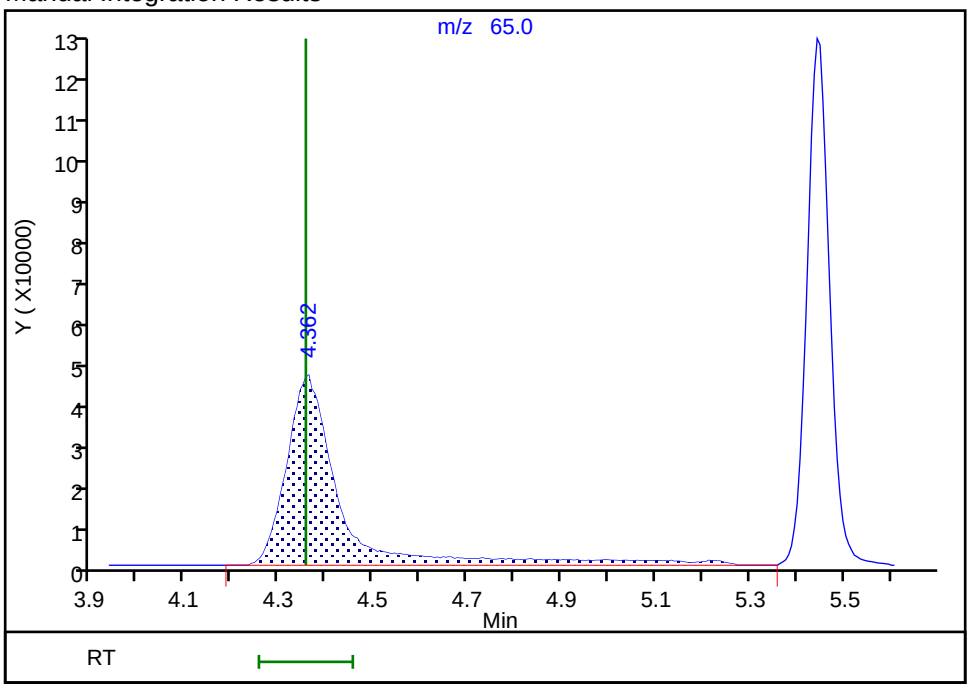
Processing Integration Results

RT: 4.36
Area: 312571
Amount: 250.0000
Amount Units: ug/l



Manual Integration Results

RT: 4.36
Area: 361012
Amount: 250.0000
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:28:36
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

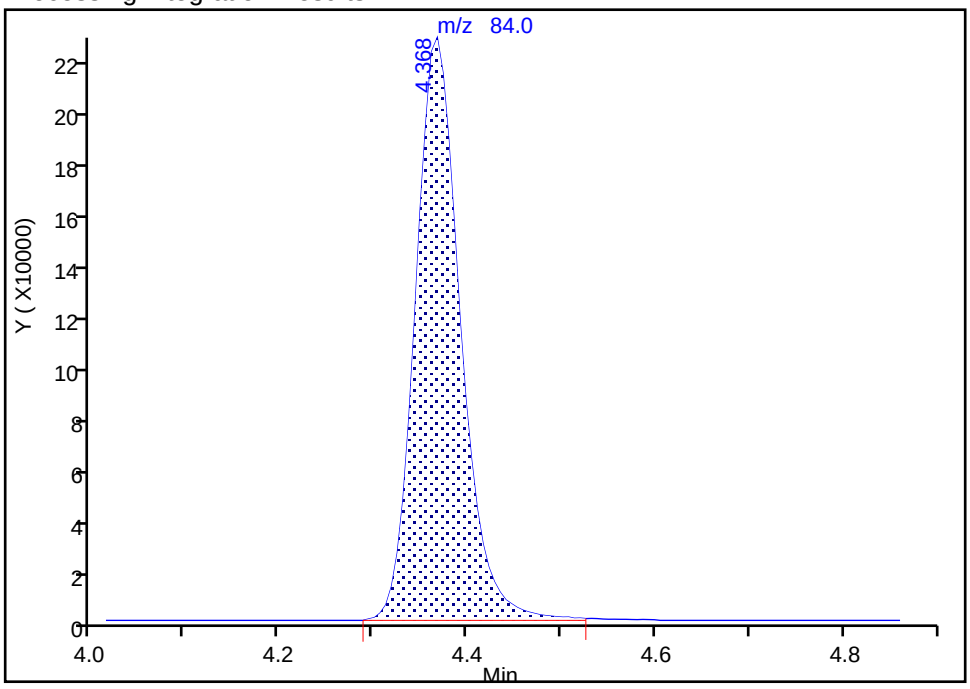
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I02.D
Injection Date: 14-Jul-2020 13:53:30 Instrument ID: 9355
Lims ID: IC std6 100
Client ID:
Operator ID: JTL32685 ALS Bottle#: 3 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

27 Methylene Chloride, CAS: 75-09-2

Signal: 1

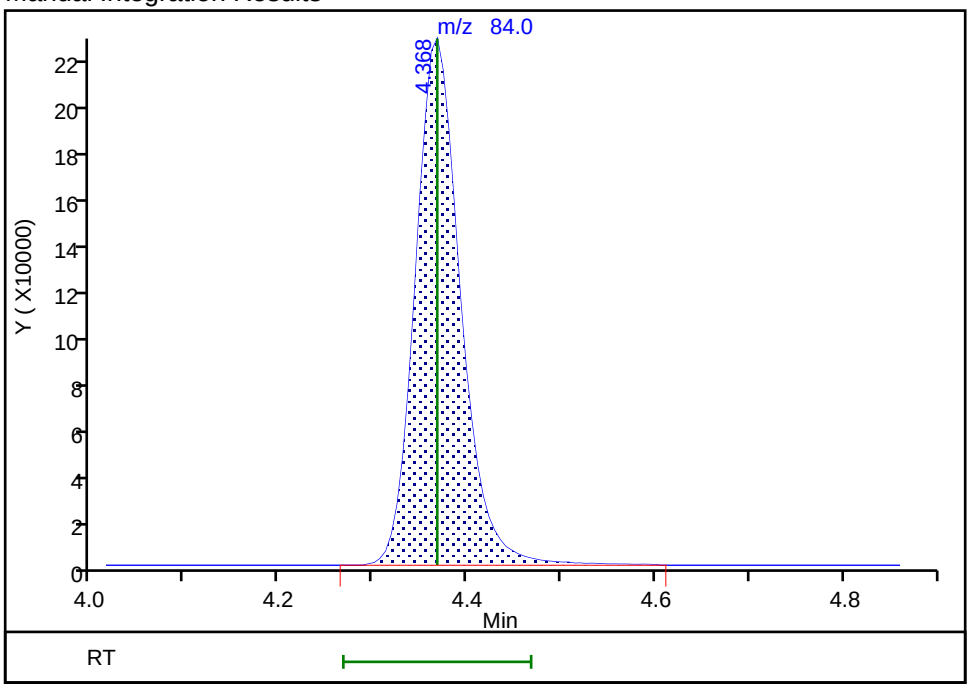
Processing Integration Results

RT: 4.37
Area: 756951
Amount: 103.7066
Amount Units: ug/l



Manual Integration Results

RT: 4.37
Area: 758867
Amount: 103.9611
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:28:45
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

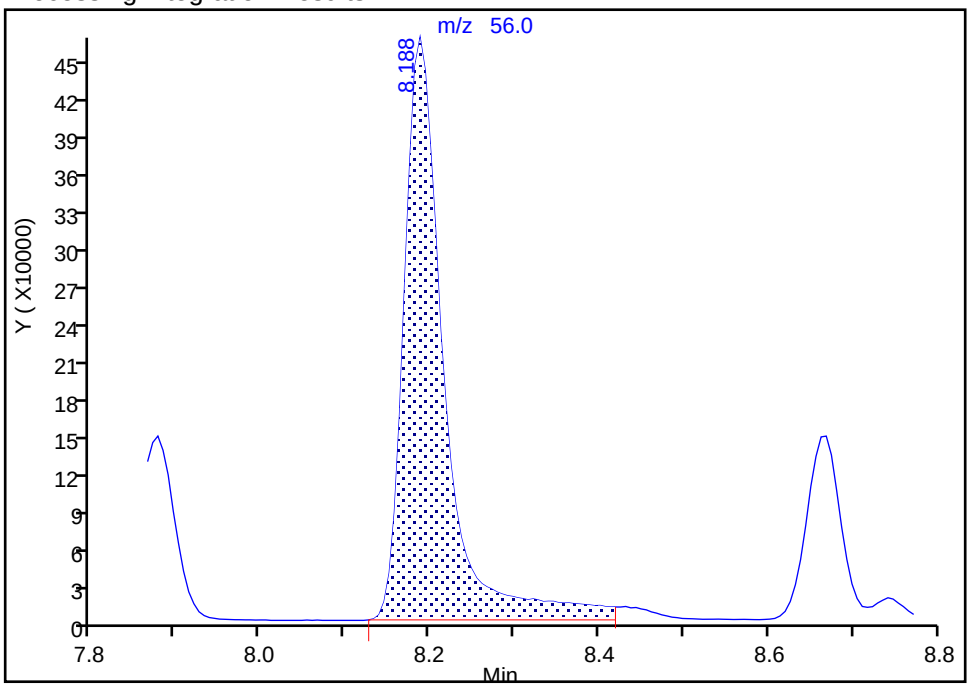
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I02.D
Injection Date: 14-Jul-2020 13:53:30 Instrument ID: 9355
Lims ID: IC std6 100
Client ID:
Operator ID: JTL32685 ALS Bottle#: 3 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

64 n-Butanol, CAS: 71-36-3

Signal: 1

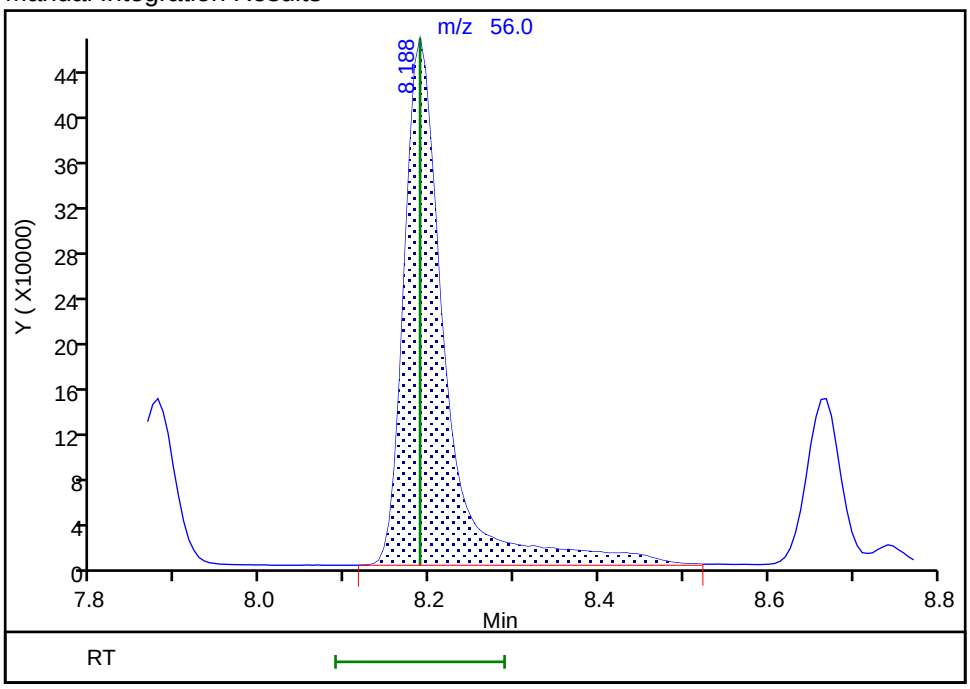
Processing Integration Results

RT: 8.19
Area: 1546688
Amount: 2457.7288
Amount Units: ug/l



Manual Integration Results

RT: 8.19
Area: 1586968
Amount: 2606.2697
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:29:14
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

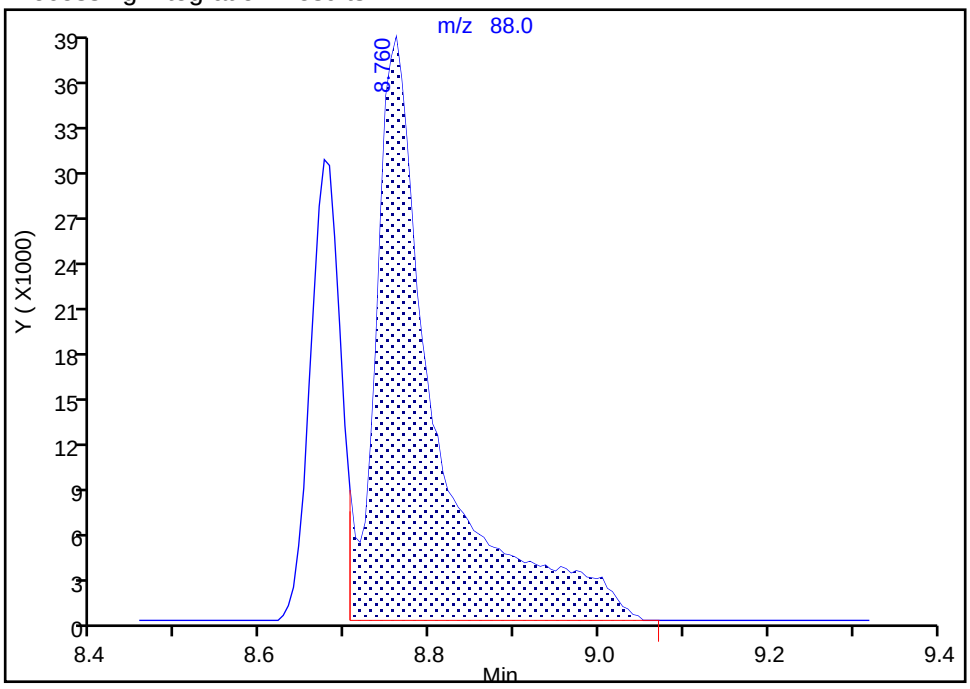
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I02.D
Injection Date: 14-Jul-2020 13:53:30 Instrument ID: 9355
Lims ID: IC std6 100
Client ID:
Operator ID: JTL32685 ALS Bottle#: 3 Worklist Smp#: 4
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

69 1,4-Dioxane, CAS: 123-91-1

Signal: 1

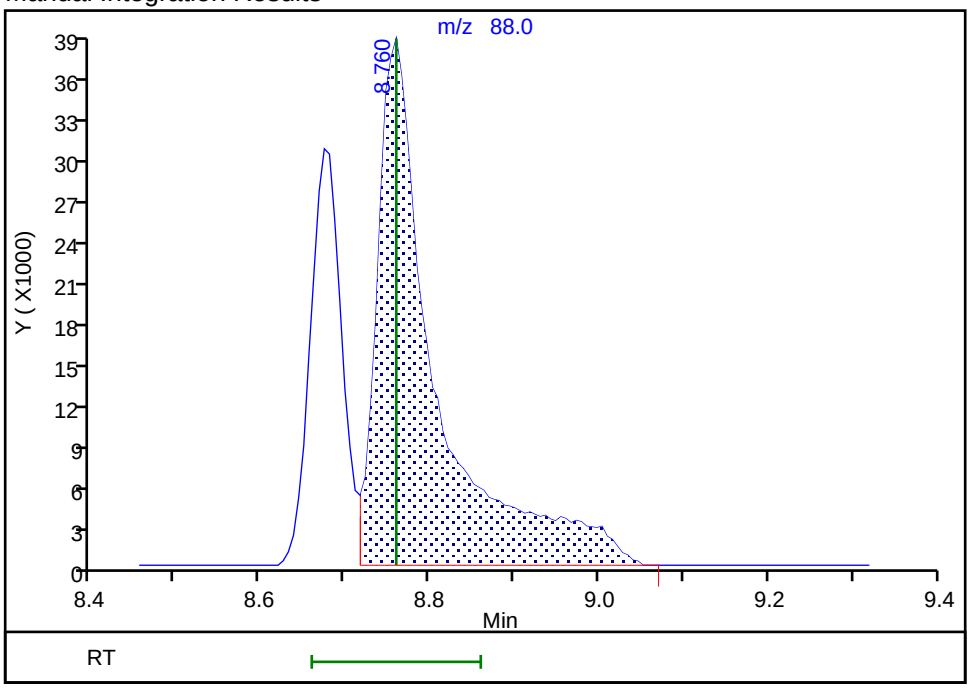
Processing Integration Results

RT: 8.76
Area: 193791
Amount: 943.2248
Amount Units: ug/l



Manual Integration Results

RT: 8.76
Area: 188591
Amount: 1296.3353
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:29:34
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I03.D
Lims ID: ICIS
Client ID:
Sample Type: ICIS Calib Level: 5
Inject. Date: 14-Jul-2020 14:15:30 ALS Bottle#: 4 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0005480-005
Misc. Info.: ICIS
Operator ID: JTL32685 Instrument ID: 9355
Sublist: chrom-MSVoa_9355*sub2

Method: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 15-Jul-2020 11:00:33 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1014

First Level Reviewer: campbellme Date: 14-Jul-2020 18:33:20

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Dichlorodifluoromethane	85	2.050	2.050	0.000	100	671975	50.0	54.0	M
4 Chloromethane	50	2.251	2.251	0.000	100	702508	50.0	52.4	M
5 Butadiene	39	2.366	2.366	0.000	94	456158	50.0	47.0	
6 Vinyl chloride	62	2.366	2.366	0.000	99	675858	50.0	53.9	
8 Bromomethane	94	2.701	2.701	0.000	90	490686	50.0	53.3	
9 Chloroethane	64	2.786	2.786	0.000	100	398756	50.0	53.5	
10 Dichlorofluoromethane	67	3.029	3.029	0.000	98	937246	50.0	53.3	
11 Trichlorofluoromethane	101	3.096	3.096	0.000	99	817484	50.0	53.3	
12 Pentane	43	3.151	3.151	0.000	97	680236	50.0	49.3	
14 Ethyl ether	59	3.364	3.364	0.000	91	501992	50.0	60.4	
15 1,2-Dichloro-1,1,2-trifluoroetha	67	3.431	3.431	0.000	92	444133	50.0	54.8	
16 Acrolein	56	3.528	3.528	0.000	99	1800704	500.0	527.8	
17 1,1-Dichloroethene	96	3.686	3.686	0.000	99	300659	50.0	52.4	
18 Acetone	58	3.698	3.698	0.000	99	153437	100.0	103.9	
19 1,1,2-Trichloro-1,2,2-trifluoroe	101	3.717	3.717	0.000	93	318438	50.0	52.2	
20 Isopropyl alcohol	45	3.863	3.863	0.000	99	272871	250.0	263.1	M
21 Iodomethane	142	3.893	3.893	0.000	99	606972	50.0	53.0	
22 Carbon disulfide	76	4.009	4.009	0.000	100	1006656	50.0	54.3	
24 Methyl acetate	43	4.137	4.137	0.000	98	582432	50.0	51.1	
25 3-Chloro-1-propene	41	4.173	4.173	0.000	89	624332	50.0	52.0	
* 26 t-Butyl alcohol-d10 (IS)	65	4.362	4.362	0.000	88	361512	250.0	250.0	M
27 Methylene Chloride	84	4.368	4.368	0.000	93	367894	50.0	51.7	
28 2-Methyl-2-propanol	59	4.477	4.477	0.000	98	472346	250.0	262.4	
30 Acrylonitrile	53	4.690	4.690	0.000	99	310222	50.0	55.5	
31 Methyl tert-butyl ether	73	4.781	4.781	0.000	96	1223334	50.0	52.4	
32 trans-1,2-Dichloroethene	96	4.800	4.800	0.000	99	362184	50.0	52.1	
33 Hexane	57	5.219	5.219	0.000	95	519689	50.0	50.3	
36 1,1-Dichloroethane	63	5.444	5.444	0.000	97	648201	50.0	52.5	
37 Isopropyl ether	45	5.499	5.499	0.000	93	1342361	50.0	52.9	
38 2-Chloro-1,3-butadiene	53	5.560	5.560	0.000	93	640060	50.0	54.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
39 Tert-butyl ethyl ether	59	6.035	6.035	0.000	97	1241126	50.0	52.9	
41 2-Butanone (MEK)	43	6.223	6.223	0.000	100	909442	100.0	109.0	
42 cis-1,2-Dichloroethene	96	6.272	6.272	0.000	85	416207	50.0	51.5	
44 2,2-Dichloropropane	77	6.290	6.290	0.000	90	541186	50.0	53.8	
45 Propionitrile	54	6.296	6.296	0.000	99	556290	250.0	247.9	
46 Methacrylonitrile	67	6.527	6.527	0.000	92	761845	125.0	126.6	
47 Chlorobromomethane	128	6.606	6.606	0.000	96	232677	50.0	51.3	
48 Tetrahydrofuran	71	6.619	6.619	0.000	92	248038	100.0	105.7	
49 Chloroform	83	6.752	6.752	0.000	96	666968	50.0	52.7	
$ 50 Dibromofluoromethane (Surr)	113	6.965	6.965	0.000	93	309390	50.0	50.1	
51 1,1,1-Trichloroethane	97	6.990	6.990	0.000	98	572732	50.0	53.0	
52 Cyclohexane	56	7.099	7.099	0.000	93	638512	50.0	52.0	
53 1,1-Dichloropropene	75	7.197	7.197	0.000	94	518065	50.0	52.6	
54 Carbon tetrachloride	117	7.209	7.209	0.000	98	489930	50.0	53.7	
55 Isobutyl alcohol	41	7.306	7.306	0.000	93	406071	625.0	621.0	
$ 56 1,2-Dichloroethane-d4 (Surr)	102	7.422	7.422	0.000	97	77119	50.0	50.1	
57 Benzene	78	7.458	7.458	0.000	97	1548520	50.0	52.3	
59 1,2-Dichloroethane	62	7.531	7.531	0.000	98	562260	50.0	50.7	
60 Tert-amyl methyl ether	73	7.647	7.647	0.000	97	1256085	50.0	52.8	
* 62 Fluorobenzene (IS)	96	7.860	7.860	0.000	99	1283645	50.0	50.0	
63 n-Heptane	43	7.878	7.878	0.000	93	605539	50.0	49.2	
64 n-Butanol	56	8.188	8.188	0.000	90	793903	1250.0	1275.4	M
65 Trichloroethene	95	8.346	8.346	0.000	98	411163	50.0	52.6	
66 Methylcyclohexane	83	8.663	8.663	0.000	95	705351	50.0	50.2	
67 1,2-Dichloropropane	63	8.675	8.675	0.000	69	416515	50.0	52.0	
34 2-ethoxy-2-methyl butane	87	8.675	8.675	0.000	93	671008	50.0	53.0	
68 Methyl methacrylate	69	8.742	8.742	0.000	91	482315	50.0	53.0	
69 1,4-Dioxane	88	8.760	8.760	0.000	89	93789	625.0	643.8	M
70 Dibromomethane	93	8.784	8.784	0.000	96	281135	50.0	53.0	
72 Dichlorobromomethane	83	9.016	9.016	0.000	99	503076	50.0	54.2	
73 2-Nitropropane	41	9.259	9.259	0.000	99	522790	100.0	113.8	
74 2-Chloroethyl vinyl ether	63	9.362	9.362	0.000	93	364380	50.0	51.8	
75 cis-1,3-Dichloropropene	75	9.551	9.551	0.000	93	644711	50.0	54.6	
76 4-Methyl-2-pentanone (MIBK)	43	9.703	9.703	0.000	98	1838563	100.0	112.5	
$ 77 Toluene-d8 (Surr)	98	9.855	9.855	0.000	94	1281783	50.0	50.3	
78 Toluene	92	9.934	9.934	0.000	97	1008793	50.0	52.5	
80 trans-1,3-Dichloropropene	75	10.178	10.178	0.000	96	630182	50.0	55.5	
81 Ethyl methacrylate	69	10.232	10.232	0.000	90	777013	50.0	54.7	Ma
82 1,1,2-Trichloroethane	97	10.384	10.384	0.000	93	392266	50.0	52.2	
83 Tetrachloroethene	166	10.482	10.482	0.000	97	518451	50.0	53.1	
84 1,3-Dichloropropane	76	10.543	10.543	0.000	94	671449	50.0	52.2	
86 2-Hexanone	43	10.579	10.579	0.000	98	1519505	100.0	113.9	
88 Chlorodibromomethane	129	10.762	10.762	0.000	90	417210	50.0	56.3	
89 Ethylene Dibromide	107	10.877	10.877	0.000	99	446168	50.0	52.9	
* 91 Chlorobenzene-d5 (IS)	117	11.297	11.297	0.000	87	1007287	50.0	50.0	
92 1-Chlorohexane	91	11.303	11.303	0.000	98	566951	50.0	51.0	
93 Chlorobenzene	112	11.327	11.327	0.000	94	1146679	50.0	52.1	
94 1,1,1,2-Tetrachloroethane	131	11.406	11.406	0.000	95	404585	50.0	54.3	
95 Ethylbenzene	91	11.412	11.412	0.000	98	2036482	50.0	53.5	
96 m-Xylene & p-Xylene	106	11.522	11.522	0.000	100	1594012	100.0	106.1	
97 o-Xylene	106	11.850	11.850	0.000	97	783647	50.0	53.2	
98 Styrene	104	11.863	11.863	0.000	94	1361860	50.0	55.4	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
99 Bromoform	173	12.027	12.027	0.000	95	318132	50.0	54.6	
100 Isopropylbenzene	105	12.149	12.149	0.000	96	1994018	50.0	54.0	
102 Cyclohexanone	55	12.222	12.222	0.000	94	454615	625.0	663.6	
$ 103 4-Bromofluorobenzene (Surr)	95	12.295	12.295	0.000	88	495565	50.0	50.7	
104 1,1,2,2-Tetrachloroethane	83	12.386	12.386	0.000	97	686096	50.0	52.0	
106 trans-1,4-Dichloro-2-butene	53	12.410	12.410	0.000	82	705303	125.0	130.4	
105 Bromobenzene	156	12.410	12.410	0.000	88	551345	50.0	51.3	
107 1,2,3-Trichloropropane	110	12.435	12.435	0.000	88	224745	50.0	50.2	
108 N-Propylbenzene	91	12.477	12.477	0.000	99	2374946	50.0	53.4	
109 2-Chlorotoluene	126	12.556	12.556	0.000	96	481022	50.0	51.7	
110 1,3,5-Trimethylbenzene	105	12.611	12.611	0.000	94	1749920	50.0	53.6	
111 4-Chlorotoluene	126	12.647	12.647	0.000	98	512562	50.0	51.6	
113 tert-Butylbenzene	134	12.854	12.854	0.000	93	362990	50.0	52.1	
114 Pentachloroethane	167	12.891	12.891	0.000	86	256181	50.0	52.9	
115 1,2,4-Trimethylbenzene	105	12.897	12.897	0.000	98	1851018	50.0	53.8	
116 sec-Butylbenzene	105	13.019	13.019	0.000	95	2217395	50.0	53.7	
117 1,3-Dichlorobenzene	146	13.122	13.122	0.000	97	1042101	50.0	52.7	
118 4-Isopropyltoluene	119	13.122	13.122	0.000	97	2004120	50.0	54.5	
* 119 1,4-Dichlorobenzene-d4	152	13.177	13.177	0.000	96	539627	50.0	50.0	
121 1,4-Dichlorobenzene	146	13.195	13.195	0.000	94	1086333	50.0	52.7	
120 1,2,3-Trimethylbenzene	105	13.201	13.201	0.000	98	2055367	50.0	53.3	
122 Benzyl chloride	91	13.262	13.262	0.000	99	1504327	50.0	57.8	
123 1,3-Diethylbenzene	119	13.323	13.323	0.000	95	1281881	50.0	52.9	
124 p-Diethylbenzene	119	13.396	13.396	0.000	95	1356955	50.0	52.8	
125 n-Butylbenzene	92	13.414	13.414	0.000	98	1023440	50.0	52.6	
126 1,2-Dichlorobenzene	146	13.450	13.450	0.000	97	997924	50.0	52.3	
127 o-diethylbenzene	119	13.469	13.469	0.000	96	1076485	50.0	52.2	
129 1,2-Dibromo-3-Chloropropane	75	13.992	13.992	0.000	83	176820	50.0	54.6	
130 1,3,5-Trichlorobenzene	180	14.126	14.126	0.000	97	742384	50.0	51.7	
131 1,2,4-Trichlorobenzene	180	14.546	14.546	0.000	94	697924	50.0	51.9	
132 Hexachlorobutadiene	225	14.625	14.625	0.000	98	293164	50.0	49.9	
133 Naphthalene	128	14.728	14.728	0.000	97	2424134	50.0	54.3	
134 1,2,3-Trichlorobenzene	180	14.868	14.868	0.000	95	664560	50.0	51.2	
135 2-Methylnaphthalene	142	15.519	15.519	0.000	92	1592726	50.0	54.2	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

MSV_VCYC_00002	Amount Added:	10.00	Units: uL	
MSV_V_EE_00003	Amount Added:	5.00	Units: uL	
MSV_DCFM_00018	Amount Added:	2.50	Units: uL	
MSV_V_2CEVE_00086	Amount Added:	5.00	Units: uL	
MSV_V_VOA1_00074	Amount Added:	5.00	Units: uL	
MSV_V_VOA3_00036	Amount Added:	2.00	Units: uL	
MSV_V_VOA6_00043	Amount Added:	5.00	Units: uL	
MSV_V_Gas_00108	Amount Added:	2.50	Units: uL	
MSV_HP20_ISSS_00016	Amount Added:	1.00	Units: uL	Run Reagent

Report Date: 15-Jul-2020 11:00:34 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I03.D

Injection Date: 14-Jul-2020 14:15:30 Instrument ID: 9355 Operator ID: JTL32685

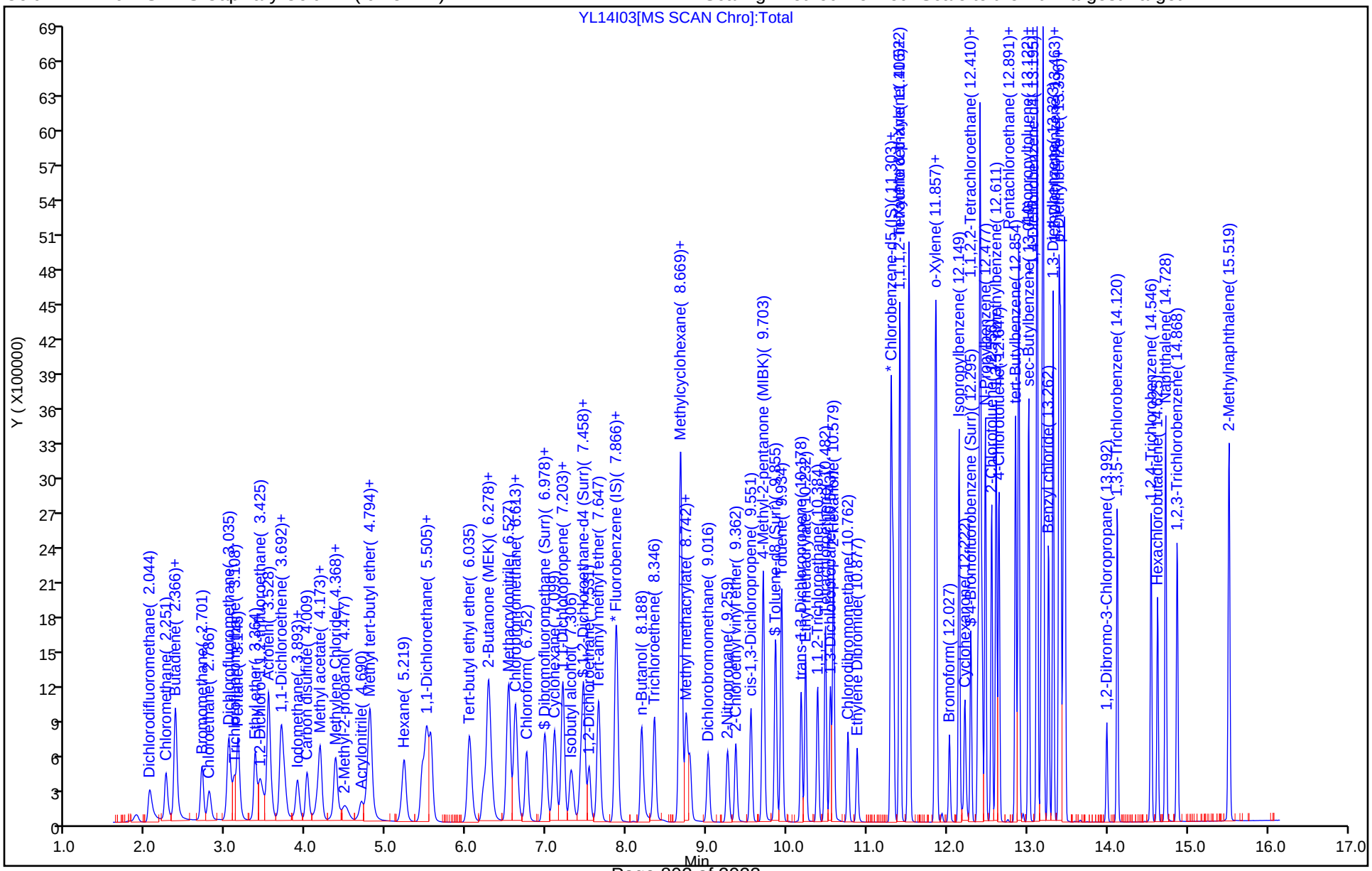
Lims ID: ICIS Worklist Smp#: 5

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 4

Method: MSVoa_9355 Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

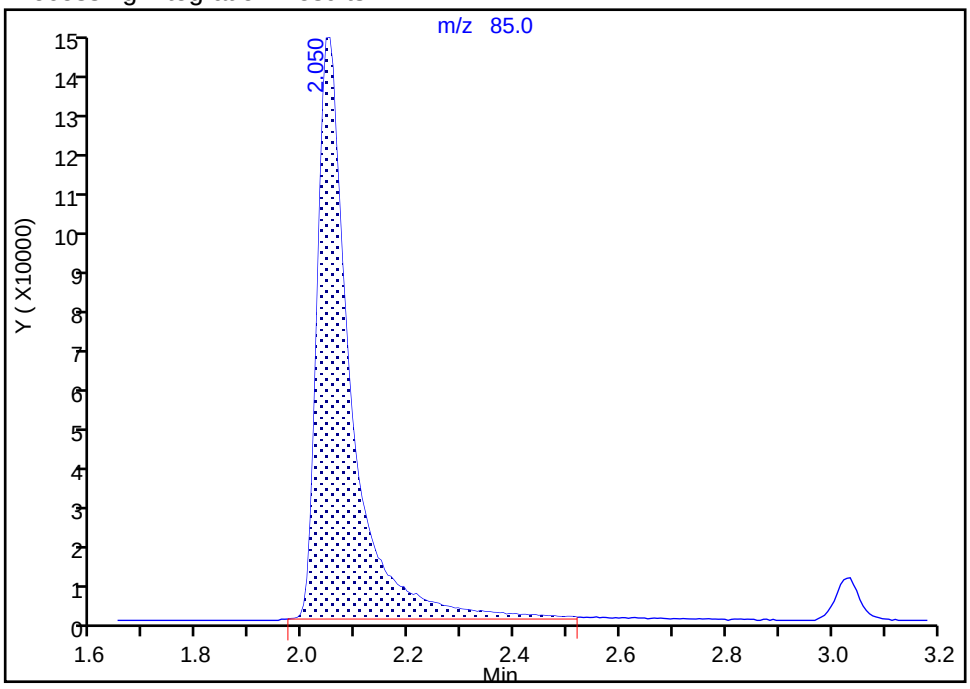
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I03.D
Injection Date: 14-Jul-2020 14:15:30 Instrument ID: 9355
Lims ID: ICIS
Client ID:
Operator ID: JTL32685 ALS Bottle#: 4 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

2 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

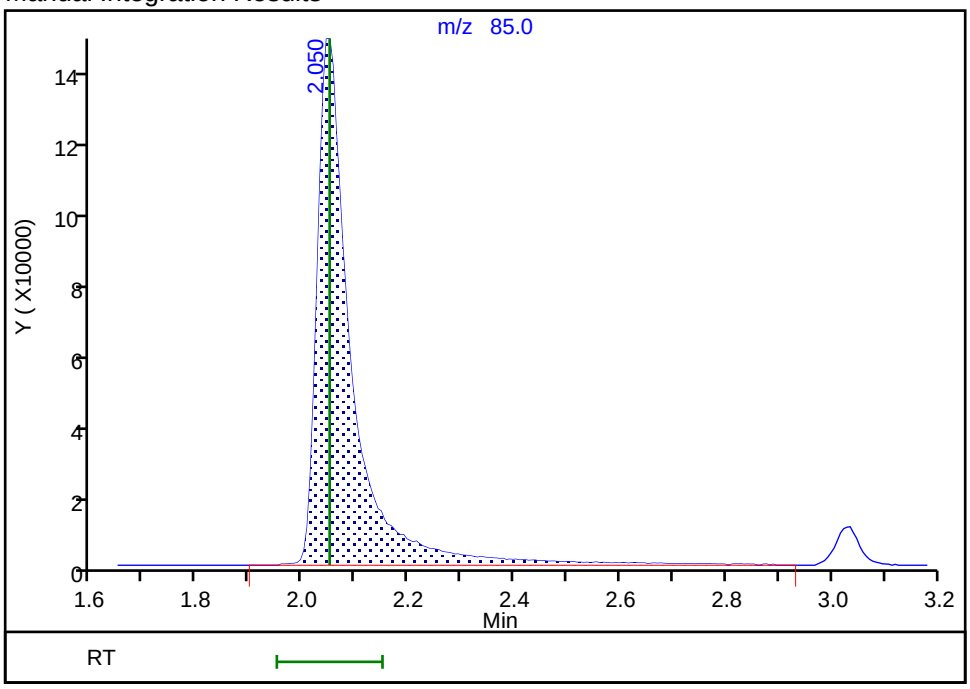
Processing Integration Results

RT: 2.05
Area: 650328
Amount: 53.244406
Amount Units: ug/l



Manual Integration Results

RT: 2.05
Area: 671975
Amount: 54.022164
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:30:20
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

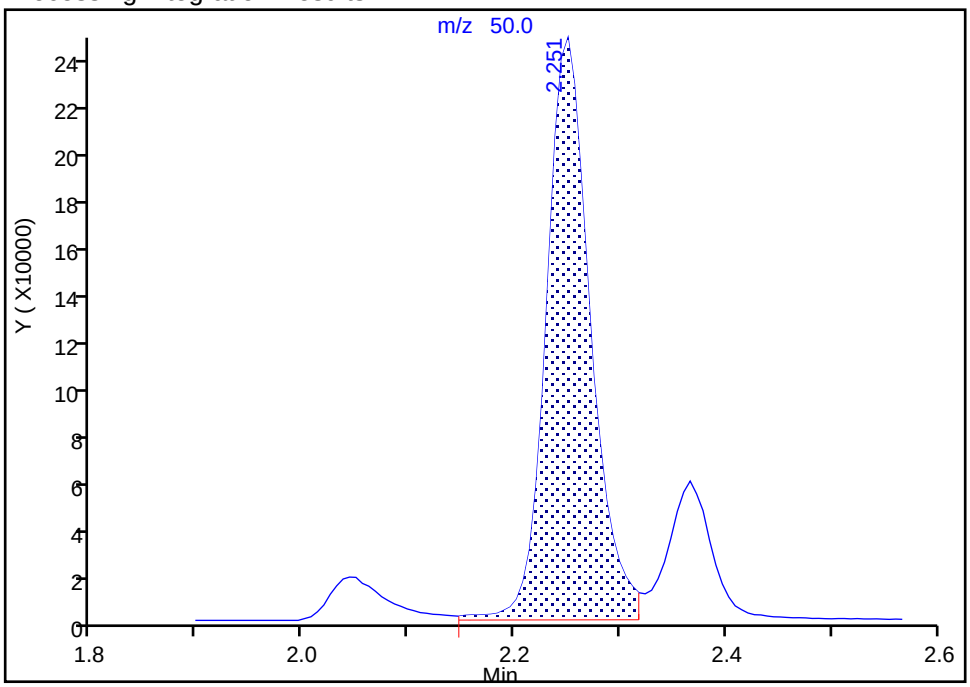
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I03.D
Injection Date: 14-Jul-2020 14:15:30 Instrument ID: 9355
Lims ID: ICIS
Client ID:
Operator ID: JTL32685 ALS Bottle#: 4 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

4 Chloromethane, CAS: 74-87-3

Signal: 1

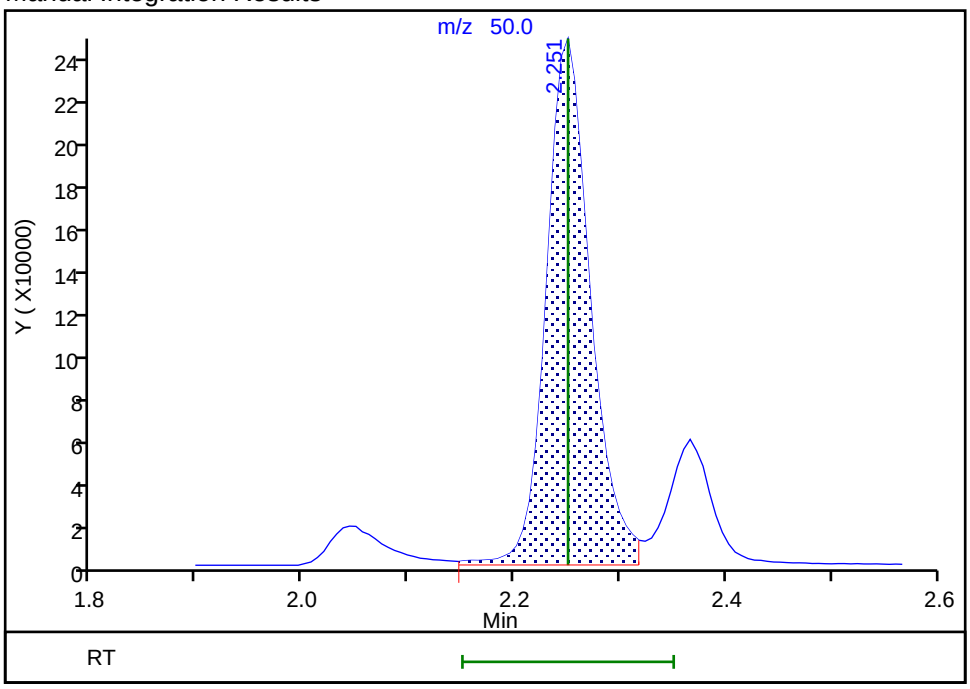
Processing Integration Results

RT: 2.25
Area: 701862
Amount: 52.483543
Amount Units: ug/l



Manual Integration Results

RT: 2.25
Area: 702508
Amount: 52.398692
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:30:31
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

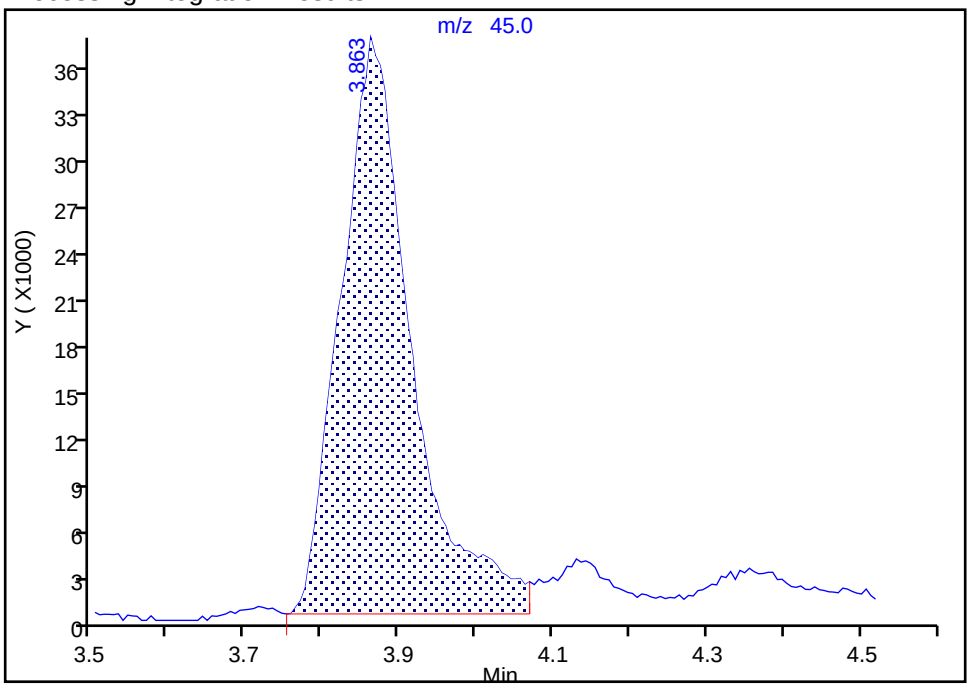
Data File:	\\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I03.D				
Injection Date:	14-Jul-2020 14:15:30	Instrument ID:	9355		
Lims ID:	ICIS				
Client ID:					
Operator ID:	JTL32685	ALS Bottle#:	4	Worklist Smp#:	5
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

20 Isopropyl alcohol, CAS: 67-63-0

Signal: 1

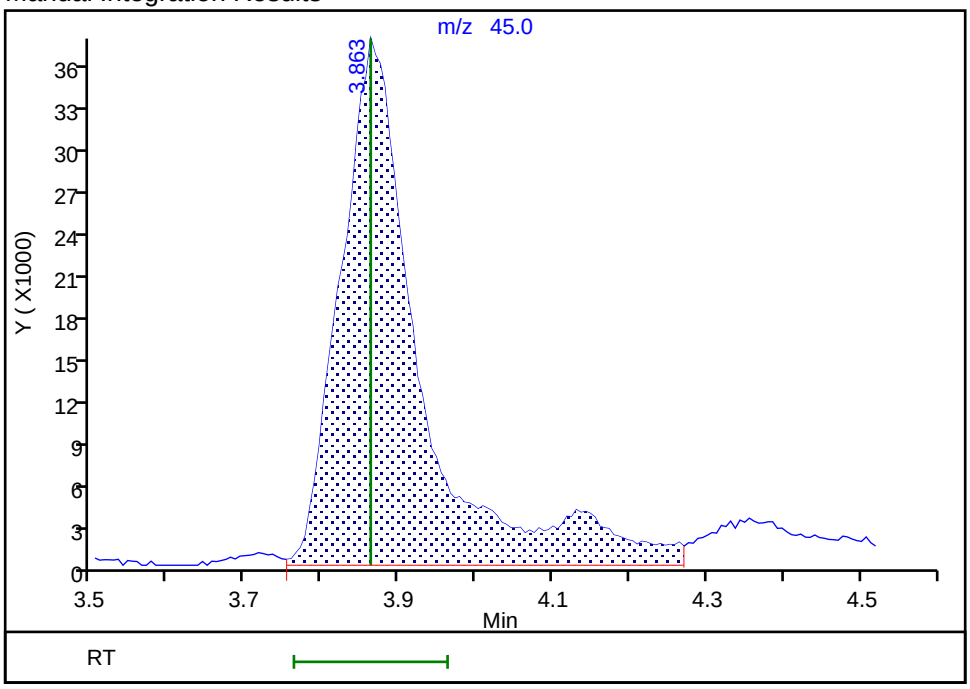
Processing Integration Results

RT: 3.86
Area: 236556
Amount: 245.0505
Amount Units: ug/l



Manual Integration Results

RT: 3.86
Area: 272871
Amount: 263.1333
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:45:17

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

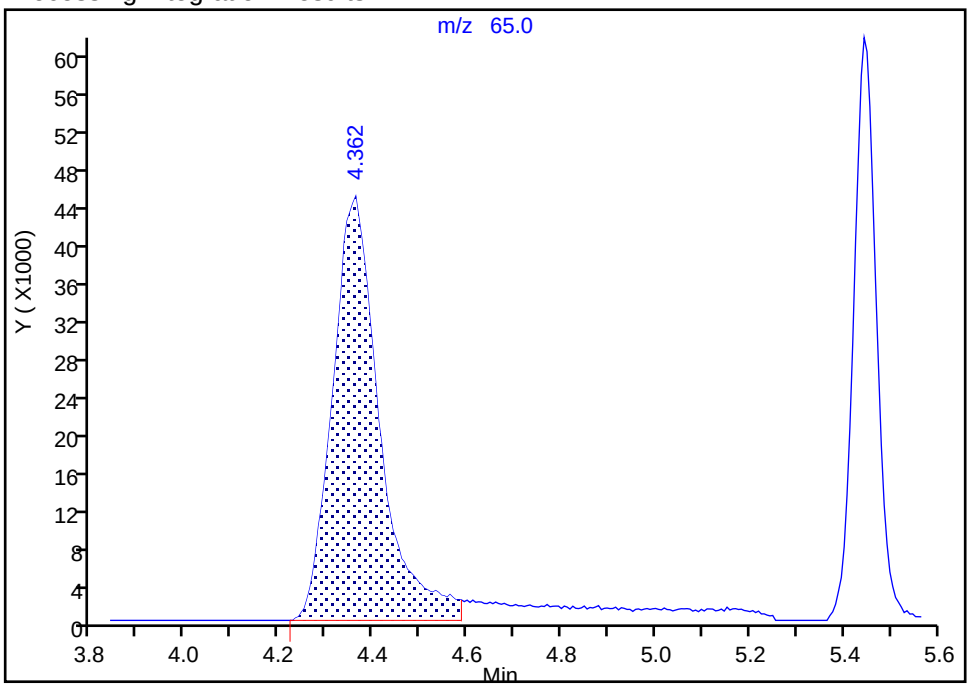
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I03.D
Injection Date: 14-Jul-2020 14:15:30 Instrument ID: 9355
Lims ID: ICIS
Client ID:
Operator ID: JTL32685 ALS Bottle#: 4 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

* 26 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2

Signal: 1

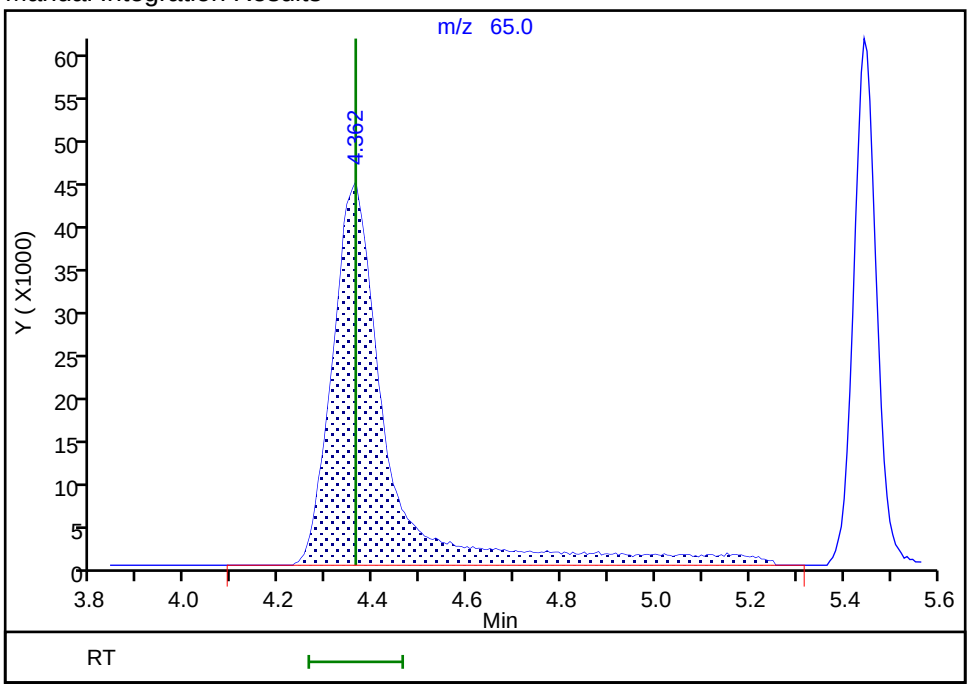
Processing Integration Results

RT: 4.36
Area: 309433
Amount: 250.0000
Amount Units: ug/l



Manual Integration Results

RT: 4.36
Area: 361512
Amount: 250.0000
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:30:55
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

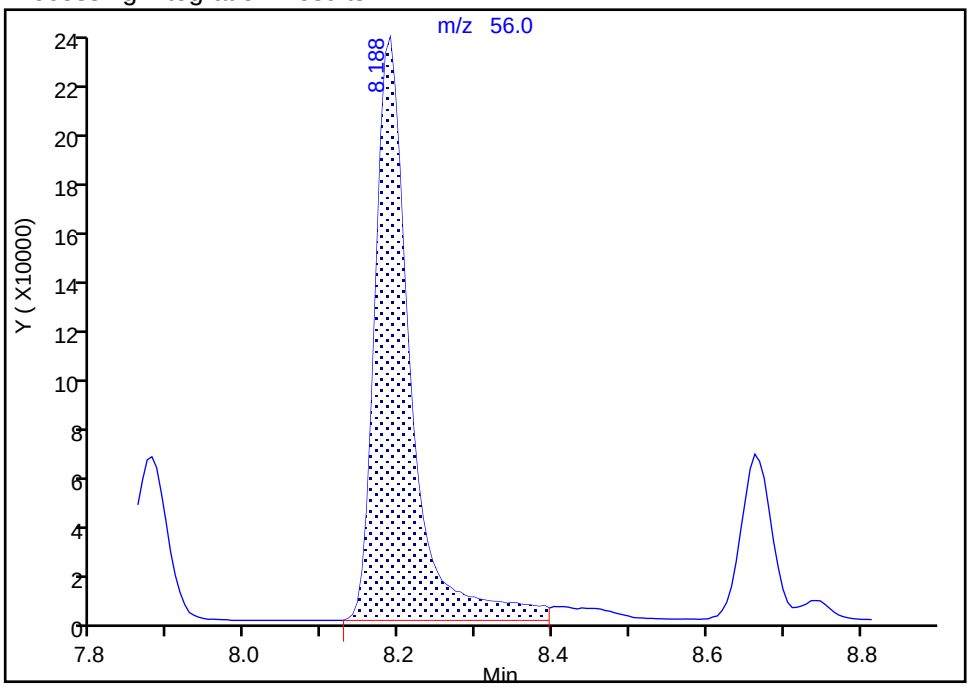
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I03.D
Injection Date: 14-Jul-2020 14:15:30 Instrument ID: 9355
Lims ID: ICIS
Client ID:
Operator ID: JTL32685 ALS Bottle#: 4 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

64 n-Butanol, CAS: 71-36-3

Signal: 1

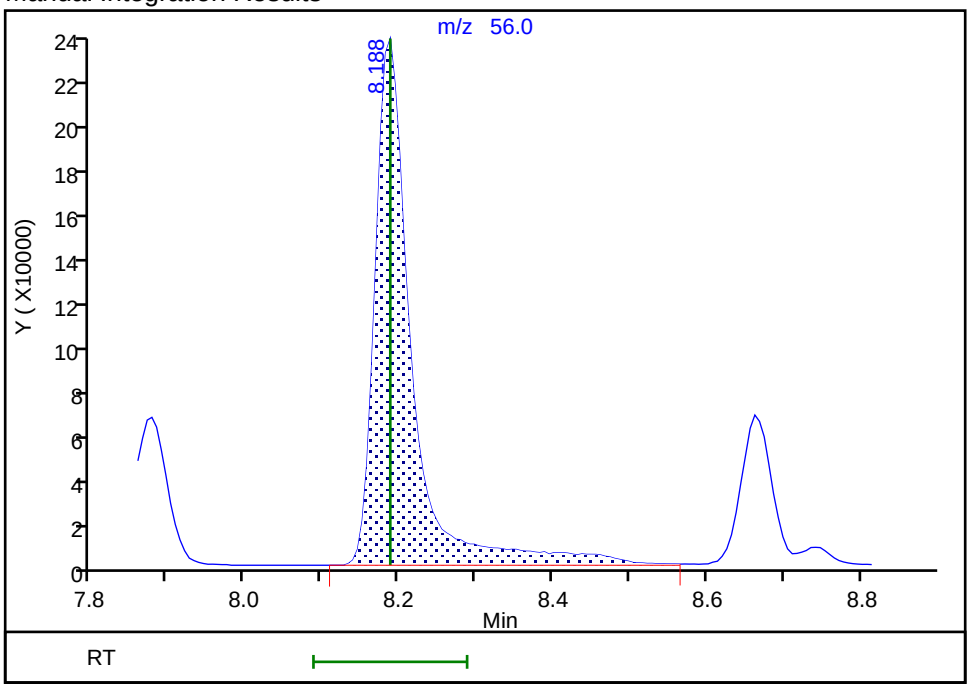
Processing Integration Results

RT: 8.19
Area: 763965
Amount: 1196.3863
Amount Units: ug/l



Manual Integration Results

RT: 8.19
Area: 793903
Amount: 1275.3855
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:31:40
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

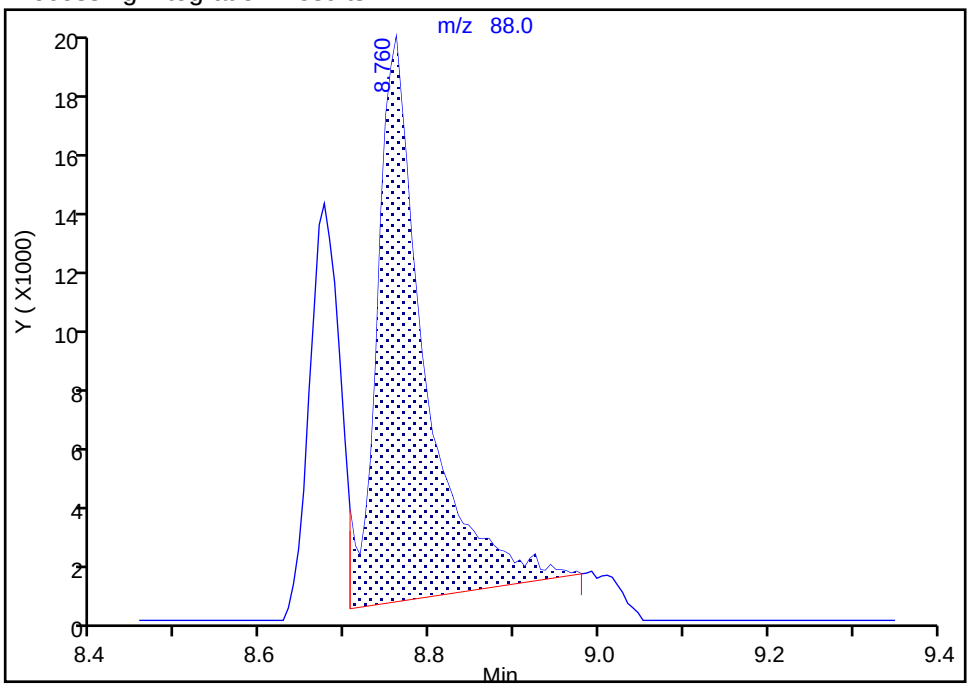
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I03.D
Injection Date: 14-Jul-2020 14:15:30 Instrument ID: 9355
Lims ID: ICIS
Client ID:
Operator ID: JTL32685 ALS Bottle#: 4 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

69 1,4-Dioxane, CAS: 123-91-1

Signal: 1

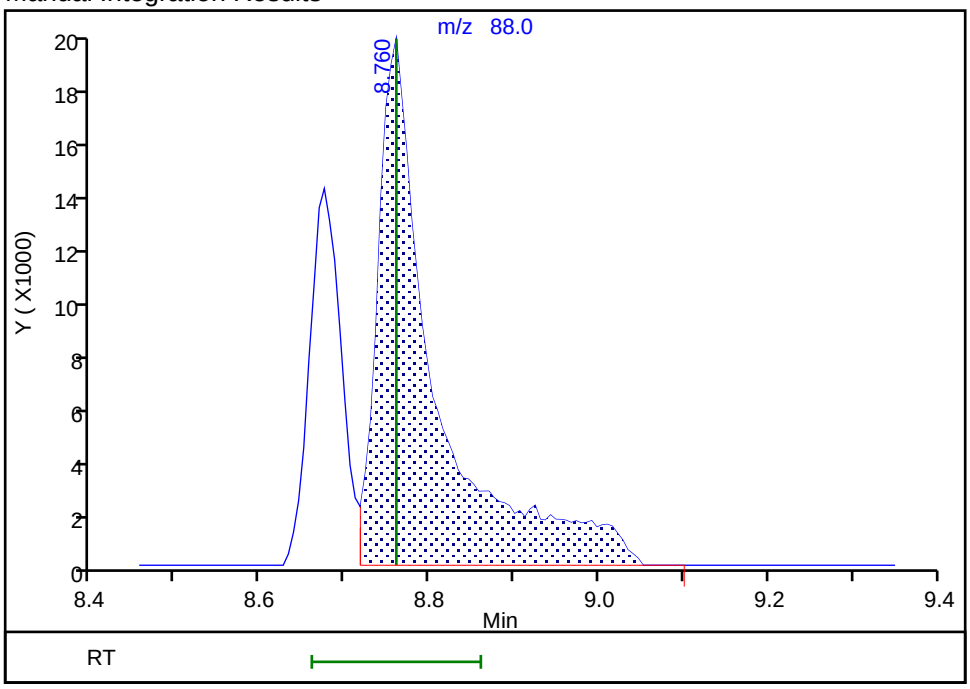
Processing Integration Results

RT: 8.76
Area: 74979
Amount: 370.7045
Amount Units: ug/l



Manual Integration Results

RT: 8.76
Area: 93789
Amount: 643.7944
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:32:00
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

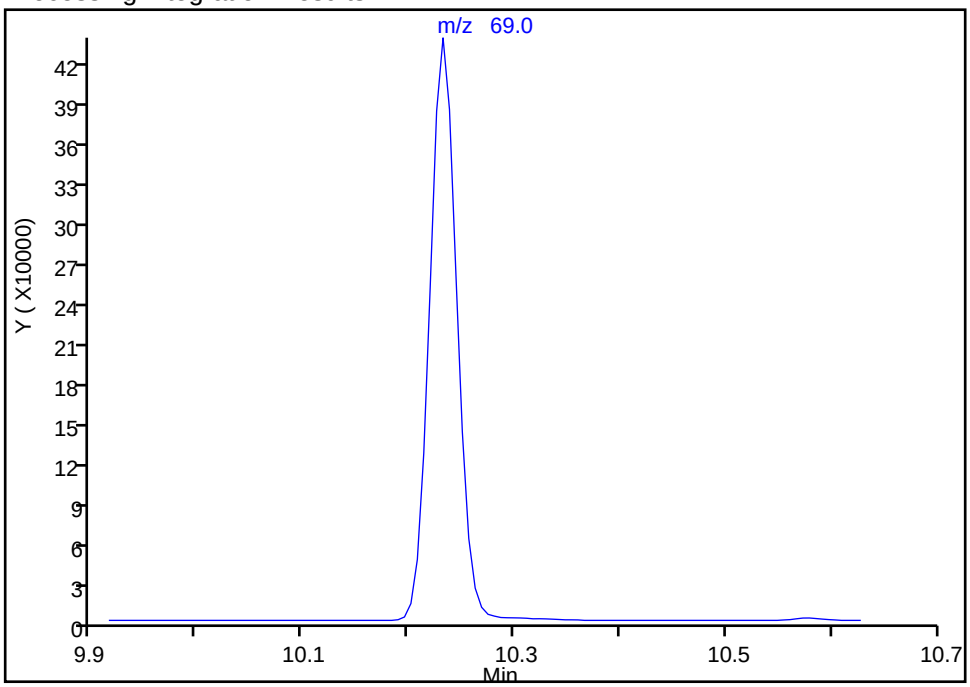
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I03.D
Injection Date: 14-Jul-2020 14:15:30 Instrument ID: 9355
Lims ID: ICIS
Client ID:
Operator ID: JTL32685 ALS Bottle#: 4 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

81 Ethyl methacrylate, CAS: 97-63-2

Signal: 1

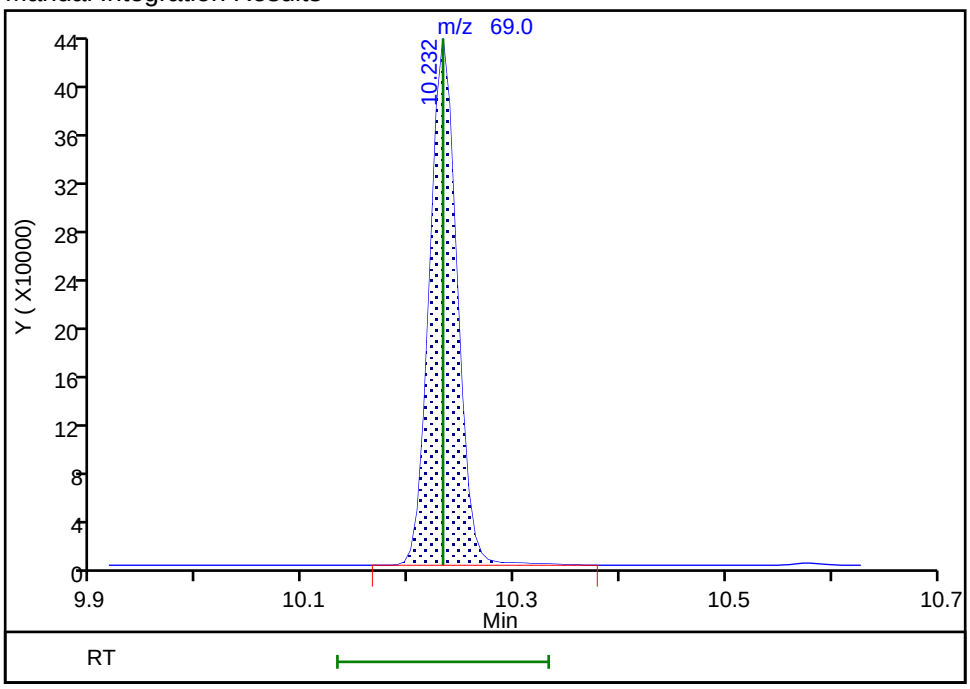
Not Detected
Expected RT: 10.23

Processing Integration Results



Manual Integration Results

RT: 10.23
Area: 777013
Amount: 54.742666
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:32:58
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I04.D
Lims ID: IC std4 20
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 14-Jul-2020 14:37:30 ALS Bottle#: 5 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0005480-006
Misc. Info.: IC STD4 20
Operator ID: JTL32685 Instrument ID: 9355
Sublist: chrom-MSVoa_9355*sub2

Method: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 15-Jul-2020 11:00:45 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1014

First Level Reviewer: campbellme Date: 14-Jul-2020 18:35:56

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Dichlorodifluoromethane	85	2.050	2.050	0.000	100	247803	20.0	20.3	M
4 Chloromethane	50	2.251	2.251	0.000	99	253132	20.0	19.2	M
5 Butadiene	39	2.366	2.366	0.000	94	187087	20.0	19.6	M
6 Vinyl chloride	62	2.366	2.366	0.000	99	243547	20.0	19.8	
8 Bromomethane	94	2.701	2.701	0.000	90	179623	20.0	19.9	M
9 Chloroethane	64	2.786	2.786	0.000	100	143962	20.0	19.7	
10 Dichlorofluoromethane	67	3.029	3.029	0.000	98	336934	20.0	19.5	
11 Trichlorofluoromethane	101	3.096	3.096	0.000	99	297794	20.0	19.8	
12 Pentane	43	3.151	3.151	0.000	97	269401	20.0	19.9	
14 Ethyl ether	59	3.364	3.364	0.000	92	166233	20.0	20.4	
15 1,2-Dichloro-1,1,2-trifluoroetha	67	3.425	3.425	0.000	92	161670	20.0	20.3	
16 Acrolein	56	3.534	3.534	0.000	99	575282	200.0	172.7	
17 1,1-Dichloroethene	96	3.686	3.686	0.000	98	113718	20.0	20.2	
18 Acetone	58	3.705	3.705	0.000	100	54899	40.0	38.1	
19 1,1,2-Trichloro-1,2,2-trifluoroe	101	3.723	3.723	0.000	93	121027	20.0	20.2	
20 Isopropyl alcohol	45	3.863	3.863	0.000	99	197215	200.0	194.7	M
21 Iodomethane	142	3.893	3.893	0.000	99	229298	20.0	20.4	
22 Carbon disulfide	76	4.015	4.015	0.000	100	367780	20.0	20.2	
24 Methyl acetate	43	4.136	4.136	0.000	98	219818	20.0	19.6	
25 3-Chloro-1-propene	41	4.179	4.179	0.000	88	239137	20.0	20.3	
* 26 t-Butyl alcohol-d10 (IS)	65	4.362	4.362	0.000	93	353036	250.0	250.0	M
27 Methylene Chloride	84	4.368	4.368	0.000	93	139772	20.0	20.0	
28 2-Methyl-2-propanol	59	4.489	4.489	0.000	97	354688	200.0	198.0	
30 Acrylonitrile	53	4.690	4.690	0.000	98	100635	20.0	18.3	
31 Methyl tert-butyl ether	73	4.781	4.781	0.000	97	453600	20.0	19.8	
32 trans-1,2-Dichloroethene	96	4.800	4.800	0.000	99	137794	20.0	20.2	
33 Hexane	57	5.225	5.225	0.000	96	205022	20.0	20.2	
36 1,1-Dichloroethane	63	5.444	5.444	0.000	97	245546	20.0	20.3	
37 Isopropyl ether	45	5.499	5.499	0.000	93	502264	20.0	20.2	
38 2-Chloro-1,3-butadiene	53	5.560	5.560	0.000	94	237994	20.0	20.4	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
39 Tert-butyl ethyl ether	59	6.041	6.041	0.000	97	468565	20.0	20.3	
S 40 1,2-Dichloroethene, Total	100				0			39.9	
41 2-Butanone (MEK)	43	6.217	6.217	0.000	100	299158	40.0	36.5	
42 cis-1,2-Dichloroethene	96	6.272	6.272	0.000	86	156363	20.0	19.7	
44 2,2-Dichloropropane	77	6.284	6.284	0.000	91	196179	20.0	19.9	
45 Propionitrile	54	6.296	6.296	0.000	99	419102	200.0	191.2	
46 Methacrylonitrile	67	6.527	6.527	0.000	92	576840	100.0	97.7	
47 Chlorobromomethane	128	6.606	6.606	0.000	97	89640	20.0	20.1	
48 Tetrahydrofuran	71	6.619	6.619	0.000	92	80057	40.0	34.9	
49 Chloroform	83	6.752	6.752	0.000	96	250637	20.0	20.2	
$ 50 Dibromofluoromethane (Surr)	113	6.965	6.965	0.000	93	307726	50.0	50.7	
51 1,1,1-Trichloroethane	97	6.990	6.990	0.000	98	214666	20.0	20.2	
52 Cyclohexane	56	7.099	7.099	0.000	93	245706	20.0	20.4	
53 1,1-Dichloropropene	75	7.203	7.203	0.000	93	192424	20.0	19.9	
54 Carbon tetrachloride	117	7.203	7.203	0.000	98	178542	20.0	19.9	
55 Isobutyl alcohol	41	7.306	7.306	0.000	93	312658	500.0	489.6	
$ 56 1,2-Dichloroethane-d4 (Surr)	102	7.428	7.428	0.000	97	76874	50.0	50.8	
57 Benzene	78	7.464	7.464	0.000	97	583657	20.0	20.1	
59 1,2-Dichloroethane	62	7.531	7.531	0.000	98	212187	20.0	19.5	
60 Tert-amyl methyl ether	73	7.647	7.647	0.000	97	476034	20.0	20.4	
* 62 Fluorobenzene (IS)	96	7.866	7.866	0.000	99	1259887	50.0	50.0	
63 n-Heptane	43	7.878	7.878	0.000	93	239343	20.0	19.8	
64 n-Butanol	56	8.188	8.188	0.000	90	600195	1000.0	975.3	M
65 Trichloroethene	95	8.346	8.346	0.000	98	154304	20.0	20.1	
66 Methylcyclohexane	83	8.663	8.663	0.000	96	282257	20.0	20.5	
67 1,2-Dichloropropane	63	8.675	8.675	0.000	69	153001	20.0	19.5	
34 2-ethoxy-2-methyl butane	87	8.675	8.675	0.000	93	240901	20.0	19.4	
68 Methyl methacrylate	69	8.742	8.742	0.000	90	175875	20.0	19.7	
69 1,4-Dioxane	88	8.760	8.760	0.000	93	69153	500.0	486.1	M
70 Dibromomethane	93	8.790	8.790	0.000	96	102991	20.0	19.8	
72 Dichlorobromomethane	83	9.015	9.015	0.000	99	181176	20.0	19.9	
73 2-Nitropropane	41	9.259	9.259	0.000	99	160072	40.0	35.7	
74 2-Chloroethyl vinyl ether	63	9.362	9.362	0.000	93	139617	20.0	20.2	
75 cis-1,3-Dichloropropene	75	9.551	9.551	0.000	93	232637	20.0	20.1	
76 4-Methyl-2-pentanone (MIBK)	43	9.703	9.703	0.000	98	591979	40.0	36.9	
$ 77 Toluene-d8 (Surr)	98	9.855	9.855	0.000	94	1267133	50.0	51.3	
78 Toluene	92	9.934	9.934	0.000	97	371759	20.0	20.0	
S 79 1,3-Dichloropropene, Total	100				0			40.4	
80 trans-1,3-Dichloropropene	75	10.177	10.177	0.000	96	223810	20.0	20.3	
81 Ethyl methacrylate	69	10.232	10.232	0.000	90	277941	20.0	20.2	
82 1,1,2-Trichloroethane	97	10.384	10.384	0.000	93	145522	20.0	20.0	
83 Tetrachloroethene	166	10.482	10.482	0.000	97	188918	20.0	20.0	
84 1,3-Dichloropropane	76	10.542	10.542	0.000	94	249019	20.0	20.0	
86 2-Hexanone	43	10.579	10.579	0.000	98	485954	40.0	37.6	
88 Chlorodibromomethane	129	10.761	10.761	0.000	90	144047	20.0	20.1	
89 Ethylene Dibromide	107	10.877	10.877	0.000	98	164539	20.0	20.1	
S 90 Xylenes, Total	106				0			59.4	
* 91 Chlorobenzene-d5 (IS)	117	11.297	11.297	0.000	88	976264	50.0	50.0	
92 1-Chlorohexane	91	11.303	11.303	0.000	98	209659	20.0	19.5	
93 Chlorobenzene	112	11.327	11.327	0.000	94	421144	20.0	19.8	
94 1,1,1,2-Tetrachloroethane	131	11.406	11.406	0.000	92	142314	20.0	19.7	
95 Ethylbenzene	91	11.406	11.406	0.000	98	745701	20.0	20.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
96 m-Xylene & p-Xylene	106	11.522	11.522	0.000	100	578428	40.0	39.7	
97 o-Xylene	106	11.850	11.850	0.000	97	280578	20.0	19.7	
98 Styrene	104	11.863	11.863	0.000	94	475696	20.0	19.9	
99 Bromoform	173	12.027	12.027	0.000	95	105330	20.0	18.7	
100 Isopropylbenzene	105	12.149	12.149	0.000	96	731260	20.0	20.4	
102 Cyclohexanone	55	12.222	12.222	0.000	94	337595	500.0	504.6	
$ 103 4-Bromofluorobenzene (Surr)	95	12.295	12.295	0.000	89	486745	50.0	51.4	
104 1,1,2,2-Tetrachloroethane	83	12.386	12.386	0.000	97	253279	20.0	19.9	
106 trans-1,4-Dichloro-2-butene	53	12.410	12.410	0.000	91	517512	100.0	99.2	
105 Bromobenzene	156	12.410	12.410	0.000	73	199064	20.0	19.2	
107 1,2,3-Trichloropropane	110	12.434	12.434	0.000	88	83612	20.0	19.4	
108 N-Propylbenzene	91	12.477	12.477	0.000	99	881214	20.0	20.5	
109 2-Chlorotoluene	126	12.556	12.556	0.000	96	175393	20.0	19.5	
110 1,3,5-Trimethylbenzene	105	12.611	12.611	0.000	94	635392	20.0	20.2	
111 4-Chlorotoluene	126	12.647	12.647	0.000	98	188115	20.0	19.6	
113 tert-Butylbenzene	134	12.854	12.854	0.000	93	130903	20.0	19.5	
114 Pentachloroethane	167	12.891	12.891	0.000	89	91985	20.0	19.7	
115 1,2,4-Trimethylbenzene	105	12.897	12.897	0.000	98	662697	20.0	20.0	
116 sec-Butylbenzene	105	13.018	13.018	0.000	95	818027	20.0	20.5	
117 1,3-Dichlorobenzene	146	13.122	13.122	0.000	97	370007	20.0	19.4	
118 4-Isopropyltoluene	119	13.122	13.122	0.000	97	717292	20.0	20.2	
* 119 1,4-Dichlorobenzene-d4	152	13.177	13.177	0.000	96	520465	50.0	50.0	
121 1,4-Dichlorobenzene	146	13.195	13.195	0.000	94	383189	20.0	19.3	
120 1,2,3-Trimethylbenzene	105	13.201	13.201	0.000	98	750758	20.0	20.2	
122 Benzyl chloride	91	13.262	13.262	0.000	99	505497	20.0	20.1	
123 1,3-Diethylbenzene	119	13.323	13.323	0.000	95	477241	20.0	20.4	
124 p-Diethylbenzene	119	13.396	13.396	0.000	95	502108	20.0	20.2	
125 n-Butylbenzene	92	13.414	13.414	0.000	97	367591	20.0	19.6	
126 1,2-Dichlorobenzene	146	13.450	13.450	0.000	98	353097	20.0	19.2	
127 o-diethylbenzene	119	13.469	13.469	0.000	96	397553	20.0	20.0	
129 1,2-Dibromo-3-Chloropropane	75	13.992	13.992	0.000	82	61078	20.0	19.5	
130 1,3,5-Trichlorobenzene	180	14.120	14.120	0.000	97	266192	20.0	19.2	
131 1,2,4-Trichlorobenzene	180	14.545	14.545	0.000	94	250112	20.0	19.3	
132 Hexachlorobutadiene	225	14.625	14.625	0.000	98	111064	20.0	19.6	
133 Naphthalene	128	14.728	14.728	0.000	97	875720	20.0	20.4	
134 1,2,3-Trichlorobenzene	180	14.868	14.868	0.000	95	239992	20.0	19.2	
135 2-Methylnaphthalene	142	15.519	15.519	0.000	92	577557	20.0	20.4	
S 146 Total Diethylbenzene	1				0			60.7	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MSV_VCYC_00002	Amount Added:	16.00	Units: uL	
MSV_V_EE_00003	Amount Added:	4.00	Units: uL	
MSV_DCFM_00018	Amount Added:	2.00	Units: uL	
MSV_V_2CEVE_00086	Amount Added:	4.00	Units: uL	
MSV_V_VOA1_00074	Amount Added:	4.00	Units: uL	
MSV_V_VOA3_00036	Amount Added:	1.60	Units: uL	
MSV_V_VOA6_00043	Amount Added:	4.00	Units: uL	
MSV_V_VOA2_00039	Amount Added:	4.00	Units: uL	
MSV_V_Gas_00108	Amount Added:	2.00	Units: uL	
MSV_HP20_ISSS_00016	Amount Added:	1.00	Units: uL	Run Reagent

Report Date: 15-Jul-2020 11:00:46 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I04.D

Injection Date: 14-Jul-2020 14:37:30 Instrument ID: 9355 Operator ID: JTL32685

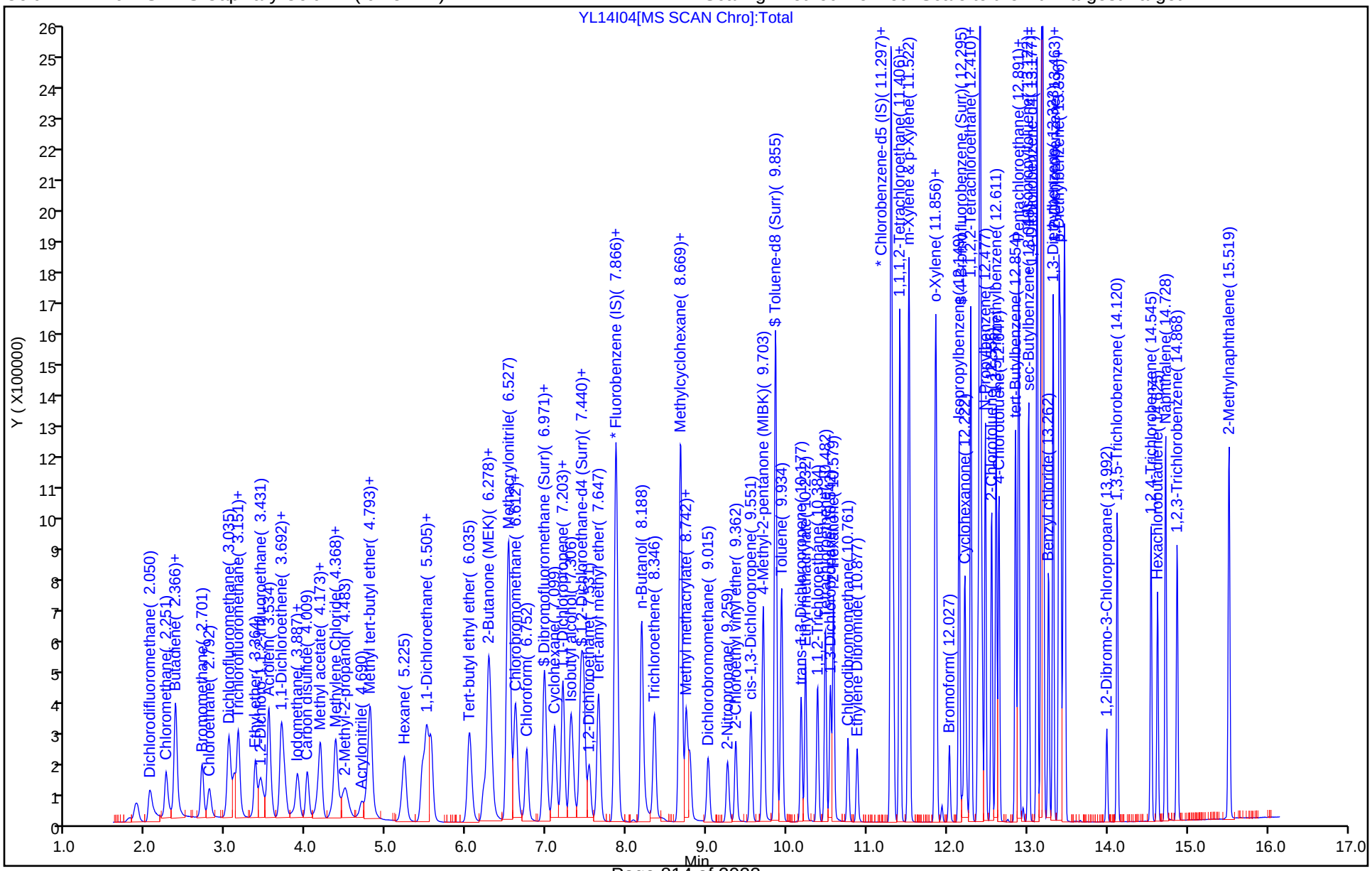
Lims ID: IC std4 20 Worklist Smp#: 6

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 5

Method: MSVoa_9355 Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

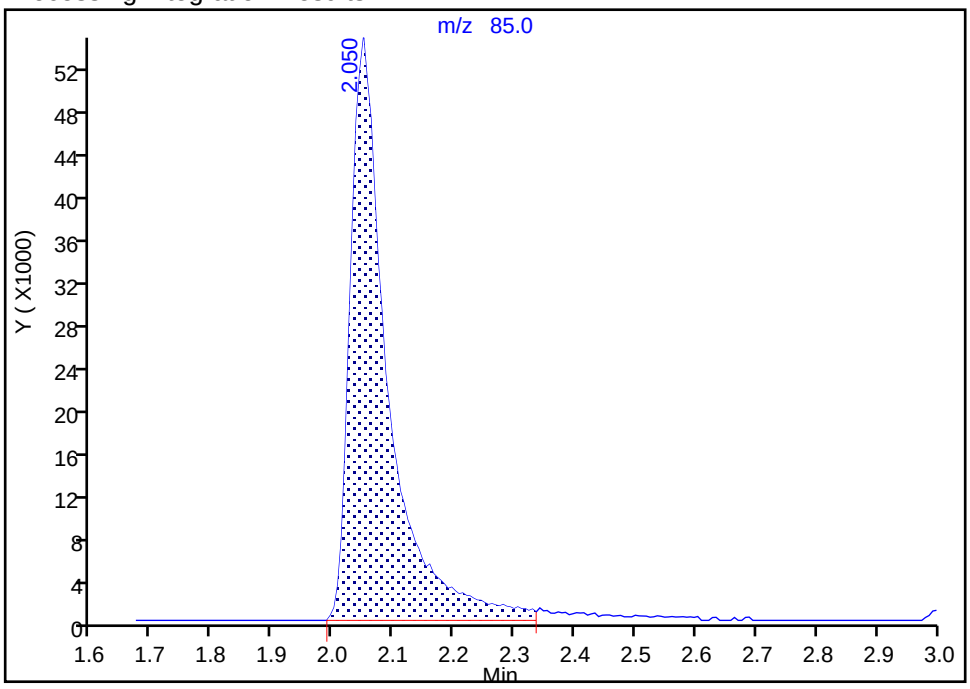
Data File:	\\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I04.D				
Injection Date:	14-Jul-2020 14:37:30	Instrument ID:	9355		
Lims ID:	IC std4 20				
Client ID:					
Operator ID:	JTL32685	ALS Bottle#:	5	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

2 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

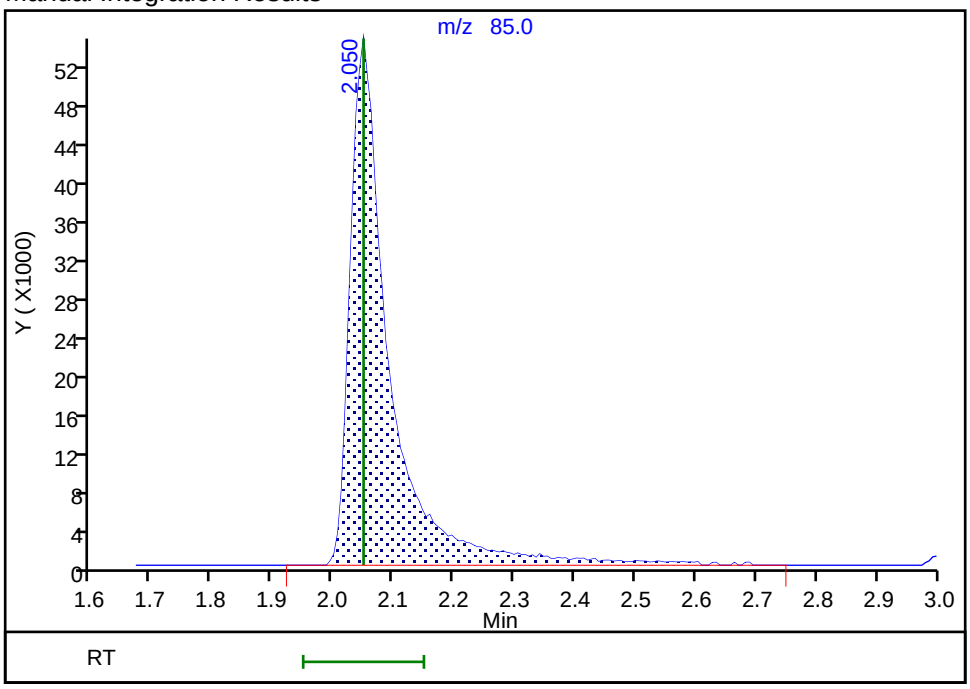
Processing Integration Results

RT: 2.05
Area: 239118
Amount: 19.846025
Amount Units: ug/l



Manual Integration Results

RT: 2.05
Area: 247803
Amount: 20.297323
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:33:42

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

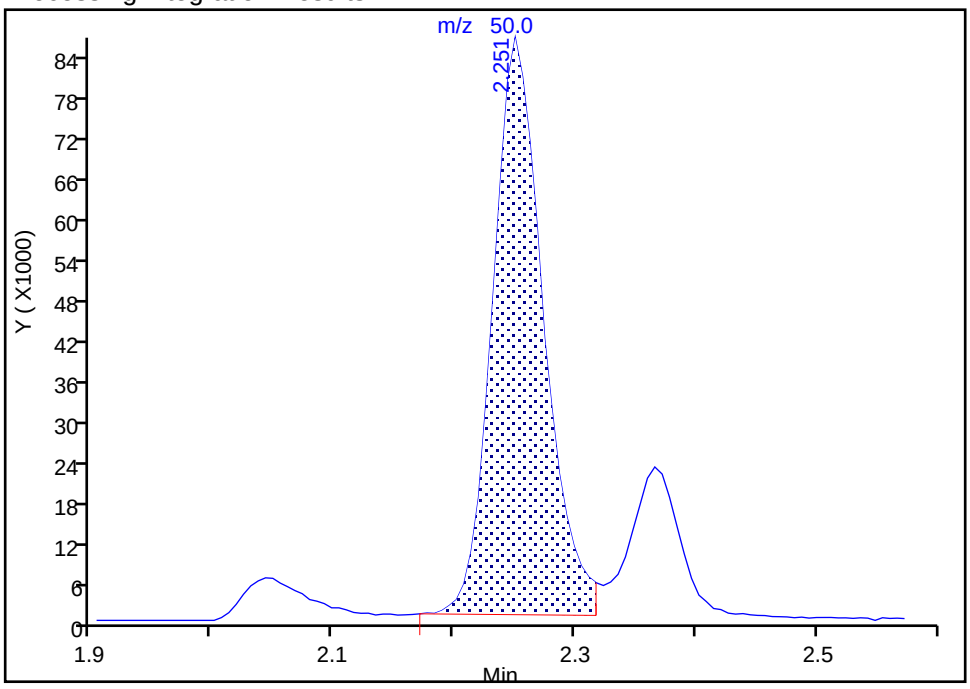
Data File:	\\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I04.D				
Injection Date:	14-Jul-2020 14:37:30	Instrument ID:	9355		
Lims ID:	IC std4 20				
Client ID:					
Operator ID:	JTL32685	ALS Bottle#:	5	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25 mm)	Detector	MS Quad		

4 Chloromethane, CAS: 74-87-3

Signal: 1

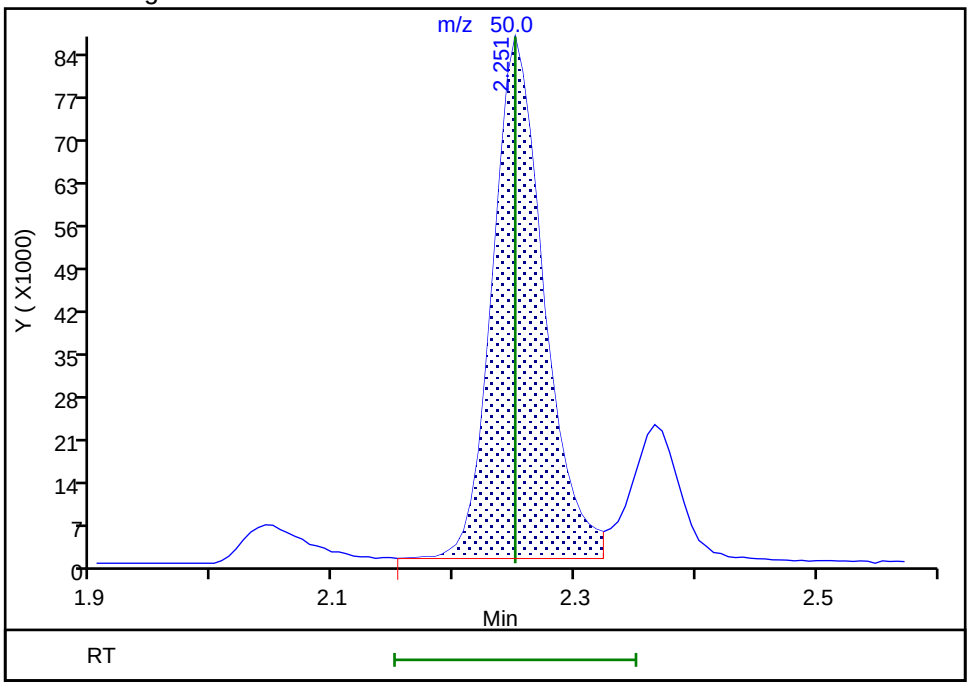
Processing Integration Results

RT: 2.25
Area: 250734
Amount: 19.100206
Amount Units: ug/l



Manual Integration Results

RT: 2.25
Area: 253132
Amount: 19.236655
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:34:14
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

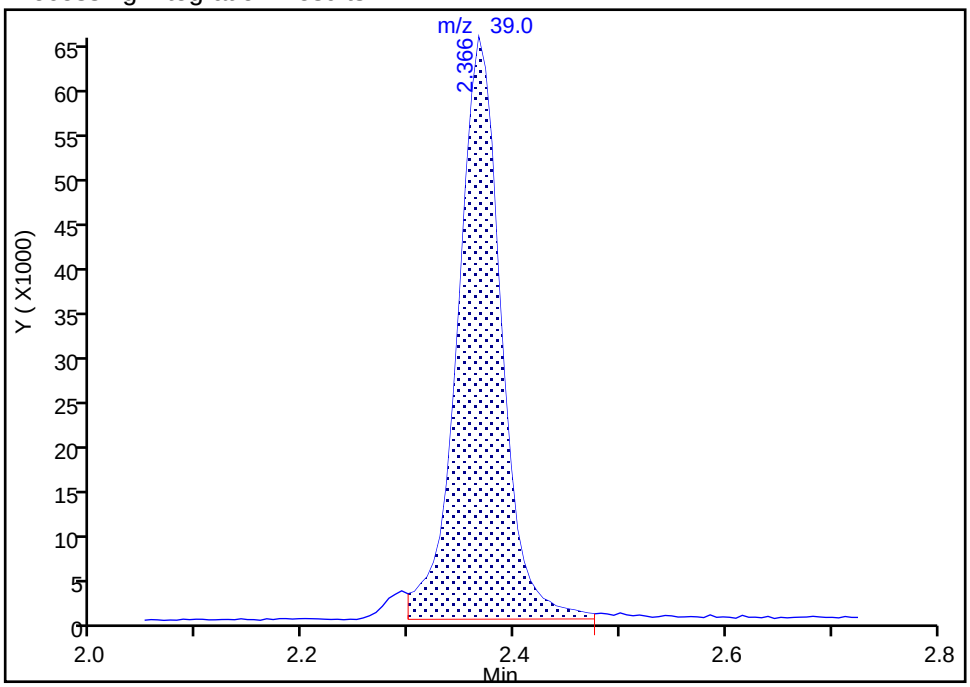
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I04.D
Injection Date: 14-Jul-2020 14:37:30 Instrument ID: 9355
Lims ID: IC std4 20
Client ID:
Operator ID: JTL32685 ALS Bottle#: 5 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

5 Butadiene, CAS: 106-99-0

Signal: 1

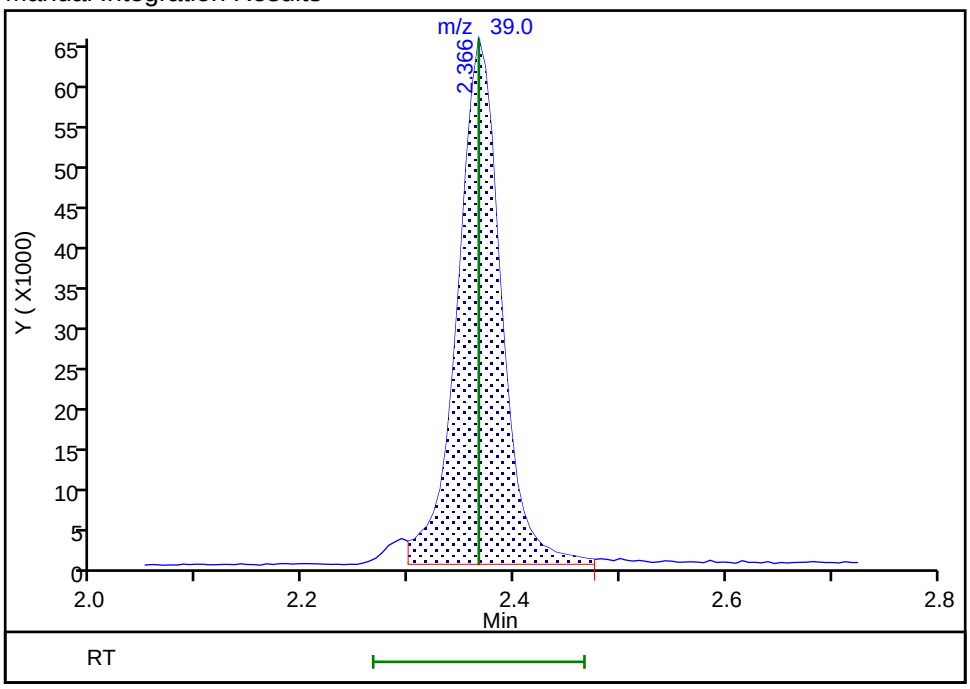
Processing Integration Results

RT: 2.37
Area: 186824
Amount: 19.895665
Amount Units: ug/l



Manual Integration Results

RT: 2.37
Area: 187087
Amount: 19.627560
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:34:25
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

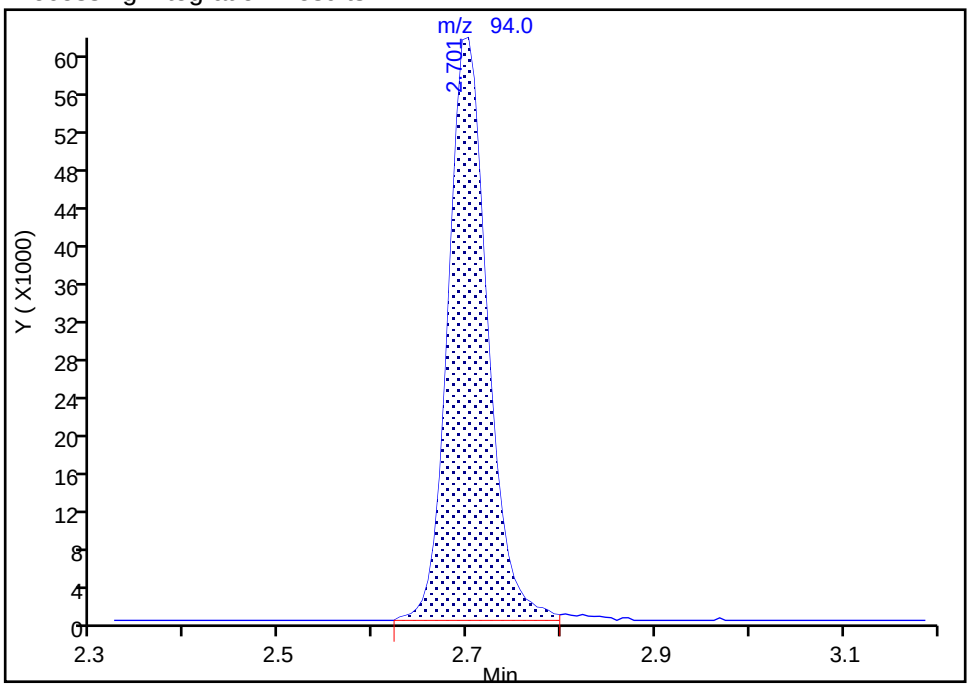
Data File:	\\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I04.D				
Injection Date:	14-Jul-2020 14:37:30	Instrument ID:	9355		
Lims ID:	IC std4 20				
Client ID:					
Operator ID:	JTL32685	ALS Bottle#:	5	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25 mm)	Detector	MS Quad		

8 Bromomethane, CAS: 74-83-9

Signal: 1

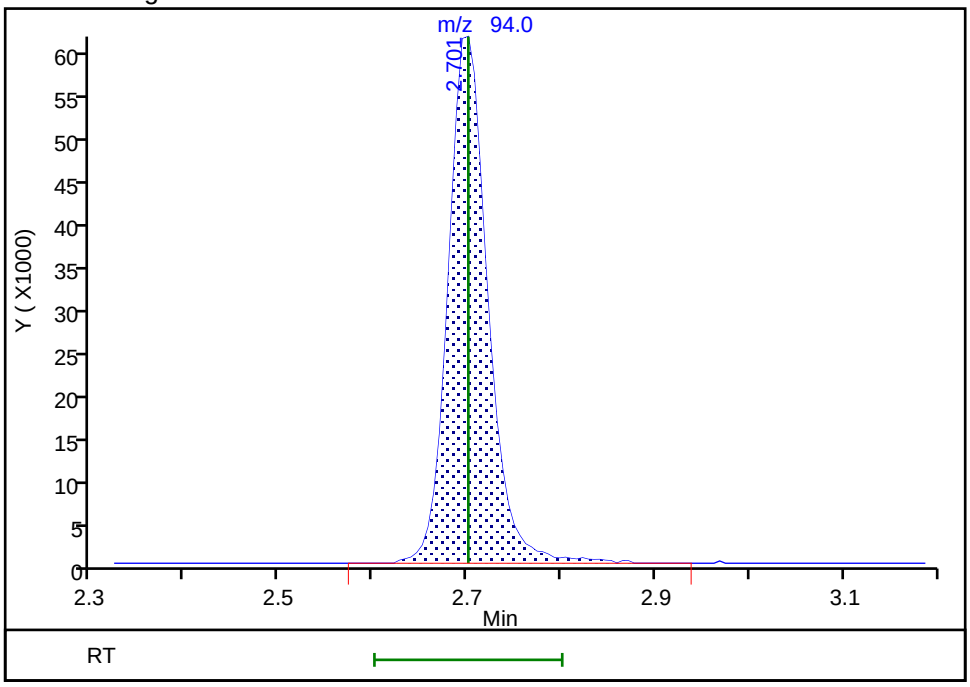
Processing Integration Results

RT: 2.70
Area: 177905
Amount: 19.706356
Amount Units: ug/l



Manual Integration Results

RT: 2.70
Area: 179623
Amount: 19.869649
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:34:37

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

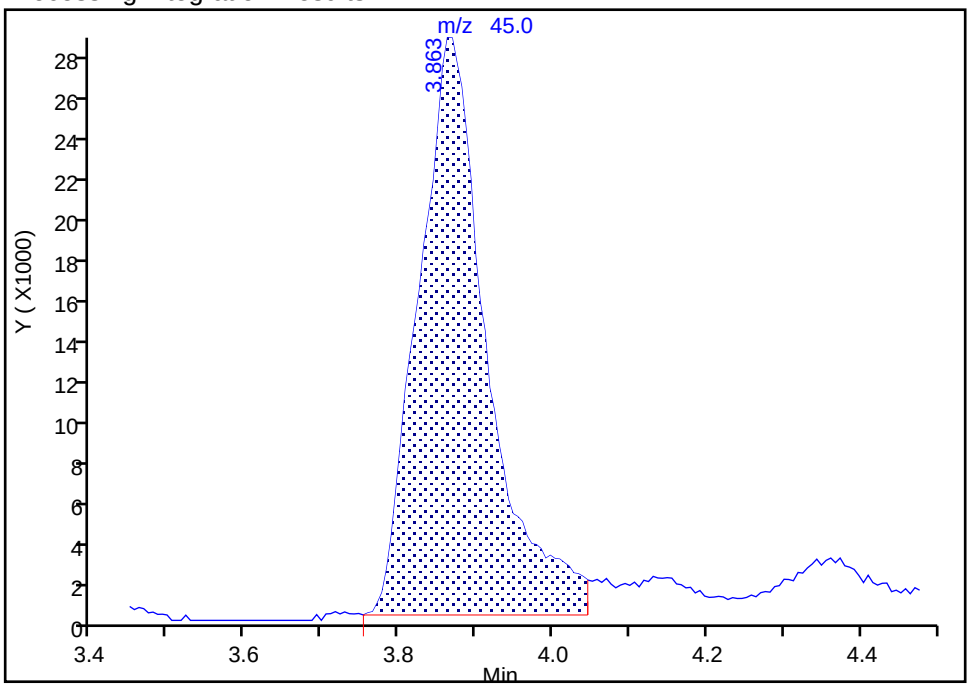
Data File:	\\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I04.D				
Injection Date:	14-Jul-2020 14:37:30	Instrument ID:	9355		
Lims ID:	IC std4 20				
Client ID:					
Operator ID:	JTL32685	ALS Bottle#:	5	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

20 Isopropyl alcohol, CAS: 67-63-0

Signal: 1

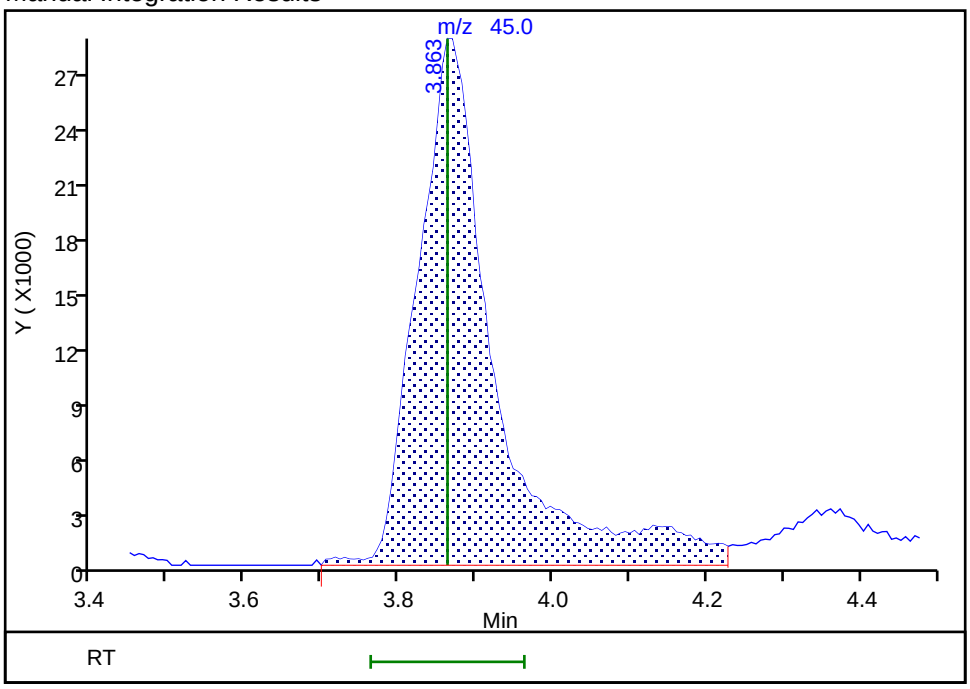
Processing Integration Results

RT: 3.86
Area: 173374
Amount: 183.6248
Amount Units: ug/l



Manual Integration Results

RT: 3.86
Area: 197215
Amount: 194.7431
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:44:21
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

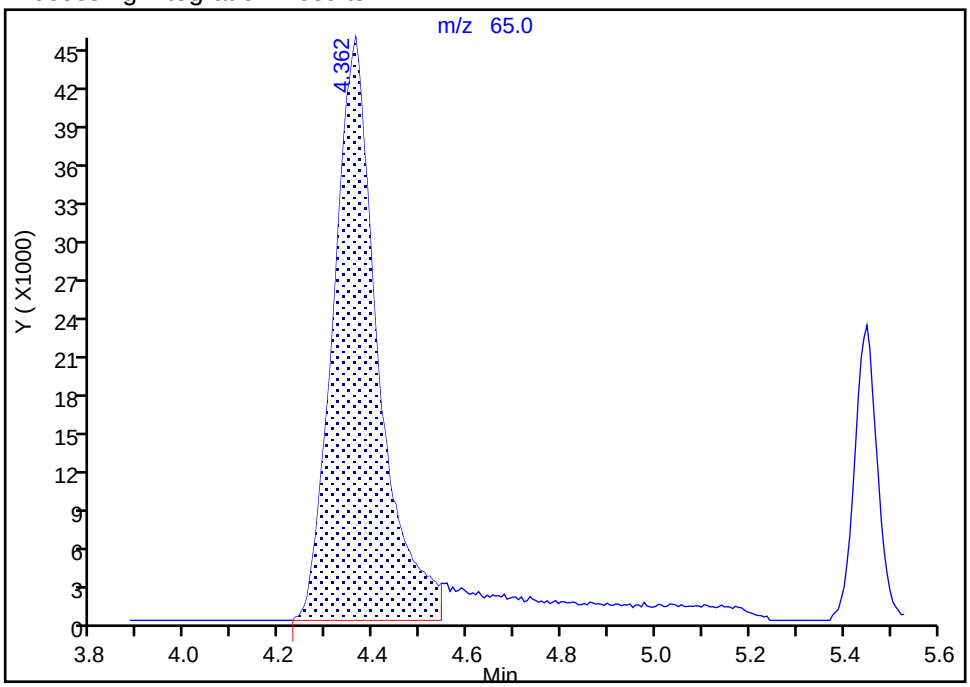
Data File:	\\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I04.D				
Injection Date:	14-Jul-2020 14:37:30	Instrument ID:	9355		
Lims ID:	IC std4 20				
Client ID:					
Operator ID:	JTL32685	ALS Bottle#:	5	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

* 26 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2

Signal: 1

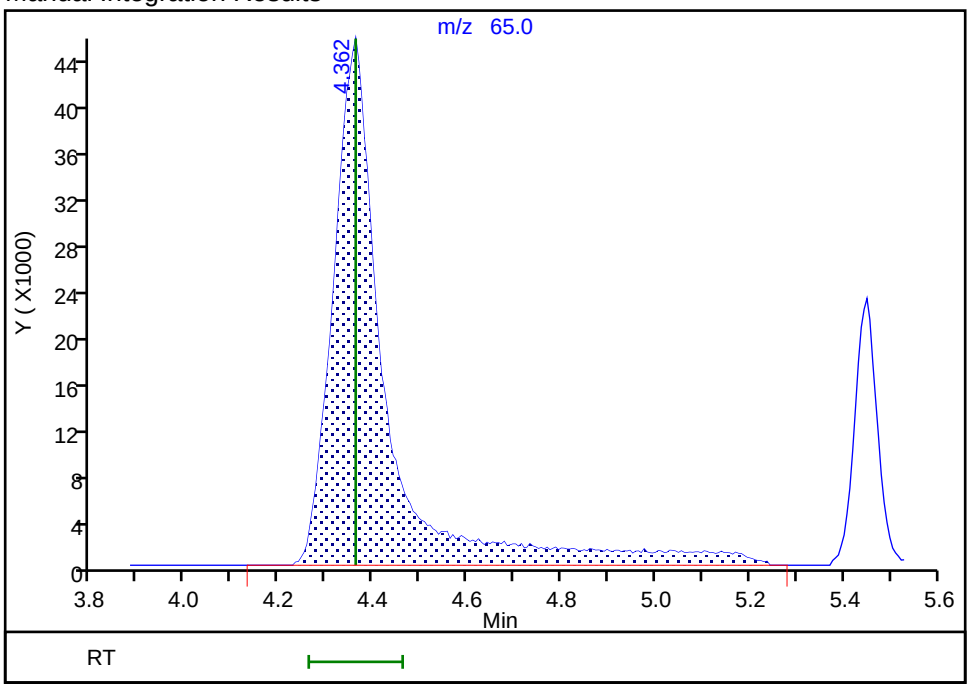
Processing Integration Results

RT: 4.36
Area: 295778
Amount: 250.0000
Amount Units: ug/l



Manual Integration Results

RT: 4.36
Area: 353036
Amount: 250.0000
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:34:50

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

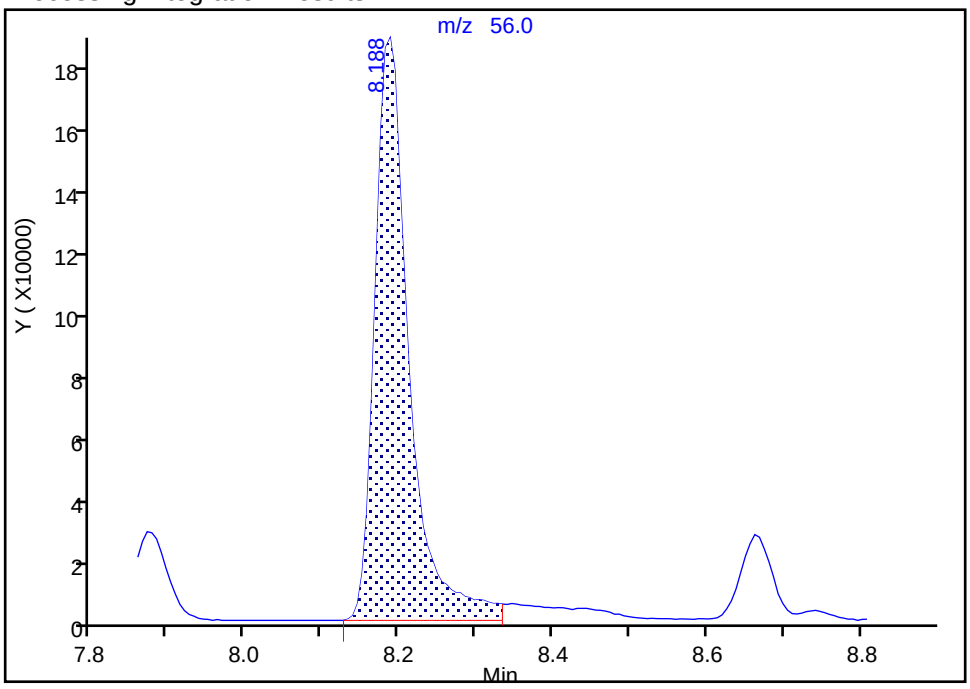
Data File:	\\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I04.D				
Injection Date:	14-Jul-2020 14:37:30	Instrument ID:	9355		
Lims ID:	IC std4 20				
Client ID:					
Operator ID:	JTL32685	ALS Bottle#:	5	Worklist Smp#:	6
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

64 n-Butanol, CAS: 71-36-3

Signal: 1

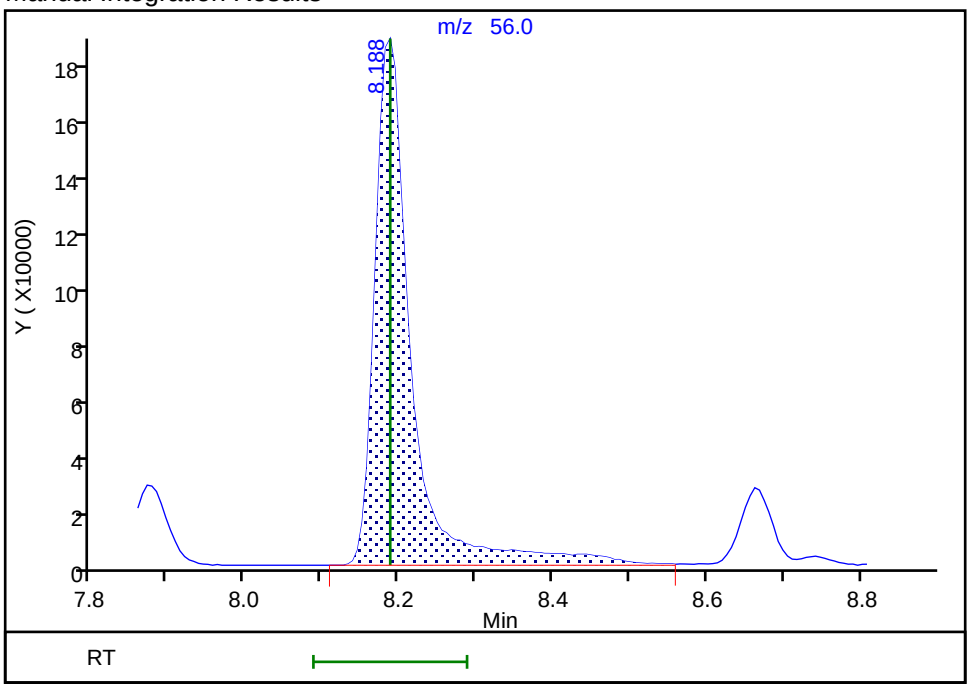
Processing Integration Results

RT: 8.19
Area: 562190
Amount: 902.3469
Amount Units: ug/l



Manual Integration Results

RT: 8.19
Area: 600195
Amount: 975.3277
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:35:19
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

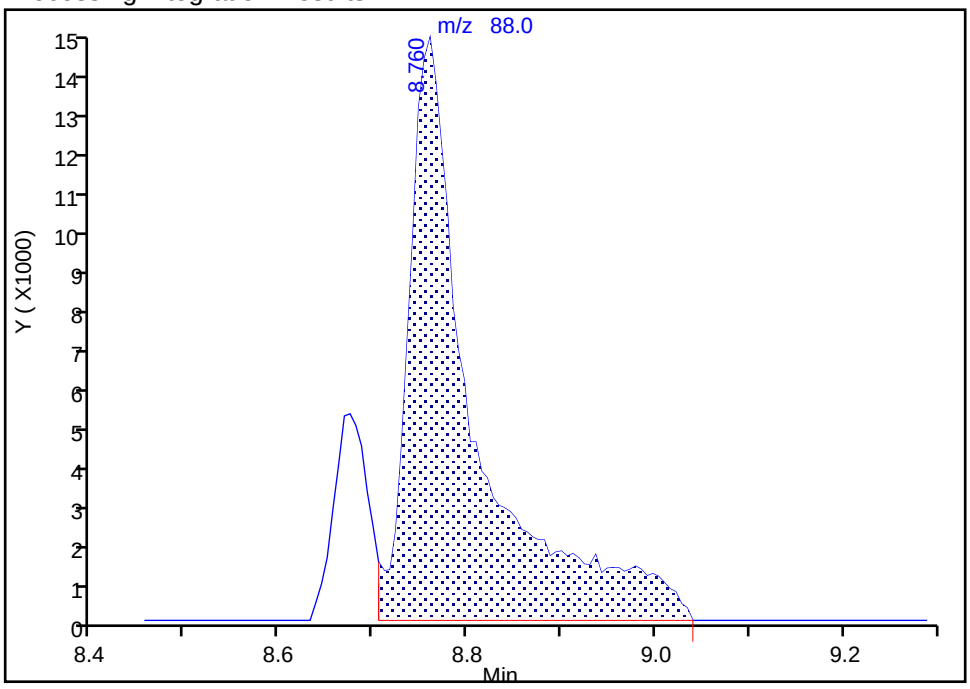
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I04.D
Injection Date: 14-Jul-2020 14:37:30 Instrument ID: 9355
Lims ID: IC std4 20
Client ID:
Operator ID: JTL32685 ALS Bottle#: 5 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

69 1,4-Dioxane, CAS: 123-91-1

Signal: 1

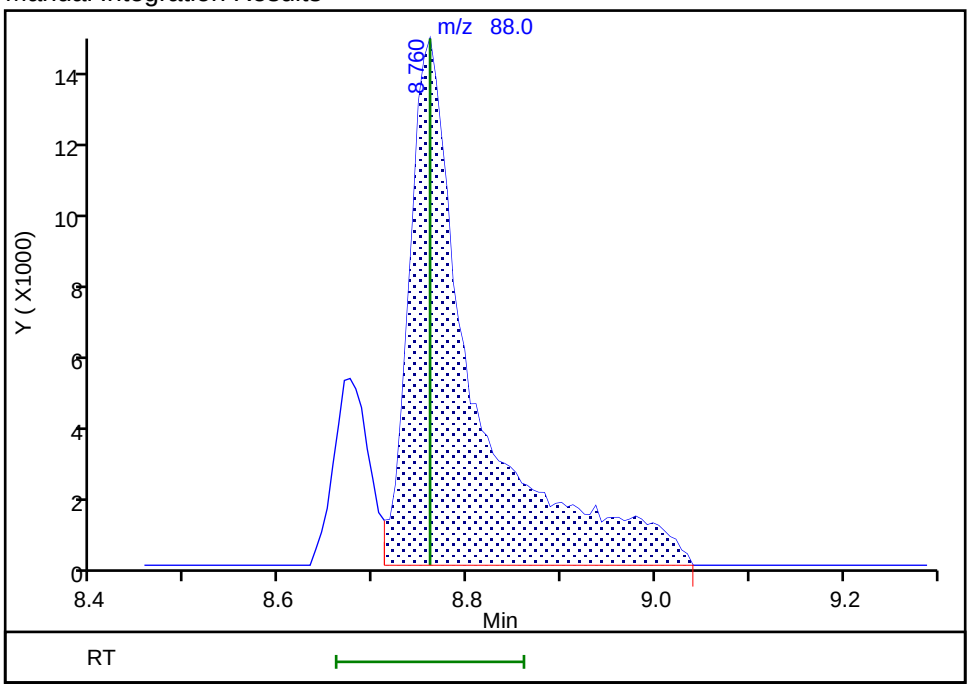
Processing Integration Results

RT: 8.76
Area: 69670
Amount: 352.1109
Amount Units: ug/l



Manual Integration Results

RT: 8.76
Area: 69153
Amount: 486.0826
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:35:38
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I05.D
Lims ID: IC std3 10
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 14-Jul-2020 14:59:30 ALS Bottle#: 6 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0005480-007
Misc. Info.: IC STD3 10
Operator ID: JTL32685 Instrument ID: 9355
Sublist: chrom-MSVoa_9355*sub2

Method: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 15-Jul-2020 11:00:56 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1014

First Level Reviewer: campbellme Date: 14-Jul-2020 18:37:51

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Dichlorodifluoromethane	85	2.050	2.050	0.000	100	126148	10.0	10.5	M
4 Chloromethane	50	2.244	2.251	-0.007	100	131655	10.0	10.2	M
5 Butadiene	39	2.360	2.366	-0.006	91	93072	10.0	9.92	M
6 Vinyl chloride	62	2.366	2.366	0.000	98	126069	10.0	10.4	M
8 Bromomethane	94	2.695	2.701	-0.006	90	91535	10.0	10.3	
9 Chloroethane	64	2.786	2.786	0.000	99	74127	10.0	10.3	
10 Dichlorofluoromethane	67	3.029	3.029	0.000	98	174309	10.0	10.3	
11 Trichlorofluoromethane	101	3.096	3.096	0.000	98	152415	10.0	10.3	
12 Pentane	43	3.145	3.151	-0.006	97	132042	10.0	9.90	
14 Ethyl ether	59	3.364	3.364	0.000	92	74843	10.0	9.32	
15 1,2-Dichloro-1,1,2-trifluoroetha	67	3.431	3.425	0.006	92	76542	10.0	9.77	
16 Acrolein	56	3.528	3.534	-0.006	99	323316	100.0	101.2	
17 1,1-Dichloroethene	96	3.686	3.686	0.000	99	54735	10.0	9.87	
18 Acetone	58	3.692	3.705	-0.012	99	28689	20.0	20.7	
19 1,1,2-Trichloro-1,2,2-trifluoroe	101	3.717	3.723	-0.006	93	57703	10.0	9.80	
20 Isopropyl alcohol	45	3.869	3.863	0.006	99	97146	100.0	100.1	M
21 Iodomethane	142	3.887	3.893	-0.006	99	109800	10.0	9.92	
22 Carbon disulfide	76	4.009	4.015	-0.006	100	173240	10.0	9.67	
24 Methyl acetate	43	4.136	4.136	0.000	98	108990	10.0	9.89	
25 3-Chloro-1-propene	41	4.173	4.179	-0.006	89	115077	10.0	9.91	
* 26 t-Butyl alcohol-d10 (IS)	65	4.343	4.362	-0.019	89	338486	250.0	250.0	M
27 Methylene Chloride	84	4.368	4.368	0.000	94	66511	10.0	9.67	
28 2-Methyl-2-propanol	59	4.477	4.489	-0.012	97	178827	100.0	96.3	
30 Acrylonitrile	53	4.684	4.690	-0.006	99	57162	10.0	10.6	
31 Methyl tert-butyl ether	73	4.775	4.781	-0.006	97	220684	10.0	9.77	
32 trans-1,2-Dichloroethene	96	4.800	4.800	0.000	99	64869	10.0	9.66	
33 Hexane	57	5.219	5.225	-0.006	95	101159	10.0	10.1	
36 1,1-Dichloroethane	63	5.444	5.444	0.000	97	116993	10.0	9.81	
37 Isopropyl ether	45	5.499	5.499	0.000	93	244189	10.0	9.95	
38 2-Chloro-1,3-butadiene	53	5.560	5.560	0.000	94	111159	10.0	9.70	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
39 Tert-butyl ethyl ether	59	6.035	6.041	-0.006	97	229334	10.0	10.1	
S 40 1,2-Dichloroethene, Total	100				0			19.3	
41 2-Butanone (MEK)	43	6.217	6.217	0.000	100	165334	20.0	20.5	
42 cis-1,2-Dichloroethene	96	6.266	6.272	-0.006	85	75076	10.0	9.62	
44 2,2-Dichloropropane	77	6.290	6.284	0.006	88	93202	10.0	9.59	
45 Propionitrile	54	6.296	6.296	0.000	99	212812	100.0	101.3	
46 Methacrylonitrile	67	6.521	6.527	-0.006	92	287117	50.0	49.4	
47 Chlorobromomethane	128	6.606	6.606	0.000	94	42916	10.0	9.79	
48 Tetrahydrofuran	71	6.625	6.619	0.006	92	44949	20.0	20.4	
49 Chloroform	83	6.752	6.752	0.000	97	121484	10.0	9.93	
$ 50 Dibromofluoromethane (Surr)	113	6.965	6.965	0.000	93	300298	50.0	50.3	
51 1,1,1-Trichloroethane	97	6.984	6.990	-0.006	98	102063	10.0	9.78	
52 Cyclohexane	56	7.099	7.099	0.000	92	116558	10.0	9.81	
53 1,1-Dichloropropene	75	7.197	7.203	-0.007	93	94158	10.0	9.89	
54 Carbon tetrachloride	117	7.203	7.203	0.000	97	84842	10.0	9.62	
55 Isobutyl alcohol	41	7.306	7.306	0.000	94	154021	250.0	251.6	
$ 56 1,2-Dichloroethane-d4 (Surr)	102	7.428	7.428	0.000	98	75449	50.0	50.7	
57 Benzene	78	7.458	7.464	-0.006	96	282104	10.0	9.86	
59 1,2-Dichloroethane	62	7.531	7.531	0.000	98	105326	10.0	9.83	
60 Tert-amyl methyl ether	73	7.647	7.647	0.000	97	230242	10.0	10.0	
* 62 Fluorobenzene (IS)	96	7.860	7.866	-0.006	98	1240570	50.0	50.0	
63 n-Heptane	43	7.878	7.878	0.000	93	121201	10.0	10.2	
64 n-Butanol	56	8.188	8.188	0.000	91	287934	500.0	461.4	M
65 Trichloroethene	95	8.346	8.346	0.000	98	74344	10.0	9.84	
66 Methylcyclohexane	83	8.663	8.663	0.000	94	129015	10.0	9.51	
67 1,2-Dichloropropane	63	8.675	8.675	0.000	69	73898	10.0	9.55	
34 2-ethoxy-2-methyl butane	87	8.675	8.675	0.000	92	114275	10.0	9.34	
68 Methyl methacrylate	69	8.742	8.742	0.000	91	84505	10.0	9.61	
69 1,4-Dioxane	88	8.760	8.760	0.000	92	33802	250.0	247.8	M
70 Dibromomethane	93	8.784	8.790	-0.006	96	49713	10.0	9.71	
72 Dichlorobromomethane	83	9.015	9.015	0.000	99	85076	10.0	9.49	
73 2-Nitropropane	41	9.259	9.259	0.000	99	84764	20.0	19.7	
74 2-Chloroethyl vinyl ether	63	9.362	9.362	0.000	93	66444	10.0	9.77	
75 cis-1,3-Dichloropropene	75	9.551	9.551	0.000	93	110688	10.0	9.70	
76 4-Methyl-2-pentanone (MIBK)	43	9.703	9.703	0.000	98	324529	20.0	20.5	
$ 77 Toluene-d8 (Surr)	98	9.855	9.855	0.000	94	1243985	50.0	51.5	
78 Toluene	92	9.934	9.934	0.000	97	180591	10.0	9.91	
S 79 1,3-Dichloropropene, Total	100				0			19.4	
80 trans-1,3-Dichloropropene	75	10.177	10.177	0.000	96	104236	10.0	9.67	
81 Ethyl methacrylate	69	10.232	10.232	0.000	90	132035	10.0	9.81	
82 1,1,2-Trichloroethane	97	10.384	10.384	0.000	93	71443	10.0	10.0	
83 Tetrachloroethene	166	10.482	10.482	0.000	96	88272	10.0	9.53	
84 1,3-Dichloropropane	76	10.542	10.542	0.000	94	122282	10.0	10.0	
86 2-Hexanone	43	10.579	10.579	0.000	98	267077	20.0	21.1	
88 Chlorodibromomethane	129	10.761	10.761	0.000	90	67147	10.0	9.55	
89 Ethylene Dibromide	107	10.877	10.877	0.000	99	80174	10.0	10.0	
S 90 Xylenes, Total	106				0			29.1	
* 91 Chlorobenzene-d5 (IS)	117	11.297	11.297	0.000	88	955595	50.0	50.0	
92 1-Chlorohexane	91	11.303	11.303	0.000	98	101046	10.0	9.59	
93 Chlorobenzene	112	11.327	11.327	0.000	95	206690	10.0	9.91	
94 1,1,1,2-Tetrachloroethane	131	11.406	11.406	0.000	94	66274	10.0	9.37	
95 Ethylbenzene	91	11.406	11.406	0.000	99	355333	10.0	9.83	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
96 m-Xylene & p-Xylene	106	11.522	11.522	0.000	100	277429	20.0	19.5	
97 o-Xylene	106	11.850	11.850	0.000	95	134263	10.0	9.61	
98 Styrene	104	11.863	11.863	0.000	95	222958	10.0	9.55	
99 Bromoform	173	12.027	12.027	0.000	95	46697	10.0	8.45	
100 Isopropylbenzene	105	12.149	12.149	0.001	96	349800	10.0	10.0	
102 Cyclohexanone	55	12.222	12.222	0.000	94	155269	250.0	242.1	
$ 103 4-Bromofluorobenzene (Surr)	95	12.295	12.295	0.001	89	475615	50.0	51.3	
104 1,1,2,2-Tetrachloroethane	83	12.386	12.386	0.000	97	120395	10.0	9.68	
106 trans-1,4-Dichloro-2-butene	53	12.410	12.410	0.000	89	237679	50.0	46.6	
105 Bromobenzene	156	12.410	12.410	0.000	85	92996	10.0	9.17	
107 1,2,3-Trichloropropane	110	12.434	12.434	0.000	88	40845	10.0	9.66	
108 N-Propylbenzene	91	12.477	12.477	0.000	99	422053	10.0	10.1	
109 2-Chlorotoluene	126	12.556	12.556	0.000	96	83945	10.0	9.55	
110 1,3,5-Trimethylbenzene	105	12.611	12.611	0.000	94	303316	10.0	9.83	
111 4-Chlorotoluene	126	12.647	12.647	0.000	98	89752	10.0	9.57	
113 tert-Butylbenzene	134	12.854	12.854	0.000	93	62672	10.0	9.52	
114 Pentachloroethane	167	12.891	12.891	0.000	64	44379	10.0	9.71	
115 1,2,4-Trimethylbenzene	105	12.897	12.897	0.000	98	314663	10.0	9.69	
116 sec-Butylbenzene	105	13.018	13.018	0.000	94	394879	10.0	10.1	
117 1,3-Dichlorobenzene	146	13.122	13.122	0.000	97	175734	10.0	9.41	
118 4-Isopropyltoluene	119	13.122	13.122	0.000	96	337853	10.0	9.74	
* 119 1,4-Dichlorobenzene-d4	152	13.177	13.177	0.000	96	509379	50.0	50.0	
121 1,4-Dichlorobenzene	146	13.195	13.195	0.000	94	184224	10.0	9.47	
120 1,2,3-Trimethylbenzene	105	13.201	13.201	0.000	98	354314	10.0	9.74	
122 Benzyl chloride	91	13.268	13.262	0.006	99	226805	10.0	9.23	
123 1,3-Diethylbenzene	119	13.323	13.323	0.000	95	223178	10.0	9.76	
124 p-Diethylbenzene	119	13.396	13.396	0.000	96	234999	10.0	9.68	
125 n-Butylbenzene	92	13.414	13.414	0.000	97	177485	10.0	9.66	
126 1,2-Dichlorobenzene	146	13.450	13.450	0.000	97	169705	10.0	9.42	
127 o-diethylbenzene	119	13.469	13.469	0.000	96	188441	10.0	9.68	
129 1,2-Dibromo-3-Chloropropane	75	13.992	13.992	0.000	80	28651	10.0	9.37	
130 1,3,5-Trichlorobenzene	180	14.126	14.120	0.006	97	127586	10.0	9.41	
131 1,2,4-Trichlorobenzene	180	14.545	14.545	0.000	94	120524	10.0	9.50	
132 Hexachlorobutadiene	225	14.625	14.625	0.000	97	52576	10.0	9.48	
133 Naphthalene	128	14.728	14.728	0.000	97	419587	10.0	9.97	
134 1,2,3-Trichlorobenzene	180	14.874	14.868	0.006	95	116383	10.0	9.50	
135 2-Methylnaphthalene	142	15.519	15.519	0.000	92	264198	10.0	9.53	
S 146 Total Diethylbenzene	1				0			29.1	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MSV_VCYC_00002	Amount Added:	8.00	Units: uL	
MSV_V_EE_00003	Amount Added:	2.00	Units: uL	
MSV_DCFM_00018	Amount Added:	1.00	Units: uL	
MSV_V_2CEVE_00086	Amount Added:	2.00	Units: uL	
MSV_V_VOA1_00074	Amount Added:	2.00	Units: uL	
MSV_V_VOA3_00036	Amount Added:	0.80	Units: uL	
MSV_V_VOA6_00043	Amount Added:	2.00	Units: uL	
MSV_V_VOA2_00039	Amount Added:	2.00	Units: uL	
MSV_V_Gas_00108	Amount Added:	1.00	Units: uL	
MSV_HP20_ISSS_00016	Amount Added:	1.00	Units: uL	Run Reagent

Report Date: 15-Jul-2020 11:00:57 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I05.D

Injection Date: 14-Jul-2020 14:59:30 Instrument ID: 9355 Operator ID: JTL32685

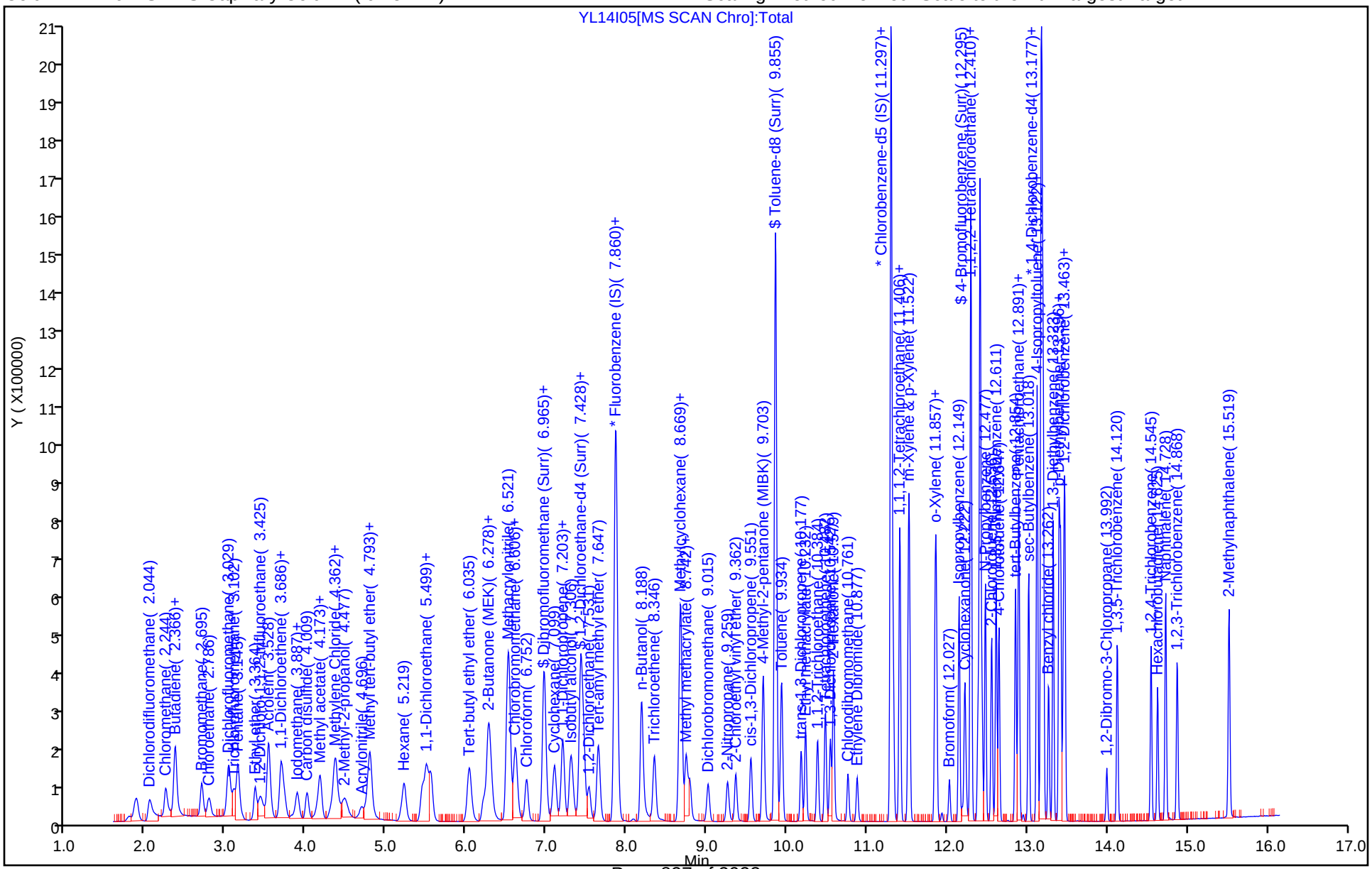
Lims ID: IC std3 10 Worklist Smp#: 7

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 6

Method: MSVoa_9355 Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

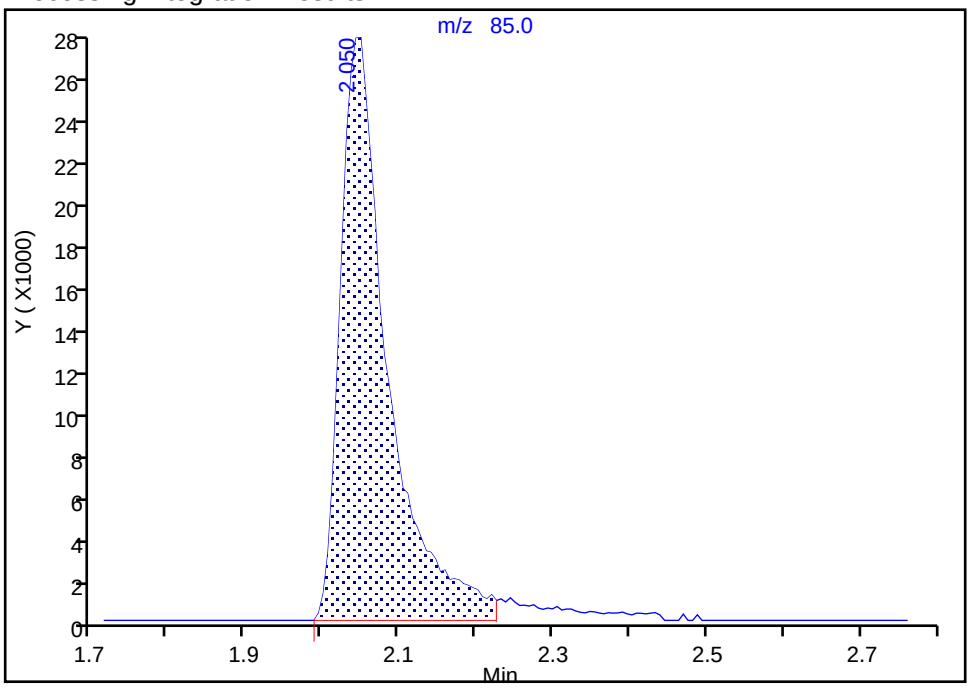
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I05.D
Injection Date: 14-Jul-2020 14:59:30 Instrument ID: 9355
Lims ID: IC std3 10
Client ID:
Operator ID: JTL32685 ALS Bottle#: 6 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

2 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

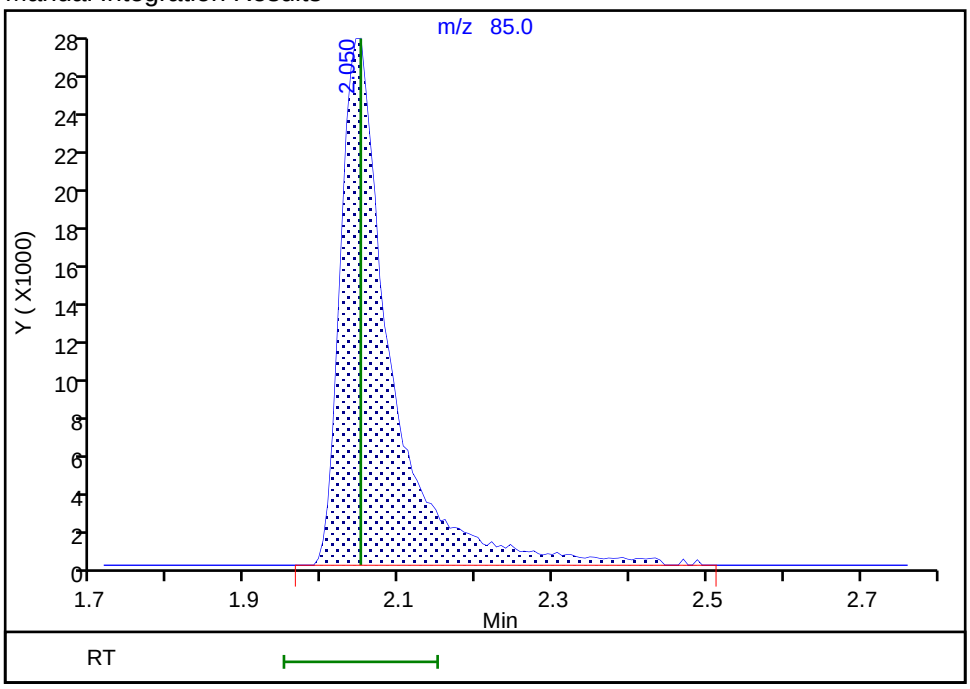
Processing Integration Results

RT: 2.05
Area: 119396
Amount: 10.012235
Amount Units: ug/l



Manual Integration Results

RT: 2.05
Area: 126148
Amount: 10.493561
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:36:22
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

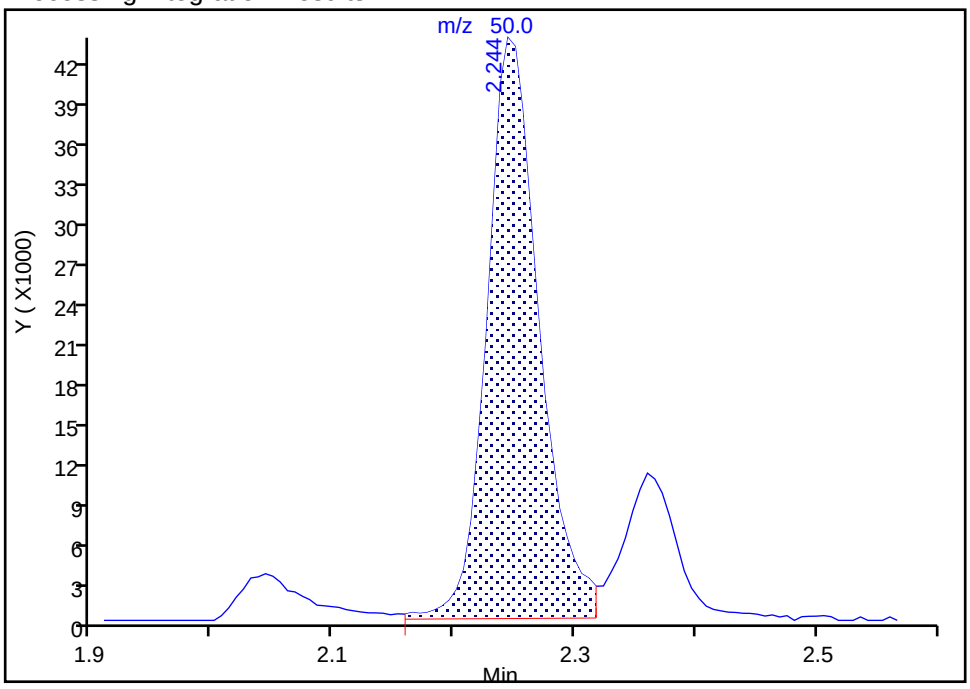
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I05.D
Injection Date: 14-Jul-2020 14:59:30 Instrument ID: 9355
Lims ID: IC std3 10
Client ID:
Operator ID: JTL32685 ALS Bottle#: 6 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

4 Chloromethane, CAS: 74-87-3

Signal: 1

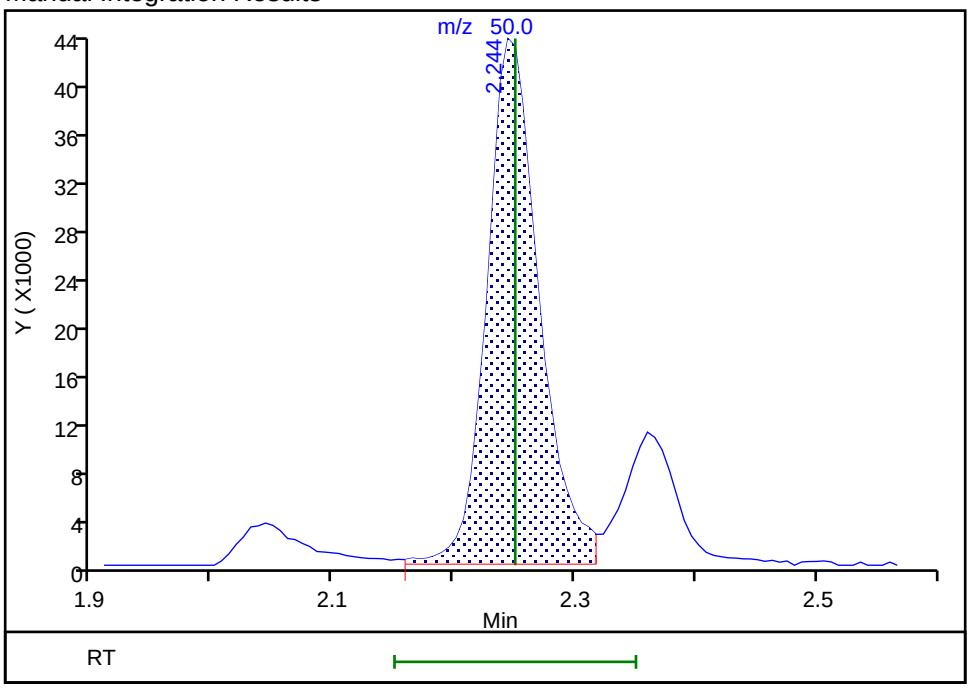
Processing Integration Results

RT: 2.24
Area: 131236
Amount: 10.139623
Amount Units: ug/l



Manual Integration Results

RT: 2.24
Area: 131655
Amount: 10.160853
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:36:34
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

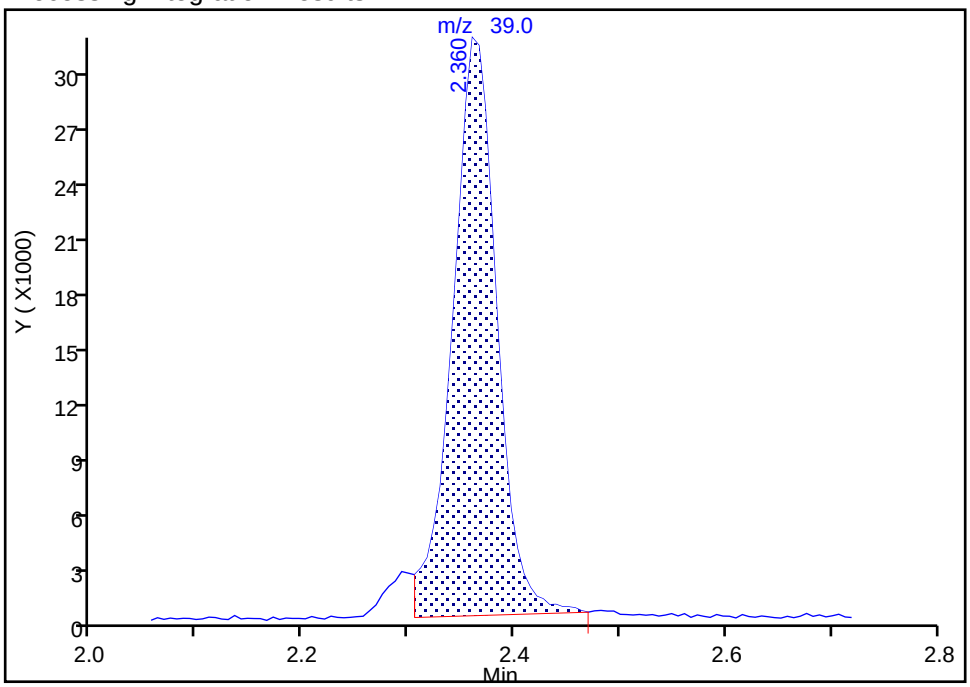
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I05.D
Injection Date: 14-Jul-2020 14:59:30 Instrument ID: 9355
Lims ID: IC std3 10
Client ID:
Operator ID: JTL32685 ALS Bottle#: 6 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25 mm) Detector MS Quad

5 Butadiene, CAS: 106-99-0

Signal: 1

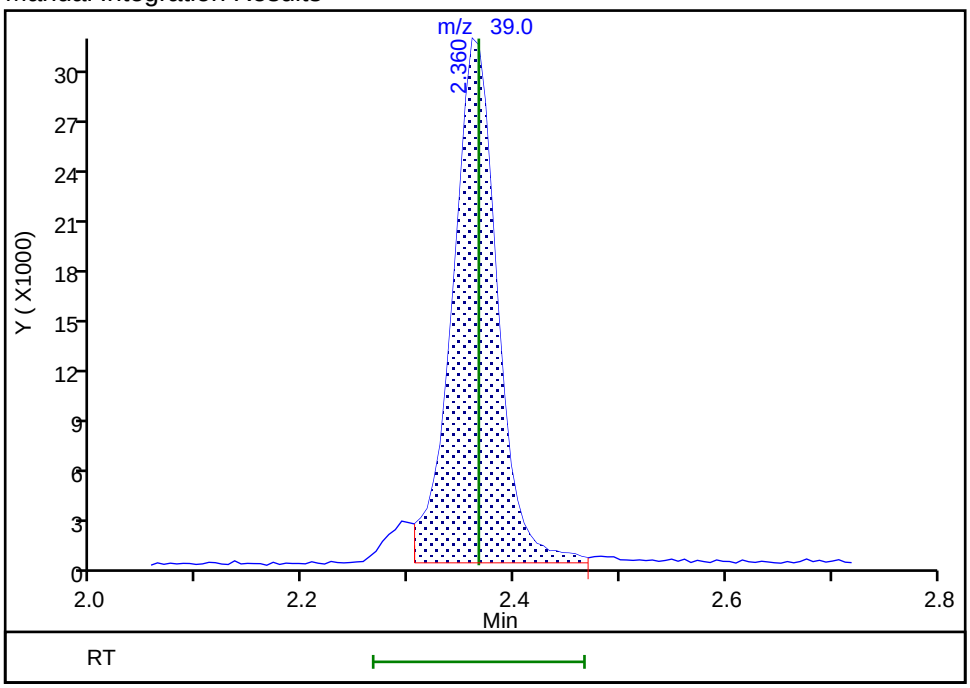
Processing Integration Results

RT: 2.36
Area: 91498
Amount: 9.893748
Amount Units: ug/l



Manual Integration Results

RT: 2.36
Area: 93072
Amount: 9.916355
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:36:40
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

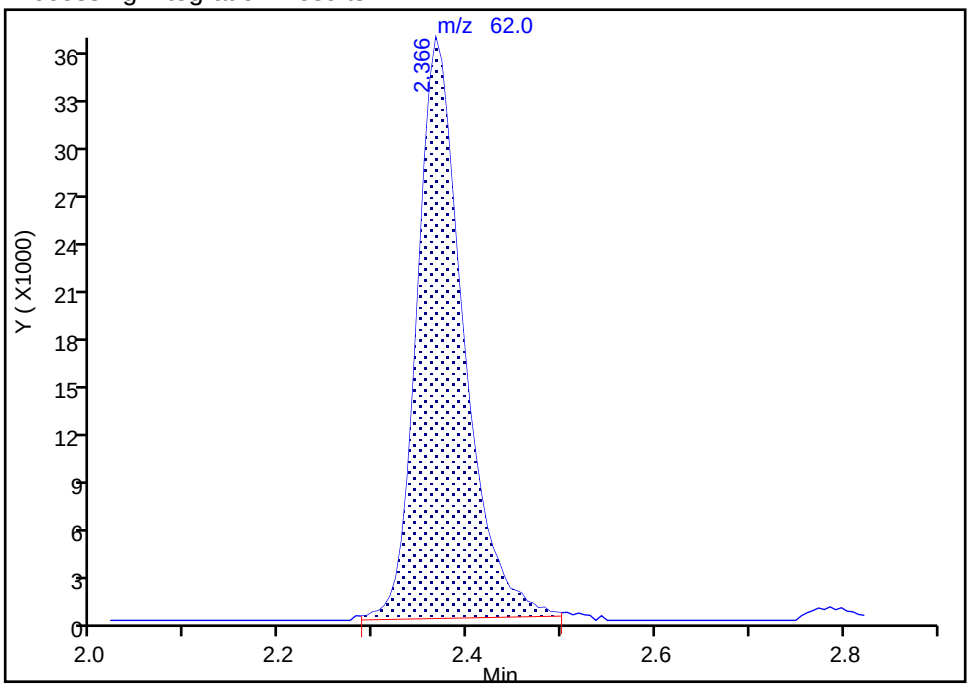
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I05.D
Injection Date: 14-Jul-2020 14:59:30 Instrument ID: 9355
Lims ID: IC std3 10
Client ID:
Operator ID: JTL32685 ALS Bottle#: 6 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

6 Vinyl chloride, CAS: 75-01-4

Signal: 1

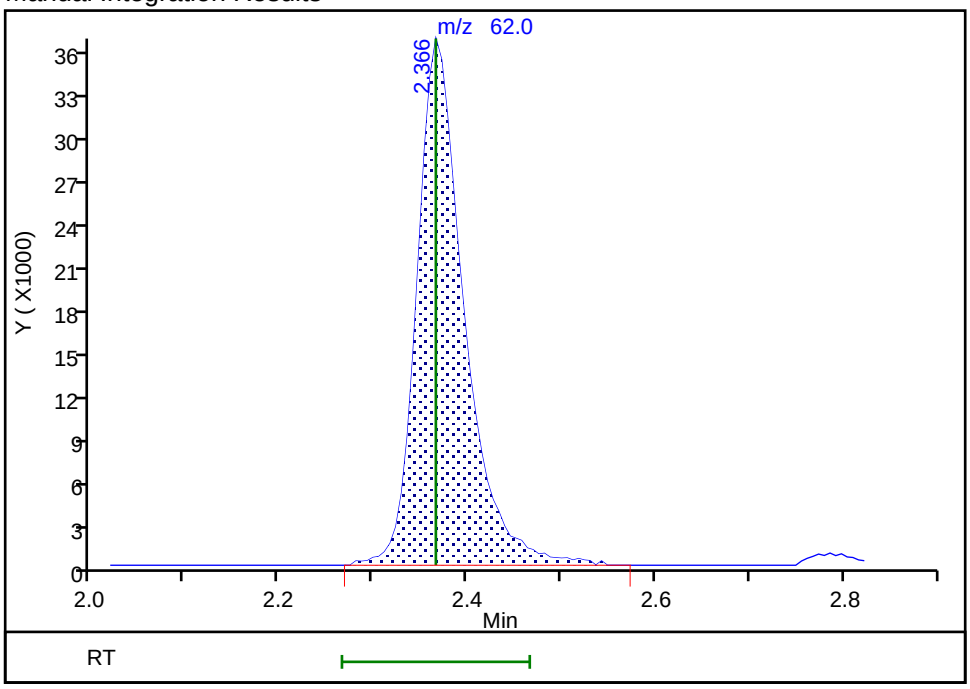
Processing Integration Results

RT: 2.37
Area: 123243
Amount: 10.261177
Amount Units: ug/l



Manual Integration Results

RT: 2.37
Area: 126069
Amount: 10.403625
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:36:49
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

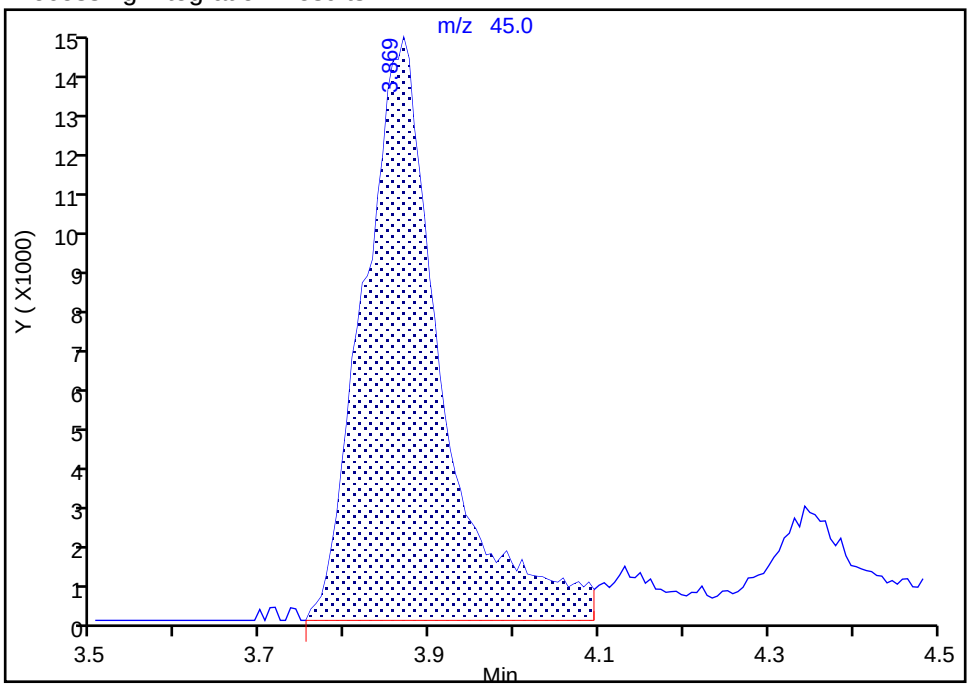
Data File:	\\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I05.D				
Injection Date:	14-Jul-2020 14:59:30	Instrument ID:	9355		
Lims ID:	IC std3 10				
Client ID:					
Operator ID:	JTL32685	ALS Bottle#:	6	Worklist Smp#:	7
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

20 Isopropyl alcohol, CAS: 67-63-0

Signal: 1

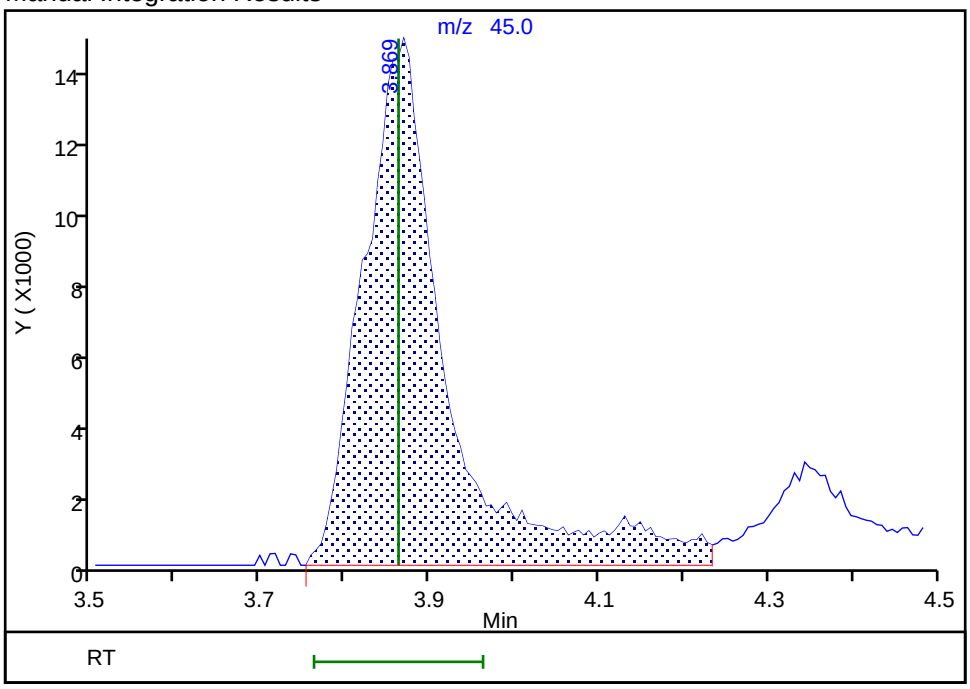
Processing Integration Results

RT: 3.87
Area: 90163
Amount: 94.779243
Amount Units: ug/l



Manual Integration Results

RT: 3.87
Area: 97146
Amount: 100.0519
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:43:48
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

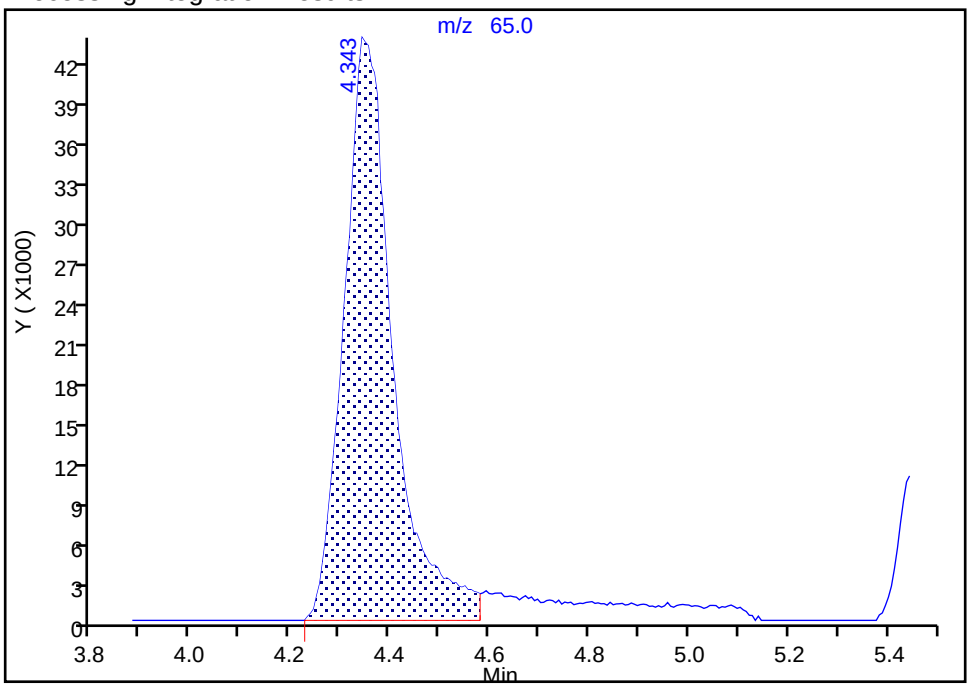
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I05.D
Injection Date: 14-Jul-2020 14:59:30 Instrument ID: 9355
Lims ID: IC std3 10
Client ID:
Operator ID: JTL32685 ALS Bottle#: 6 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

* 26 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2

Signal: 1

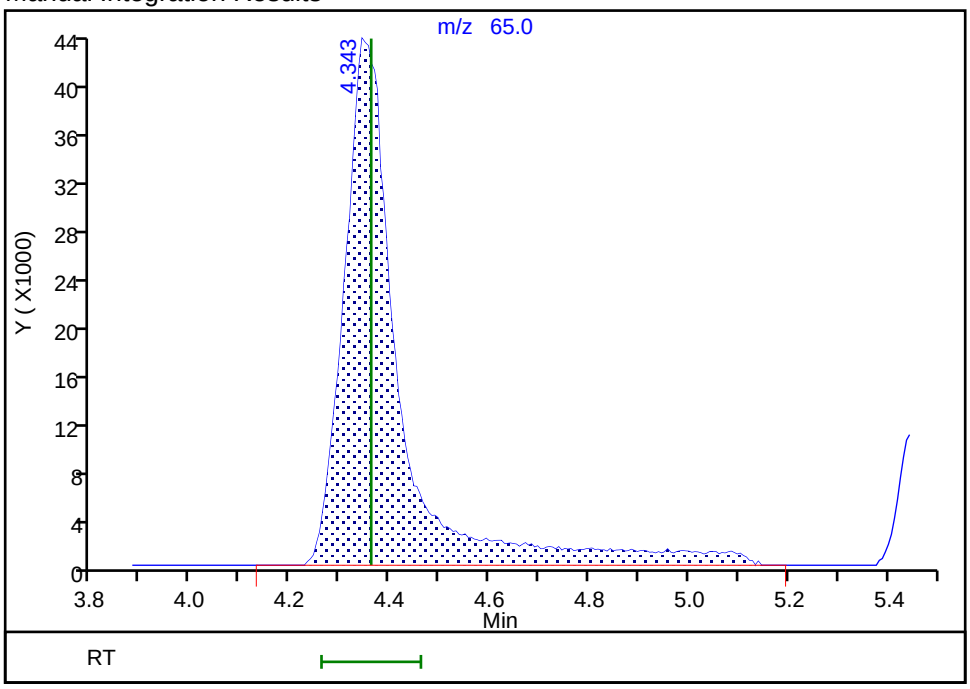
Processing Integration Results

RT: 4.34
Area: 296020
Amount: 250.0000
Amount Units: ug/l



Manual Integration Results

RT: 4.34
Area: 338486
Amount: 250.0000
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:37:03
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

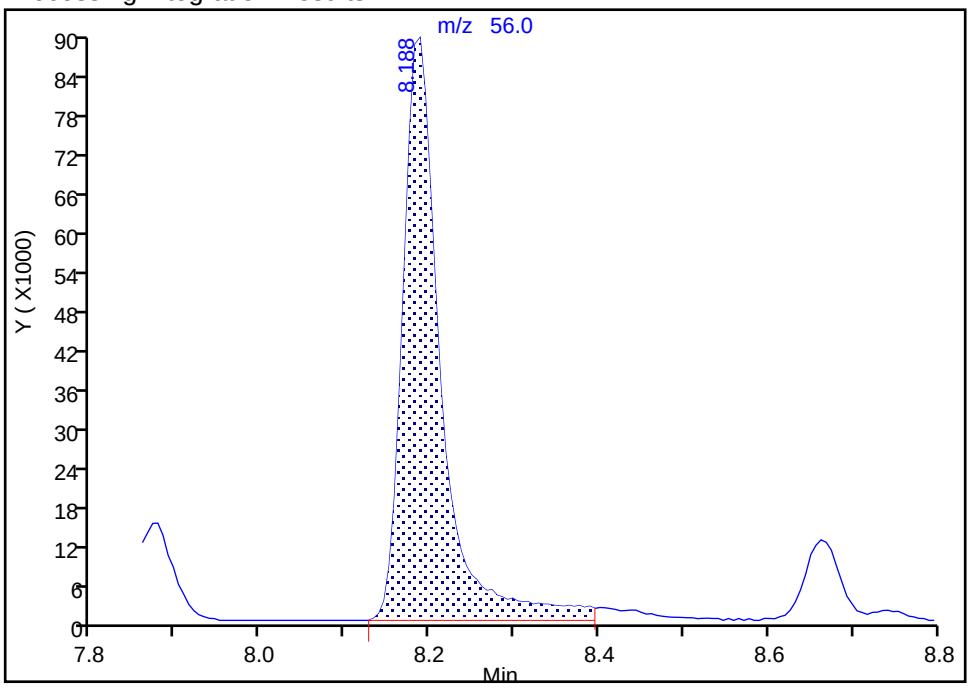
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I05.D
Injection Date: 14-Jul-2020 14:59:30 Instrument ID: 9355
Lims ID: IC std3 10
Client ID:
Operator ID: JTL32685 ALS Bottle#: 6 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

64 n-Butanol, CAS: 71-36-3

Signal: 1

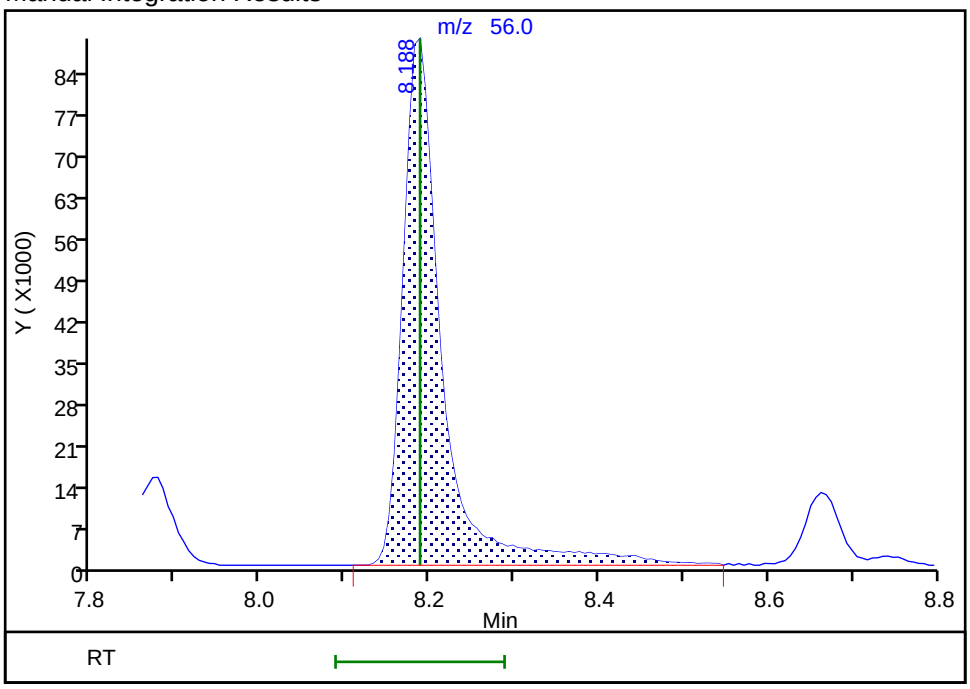
Processing Integration Results

RT: 8.19
Area: 279758
Amount: 440.3054
Amount Units: ug/l



Manual Integration Results

RT: 8.19
Area: 287934
Amount: 461.4183
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:37:22
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

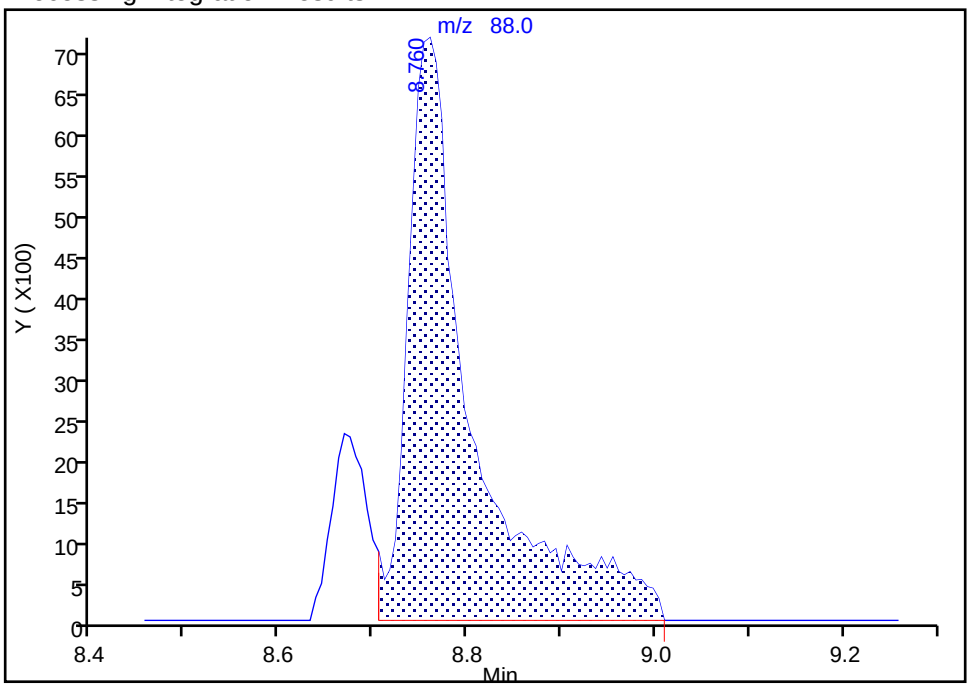
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I05.D
Injection Date: 14-Jul-2020 14:59:30 Instrument ID: 9355
Lims ID: IC std3 10
Client ID:
Operator ID: JTL32685 ALS Bottle#: 6 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

69 1,4-Dioxane, CAS: 123-91-1

Signal: 1

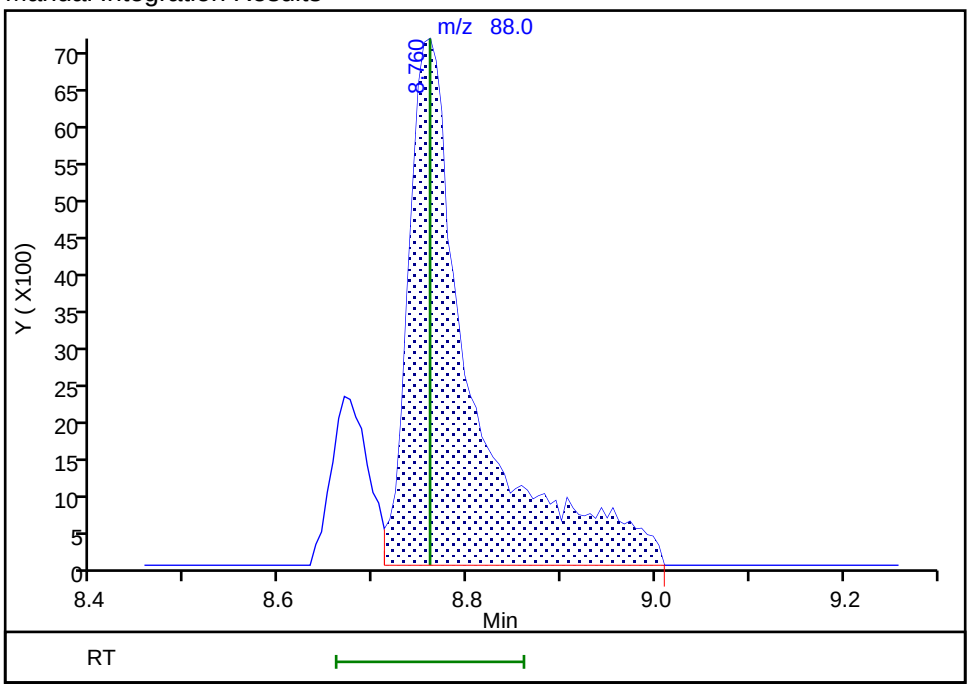
Processing Integration Results

RT: 8.76
Area: 34113
Amount: 182.6461
Amount Units: ug/l



Manual Integration Results

RT: 8.76
Area: 33802
Amount: 247.8105
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:37:35
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I06.D
Lims ID: IC std2 4
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 14-Jul-2020 15:22:30 ALS Bottle#: 7 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0005480-008
Misc. Info.: IC STD2 4
Operator ID: JTL32685 Instrument ID: 9355
Sublist: chrom-MSVoa_9355*sub2

Method: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 15-Jul-2020 11:01:07 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1014

First Level Reviewer: campbellme Date: 14-Jul-2020 18:40:17

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Dichlorodifluoromethane	85	2.044	2.050	-0.006	99	54212	4.00	4.63	
4 Chloromethane	50	2.244	2.251	-0.007	99	56643	4.00	4.49	M
5 Butadiene	39	2.360	2.366	-0.006	89	46547	4.00	5.09	M
6 Vinyl chloride	62	2.366	2.366	0.000	94	52338	4.00	4.43	
8 Bromomethane	94	2.695	2.701	-0.006	91	37549	4.00	4.33	
9 Chloroethane	64	2.780	2.786	-0.006	99	30018	4.00	4.27	
10 Dichlorofluoromethane	67	3.029	3.029	0.000	97	69765	4.00	4.21	
11 Trichlorofluoromethane	101	3.096	3.096	0.000	96	65948	4.00	4.56	
12 Pentane	43	3.145	3.151	-0.006	97	60737	4.00	4.67	
14 Ethyl ether	59	3.364	3.364	0.000	92	30068	4.00	3.84	
15 1,2-Dichloro-1,1,2-trifluoroetha	67	3.431	3.425	0.006	92	32491	4.00	4.26	
16 Acrolein	56	3.534	3.534	0.000	99	121694	40.0	39.0	
17 1,1-Dichloroethene	96	3.680	3.686	-0.006	99	21952	4.00	4.06	
18 Acetone	58	3.704	3.705	0.000	100	11005	8.00	8.15	
19 1,1,2-Trichloro-1,2,2-trifluoroe	101	3.717	3.723	-0.006	92	25314	4.00	4.41	
20 Isopropyl alcohol	45	3.869	3.863	0.006	98	68780	80.0	72.5	
21 Iodomethane	142	3.893	3.893	0.000	99	43761	4.00	4.06	
22 Carbon disulfide	76	4.009	4.015	-0.006	100	69302	4.00	3.97	
24 Methyl acetate	43	4.142	4.136	0.006	98	41269	4.00	3.84	
25 3-Chloro-1-propene	41	4.173	4.179	-0.006	88	47142	4.00	4.16	M
* 26 t-Butyl alcohol-d10 (IS)	65	4.361	4.362	-0.001	56	330549	250.0	250.0	M
27 Methylene Chloride	84	4.368	4.368	0.000	66	27126	4.00	4.05	
28 2-Methyl-2-propanol	59	4.489	4.489	0.000	97	135608	80.0	71.1	
30 Acrylonitrile	53	4.696	4.690	0.006	97	20812	4.00	3.95	
31 Methyl tert-butyl ether	73	4.781	4.781	0.000	97	90567	4.00	4.12	
32 trans-1,2-Dichloroethene	96	4.800	4.800	0.000	97	26956	4.00	4.12	
33 Hexane	57	5.219	5.225	-0.006	94	43915	4.00	4.51	
36 1,1-Dichloroethane	63	5.450	5.444	0.006	97	48591	4.00	4.18	
37 Isopropyl ether	45	5.499	5.499	0.000	93	96174	4.00	4.02	
38 2-Chloro-1,3-butadiene	53	5.554	5.560	-0.006	93	45302	4.00	4.06	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
39 Tert-butyl ethyl ether	59	6.028	6.041	-0.013	97	89955	4.00	4.07	
S 40 1,2-Dichloroethene, Total	100				0			8.06	
41 2-Butanone (MEK)	43	6.223	6.217	0.006	100	63253	8.00	8.05	
42 cis-1,2-Dichloroethene	96	6.272	6.272	0.000	85	30013	4.00	3.95	
44 2,2-Dichloropropane	77	6.284	6.284	0.000	55	37363	4.00	3.94	
45 Propionitrile	54	6.296	6.296	0.000	98	165370	80.0	80.6	
46 Methacrylonitrile	67	6.521	6.527	-0.006	92	222123	40.0	39.2	
47 Chlorobromomethane	128	6.606	6.606	0.000	90	17516	4.00	4.10	
48 Tetrahydrofuran	71	6.625	6.619	0.006	91	16796	8.00	7.82	
49 Chloroform	83	6.752	6.752	0.000	96	48252	4.00	4.05	
$ 50 Dibromofluoromethane (Surr)	113	6.965	6.965	0.000	93	292322	50.0	50.2	
51 1,1,1-Trichloroethane	97	6.990	6.990	0.000	98	42936	4.00	4.22	
52 Cyclohexane	56	7.093	7.099	-0.006	93	52476	4.00	4.53	
53 1,1-Dichloropropene	75	7.196	7.203	-0.007	94	38430	4.00	4.14	
54 Carbon tetrachloride	117	7.209	7.203	0.006	95	34520	4.00	4.02	
55 Isobutyl alcohol	41	7.306	7.306	0.000	93	120242	200.0	201.1	
$ 56 1,2-Dichloroethane-d4 (Surr)	102	7.428	7.428	0.000	98	72638	50.0	50.1	
57 Benzene	78	7.458	7.464	-0.006	93	115148	4.00	4.13	
59 1,2-Dichloroethane	62	7.531	7.531	0.000	98	42323	4.00	4.05	
60 Tert-amyl methyl ether	73	7.647	7.647	0.000	97	91467	4.00	4.08	
* 62 Fluorobenzene (IS)	96	7.860	7.866	-0.006	98	1209108	50.0	50.0	
63 n-Heptane	43	7.872	7.878	-0.006	91	52315	4.00	4.51	
64 n-Butanol	56	8.188	8.188	0.000	91	220918	400.0	351.1	M
65 Trichloroethene	95	8.346	8.346	0.000	98	30558	4.00	4.15	
66 Methylcyclohexane	83	8.663	8.663	0.000	96	57383	4.00	4.34	
67 1,2-Dichloropropane	63	8.675	8.675	0.000	69	29287	4.00	3.88	
34 2-ethoxy-2-methyl butane	87	8.675	8.675	0.000	93	45340	4.00	3.80	
68 Methyl methacrylate	69	8.742	8.742	0.000	91	33417	4.00	3.90	
69 1,4-Dioxane	88	8.754	8.760	-0.006	91	25703	200.0	193.0	M
70 Dibromomethane	93	8.790	8.790	0.000	96	19666	4.00	3.94	
72 Dichlorobromomethane	83	9.015	9.015	0.000	98	32878	4.00	3.76	
73 2-Nitropropane	41	9.259	9.259	0.000	99	29207	8.00	6.95	
74 2-Chloroethyl vinyl ether	63	9.362	9.362	0.000	92	26650	4.00	4.02	
75 cis-1,3-Dichloropropene	75	9.551	9.551	0.000	92	41787	4.00	3.76	
76 4-Methyl-2-pentanone (MIBK)	43	9.703	9.703	0.000	98	120610	8.00	7.83	
$ 77 Toluene-d8 (Surr)	98	9.855	9.855	0.000	95	1217343	50.0	52.1	
78 Toluene	92	9.934	9.934	0.000	97	72972	4.00	4.15	
S 79 1,3-Dichloropropene, Total	100				0			7.47	
80 trans-1,3-Dichloropropene	75	10.177	10.177	0.000	96	38646	4.00	3.71	
81 Ethyl methacrylate	69	10.232	10.232	0.000	90	49864	4.00	3.83	
82 1,1,2-Trichloroethane	97	10.378	10.384	-0.006	92	27984	4.00	4.06	
83 Tetrachloroethene	166	10.482	10.482	0.000	96	36811	4.00	4.11	
84 1,3-Dichloropropane	76	10.542	10.542	0.000	94	47906	4.00	4.07	
86 2-Hexanone	43	10.579	10.579	0.000	98	96435	8.00	7.89	
88 Chlorodibromomethane	129	10.761	10.761	0.000	90	24536	4.00	3.61	
89 Ethylene Dibromide	107	10.877	10.877	0.000	100	30878	4.00	4.00	
S 90 Xylenes, Total	106				0			12.2	
* 91 Chlorobenzene-d5 (IS)	117	11.297	11.297	0.000	88	922871	50.0	50.0	
92 1-Chlorohexane	91	11.303	11.303	0.000	91	43278	4.00	4.25	
93 Chlorobenzene	112	11.327	11.327	0.000	95	82786	4.00	4.11	
94 1,1,1,2-Tetrachloroethane	131	11.406	11.406	0.000	92	25322	4.00	3.71	
95 Ethylbenzene	91	11.412	11.406	0.006	98	144280	4.00	4.13	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
96 m-Xylene & p-Xylene	106	11.522	11.522	0.000	100	112535	8.00	8.17	
97 o-Xylene	106	11.850	11.850	0.000	97	54317	4.00	4.02	
98 Styrene	104	11.863	11.863	0.000	94	86532	4.00	3.84	
99 Bromoform	173	12.027	12.027	0.000	95	16675	4.00	3.12	
100 Isopropylbenzene	105	12.148	12.149	0.000	96	143839	4.00	4.26	
102 Cyclohexanone	55	12.221	12.222	-0.001	94	121016	200.0	193.2	
$ 103 4-Bromofluorobenzene (Surr)	95	12.294	12.295	0.000	89	463932	50.0	51.8	
104 1,1,2,2-Tetrachloroethane	83	12.386	12.386	0.000	96	47457	4.00	3.91	
106 trans-1,4-Dichloro-2-butene	53	12.410	12.410	0.000	92	179373	40.0	36.0	
105 Bromobenzene	156	12.416	12.410	0.006	68	38137	4.00	3.86	
107 1,2,3-Trichloropropane	110	12.434	12.434	0.000	87	16324	4.00	3.96	
108 N-Propylbenzene	91	12.477	12.477	0.000	99	175051	4.00	4.28	
109 2-Chlorotoluene	126	12.556	12.556	0.000	96	34937	4.00	4.08	
110 1,3,5-Trimethylbenzene	105	12.611	12.611	0.000	94	122806	4.00	4.08	
111 4-Chlorotoluene	126	12.647	12.647	0.000	98	36501	4.00	3.99	
113 tert-Butylbenzene	134	12.854	12.854	0.000	93	26569	4.00	4.14	
114 Pentachloroethane	167	12.891	12.891	0.000	84	16403	4.00	3.68	
115 1,2,4-Trimethylbenzene	105	12.897	12.897	0.000	97	126482	4.00	3.99	
116 sec-Butylbenzene	105	13.018	13.018	0.000	95	162093	4.00	4.26	
117 1,3-Dichlorobenzene	146	13.122	13.122	0.000	96	71414	4.00	3.92	
118 4-Isopropyltoluene	119	13.122	13.122	0.000	97	135525	4.00	4.01	
* 119 1,4-Dichlorobenzene-d4	152	13.177	13.177	0.000	96	496649	50.0	50.0	
121 1,4-Dichlorobenzene	146	13.195	13.195	0.000	93	74789	4.00	3.95	
120 1,2,3-Trimethylbenzene	105	13.201	13.201	0.000	99	142005	4.00	4.00	
122 Benzyl chloride	91	13.262	13.262	0.000	99	81234	4.00	3.39	
123 1,3-Diethylbenzene	119	13.323	13.323	0.000	95	89226	4.00	4.00	
124 p-Diethylbenzene	119	13.396	13.396	0.000	95	95149	4.00	4.02	
125 n-Butylbenzene	92	13.414	13.414	0.000	97	71218	4.00	3.98	
126 1,2-Dichlorobenzene	146	13.450	13.450	0.000	97	68700	4.00	3.91	
127 o-diethylbenzene	119	13.469	13.469	0.000	96	74471	4.00	3.92	
129 1,2-Dibromo-3-Chloropropane	75	13.992	13.992	0.000	87	10706	4.00	3.59	
130 1,3,5-Trichlorobenzene	180	14.126	14.120	0.006	96	52568	4.00	3.98	
131 1,2,4-Trichlorobenzene	180	14.545	14.545	0.000	94	48144	4.00	3.89	
132 Hexachlorobutadiene	225	14.624	14.625	-0.001	97	21714	4.00	4.02	
133 Naphthalene	128	14.728	14.728	0.000	97	165629	4.00	4.03	
134 1,2,3-Trichlorobenzene	180	14.874	14.868	0.006	95	46838	4.00	3.92	
135 2-Methylnaphthalene	142	15.519	15.519	0.000	92	102227	4.00	3.78	
S 146 Total Diethylbenzene	1				0			11.9	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MSV_VCYC_00002	Amount Added:	32.00	Units: uL	
MSV_V_EE_00003	Amount Added:	4.00	Units: uL	
MSV_DCFM_00018	Amount Added:	2.00	Units: uL	
MSV_V_2CEVE_00086	Amount Added:	4.00	Units: uL	
MSV_V_VOA1_00074	Amount Added:	4.00	Units: uL	
MSV_V_VOA3_00036	Amount Added:	1.60	Units: uL	
MSV_V_VOA6_00043	Amount Added:	4.00	Units: uL	
MSV_V_VOA2_00039	Amount Added:	12.00	Units: uL	
MSV_V_Gas_00108	Amount Added:	2.00	Units: uL	
MSV_HP20_ISSS_00016	Amount Added:	1.00	Units: uL	Run Reagent

Report Date: 15-Jul-2020 11:01:09 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I06.D

Injection Date: 14-Jul-2020 15:22:30 Instrument ID: 9355 Operator ID: JTL32685

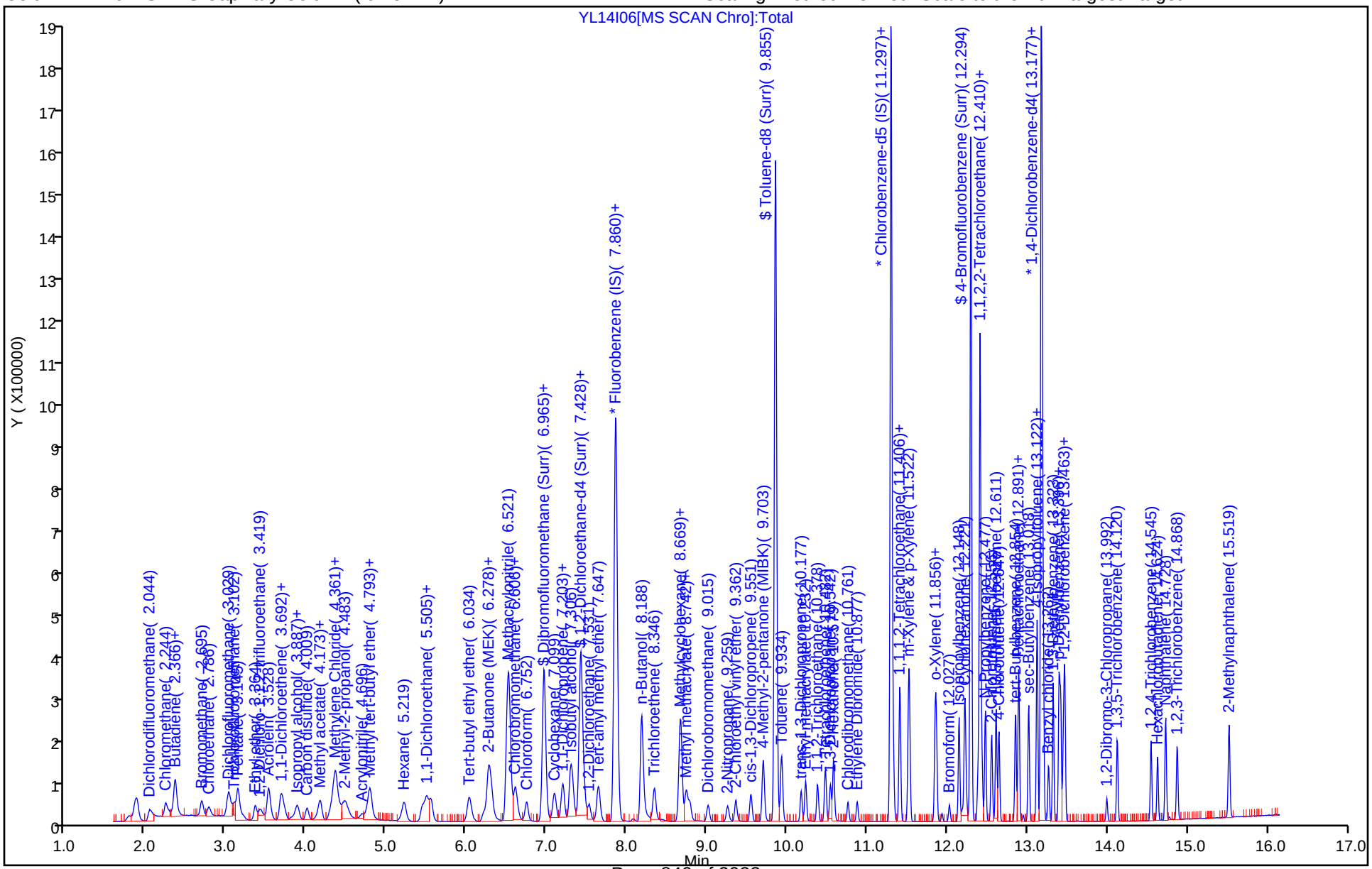
Lims ID: IC std2 4 Worklist Smp#: 8

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 7

Method: MSVoa_9355 Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

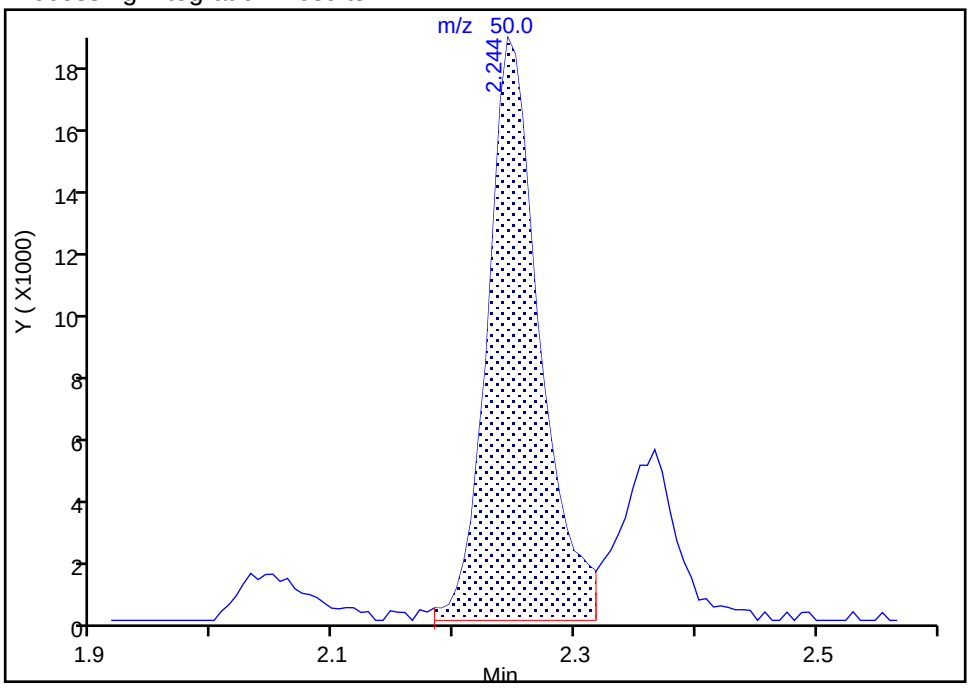
Data File:	\\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I06.D				
Injection Date:	14-Jul-2020 15:22:30	Instrument ID:	9355		
Lims ID:	IC std2 4				
Client ID:					
Operator ID:	JTL32685	ALS Bottle#:	7	Worklist Smp#:	8
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

4 Chloromethane, CAS: 74-87-3

Signal: 1

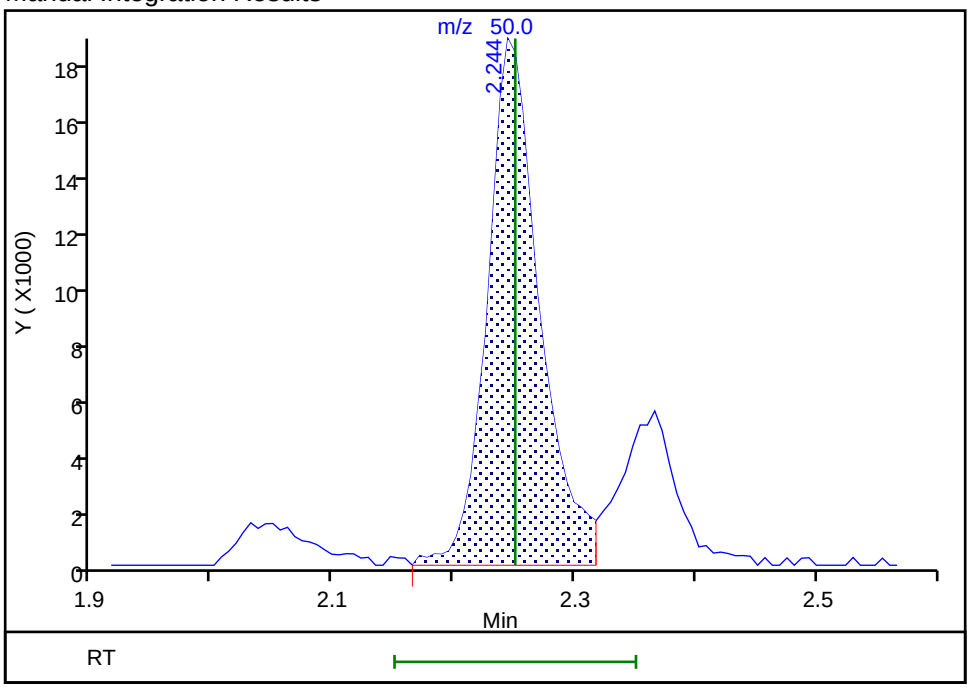
Processing Integration Results

RT: 2.24
Area: 56419
Amount: 4.470433
Amount Units: ug/l



Manual Integration Results

RT: 2.24
Area: 56643
Amount: 4.485339
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:38:25

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

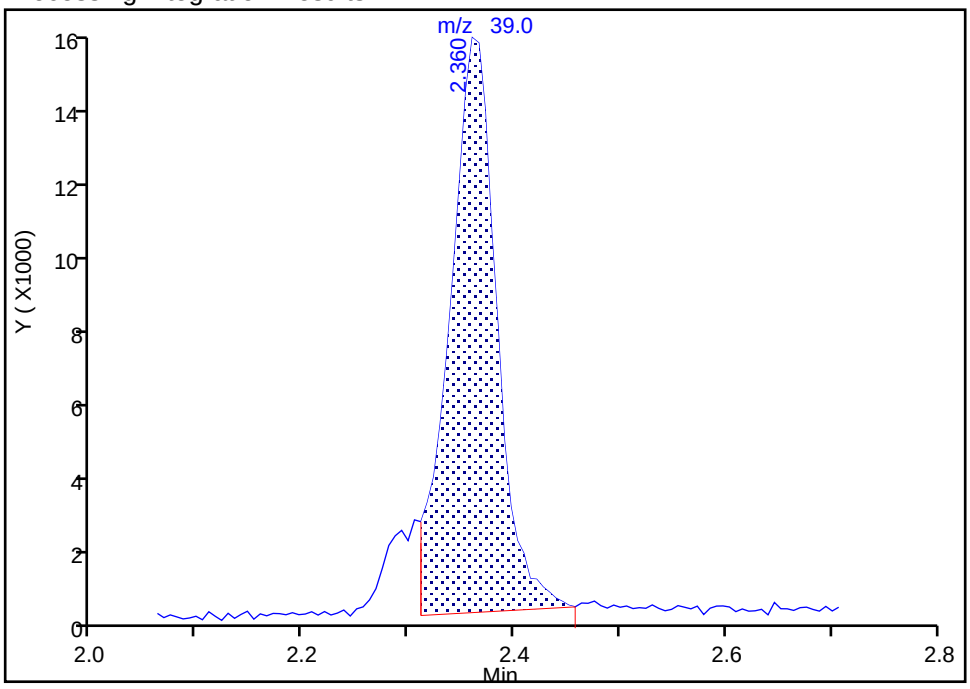
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I06.D
Injection Date: 14-Jul-2020 15:22:30 Instrument ID: 9355
Lims ID: IC std2 4
Client ID:
Operator ID: JTL32685 ALS Bottle#: 7 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

5 Butadiene, CAS: 106-99-0

Signal: 1

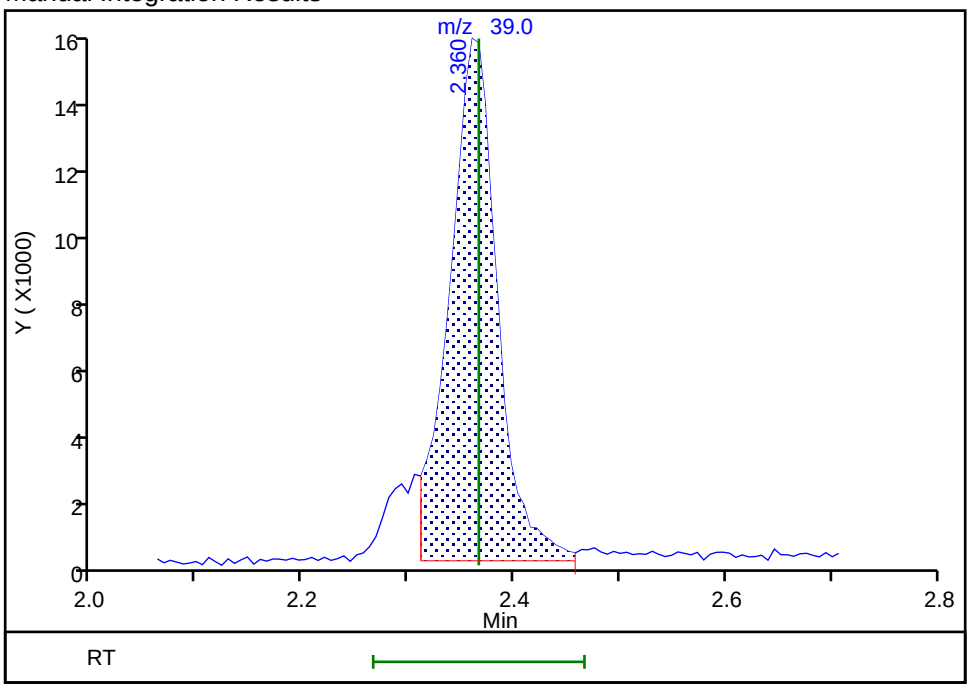
Processing Integration Results

RT: 2.36
Area: 45557
Amount: 5.042035
Amount Units: ug/l



Manual Integration Results

RT: 2.36
Area: 46547
Amount: 5.088396
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:38:38
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

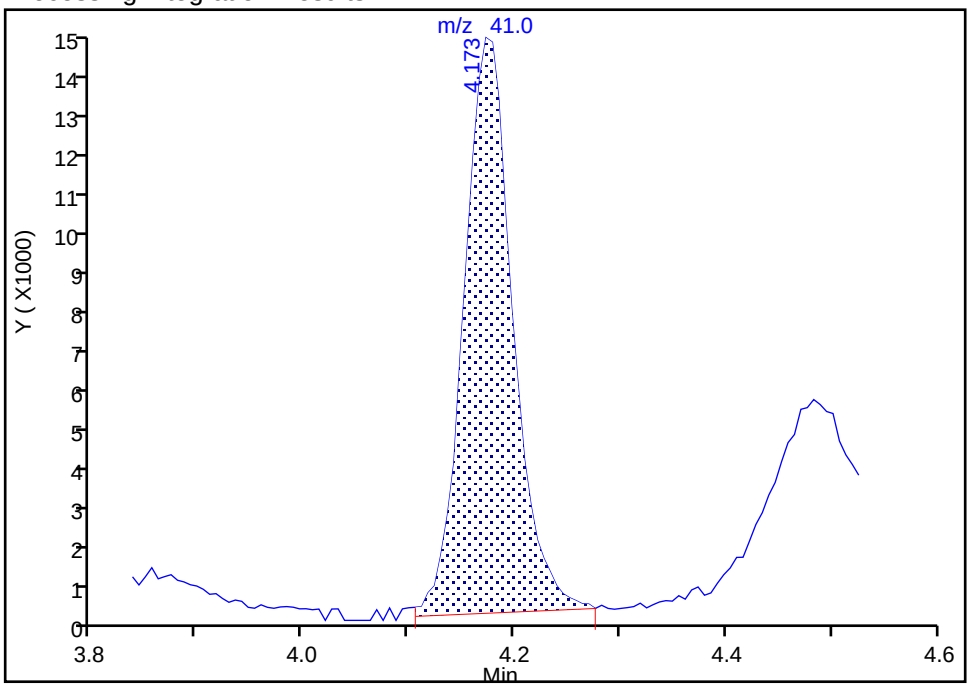
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I06.D
Injection Date: 14-Jul-2020 15:22:30 Instrument ID: 9355
Lims ID: IC std2 4
Client ID:
Operator ID: JTL32685 ALS Bottle#: 7 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

25 3-Chloro-1-propene, CAS: 107-05-1

Signal: 1

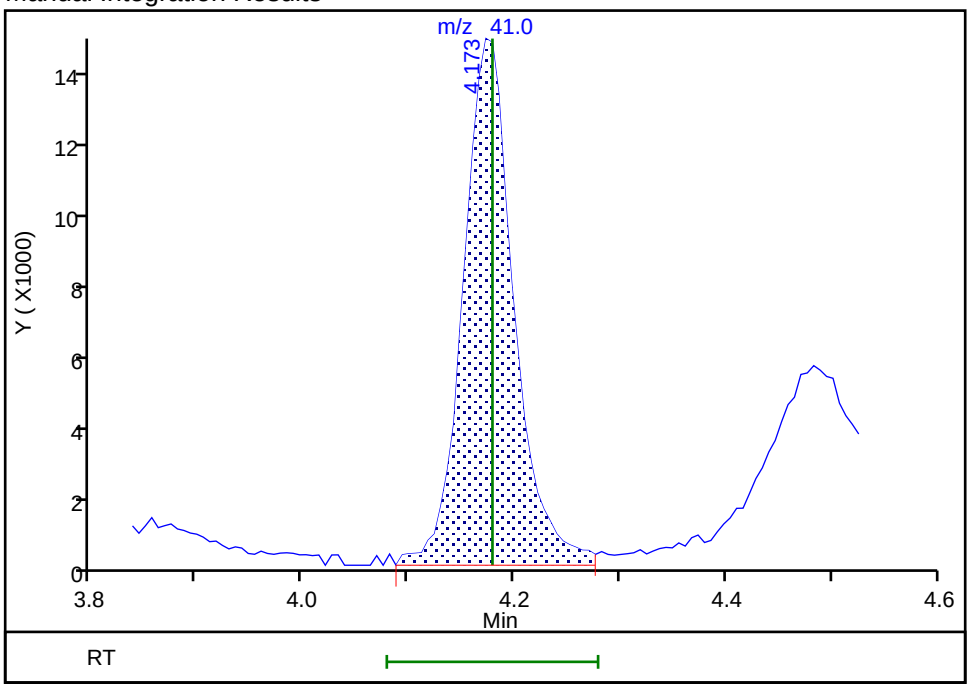
Processing Integration Results

RT: 4.17
Area: 44909
Amount: 3.995480
Amount Units: ug/l



Manual Integration Results

RT: 4.17
Area: 47142
Amount: 4.164598
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:39:18
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

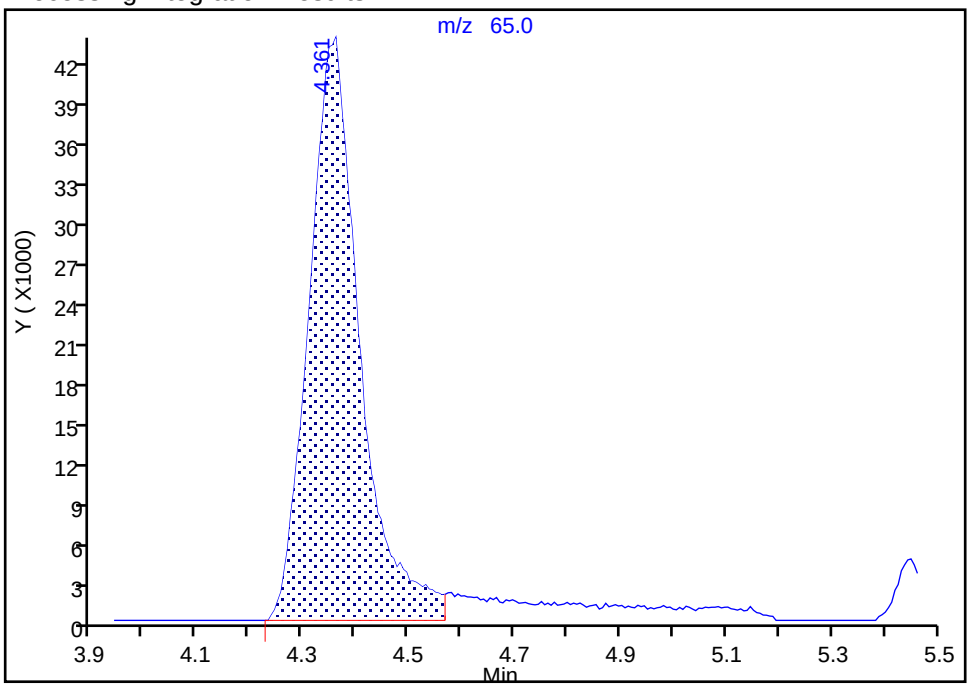
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I06.D
Injection Date: 14-Jul-2020 15:22:30 Instrument ID: 9355
Lims ID: IC std2 4
Client ID:
Operator ID: JTL32685 ALS Bottle#: 7 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

* 26 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2

Signal: 1

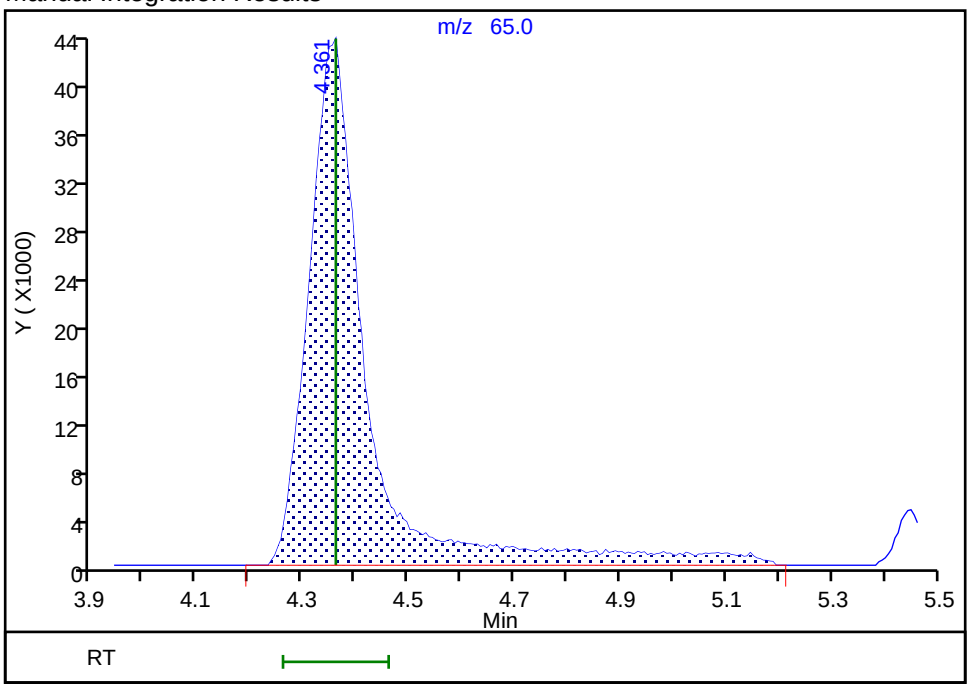
Processing Integration Results

RT: 4.36
Area: 288428
Amount: 250.0000
Amount Units: ug/l



Manual Integration Results

RT: 4.36
Area: 330549
Amount: 250.0000
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:39:31
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

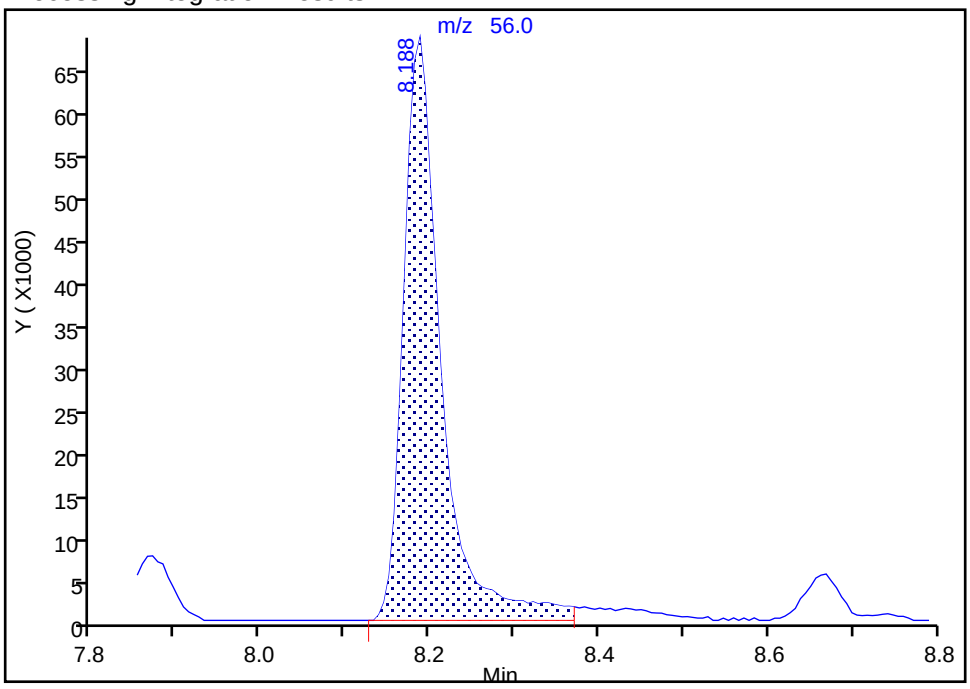
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I06.D
Injection Date: 14-Jul-2020 15:22:30 Instrument ID: 9355
Lims ID: IC std2 4
Client ID:
Operator ID: JTL32685 ALS Bottle#: 7 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

64 n-Butanol, CAS: 71-36-3

Signal: 1

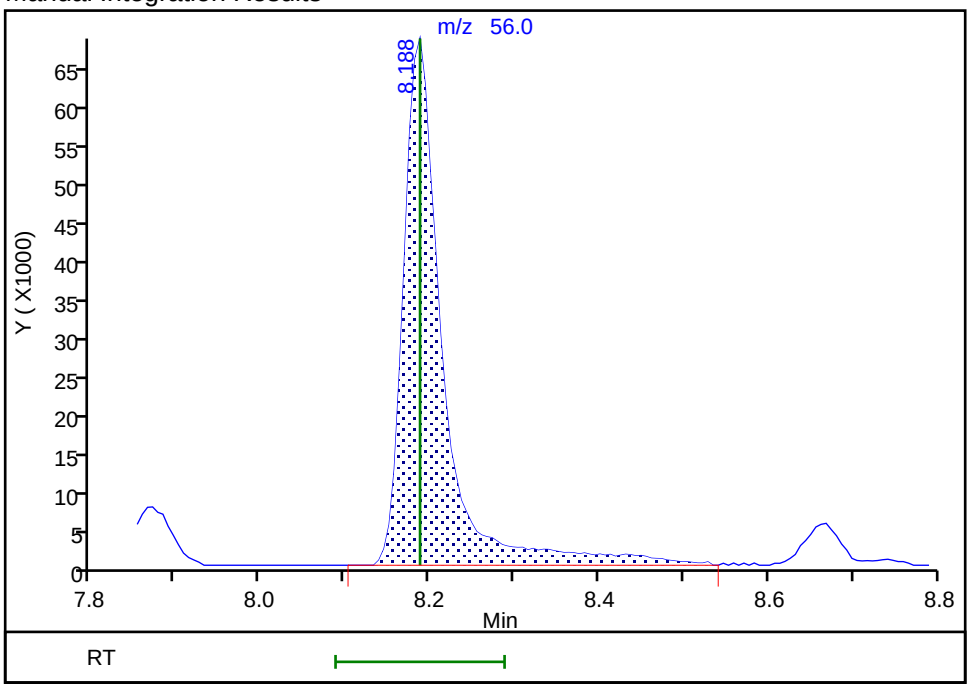
Processing Integration Results

RT: 8.19
Area: 211705
Amount: 336.0381
Amount Units: ug/l



Manual Integration Results

RT: 8.19
Area: 220918
Amount: 351.1180
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:39:51
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

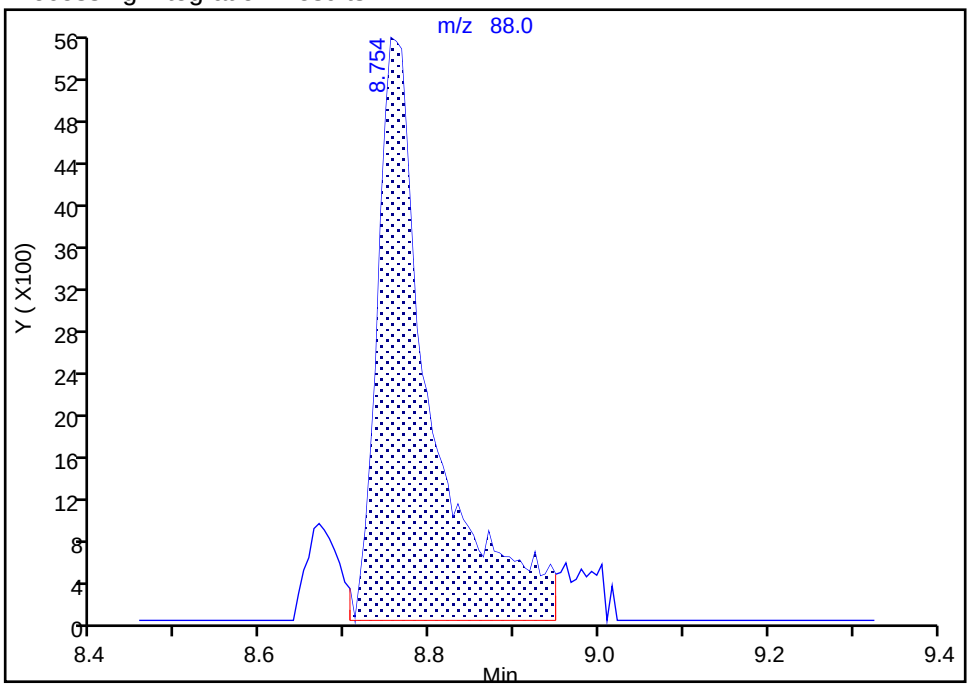
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I06.D
Injection Date: 14-Jul-2020 15:22:30 Instrument ID: 9355
Lims ID: IC std2 4
Client ID:
Operator ID: JTL32685 ALS Bottle#: 7 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

69 1,4-Dioxane, CAS: 123-91-1

Signal: 1

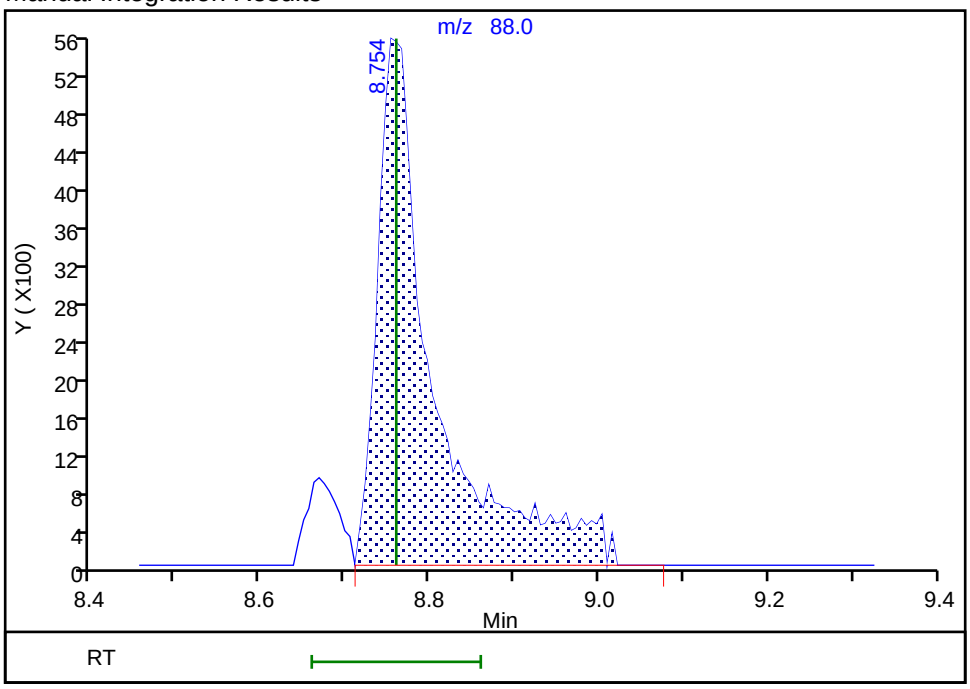
Processing Integration Results

RT: 8.75
Area: 24205
Amount: 134.7019
Amount Units: ug/l



Manual Integration Results

RT: 8.75
Area: 25703
Amount: 192.9594
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:39:59
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I07.D
Lims ID: IC std1 1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 14-Jul-2020 15:43:30 ALS Bottle#: 8 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0005480-009
Misc. Info.: IC STD1 1
Operator ID: JTL32685 Instrument ID: 9355
Sublist: chrom-MSVoa_9355*sub2

Method: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 15-Jul-2020 11:01:18 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1014

First Level Reviewer: campbellme Date: 14-Jul-2020 18:43:13

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Dichlorodifluoromethane	85	2.044	2.050	-0.006	96	8140	1.00	0.6975	
4 Chloromethane	50	2.245	2.251	-0.007	99	12556	1.00	1.00	
5 Butadiene	39	2.360	2.366	-0.006	91	9534	1.00	1.05	M
6 Vinyl chloride	62	2.366	2.366	0.000	93	9824	1.00	0.8352	M
8 Bromomethane	94	2.695	2.701	-0.006	87	7834	1.00	0.9066	
9 Chloroethane	64	2.780	2.786	-0.006	91	6404	1.00	0.9150	
10 Dichlorofluoromethane	67	3.029	3.029	0.000	98	15795	1.00	0.9579	
11 Trichlorofluoromethane	101	3.096	3.096	0.000	96	11522	1.00	0.8003	
12 Pentane	43	3.151	3.151	0.000	96	11211	1.00	0.8658	M
14 Ethyl ether	59	3.364	3.364	0.000	91	6735	1.00	0.8637	
15 1,2-Dichloro-1,1,2-trifluoroetha	67	3.419	3.425	-0.006	89	6373	1.00	0.8383	
16 Acrolein	56	3.534	3.534	0.000	99	28511	10.0	9.44	
17 1,1-Dichloroethene	96	3.680	3.686	-0.006	96	4669	1.00	0.8672	M
18 Acetone	58	3.698	3.705	-0.006	99	2401	2.00	1.84	
19 1,1,2-Trichloro-1,2,2-trifluoroe	101	3.723	3.723	0.000	79	4210	1.00	0.7363	
20 Isopropyl alcohol	45	3.869	3.863	0.006	96	16572	5.00	18.1	
21 Iodomethane	142	3.893	3.893	0.000	99	9240	1.00	0.8599	M
22 Carbon disulfide	76	4.009	4.015	-0.006	99	14442	1.00	0.8301	
24 Methyl acetate	43	4.137	4.136	0.000	95	11354	1.00	1.06	
25 3-Chloro-1-propene	41	4.173	4.179	-0.006	88	10165	1.00	0.9016	
* 26 t-Butyl alcohol-d10 (IS)	65	4.356	4.362	-0.006	33	319976	250.0	250.0	M
27 Methylene Chloride	84	4.374	4.368	0.006	34	6664	1.00	1.00	Ma
28 2-Methyl-2-propanol	59	4.495	4.489	0.006	96	32214	5.00	5.04	M
30 Acrylonitrile	53	4.702	4.690	0.012	97	4680	1.00	0.8923	
31 Methyl tert-butyl ether	73	4.781	4.781	0.000	97	20563	1.00	0.9381	
32 trans-1,2-Dichloroethene	96	4.800	4.800	0.000	96	5791	1.00	0.8882	
33 Hexane	57	5.225	5.225	0.000	93	7562	1.00	0.7795	
36 1,1-Dichloroethane	63	5.444	5.444	0.000	94	10089	1.00	0.8711	
37 Isopropyl ether	45	5.505	5.499	0.006	91	21600	1.00	0.9070	
38 2-Chloro-1,3-butadiene	53	5.560	5.560	0.000	92	8661	1.00	0.7786	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
39 Tert-butyl ethyl ether	59	6.028	6.041	-0.013	95	20438	1.00	0.9282	
S 40 1,2-Dichloroethene, Total	100				0			1.83	
41 2-Butanone (MEK)	43	6.223	6.217	0.006	99	14861	2.00	1.90	
42 cis-1,2-Dichloroethene	96	6.272	6.272	0.000	81	7151	1.00	0.9437	
44 2,2-Dichloropropane	77	6.290	6.284	0.006	54	7742	1.00	0.8202	
45 Propionitrile	54	6.302	6.296	0.006	97	39402	5.00	19.8	
46 Methacrylonitrile	67	6.515	6.527	-0.012	93	51183	2.50	9.07	M
47 Chlorobromomethane	128	6.613	6.606	0.006	92	3762	1.00	0.8842	
48 Tetrahydrofuran	71	6.619	6.619	0.000	80	3882	2.00	1.87	
49 Chloroform	83	6.746	6.752	-0.006	95	10507	1.00	0.8847	
$ 50 Dibromofluoromethane (Surr)	113	6.965	6.965	0.000	93	290290	50.0	50.1	
51 1,1,1-Trichloroethane	97	6.990	6.990	0.000	97	8447	1.00	0.8336	
52 Cyclohexane	56	7.099	7.099	0.000	92	8780	1.00	0.7615	
53 1,1-Dichloropropene	75	7.203	7.203	0.000	93	7859	1.00	0.8500	
54 Carbon tetrachloride	117	7.209	7.203	0.006	83	6650	1.00	0.7771	
55 Isobutyl alcohol	41	7.306	7.306	0.000	92	27183	12.5	47.0	
$ 56 1,2-Dichloroethane-d4 (Surr)	102	7.428	7.428	0.000	98	72909	50.0	50.4	
57 Benzene	78	7.458	7.464	-0.006	93	24987	1.00	0.8999	
59 1,2-Dichloroethane	62	7.531	7.531	0.000	97	10739	1.00	1.03	
60 Tert-amyl methyl ether	73	7.647	7.647	0.000	97	21124	1.00	0.9465	
* 62 Fluorobenzene (IS)	96	7.860	7.866	-0.006	99	1204246	50.0	50.0	
63 n-Heptane	43	7.878	7.878	0.000	37	9402	1.00	0.8141	
64 n-Butanol	56	8.188	8.188	0.000	93	47562	25.0	36.7	M
65 Trichloroethene	95	8.346	8.346	0.000	96	6040	1.00	0.8232	
66 Methylcyclohexane	83	8.663	8.663	0.000	87	9501	1.00	0.7213	
67 1,2-Dichloropropane	63	8.675	8.675	0.000	70	6442	1.00	0.8578	
34 2-ethoxy-2-methyl butane	87	8.681	8.675	0.006	92	9832	1.00	0.8281	
68 Methyl methacrylate	69	8.742	8.742	0.000	90	7152	1.00	0.8381	
69 1,4-Dioxane	88	8.754	8.760	-0.006	48	4888	12.5	37.9	
70 Dibromomethane	93	8.784	8.790	-0.006	95	4252	1.00	0.8552	
72 Dichlorobromomethane	83	9.022	9.015	0.007	97	7253	1.00	0.8336	
73 2-Nitropropane	41	9.253	9.259	-0.006	93	6539	2.00	1.61	
74 2-Chloroethyl vinyl ether	63	9.356	9.362	-0.006	93	5632	1.00	0.8534	
75 cis-1,3-Dichloropropene	75	9.545	9.551	-0.006	92	8908	1.00	0.8040	
76 4-Methyl-2-pentanone (MIBK)	43	9.703	9.703	0.000	97	26159	2.00	1.71	
$ 77 Toluene-d8 (Surr)	98	9.855	9.855	0.000	94	1210419	50.0	52.0	
78 Toluene	92	9.934	9.934	0.000	97	16006	1.00	0.9115	
S 79 1,3-Dichloropropene, Total	100				0			1.59	
80 trans-1,3-Dichloropropene	75	10.177	10.177	0.000	94	8199	1.00	0.7895	
81 Ethyl methacrylate	69	10.232	10.232	0.000	90	10438	1.00	0.8046	
82 1,1,2-Trichloroethane	97	10.378	10.384	-0.006	91	6348	1.00	0.9241	
83 Tetrachloroethene	166	10.482	10.482	0.000	92	6942	1.00	0.7777	
84 1,3-Dichloropropane	76	10.543	10.542	0.000	95	10896	1.00	0.9275	
86 2-Hexanone	43	10.579	10.579	0.000	98	20973	2.00	1.72	
88 Chlorodibromomethane	129	10.762	10.761	0.001	85	5017	1.00	0.7409	
89 Ethylene Dibromide	107	10.877	10.877	0.000	98	6890	1.00	0.8938	
S 90 Xylenes, Total	106				0			2.51	
* 91 Chlorobenzene-d5 (IS)	117	11.297	11.297	0.000	87	920610	50.0	50.0	
92 1-Chlorohexane	91	11.303	11.303	0.000	34	9611	1.00	0.9465	
93 Chlorobenzene	112	11.327	11.327	0.000	95	18231	1.00	0.9072	
94 1,1,1,2-Tetrachloroethane	131	11.412	11.406	0.006	89	5110	1.00	0.7498	
95 Ethylbenzene	91	11.406	11.406	0.000	98	30067	1.00	0.8638	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
96 m-Xylene & p-Xylene	106	11.522	11.522	0.000	99	23018	2.00	1.68	
97 o-Xylene	106	11.850	11.850	0.000	96	11282	1.00	0.8379	
98 Styrene	104	11.863	11.863	0.000	93	17027	1.00	0.7572	
99 Bromoform	173	12.027	12.027	0.000	91	3117	1.00	0.5853	
100 Isopropylbenzene	105	12.149	12.149	0.001	96	28454	1.00	0.8438	
102 Cyclohexanone	55	12.222	12.222	0.000	94	26260	50.0	43.3	
$ 103 4-Bromofluorobenzene (Surr)	95	12.295	12.295	0.001	88	455635	50.0	51.0	
104 1,1,2,2-Tetrachloroethane	83	12.386	12.386	0.000	95	10548	1.00	0.8955	
106 trans-1,4-Dichloro-2-butene	53	12.410	12.410	0.000	86	35628	2.50	7.37	
105 Bromobenzene	156	12.410	12.410	0.000	65	8526	1.00	0.8886	
107 1,2,3-Trichloropropane	110	12.434	12.434	0.000	80	3809	1.00	0.9517	
108 N-Propylbenzene	91	12.477	12.477	0.000	99	35546	1.00	0.8944	
109 2-Chlorotoluene	126	12.556	12.556	0.000	96	7245	1.00	0.8711	
110 1,3,5-Trimethylbenzene	105	12.611	12.611	0.000	94	24194	1.00	0.8287	
111 4-Chlorotoluene	126	12.647	12.647	0.000	97	7730	1.00	0.8708	
113 tert-Butylbenzene	134	12.854	12.854	0.000	93	5101	1.00	0.8186	
114 Pentachloroethane	167	12.885	12.891	-0.006	76	3681	1.00	0.8505	
115 1,2,4-Trimethylbenzene	105	12.897	12.897	0.000	98	25718	1.00	0.8362	
116 sec-Butylbenzene	105	13.019	13.018	0.001	94	30806	1.00	0.8345	
117 1,3-Dichlorobenzene	146	13.122	13.122	0.000	95	15470	1.00	0.8749	
118 4-Isopropyltoluene	119	13.122	13.122	0.000	97	26222	1.00	0.7986	
* 119 1,4-Dichlorobenzene-d4	152	13.177	13.177	0.000	96	482189	50.0	50.0	
121 1,4-Dichlorobenzene	146	13.195	13.195	0.000	87	16318	1.00	0.8866	
120 1,2,3-Trimethylbenzene	105	13.201	13.201	0.000	97	30322	1.00	0.8802	
122 Benzyl chloride	91	13.268	13.262	0.006	98	15740	1.00	0.6770	
123 1,3-Diethylbenzene	119	13.323	13.323	0.000	94	17348	1.00	0.8017	
124 p-Diethylbenzene	119	13.396	13.396	0.000	95	18208	1.00	0.7922	
125 n-Butylbenzene	92	13.414	13.414	0.000	97	14181	1.00	0.8156	
126 1,2-Dichlorobenzene	146	13.450	13.450	0.000	97	15331	1.00	0.8990	
127 o-diethylbenzene	119	13.469	13.469	0.000	96	15285	1.00	0.8295	
129 1,2-Dibromo-3-Chloropropane	75	13.992	13.992	0.000	74	2368	1.00	0.8179	
130 1,3,5-Trichlorobenzene	180	14.126	14.120	0.006	96	11389	1.00	0.8874	
131 1,2,4-Trichlorobenzene	180	14.546	14.545	0.001	94	10741	1.00	0.8940	
132 Hexachlorobutadiene	225	14.625	14.625	0.000	96	4804	1.00	0.9150	
133 Naphthalene	128	14.728	14.728	0.000	97	36320	1.00	0.9112	
134 1,2,3-Trichlorobenzene	180	14.874	14.868	0.006	96	10836	1.00	0.9347	
135 2-Methylnaphthalene	142	15.519	15.519	0.000	91	22786	1.00	0.8679	
S 146 Total Diethylbenzene	1				0			2.42	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

MSV_4ppbEE_00037	Amount Added: 12.50	Units: mL	
MSV_HP20_ISSS_00016	Amount Added: 1.00	Units: uL	Run Reagent

Report Date: 15-Jul-2020 11:01:19 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I07.D

Injection Date: 14-Jul-2020 15:43:30 Instrument ID: 9355 Operator ID: JTL32685

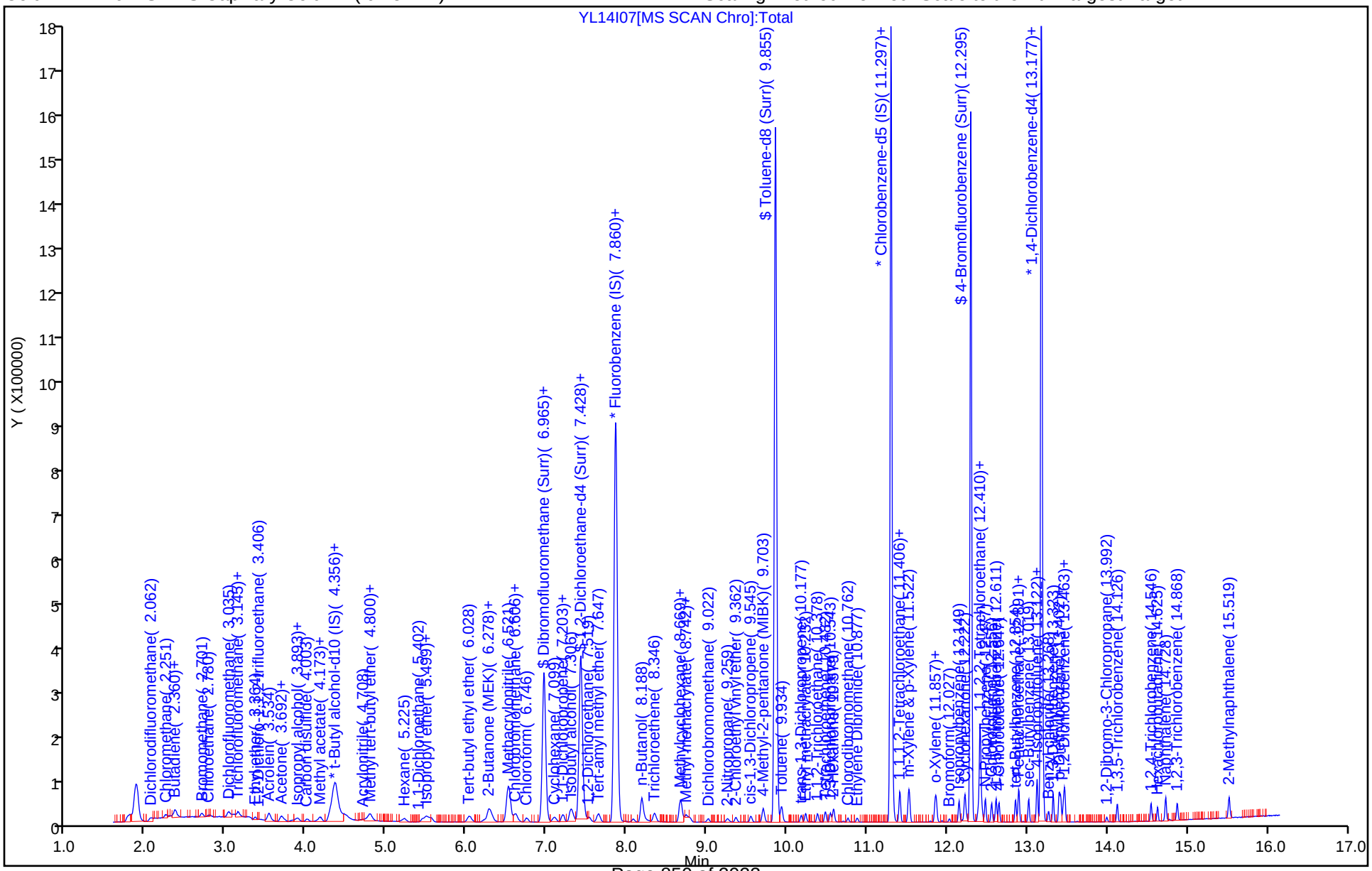
Lims ID: IC std1 1 Worklist Smp#: 9

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 8

Method: MSVoa_9355 Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

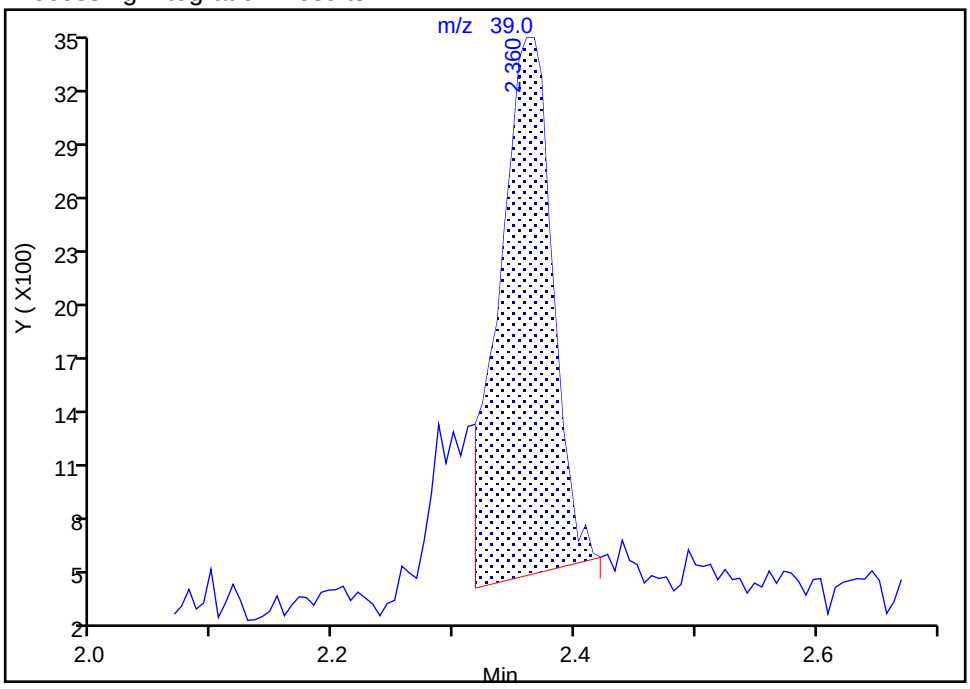
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I07.D
Injection Date: 14-Jul-2020 15:43:30 Instrument ID: 9355
Lims ID: IC std1 1
Client ID:
Operator ID: JTL32685 ALS Bottle#: 8 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

5 Butadiene, CAS: 106-99-0

Signal: 1

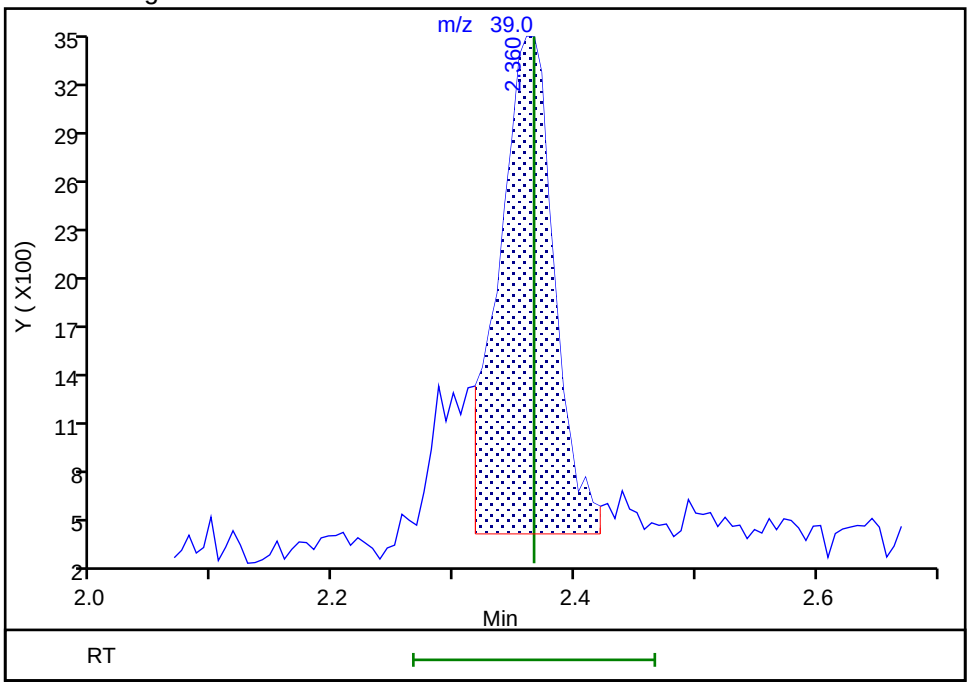
Processing Integration Results

RT: 2.36
Area: 8998
Amount: 0.995980
Amount Units: ug/l



Manual Integration Results

RT: 2.36
Area: 9534
Amount: 1.046440
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:40:40
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

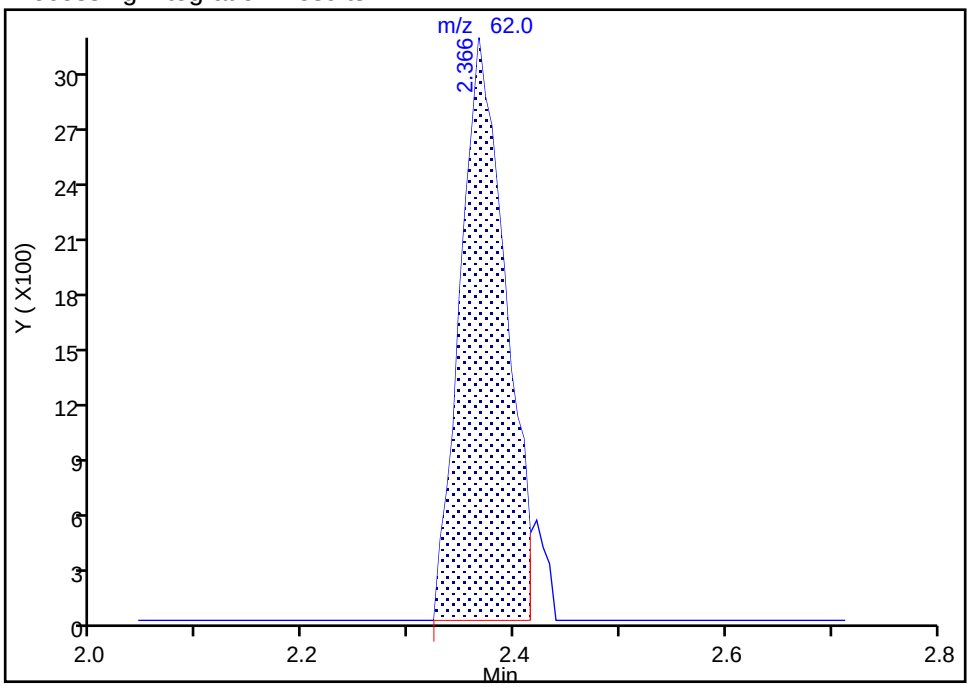
Data File:	\\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I07.D				
Injection Date:	14-Jul-2020 15:43:30	Instrument ID:	9355		
Lims ID:	IC std1 1				
Client ID:					
Operator ID:	JTL32685	ALS Bottle#:	8	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25 mm)	Detector	MS Quad		

6 Vinyl chloride, CAS: 75-01-4

Signal: 1

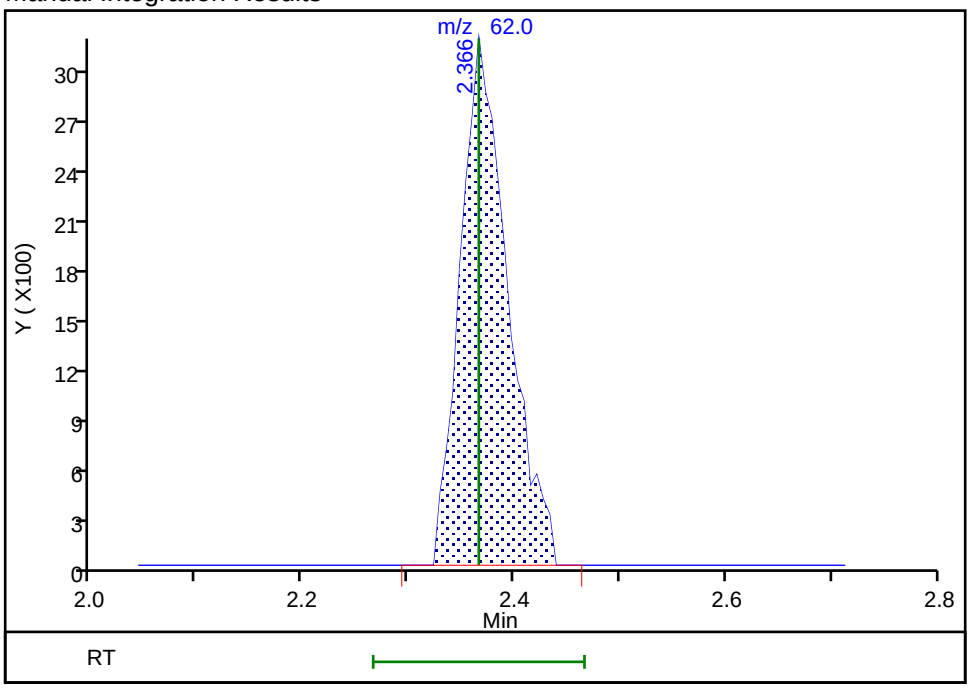
Processing Integration Results

RT: 2.37
Area: 9370
Amount: 0.800983
Amount Units: ug/l



Manual Integration Results

RT: 2.37
Area: 9824
Amount: 0.835162
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:40:48

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

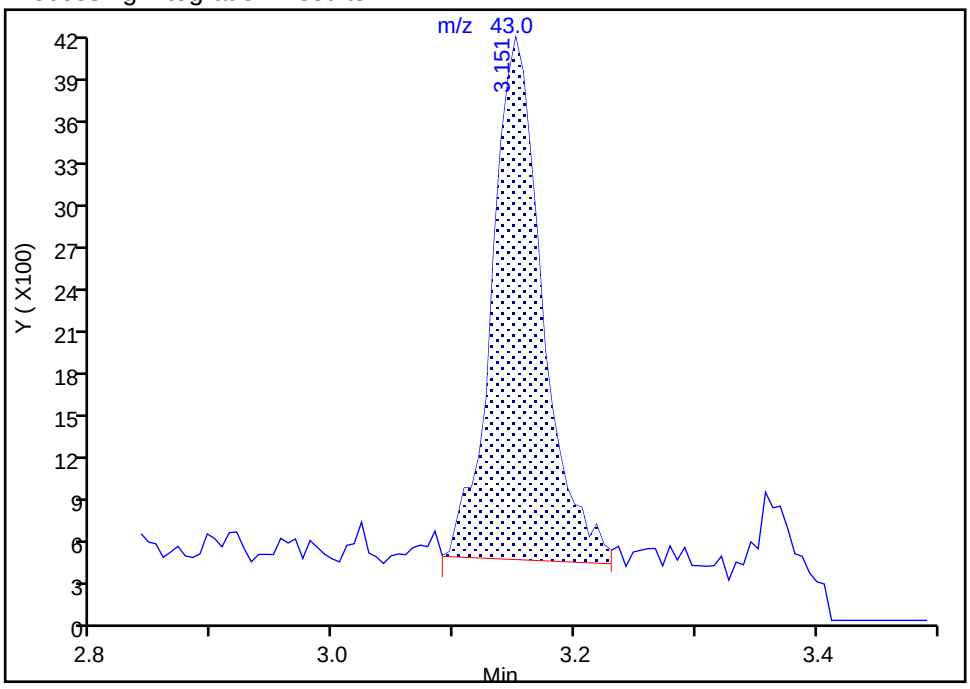
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I07.D
Injection Date: 14-Jul-2020 15:43:30 Instrument ID: 9355
Lims ID: IC std1 1
Client ID:
Operator ID: JTL32685 ALS Bottle#: 8 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

12 Pentane, CAS: 109-66-0

Signal: 1

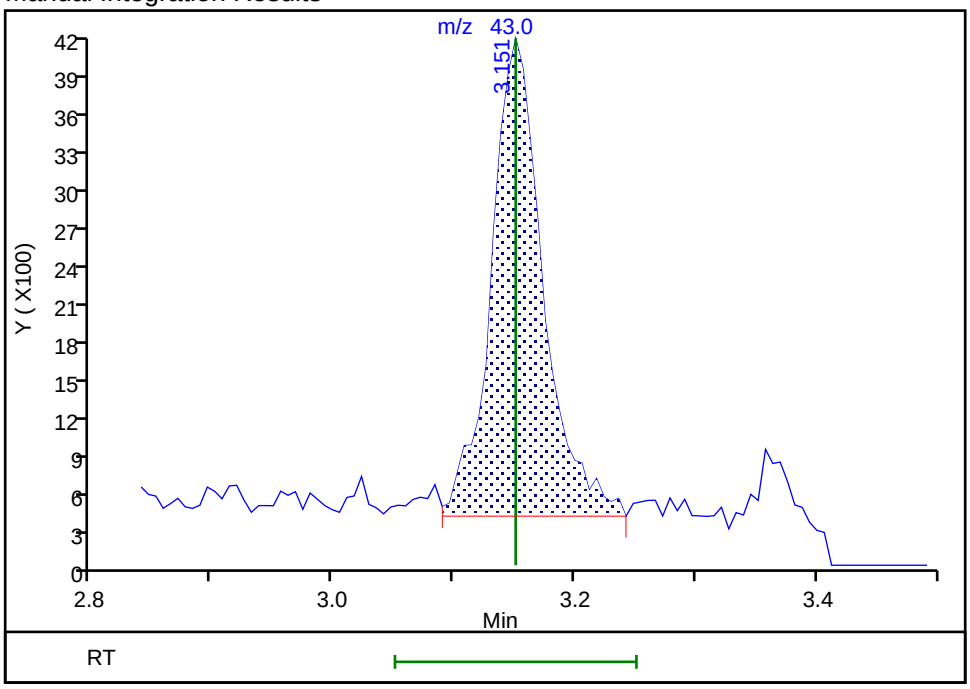
Processing Integration Results

RT: 3.15
Area: 10788
Amount: 0.837087
Amount Units: ug/l



Manual Integration Results

RT: 3.15
Area: 11211
Amount: 0.865850
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:41:13
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

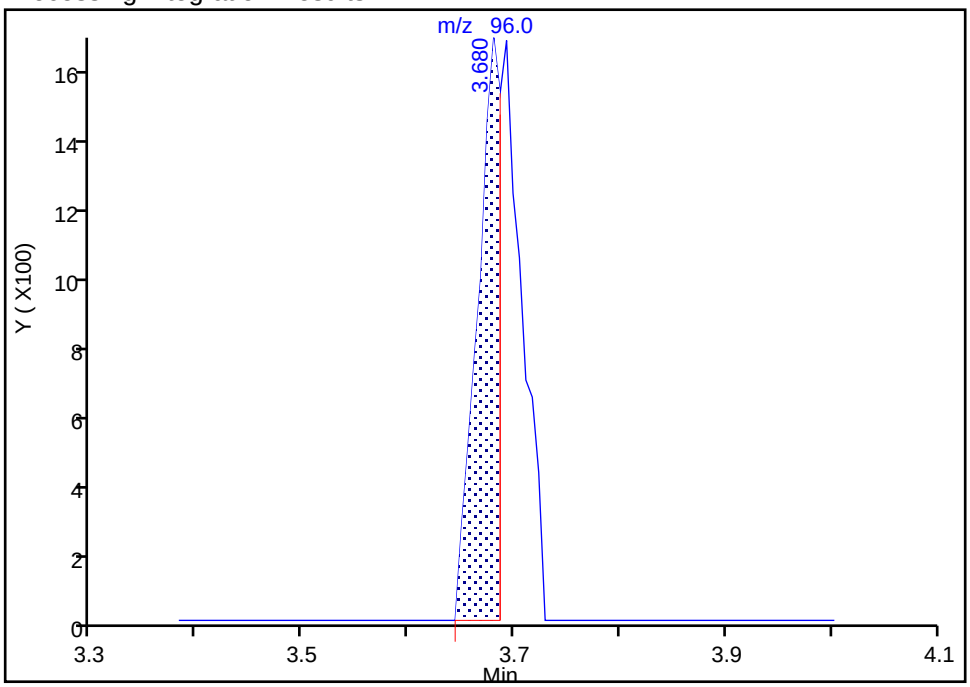
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I07.D
Injection Date: 14-Jul-2020 15:43:30 Instrument ID: 9355
Lims ID: IC std1 1
Client ID:
Operator ID: JTL32685 ALS Bottle#: 8 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

17 1,1-Dichloroethene, CAS: 75-35-4

Signal: 1

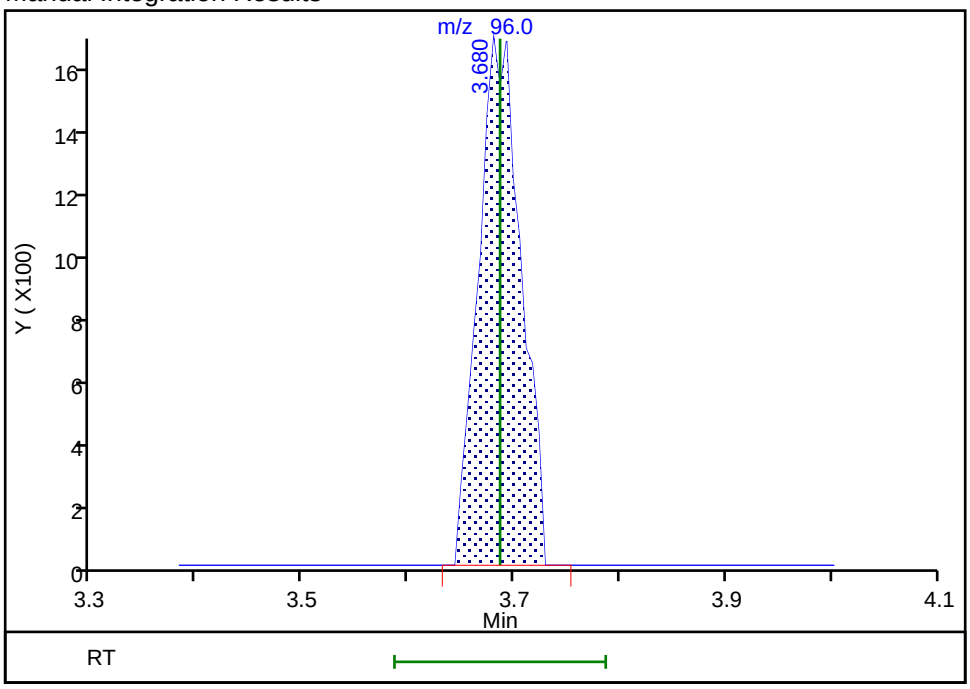
Processing Integration Results

RT: 3.68
Area: 2598
Amount: 0.044896
Amount Units: ug/l



Manual Integration Results

RT: 3.68
Area: 4669
Amount: 0.867194
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:41:23
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

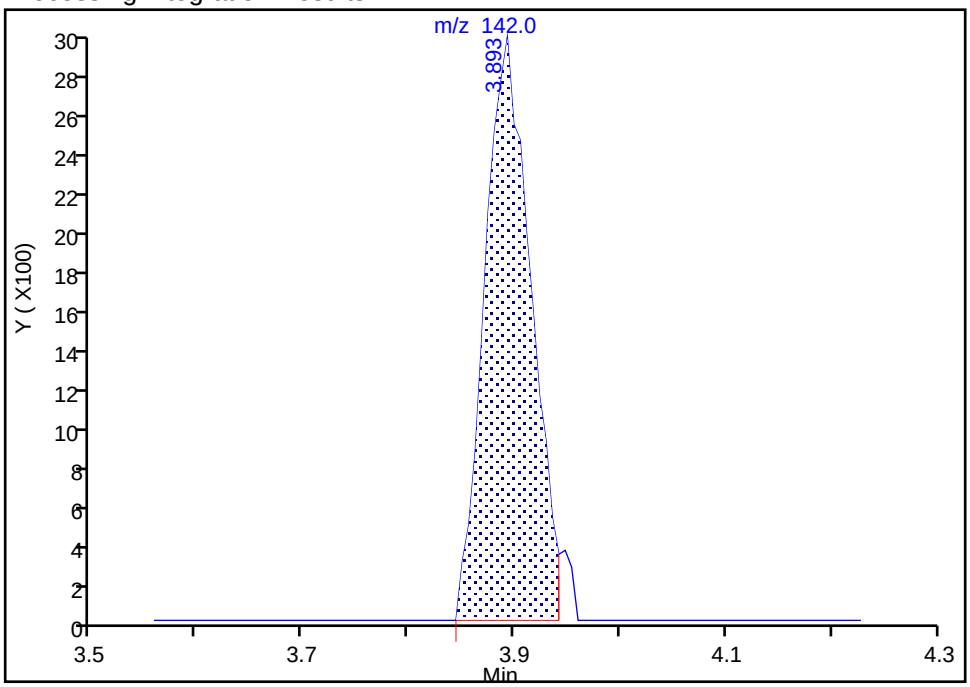
Data File:	\\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I07.D				
Injection Date:	14-Jul-2020 15:43:30	Instrument ID:	9355		
Lims ID:	IC std1 1				
Client ID:					
Operator ID:	JTL32685	ALS Bottle#:	8	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

21 Iodomethane, CAS: 74-88-4

Signal: 1

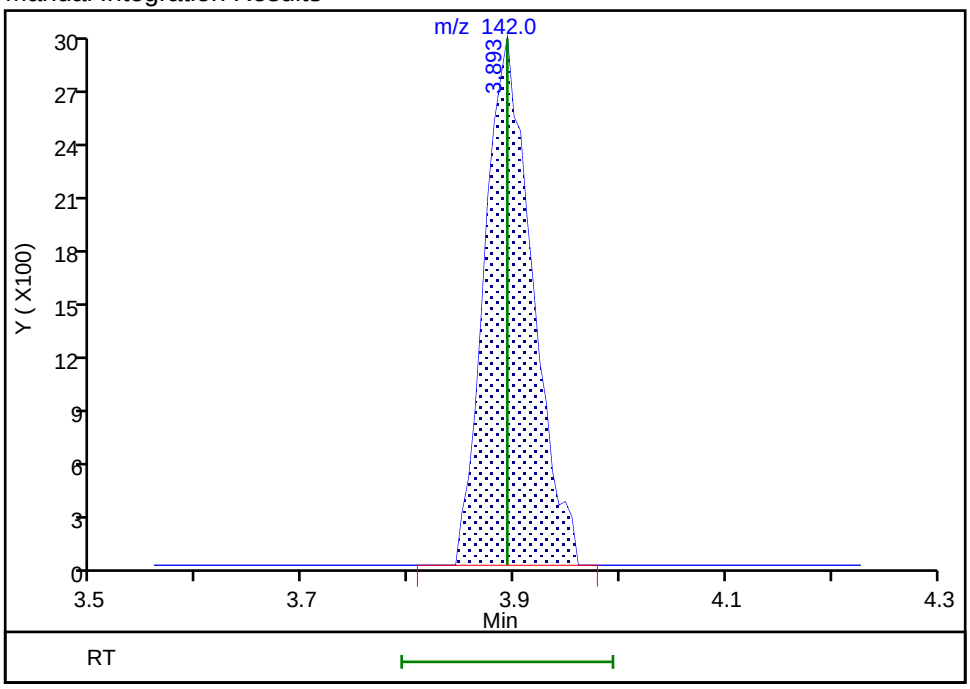
Processing Integration Results

RT: 3.89
Area: 9012
Amount: 0.841236
Amount Units: ug/l



Manual Integration Results

RT: 3.89
Area: 9240
Amount: 0.859905
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:41:28

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

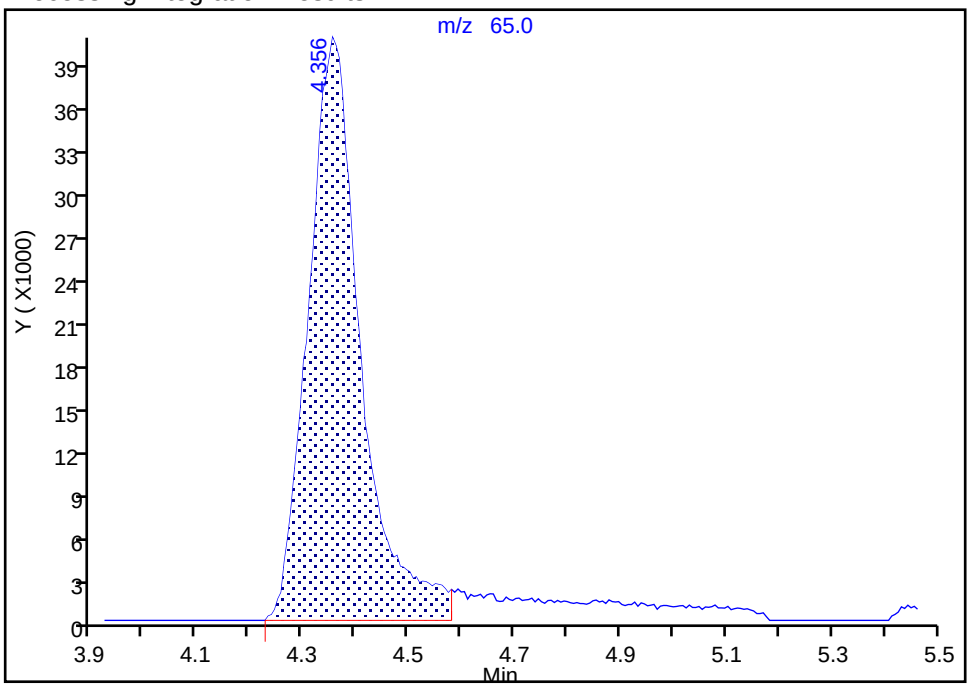
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I07.D
Injection Date: 14-Jul-2020 15:43:30 Instrument ID: 9355
Lims ID: IC std1 1
Client ID:
Operator ID: JTL32685 ALS Bottle#: 8 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

* 26 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2

Signal: 1

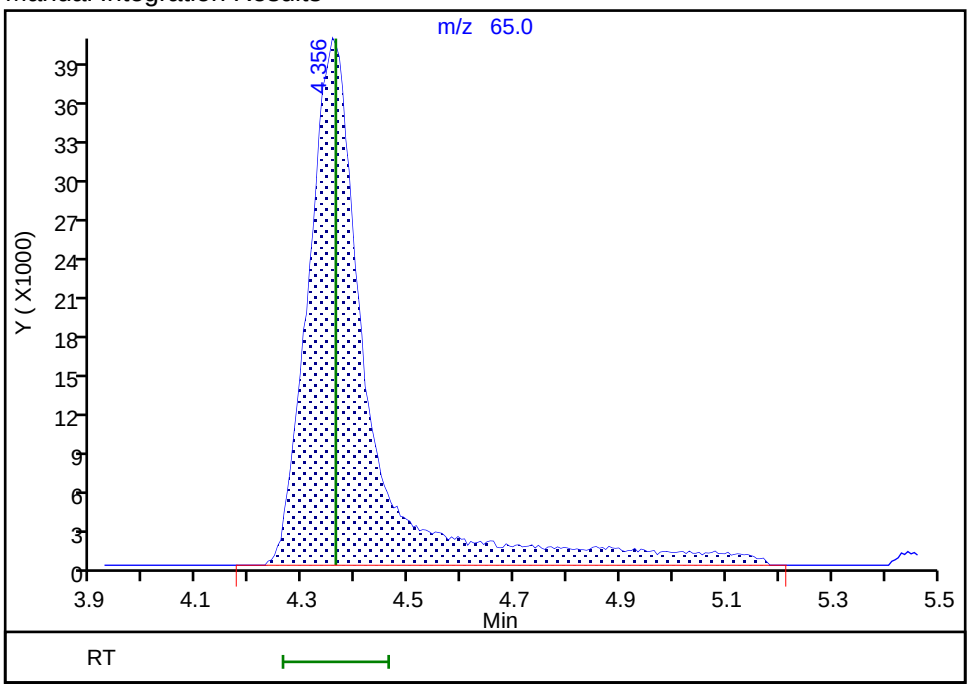
Processing Integration Results

RT: 4.36
Area: 277308
Amount: 250.0000
Amount Units: ug/l



Manual Integration Results

RT: 4.36
Area: 319976
Amount: 250.0000
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:41:37
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

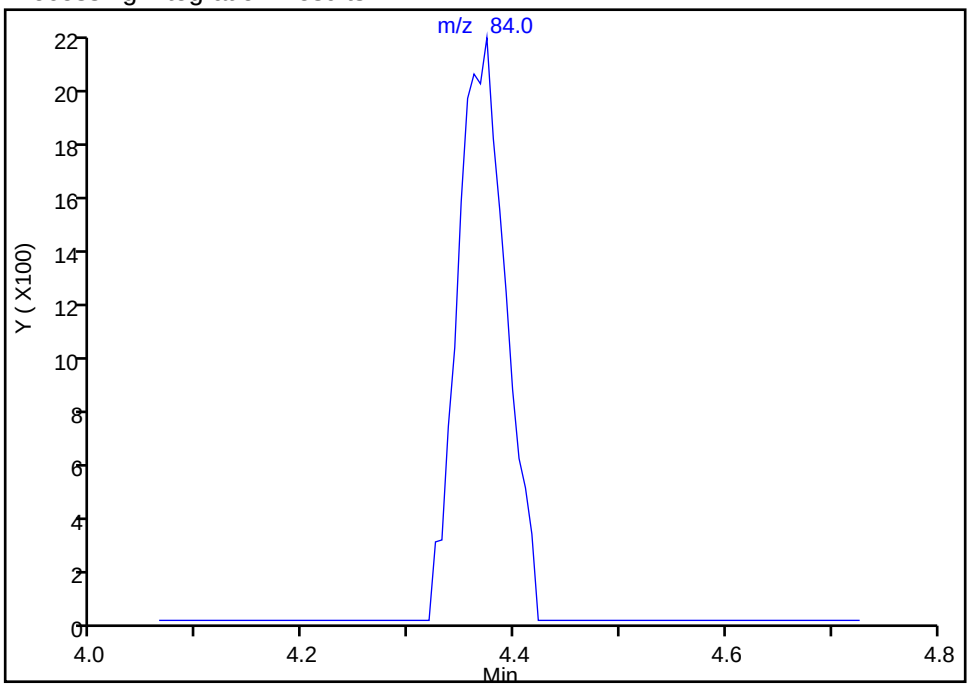
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I07.D
Injection Date: 14-Jul-2020 15:43:30 Instrument ID: 9355
Lims ID: IC std1 1
Client ID:
Operator ID: JTL32685 ALS Bottle#: 8 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

27 Methylene Chloride, CAS: 75-09-2

Signal: 1

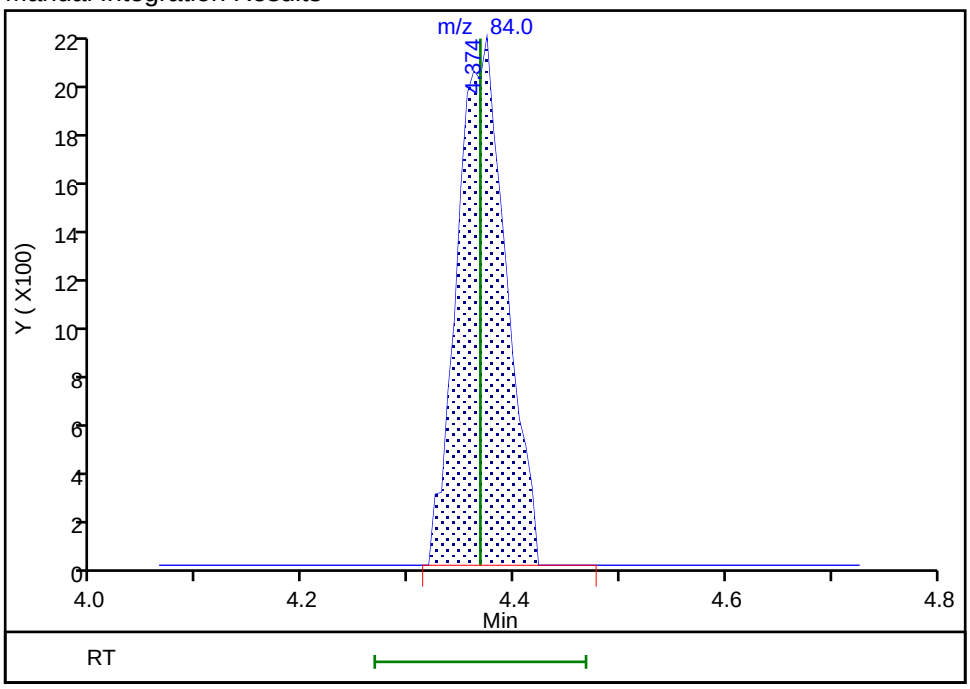
Not Detected
Expected RT: 4.37

Processing Integration Results



Manual Integration Results

RT: 4.37
Area: 6664
Amount: 0.997841
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:41:45
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

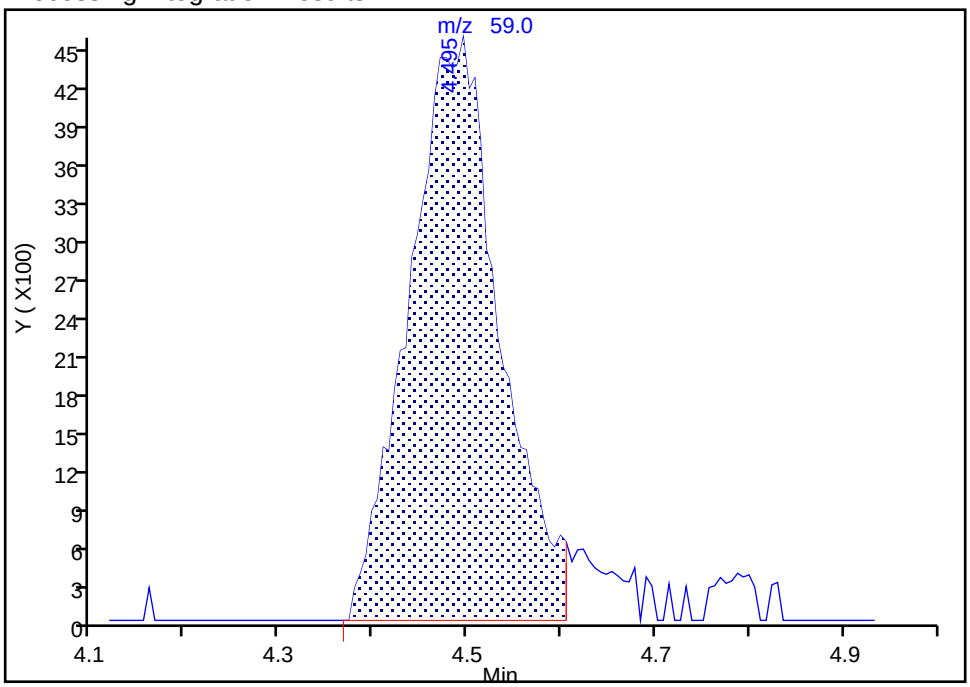
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I07.D
Injection Date: 14-Jul-2020 15:43:30 Instrument ID: 9355
Lims ID: IC std1 1
Client ID:
Operator ID: JTL32685 ALS Bottle#: 8 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

28 2-Methyl-2-propanol, CAS: 75-65-0

Signal: 1

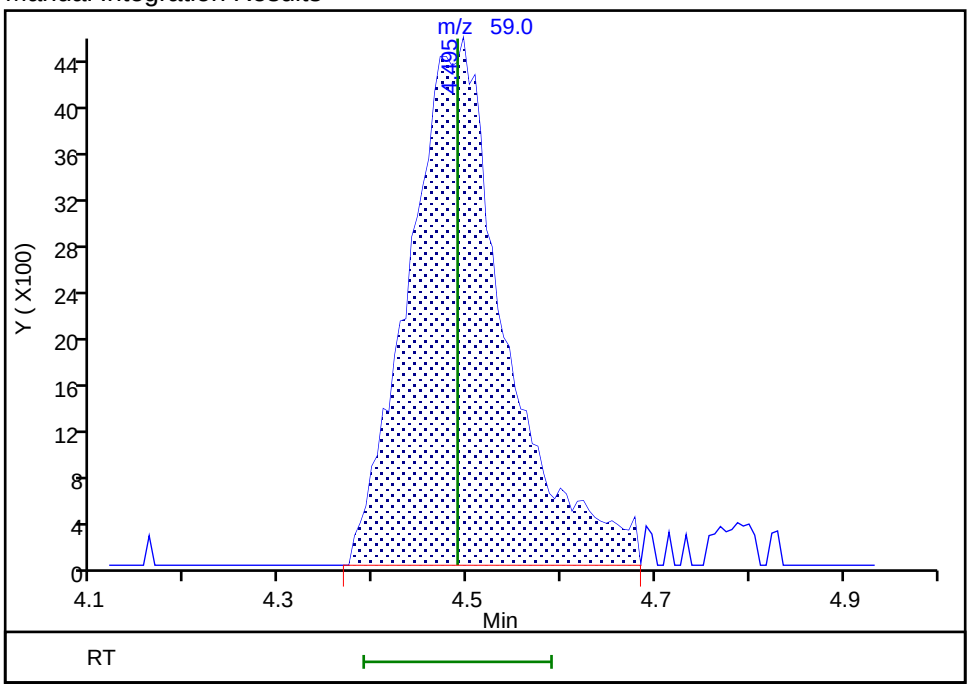
Processing Integration Results

RT: 4.50
Area: 30422
Amount: 5.031541
Amount Units: ug/l



Manual Integration Results

RT: 4.50
Area: 32214
Amount: 5.035138
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:41:51
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

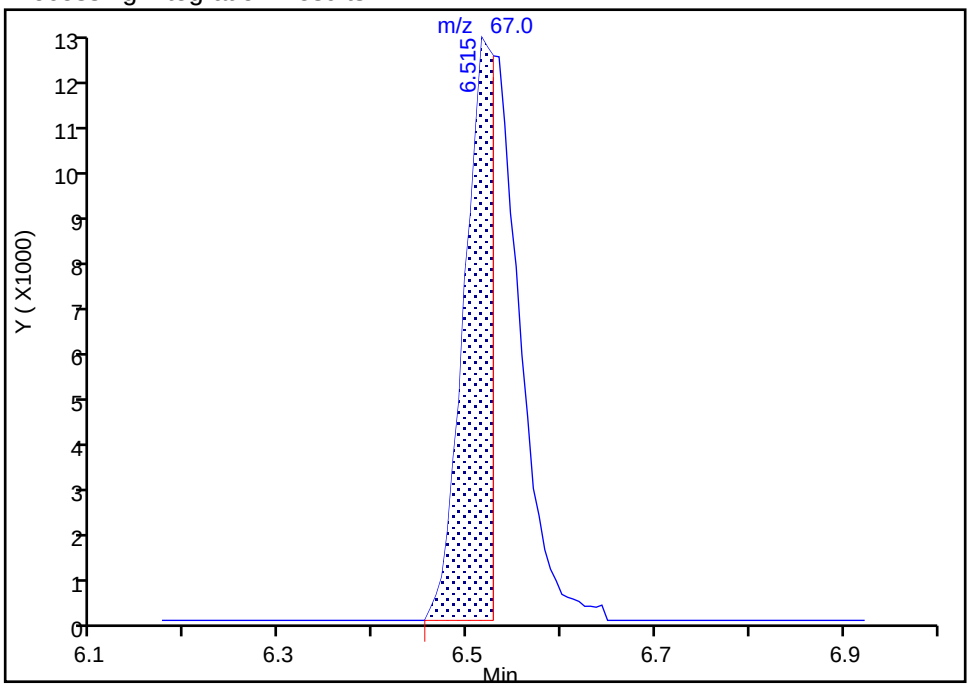
Data File:	\\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I07.D				
Injection Date:	14-Jul-2020 15:43:30	Instrument ID:	9355		
Lims ID:	IC std1 1				
Client ID:					
Operator ID:	JTL32685	ALS Bottle#:	8	Worklist Smp#:	9
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

46 Methacrylonitrile, CAS: 126-98-7

Signal: 1

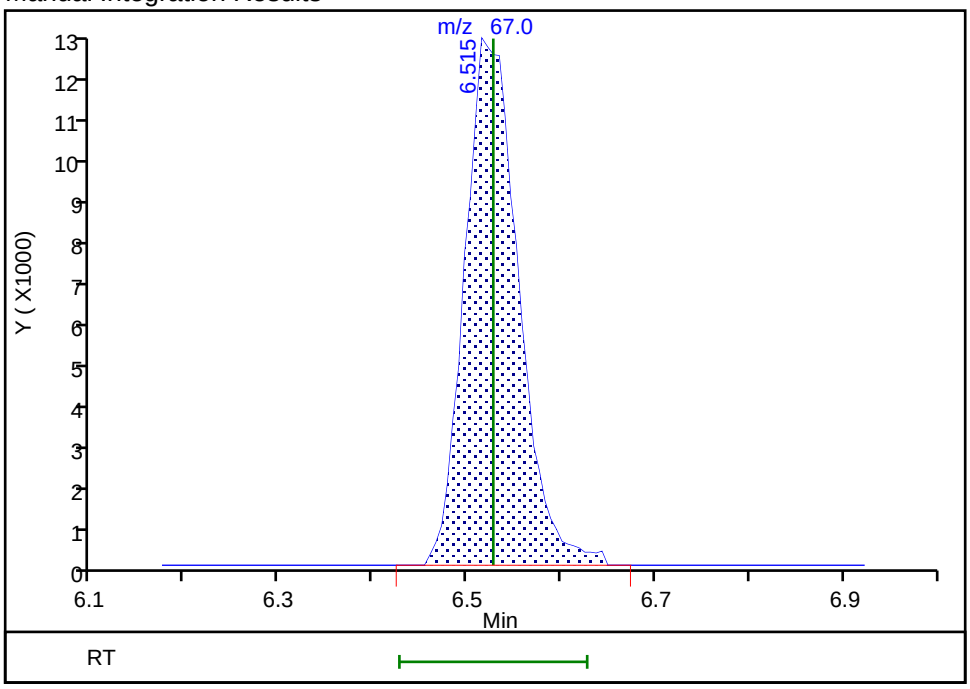
Processing Integration Results

RT: 6.52
Area: 28355
Amount: 4.479415
Amount Units: ug/l



Manual Integration Results

RT: 6.52
Area: 51183
Amount: 9.067024
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:42:01

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

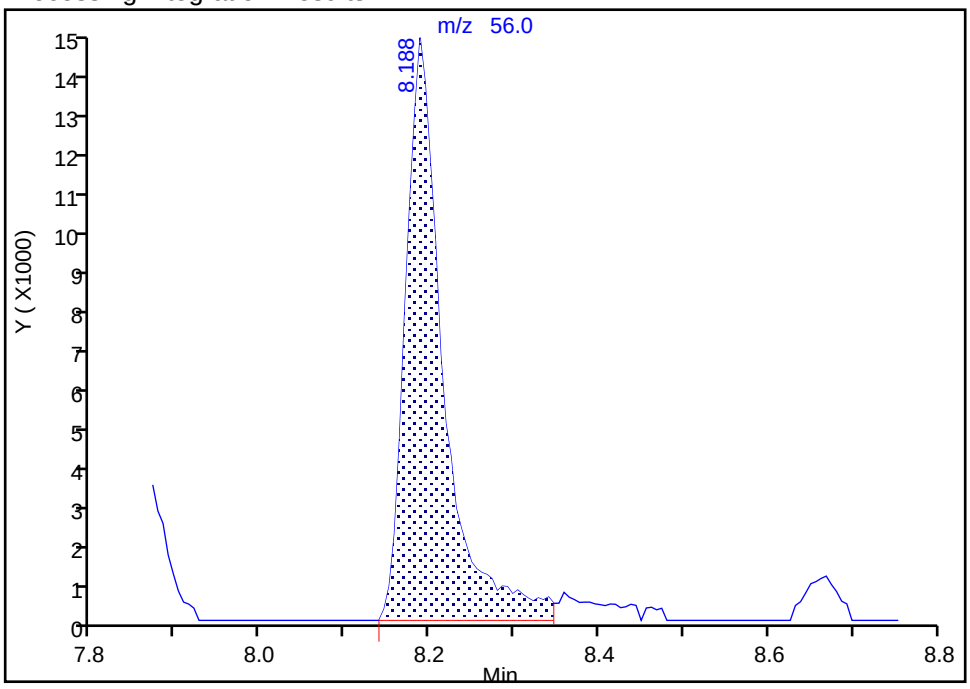
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I07.D
Injection Date: 14-Jul-2020 15:43:30 Instrument ID: 9355
Lims ID: IC std1 1
Client ID:
Operator ID: JTL32685 ALS Bottle#: 8 Worklist Smp#: 9
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

64 n-Butanol, CAS: 71-36-3

Signal: 1

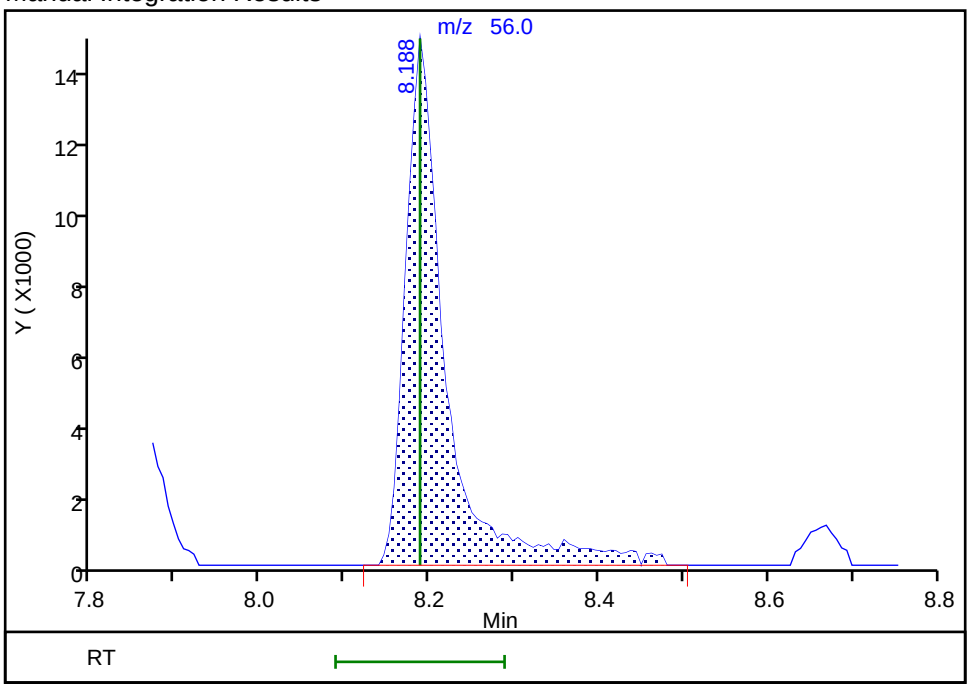
Processing Integration Results

RT: 8.19
Area: 44605
Amount: 32.385162
Amount Units: ug/l



Manual Integration Results

RT: 8.19
Area: 47562
Amount: 36.705229
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 18:42:13
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICV 410-22126/10 Calibration Date: 07/14/2020 16:05

Instrument ID: 9355 Calib Start Date: 07/14/2020 13:31

GC Column: R-624SilMS 30m ID: 0.25(mm) Calib End Date: 07/14/2020 15:43

Lab File ID: YL14V01.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.4845	0.4333	0.1000	17.9	20.0	-10.6	30.0
Chloromethane	Ave	0.5222	0.5202	0.1000	19.9	20.0	-0.4	30.0
1,3-Butadiene	Ave	0.3783	0.3965		21.0	20.0	4.8	30.0
Vinyl chloride	Ave	0.4884	0.5040	0.1000	20.6	20.0	3.2	30.0
Bromomethane	Ave	0.3588	0.3826	0.1000	21.3	20.0	6.6	30.0
Chloroethane	Ave	0.2906	0.3217	0.1000	22.1	20.0	10.7	30.0
Dichlorofluoromethane	Ave	0.6846	0.7143		20.9	20.0	4.3	30.0
Trichlorofluoromethane	Ave	0.5977	0.7172	0.1000	24.0	20.0	20.0	30.0
n-Pentane	Ave	0.5376	0.5306		19.7	20.0	-1.3	30.0
Ethyl ether	Ave	0.3238	0.3856		23.8	20.0	19.1	30.0
Freon 123a	Ave	0.3156	0.3504		22.2	20.0	11.0	30.0
Acrolein	Ave	2.359	2.343		149	150	-0.7	30.0
1,1-Dichloroethene	Ave	0.2235	0.2571	0.1000	23.0	20.0	15.0	30.0
Acetone	Ave	1.022	1.265	0.1000	186	150	23.9	30.0
Freon 113	Ave	0.2374	0.2383	0.1000	20.1	20.0	0.4	30.0
2-Propanol	Ave	0.7171	0.5755		120	150	-19.8	30.0
Methyl iodide	Ave	0.4461	0.4468		20.0	20.0	0.1	30.0
Carbon disulfide	Ave	0.7224	0.7407	0.1000	20.5	20.0	2.5	30.0
Methyl acetate	Ave	0.4441	0.4388	0.1000	19.8	20.0	-1.2	30.0
Allyl chloride	Ave	0.4681	0.4321		18.5	20.0	-7.7	30.0
Methylene Chloride	Ave	0.2773	0.3080	0.1000	22.2	20.0	11.1	30.0
t-Butyl alcohol	Lin2		1.264		199	200	-0.3	30.0
Acrylonitrile	Ave	0.2178	0.2172		99.7	100	-0.3	30.0
Methyl tertiary butyl ether	Ave	0.9101	0.8940	0.1000	19.6	20.0	-1.8	30.0
trans-1,2-Dichloroethene	Ave	0.2707	0.2970	0.1000	21.9	20.0	9.7	30.0
n-Hexane	Ave	0.4028	0.4116		20.4	20.0	2.2	30.0
1,1-Dichloroethane	Ave	0.4809	0.5262	0.2000	21.9	20.0	9.4	30.0
di-Isopropyl ether	Ave	0.9888	0.997		20.2	20.0	0.9	30.0
2-Chloro-1,3-butadiene	Ave	0.4619	0.4787		20.7	20.0	3.6	30.0
Ethyl t-butyl ether	Ave	0.9143	0.9223		20.2	20.0	0.9	30.0
2-Butanone	Ave	0.3251	0.3682	0.1000	170	150	13.3	30.0
cis-1,2-Dichloroethene	Ave	0.3146	0.3592	0.1000	22.8	20.0	14.2	30.0
2,2-Dichloropropane	Ave	0.3919	0.4376		22.3	20.0	11.7	30.0
Propionitrile	Ave	1.552	1.633		158	150	5.2	30.0
Methacrylonitrile	Ave	0.2344	0.2401		154	150	2.4	30.0
Bromochloromethane	Ave	0.1767	0.1699		19.2	20.0	-3.8	30.0
Tetrahydrofuran	Ave	1.623	1.693		104	100	4.3	30.0
Chloroform	Ave	0.4931	0.5485	0.2000	22.2	20.0	11.2	30.0
1,1,1-Trichloroethane	Ave	0.4207	0.4724	0.1000	22.5	20.0	12.3	30.0
Cyclohexane	Ave	0.4787	0.5004	0.1000	20.9	20.0	4.5	30.0
1,1-Dichloropropene	Ave	0.3839	0.4219		22.0	20.0	9.9	30.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICV 410-22126/10 Calibration Date: 07/14/2020 16:05

Instrument ID: 9355 Calib Start Date: 07/14/2020 13:31

GC Column: R-624SilMS 30m ID: 0.25(mm) Calib End Date: 07/14/2020 15:43

Lab File ID: YL14V01.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Carbon tetrachloride	Ave	0.3553	0.3901	0.1000	22.0	20.0	9.8	30.0
Isobutyl alcohol	Ave	0.4522	0.4580		506	500	1.3	30.0
Benzene	Ave	1.153	1.264	0.5000	21.9	20.0	9.6	30.0
1,2-Dichloroethane	Ave	0.4319	0.4789	0.1000	22.2	20.0	10.9	30.0
t-Amyl methyl ether	Ave	0.9266	0.9566		20.6	20.0	3.2	30.0
n-Heptane	Ave	0.4795	0.4797		20.0	20.0	0.0	30.0
n-Butanol	Lin		0.4351		1000	1000	-0.0	30.0
Trichloroethene	Ave	0.3046	0.3358	0.2000	22.0	20.0	10.2	30.0
Methylcyclohexane	Ave	0.5469	0.5265	0.1000	19.3	20.0	-3.7	30.0
1,2-Dichloropropane	Ave	0.3118	0.3367	0.1000	21.6	20.0	8.0	30.0
t-Amyl ethyl ether	Ave	0.4930	0.4861		19.7	20.0	-1.4	30.0
Methyl methacrylate	Ave	0.3543	0.3597		20.3	20.0	1.5	30.0
1,4-Dioxane	Ave	0.1007	0.1059	0.0050	525	500	5.1	30.0
Dibromomethane	Ave	0.2064	0.2272		22.0	20.0	10.0	30.0
Bromodichloromethane	Ave	0.3612	0.3963	0.2000	21.9	20.0	9.7	30.0
2-Nitropropane	Ave	3.177	3.032		19.1	20.0	-4.6	30.0
2-Chloroethyl vinyl ether	Ave	0.2740	0.2762		20.2	20.0	0.8	30.0
cis-1,3-Dichloropropene	Ave	0.4600	0.5035	0.2000	21.9	20.0	9.5	30.0
4-Methyl-2-pentanone	Ave	0.6366	0.6514	0.1000	102	100	2.3	30.0
Toluene	Ave	0.9537	1.055	0.4000	22.1	20.0	10.6	30.0
trans-1,3-Dichloropropene	Ave	0.5640	0.6060	0.1000	21.5	20.0	7.4	30.0
Ethyl methacrylate	Ave	0.7046	0.7324		20.8	20.0	4.0	30.0
1,1,2-Trichloroethane	Ave	0.3731	0.4282	0.1000	23.0	20.0	14.8	30.0
Tetrachloroethene	Ave	0.4848	0.4928	0.2000	20.3	20.0	1.7	30.0
1,3-Dichloropropane	Ave	0.6381	0.7011		22.0	20.0	9.9	30.0
2-Hexanone	Ave	0.6623	0.7560	0.1000	114	100	14.1	30.0
Dibromochloromethane	Ave	0.3678	0.4110		22.4	20.0	11.8	30.0
1,2-Dibromoethane	Ave	0.4187	0.4630	0.1000	22.1	20.0	10.6	30.0
1-Chlorohexane	Ave	0.5515	0.5818		21.1	20.0	5.5	30.0
Chlorobenzene	Ave	1.091	1.203	0.5000	22.0	20.0	10.2	30.0
1,1,1,2-Tetrachloroethane	Ave	0.3702	0.3985		21.5	20.0	7.7	30.0
Ethylbenzene	Ave	1.890	2.094	0.1000	22.1	20.0	10.7	30.0
m&p-Xylene	Ave	0.7460	0.8292	0.1000	44.5	40.0	11.2	30.0
o-Xylene	Ave	0.7312	0.7924	0.3000	21.7	20.0	8.4	30.0
Styrene	Ave	1.221	1.359	0.3000	22.3	20.0	11.3	30.0
Bromoform	Ave	0.2892	0.2850	0.1000	19.7	20.0	-1.5	30.0
Isopropylbenzene	Ave	1.831	2.080	0.1000	22.7	20.0	13.6	30.0
Cyclohexanone	Ave	0.4737	0.4867		514	500	2.7	30.0
1,1,2,2-Tetrachloroethane	Ave	1.221	1.325	0.3000	21.7	20.0	8.5	30.0
Bromobenzene	Ave	0.9950	1.051		21.1	20.0	5.6	30.0
trans-1,4-Dichloro-2-butene	Ave	0.5011	0.5066		101	100	1.1	30.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICV 410-22126/10 Calibration Date: 07/14/2020 16:05

Instrument ID: 9355 Calib Start Date: 07/14/2020 13:31

GC Column: R-624SilMS 30m ID: 0.25(mm) Calib End Date: 07/14/2020 15:43

Lab File ID: YL14V01.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2,3-Trichloropropane	Ave	0.4150	0.4404		21.2	20.0	6.1	30.0
N-Propylbenzene	Ave	4.121	4.678		22.7	20.0	13.5	30.0
2-Chlorotoluene	Ave	0.8624	0.9295		21.6	20.0	7.8	30.0
1,3,5-Trimethylbenzene	Ave	3.027	3.342		22.1	20.0	10.4	30.0
4-Chlorotoluene	Ave	0.9205	0.9886		21.5	20.0	7.4	30.0
tert-Butylbenzene	Ave	0.6462	0.6878		21.3	20.0	6.4	30.0
Pentachloroethane	Ave	0.4488	0.4894		21.8	20.0	9.0	30.0
1,2,4-Trimethylbenzene	Ave	3.189	3.475		21.8	20.0	9.0	30.0
sec-Butylbenzene	Ave	3.828	4.290		22.4	20.0	12.1	30.0
1,3-Dichlorobenzene	Ave	1.833	1.966	0.6000	21.4	20.0	7.2	30.0
p-Isopropyltoluene	Ave	3.405	3.799		22.3	20.0	11.6	30.0
1,4-Dichlorobenzene	Ave	1.909	2.055	0.5000	21.5	20.0	7.7	30.0
1,2,3-Trimethylbenzene	Ave	3.572	3.786		21.2	20.0	6.0	30.0
Benzyl chloride	Ave	2.411	2.510		20.8	20.0	4.1	30.0
1,3-Diethylbenzene	Ave	2.244	2.253		20.1	20.0	0.4	30.0
1,4-Diethylbenzene	Ave	2.383	2.403		20.2	20.0	0.8	30.0
n-Butylbenzene	Ave	1.803	1.909		21.2	20.0	5.9	30.0
1,2-Dichlorobenzene	Ave	1.768	1.893	0.4000	21.4	20.0	7.0	30.0
1,2-Diethylbenzene	Ave	1.911	1.897		19.9	20.0	-0.7	30.0
1,2-Dibromo-3-Chloropropane	Ave	0.3002	0.3161	0.0500	21.1	20.0	5.3	30.0
1,3,5-Trichlorobenzene	Ave	1.331	1.409		21.2	20.0	5.9	30.0
1,2,4-Trichlorobenzene	Ave	1.246	1.319	0.2000	21.2	20.0	5.9	30.0
Hexachlorobutadiene	Ave	0.5444	0.5574		20.5	20.0	2.4	30.0
Naphthalene	Ave	4.133	4.528		21.9	20.0	9.6	30.0
1,2,3-Trichlorobenzene	Ave	1.202	1.254		20.9	20.0	4.3	30.0
2-Methylnaphthalene	Ave	2.722	2.529		18.6	20.0	-7.1	30.0
Dibromofluoromethane (Surr)	Ave	0.2407	0.2433		50.5	50.0	1.1	30.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.0600	0.0607		50.5	50.0	1.1	30.0
Toluene-d8 (Surr)	Ave	1.265	1.304		51.5	50.0	3.1	30.0
4-Bromofluorobenzene (Surr)	Ave	0.4850	0.4974		51.3	50.0	2.6	30.0

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14V01.D
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 14-Jul-2020 16:05:30 ALS Bottle#: 9 Worklist Smp#: 10
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0005480-010
Misc. Info.: ICV
Operator ID: JTL32685 Instrument ID: 9355
Sublist:

Method: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 15-Jul-2020 11:02:24 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1014

First Level Reviewer: campbellme Date: 14-Jul-2020 19:07:27

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Dichlorodifluoromethane	85	2.044	2.050	-0.006	100	206575	20.0	17.9	M
4 Chloromethane	50	2.250	2.251	-0.001	100	247977	20.0	19.9	M
5 Butadiene	39	2.366	2.366	0.000	96	189025	20.0	21.0	M
6 Vinyl chloride	62	2.366	2.366	0.000	98	240267	20.0	20.6	
8 Bromomethane	94	2.695	2.701	-0.006	91	182409	20.0	21.3	
9 Chloroethane	64	2.786	2.786	0.000	100	153388	20.0	22.1	
10 Dichlorofluoromethane	67	3.029	3.029	0.000	98	340547	20.0	20.9	
11 Trichlorofluoromethane	101	3.096	3.096	0.000	98	341928	20.0	24.0	
12 Pentane	43	3.145	3.151	-0.006	98	252952	20.0	19.7	
14 Ethyl ether	59	3.364	3.364	0.000	91	183998	20.0	23.8	
15 1,2-Dichloro-1,1,2-trifluoroetha	67	3.425	3.425	0.000	92	167059	20.0	22.2	
16 Acrolein	56	3.528	3.534	-0.006	99	441616	150.0	148.9	
17 1,1-Dichloroethene	96	3.680	3.686	-0.006	98	122559	20.0	23.0	
18 Acetone	58	3.698	3.705	-0.006	99	238508	150.0	185.8	
19 1,1,2-Trichloro-1,2,2-trifluoroe	101	3.711	3.723	-0.013	91	113582	20.0	20.1	
20 Isopropyl alcohol	45	3.875	3.863	0.012	99	108488	150.0	120.4	
21 Iodomethane	142	3.887	3.893	-0.006	99	212983	20.0	20.0	
22 Carbon disulfide	76	4.009	4.015	-0.006	100	353098	20.0	20.5	
24 Methyl acetate	43	4.136	4.136	0.000	98	209179	20.0	19.8	
25 3-Chloro-1-propene	41	4.173	4.179	-0.006	88	205998	20.0	18.5	
* 26 t-Butyl alcohol-d10 (IS)	65	4.355	4.355	0.000	93	314188	250.0	250.0	M
27 Methylene Chloride	84	4.368	4.368	0.000	94	146837	20.0	22.2	
28 2-Methyl-2-propanol	59	4.489	4.489	0.000	97	317650	200.0	199.3	
30 Acrylonitrile	53	4.684	4.690	-0.006	99	517728	100.0	99.7	
31 Methyl tert-butyl ether	73	4.775	4.781	-0.006	97	426205	20.0	19.6	
32 trans-1,2-Dichloroethene	96	4.793	4.800	-0.007	99	141572	20.0	21.9	
33 Hexane	57	5.219	5.225	-0.006	95	196218	20.0	20.4	
36 1,1-Dichloroethane	63	5.444	5.444	0.000	97	250855	20.0	21.9	
37 Isopropyl ether	45	5.499	5.499	0.000	93	475496	20.0	20.2	
38 2-Chloro-1,3-butadiene	53	5.554	5.560	-0.006	93	228194	20.0	20.7	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
39 Tert-butyl ethyl ether	59	6.041	6.041	0.000	98	439679	20.0	20.2	
41 2-Butanone (MEK)	43	6.223	6.217	0.006	100	1316479	150.0	169.9	
42 cis-1,2-Dichloroethene	96	6.266	6.272	-0.006	86	171235	20.0	22.8	
44 2,2-Dichloropropane	77	6.290	6.284	0.006	90	208622	20.0	22.3	
45 Propionitrile	54	6.296	6.296	0.000	99	307840	150.0	157.8	
46 Methacrylonitrile	67	6.527	6.527	0.000	92	858336	150.0	153.6	
47 Chlorobromomethane	128	6.606	6.606	0.000	80	81009	20.0	19.2	
48 Tetrahydrofuran	71	6.625	6.619	0.006	90	212820	100.0	104.3	
49 Chloroform	83	6.746	6.752	-0.006	96	261487	20.0	22.2	
$ 50 Dibromofluoromethane (Surr)	113	6.965	6.965	0.000	93	289915	50.0	50.5	
51 1,1,1-Trichloroethane	97	6.990	6.990	0.000	98	225193	20.0	22.5	
52 Cyclohexane	56	7.099	7.099	0.000	93	238535	20.0	20.9	
53 1,1-Dichloropropene	75	7.202	7.203	-0.001	94	201114	20.0	22.0	
54 Carbon tetrachloride	117	7.209	7.203	0.006	97	185989	20.0	22.0	
55 Isobutyl alcohol	41	7.300	7.306	-0.006	93	287811	500.0	506.4	
$ 56 1,2-Dichloroethane-d4 (Surr)	102	7.428	7.428	0.000	98	72307	50.0	50.5	
57 Benzene	78	7.464	7.464	0.000	97	602516	20.0	21.9	
59 1,2-Dichloroethane	62	7.531	7.531	0.000	98	228328	20.0	22.2	
60 Tert-amyl methyl ether	73	7.647	7.647	0.000	97	456025	20.0	20.6	
* 62 Fluorobenzene (IS)	96	7.860	7.860	0.000	98	1191836	50.0	50.0	
63 n-Heptane	43	7.878	7.878	0.000	93	228666	20.0	20.0	
64 n-Butanol	56	8.188	8.188	0.000	90	546861	1000.0	999.8	M
65 Trichloroethene	95	8.346	8.346	0.000	98	160076	20.0	22.0	
66 Methylcyclohexane	83	8.663	8.663	0.000	95	250993	20.0	19.3	
67 1,2-Dichloropropane	63	8.675	8.675	0.000	70	160517	20.0	21.6	
34 2-ethoxy-2-methyl butane	87	8.675	8.675	0.000	92	231720	20.0	19.7	
68 Methyl methacrylate	69	8.742	8.742	0.000	90	171499	20.0	20.3	
69 1,4-Dioxane	88	8.760	8.760	0.000	91	66532	500.0	525.5	
70 Dibromomethane	93	8.790	8.790	0.000	96	108297	20.0	22.0	
72 Dichlorobromomethane	83	9.015	9.015	0.000	99	188941	20.0	21.9	
73 2-Nitropropane	41	9.259	9.259	0.000	99	76205	20.0	19.1	
74 2-Chloroethyl vinyl ether	63	9.362	9.362	0.000	93	131664	20.0	20.2	
75 cis-1,3-Dichloropropene	75	9.551	9.551	0.000	93	240050	20.0	21.9	
76 4-Methyl-2-pentanone (MIBK)	43	9.703	9.703	0.000	98	1552641	100.0	102.3	
$ 77 Toluene-d8 (Surr)	98	9.855	9.855	0.000	94	1202867	50.0	51.5	
78 Toluene	92	9.934	9.934	0.000	97	389341	20.0	22.1	
80 trans-1,3-Dichloropropene	75	10.177	10.177	0.000	96	223665	20.0	21.5	
81 Ethyl methacrylate	69	10.232	10.232	0.000	90	270342	20.0	20.8	
82 1,1,2-Trichloroethane	97	10.384	10.384	0.000	93	158044	20.0	23.0	
83 Tetrachloroethene	166	10.482	10.482	0.000	98	181908	20.0	20.3	
84 1,3-Dichloropropane	76	10.542	10.542	0.000	94	258776	20.0	22.0	
86 2-Hexanone	43	10.579	10.579	0.000	98	1395137	100.0	114.1	
88 Chlorodibromomethane	129	10.761	10.761	0.000	89	151711	20.0	22.4	
89 Ethylene Dibromide	107	10.877	10.877	0.000	98	170883	20.0	22.1	
* 91 Chlorobenzene-d5 (IS)	117	11.297	11.297	0.000	88	922738	50.0	50.0	
92 1-Chlorohexane	91	11.303	11.303	0.000	97	214738	20.0	21.1	
93 Chlorobenzene	112	11.327	11.327	0.000	94	443891	20.0	22.0	
94 1,1,1,2-Tetrachloroethane	131	11.406	11.406	0.000	93	147099	20.0	21.5	
95 Ethylbenzene	91	11.406	11.406	0.000	98	772739	20.0	22.1	
96 m-Xylene & p-Xylene	106	11.522	11.522	0.000	99	612076	40.0	44.5	
97 o-Xylene	106	11.850	11.850	0.000	97	292472	20.0	21.7	
98 Styrene	104	11.863	11.863	-0.001	94	501648	20.0	22.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
99 Bromoform	173	12.027	12.027	0.000	95	105189	20.0	19.7	
100 Isopropylbenzene	105	12.148	12.149	0.000	96	767841	20.0	22.7	
102 Cyclohexanone	55	12.221	12.222	-0.001	94	305786	499.9	513.6	
$ 103 4-Bromofluorobenzene (Surr)	95	12.294	12.295	0.000	89	459016	50.0	51.3	
104 1,1,2,2-Tetrachloroethane	83	12.386	12.386	0.000	97	262603	20.0	21.7	
106 trans-1,4-Dichloro-2-butene	53	12.410	12.410	0.000	90	502172	100.0	101.1	
105 Bromobenzene	156	12.410	12.410	0.000	75	208290	20.0	21.1	
107 1,2,3-Trichloropropane	110	12.434	12.434	0.000	87	87297	20.0	21.2	
108 N-Propylbenzene	91	12.477	12.477	0.000	99	927407	20.0	22.7	
109 2-Chlorotoluene	126	12.556	12.556	0.000	96	184262	20.0	21.6	
110 1,3,5-Trimethylbenzene	105	12.611	12.611	0.000	94	662568	20.0	22.1	
111 4-Chlorotoluene	126	12.647	12.647	0.000	98	195981	20.0	21.5	
113 tert-Butylbenzene	134	12.854	12.854	0.000	93	136352	20.0	21.3	
114 Pentachloroethane	167	12.891	12.891	0.000	85	97017	20.0	21.8	
115 1,2,4-Trimethylbenzene	105	12.897	12.897	0.000	98	688887	20.0	21.8	
116 sec-Butylbenzene	105	13.018	13.018	0.000	95	850531	20.0	22.4	
117 1,3-Dichlorobenzene	146	13.122	13.122	0.000	97	389717	20.0	21.4	
118 4-Isopropyltoluene	119	13.122	13.122	0.000	97	753156	20.0	22.3	
* 119 1,4-Dichlorobenzene-d4	152	13.177	13.177	0.000	96	495602	50.0	50.0	
121 1,4-Dichlorobenzene	146	13.195	13.195	0.000	94	407389	20.0	21.5	
120 1,2,3-Trimethylbenzene	105	13.201	13.201	0.000	98	750594	20.0	21.2	
122 Benzyl chloride	91	13.262	13.262	0.000	99	497542	20.0	20.8	
123 1,3-Diethylbenzene	119	13.323	13.323	0.000	95	446690	20.0	20.1	
124 p-Diethylbenzene	119	13.396	13.396	0.000	93	476339	20.0	20.2	
125 n-Butylbenzene	92	13.414	13.414	0.000	97	378465	20.0	21.2	
126 1,2-Dichlorobenzene	146	13.450	13.450	0.000	98	375237	20.0	21.4	
127 o-diethylbenzene	119	13.469	13.469	0.000	96	376024	20.0	19.9	
129 1,2-Dibromo-3-Chloropropane	75	13.992	13.992	0.000	82	62660	20.0	21.1	
130 1,3,5-Trichlorobenzene	180	14.126	14.120	0.006	97	279398	20.0	21.2	
131 1,2,4-Trichlorobenzene	180	14.545	14.545	0.000	94	261474	20.0	21.2	
132 Hexachlorobutadiene	225	14.624	14.625	-0.001	97	110492	20.0	20.5	
133 Naphthalene	128	14.728	14.728	0.000	97	897684	20.0	21.9	
134 1,2,3-Trichlorobenzene	180	14.868	14.868	0.000	95	248661	20.0	20.9	
135 2-Methylnaphthalene	142	15.519	15.519	0.000	92	501346	20.0	18.6	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MSV_QCYC_00003	Amount Added:	50.00	Units: uL	
MSV_Q_EE_00002	Amount Added:	50.00	Units: uL	
MSV_Q_QVOA1_00037	Amount Added:	50.00	Units: uL	
MSV_Q_QARC_00036	Amount Added:	50.00	Units: uL	
MSV_Q_QVOA6_00034	Amount Added:	50.00	Units: uL	
MSV_DCFM_00018	Amount Added:	1.00	Units: uL	
MSV_Q_QGases_00067	Amount Added:	50.00	Units: uL	
MSV_HP20_ISSS_00016	Amount Added:	1.00	Units: uL	Run Reagent

Report Date: 15-Jul-2020 11:04:35 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14V01.D

Injection Date: 14-Jul-2020 16:05:30 Instrument ID: 9355 Operator ID: JTL32685

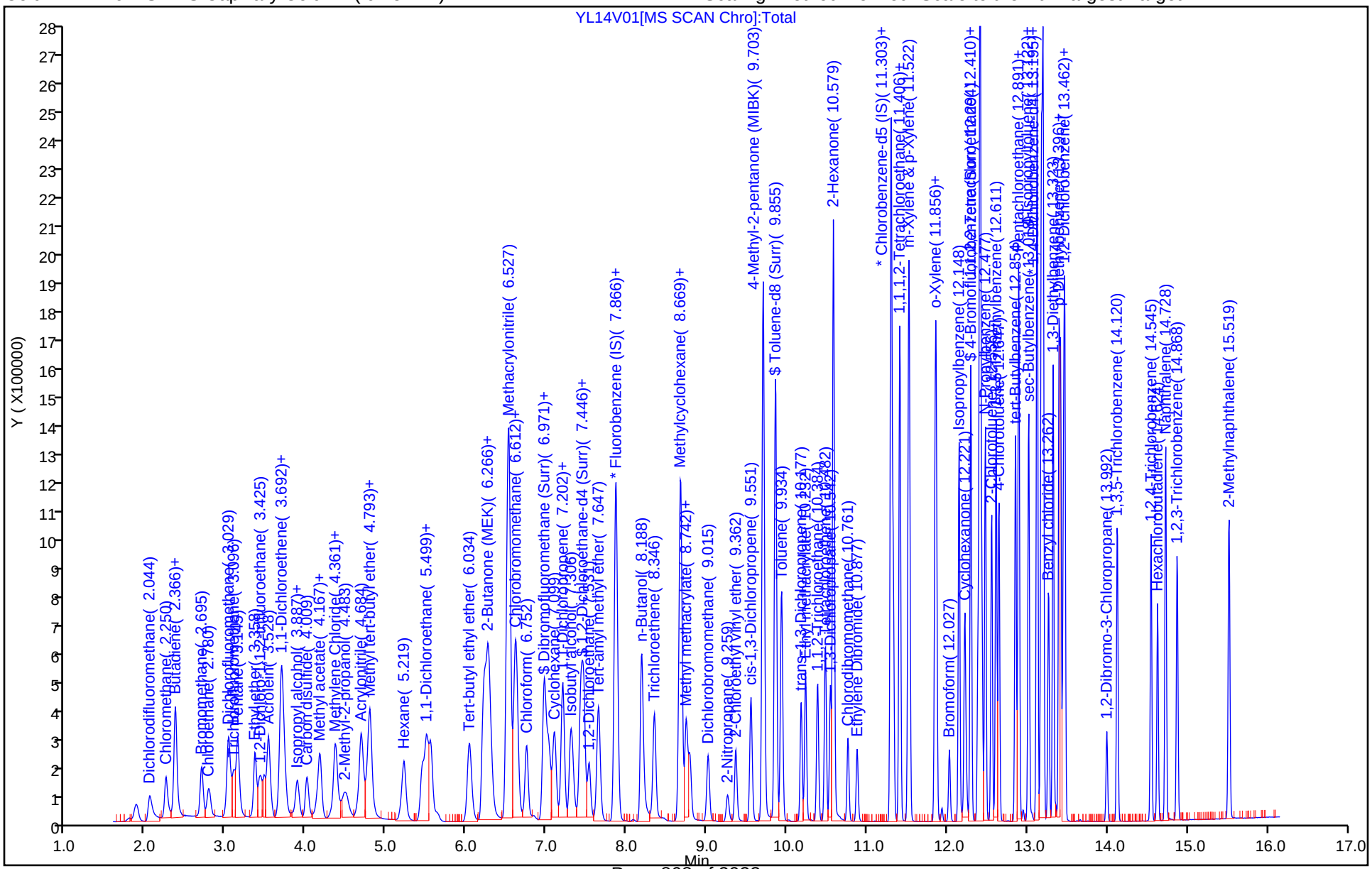
Lims ID: ICV Worklist Smp#: 10

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 9

Method: MSVoa_9355 Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

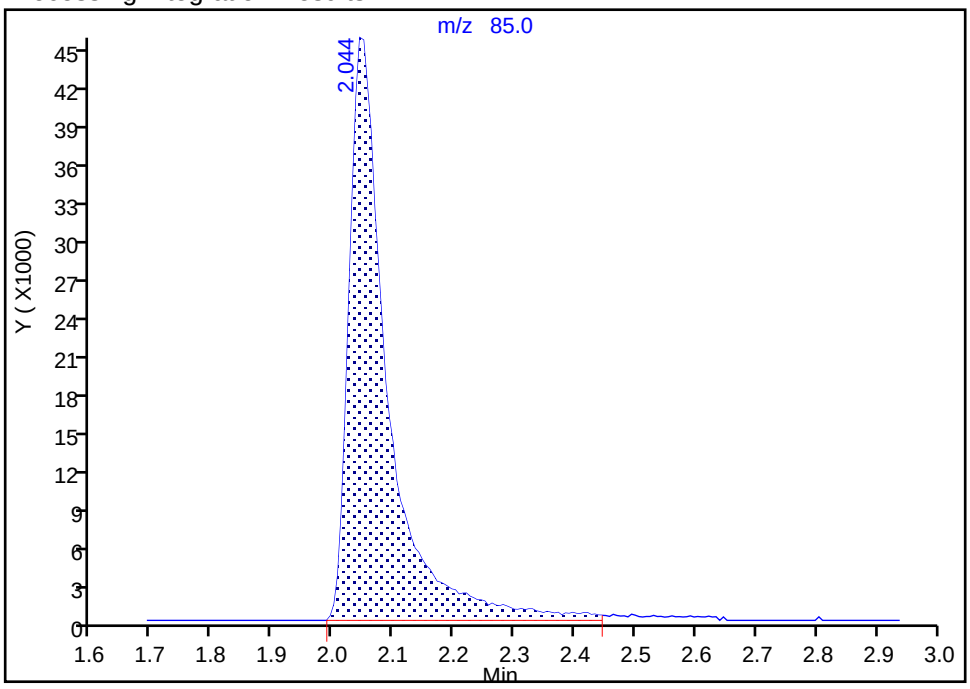
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14V01.D
Injection Date: 14-Jul-2020 16:05:30 Instrument ID: 9355
Lims ID: ICV
Client ID:
Operator ID: JTL32685 ALS Bottle#: 9 Worklist Smp#: 10
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

2 Dichlorodifluoromethane, CAS: 75-71-8

Signal: 1

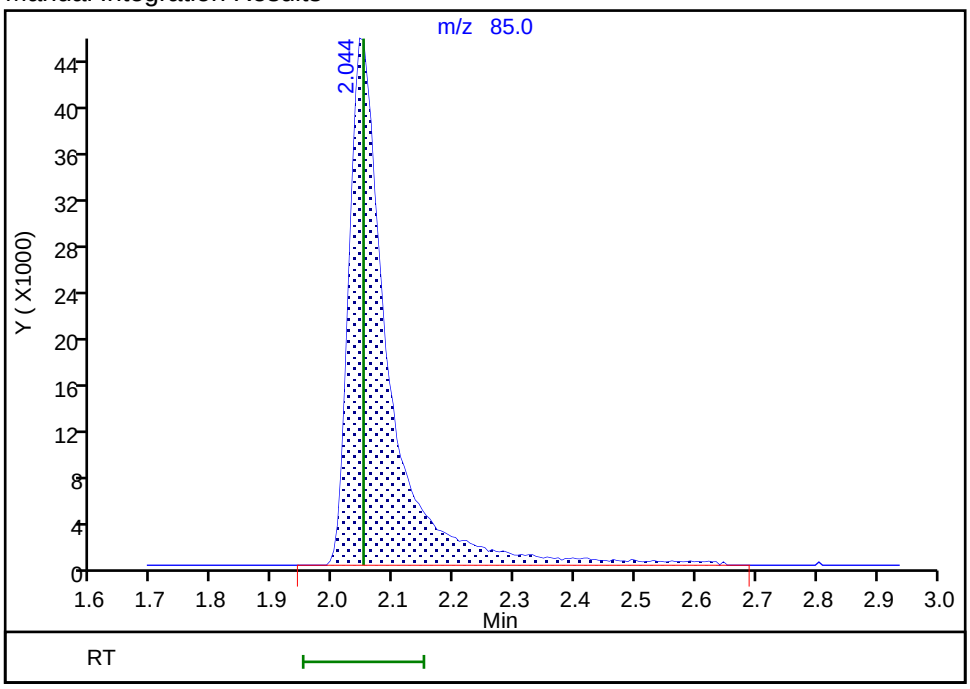
Processing Integration Results

RT: 2.04
Area: 202859
Amount: 17.564734
Amount Units: ug/l



Manual Integration Results

RT: 2.04
Area: 206575
Amount: 17.886487
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 19:05:42
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

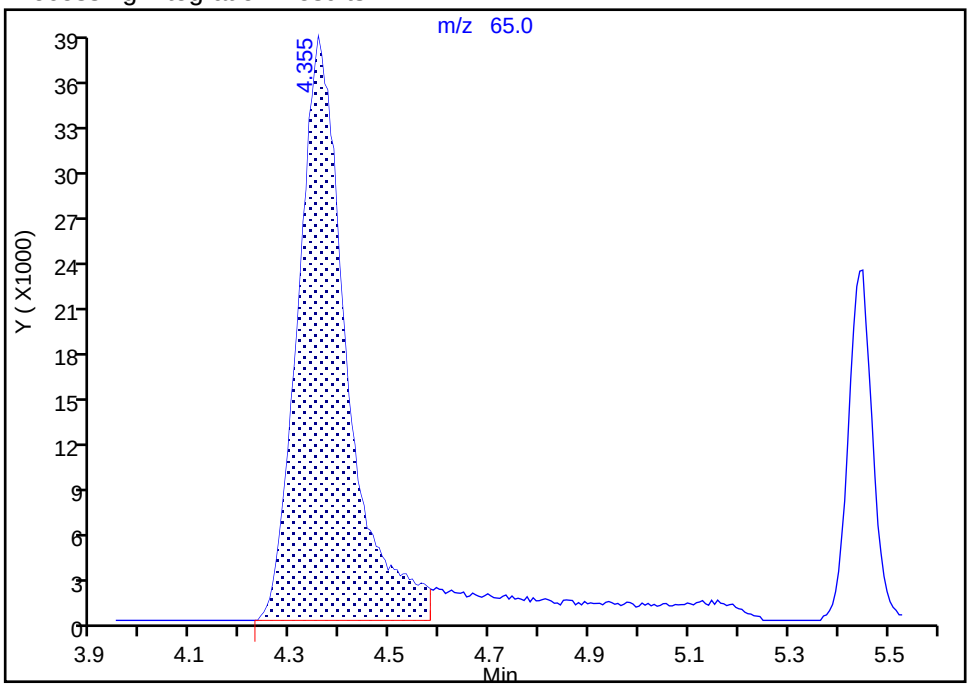
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14V01.D
Injection Date: 14-Jul-2020 16:05:30 Instrument ID: 9355
Lims ID: ICV
Client ID:
Operator ID: JTL32685 ALS Bottle#: 9 Worklist Smp#: 10
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

* 26 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2

Signal: 1

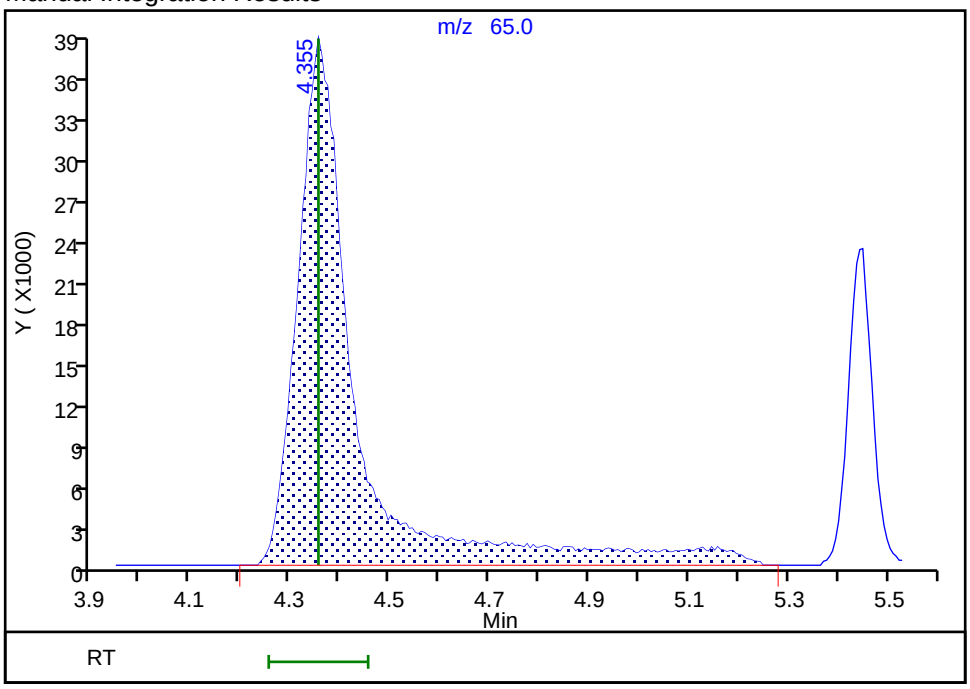
Processing Integration Results

RT: 4.36
Area: 264107
Amount: 250.0000
Amount Units: ug/l



Manual Integration Results

RT: 4.36
Area: 314188
Amount: 250.0000
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 19:06:27
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

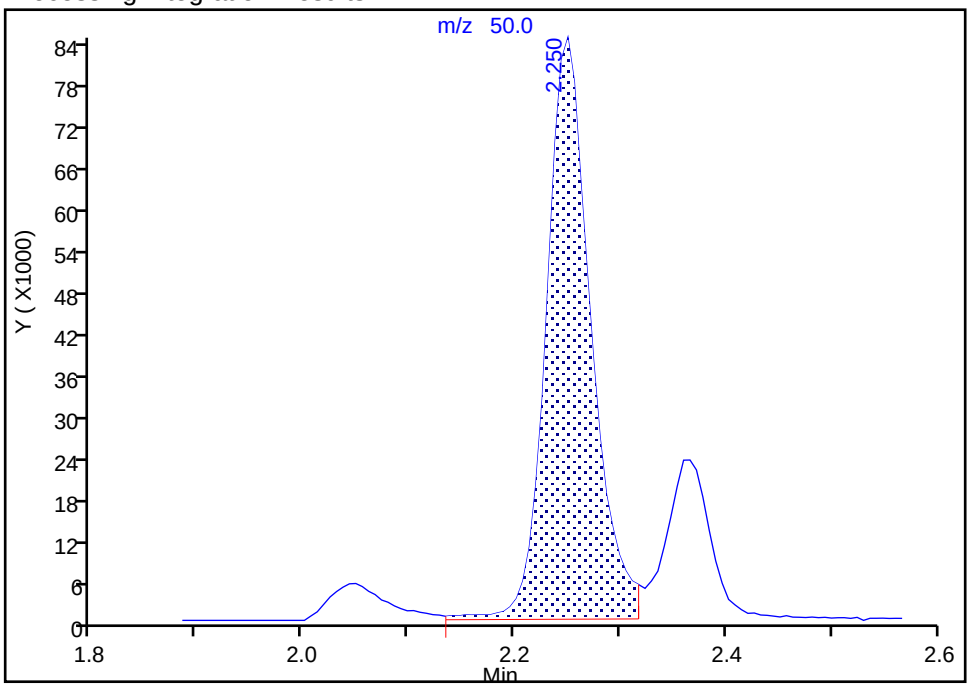
Data File:	\\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14V01.D				
Injection Date:	14-Jul-2020 16:05:30	Instrument ID:	9355		
Lims ID:	ICV				
Client ID:					
Operator ID:	JTL32685	ALS Bottle#:	9	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25 mm)	Detector	MS Quad		

4 Chloromethane, CAS: 74-87-3

Signal: 1

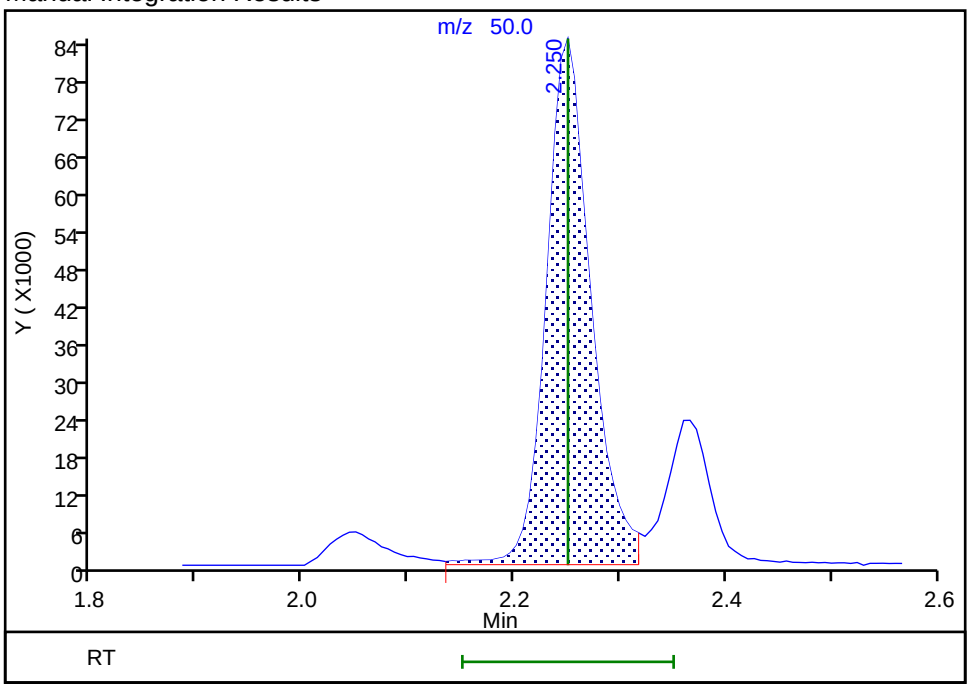
Processing Integration Results

RT: 2.25
Area: 247338
Amount: 19.869569
Amount Units: ug/l



Manual Integration Results

RT: 2.25
Area: 247977
Amount: 19.920902
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 19:05:55

Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

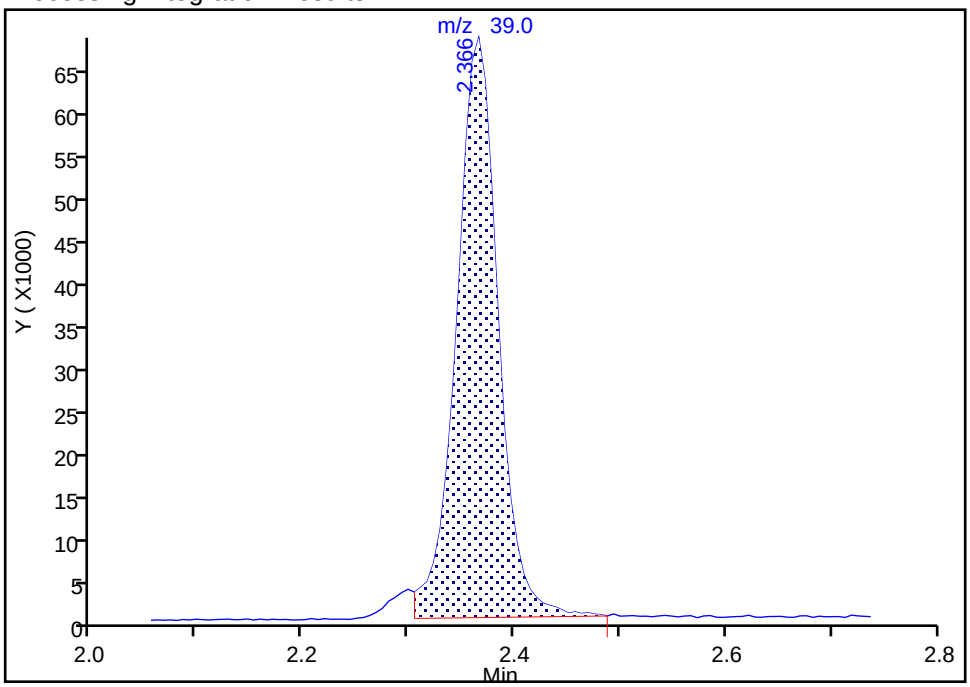
Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14V01.D
Injection Date: 14-Jul-2020 16:05:30 Instrument ID: 9355
Lims ID: ICV
Client ID:
Operator ID: JTL32685 ALS Bottle#: 9 Worklist Smp#: 10
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

5 Butadiene, CAS: 106-99-0

Signal: 1

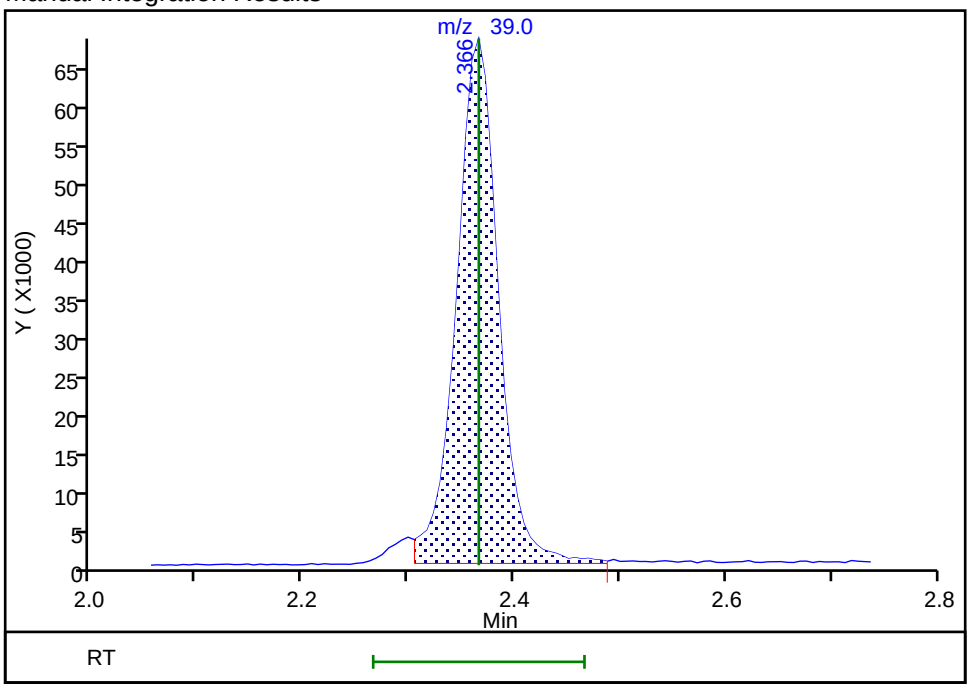
Processing Integration Results

RT: 2.37
Area: 187492
Amount: 20.793162
Amount Units: ug/l



Manual Integration Results

RT: 2.37
Area: 189025
Amount: 20.963174
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 19:06:06
Audit Action: Assigned New Baseline Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

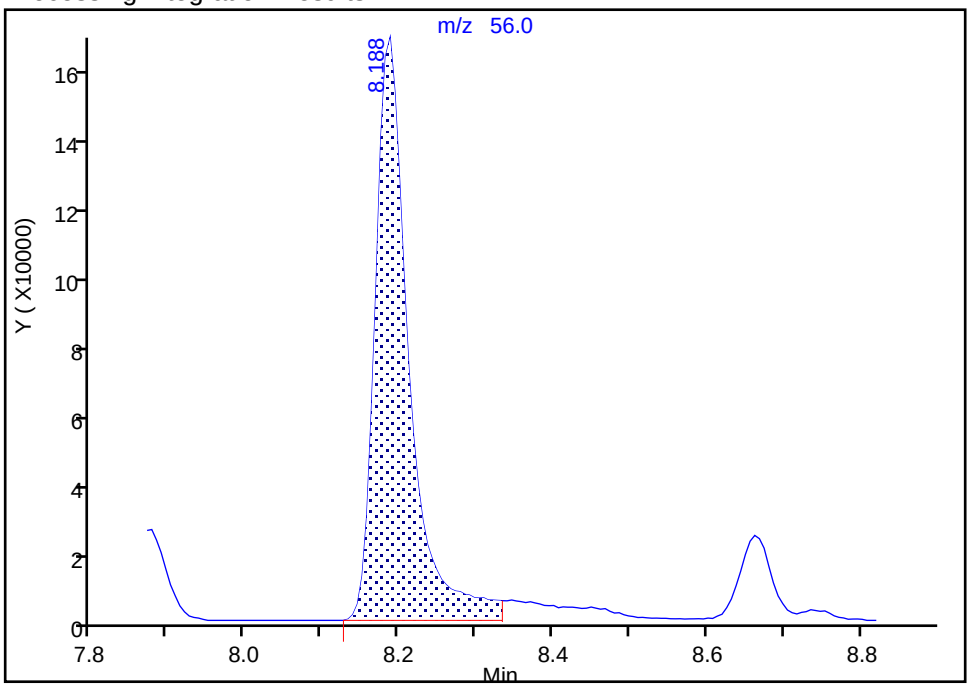
Data File:	\\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14V01.D				
Injection Date:	14-Jul-2020 16:05:30	Instrument ID:	9355		
Lims ID:	ICV				
Client ID:					
Operator ID:	JTL32685	ALS Bottle#:	9	Worklist Smp#:	10
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

64 n-Butanol, CAS: 71-36-3

Signal: 1

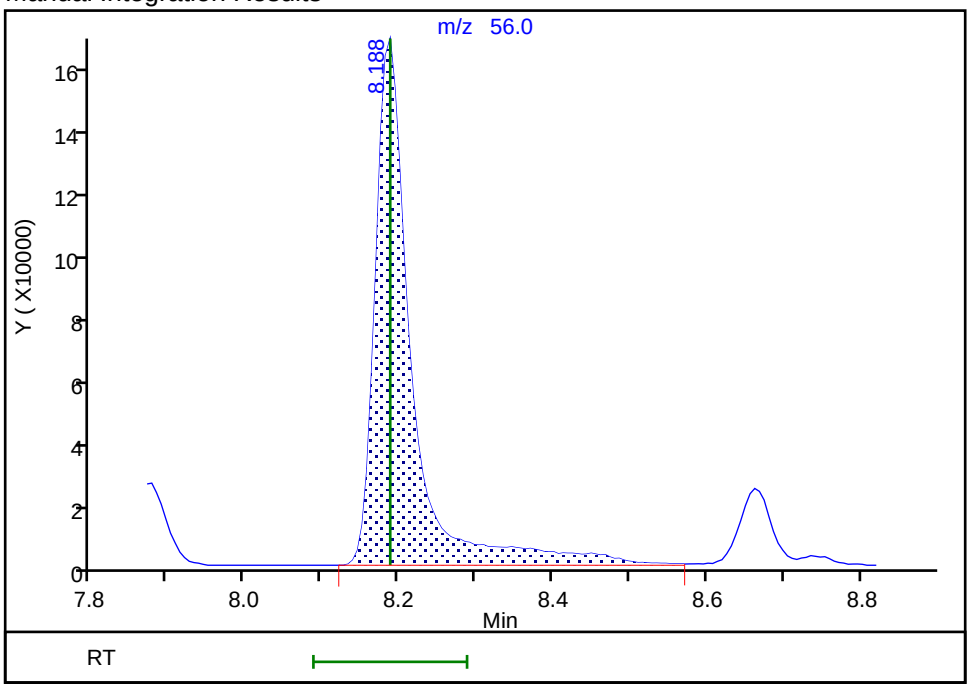
Processing Integration Results

RT: 8.19
Area: 506240
Amount: 921.5852
Amount Units: ug/l



Manual Integration Results

RT: 8.19
Area: 546861
Amount: 999.8044
Amount Units: ug/l



Reviewer: campbellme, 14-Jul-2020 19:06:55
Audit Action: Assigned New Baseline Audit Reason: Baseline

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-34763/3 Calibration Date: 08/19/2020 09:19

Instrument ID: 9355 Calib Start Date: 07/14/2020 13:31

GC Column: R-624SilMS 30m ID: 0.25(mm) Calib End Date: 07/14/2020 15:43

Lab File ID: YG19C01.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.4845	0.3359	0.1000	34.7	50.0	-30.7*	20.0
Chloromethane	Ave	0.5222	0.4200	0.1000	40.2	50.0	-19.6	20.0
1,3-Butadiene	Ave	0.3783	0.4608		60.9	50.0	21.8*	20.0
Vinyl chloride	Ave	0.4884	0.4075	0.1000	41.7	50.0	-16.6	20.0
Bromomethane	Ave	0.3588	0.3555	0.1000	49.5	50.0	-0.9	20.0
Chloroethane	Ave	0.2906	0.2798	0.1000	48.1	50.0	-3.7	20.0
Dichlorofluoromethane	Ave	0.6846	0.6406		46.8	50.0	-6.4	20.0
Trichlorofluoromethane	Ave	0.5977	0.6302	0.1000	52.7	50.0	5.4	20.0
n-Pentane	Ave	0.5376	0.6202		57.7	50.0	15.4	20.0
Ethyl ether	Ave	0.3238	0.2400		37.1	50.0	-25.9*	20.0
Freon 123a	Ave	0.3156	0.2840		45.0	50.0	-10.0	20.0
Acrolein	Ave	2.359	1.848		392	500	-21.7*	20.0
1,1-Dichloroethene	Ave	0.2235	0.2267	0.1000	50.7	50.0	1.4	20.0
Acetone	Ave	1.022	0.9493	0.1000	92.9	100	-7.1	20.0
Freon 113	Ave	0.2374	0.2458	0.1000	51.8	50.0	3.5	20.0
2-Propanol	Ave	0.7171	0.6239		218	250	-13.0	20.0
Methyl iodide	Ave	0.4461	0.4217		47.3	50.0	-5.5	20.0
Carbon disulfide	Ave	0.7224	0.7760	0.1000	53.7	50.0	7.4	20.0
Methyl acetate	Ave	0.4441	0.3397	0.1000	38.3	50.0	-23.5*	20.0
Allyl chloride	Ave	0.4681	0.3840		41.0	50.0	-18.0	20.0
Methylene Chloride	Ave	0.2773	0.2707	0.1000	48.8	50.0	-2.4	20.0
t-Butyl alcohol	Lin2		1.166		232	250	-7.0	20.0
Acrylonitrile	Ave	0.2178	0.1683		38.6	50.0	-22.7*	20.0
Methyl tertiary butyl ether	Ave	0.9101	0.8085	0.1000	44.4	50.0	-11.2	20.0
trans-1,2-Dichloroethene	Ave	0.2707	0.2663	0.1000	49.2	50.0	-1.6	20.0
n-Hexane	Ave	0.4028	0.3846		47.7	50.0	-4.5	20.0
1,1-Dichloroethane	Ave	0.4809	0.4556	0.2000	47.4	50.0	-5.3	20.0
di-Isopropyl ether	Ave	0.9888	0.8555		43.3	50.0	-13.5	20.0
2-Chloro-1,3-butadiene	Ave	0.4619	0.4063		44.0	50.0	-12.0	20.0
Ethyl t-butyl ether	Ave	0.9143	0.7846		42.9	50.0	-14.2	20.0
2-Butanone	Ave	0.3251	0.2368	0.1000	72.8	100	-27.2*	20.0
cis-1,2-Dichloroethene	Ave	0.3146	0.3078	0.1000	48.9	50.0	-2.2	20.0
2,2-Dichloropropane	Ave	0.3919	0.3810		48.6	50.0	-2.8	20.0
Propionitrile	Ave	1.552	1.540		248	250	-0.8	20.0
Methacrylonitrile	Ave	0.2344	0.1972		105	125	-15.9	20.0
Bromochloromethane	Ave	0.1767	0.1660		47.0	50.0	-6.0	20.0
Tetrahydrofuran	Ave	1.623	1.317		81.2	100	-18.8	20.0
Chloroform	Ave	0.4931	0.4880	0.2000	49.5	50.0	-1.0	20.0
1,1,1-Trichloroethane	Ave	0.4207	0.4148	0.1000	49.3	50.0	-1.4	20.0
Cyclohexane	Ave	0.4787	0.4435	0.1000	46.3	50.0	-7.4	20.0
1,1-Dichloropropene	Ave	0.3839	0.3686		48.0	50.0	-4.0	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-34763/3 Calibration Date: 08/19/2020 09:19

Instrument ID: 9355 Calib Start Date: 07/14/2020 13:31

GC Column: R-624SilMS 30m ID: 0.25(mm) Calib End Date: 07/14/2020 15:43

Lab File ID: YG19C01.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Carbon tetrachloride	Ave	0.3553	0.3643	0.1000	51.3	50.0	2.5	20.0
Isobutyl alcohol	Ave	0.4522	0.4516		624	625	-0.1	20.0
Benzene	Ave	1.153	1.144	0.5000	49.6	50.0	-0.8	20.0
1,2-Dichloroethane	Ave	0.4319	0.4156	0.1000	48.1	50.0	-3.8	20.0
t-Amyl methyl ether	Ave	0.9266	0.8159		44.0	50.0	-11.9	20.0
n-Heptane	Ave	0.4795	0.4529		47.2	50.0	-5.6	20.0
n-Butanol	Lin		0.3656		1050	1250	-15.8	20.0
Trichloroethene	Ave	0.3046	0.2949	0.2000	48.4	50.0	-3.2	20.0
Methylcyclohexane	Ave	0.5469	0.5203	0.1000	47.6	50.0	-4.9	20.0
1,2-Dichloropropane	Ave	0.3118	0.3080	0.1000	49.4	50.0	-1.2	20.0
t-Amyl ethyl ether	Ave	0.4930	0.4266		43.3	50.0	-13.5	20.0
Methyl methacrylate	Ave	0.3543	0.3112		43.9	50.0	-12.2	20.0
1,4-Dioxane	Ave	0.1007	0.1136	0.0050	705	625	12.7	20.0
Dibromomethane	Ave	0.2064	0.2144		51.9	50.0	3.9	20.0
Bromodichloromethane	Ave	0.3612	0.3720	0.2000	51.5	50.0	3.0	20.0
2-Nitropropane	Ave	3.177	2.702		85.1	100	-14.9	20.0
2-Chloroethyl vinyl ether	Ave	0.2740	0.2417		44.1	50.0	-11.8	20.0
cis-1,3-Dichloropropene	Ave	0.4600	0.4596	0.2000	50.0	50.0	-0.0	20.0
4-Methyl-2-pentanone	Ave	0.6366	0.5088	0.1000	79.9	100	-20.1*	20.0
Toluene	Ave	0.9537	0.9209	0.4000	48.3	50.0	-3.4	20.0
trans-1,3-Dichloropropene	Ave	0.5640	0.5429	0.1000	48.1	50.0	-3.7	20.0
Ethyl methacrylate	Ave	0.7046	0.6283		44.6	50.0	-10.8	20.0
1,1,2-Trichloroethane	Ave	0.3731	0.3771	0.1000	50.5	50.0	1.1	20.0
Tetrachloroethene	Ave	0.4848	0.4186	0.2000	43.2	50.0	-13.7	20.0
1,3-Dichloropropane	Ave	0.6381	0.6208		48.6	50.0	-2.7	20.0
2-Hexanone	Ave	0.6623	0.5018	0.1000	75.8	100	-24.2*	20.0
Dibromochloromethane	Ave	0.3678	0.3871		52.6	50.0	5.2	20.0
1,2-Dibromoethane	Ave	0.4187	0.4149	0.1000	49.5	50.0	-0.9	20.0
1-Chlorohexane	Ave	0.5515	0.5073		46.0	50.0	-8.0	20.0
Chlorobenzene	Ave	1.091	1.087	0.5000	49.8	50.0	-0.4	20.0
1,1,1,2-Tetrachloroethane	Ave	0.3702	0.3861		52.1	50.0	4.3	20.0
Ethylbenzene	Ave	1.890	1.872	0.1000	49.5	50.0	-1.0	20.0
m&p-Xylene	Ave	0.7460	0.7449	0.1000	99.9	100	-0.1	20.0
o-Xylene	Ave	0.7312	0.7176	0.3000	49.1	50.0	-1.9	20.0
Styrene	Ave	1.221	1.239	0.3000	50.7	50.0	1.4	20.0
Bromoform	Ave	0.2892	0.2971	0.1000	51.4	50.0	2.7	20.0
Isopropylbenzene	Ave	1.831	1.840	0.1000	50.2	50.0	0.5	20.0
Cyclohexanone	Ave	0.4737	0.4034		532	625	-14.9	20.0
1,1,2,2-Tetrachloroethane	Ave	1.221	1.150	0.3000	47.1	50.0	-5.9	20.0
trans-1,4-Dichloro-2-butene	Ave	0.5011	0.3802		94.9	125	-24.1*	20.0
Bromobenzene	Ave	0.9950	0.9376		47.1	50.0	-5.8	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-34763/3 Calibration Date: 08/19/2020 09:19

Instrument ID: 9355 Calib Start Date: 07/14/2020 13:31

GC Column: R-624SilMS 30m ID: 0.25(mm) Calib End Date: 07/14/2020 15:43

Lab File ID: YG19C01.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2,3-Trichloropropane	Ave	0.4150	0.3746		45.1	50.0	-9.7	20.0
N-Propylbenzene	Ave	4.121	3.890		47.2	50.0	-5.6	20.0
2-Chlorotoluene	Ave	0.8624	0.7986		46.3	50.0	-7.4	20.0
1,3,5-Trimethylbenzene	Ave	3.027	2.848		47.0	50.0	-5.9	20.0
4-Chlorotoluene	Ave	0.9205	0.8538		46.4	50.0	-7.2	20.0
tert-Butylbenzene	Ave	0.6462	0.6054		46.8	50.0	-6.3	20.0
1,2,4-Trimethylbenzene	Ave	3.189	3.060		48.0	50.0	-4.1	20.0
Pentachloroethane	Ave	0.4488	0.5127		57.1	50.0	14.2	20.0
sec-Butylbenzene	Ave	3.828	3.699		48.3	50.0	-3.4	20.0
1,3-Dichlorobenzene	Ave	1.833	1.814	0.6000	49.5	50.0	-1.1	20.0
p-Isopropyltoluene	Ave	3.405	3.365		49.4	50.0	-1.2	20.0
1,2,3-Trimethylbenzene	Ave	3.572	3.145		44.0	50.0	-12.0	20.0
1,4-Dichlorobenzene	Ave	1.909	1.880	0.5000	49.2	50.0	-1.5	20.0
Benzyl chloride	Ave	2.411	2.388		49.5	50.0	-1.0	20.0
1,3-Diethylbenzene	Ave	2.244	1.979		44.1	50.0	-11.8	20.0
1,4-Diethylbenzene	Ave	2.383	2.105		44.2	50.0	-11.7	20.0
n-Butylbenzene	Ave	1.803	1.723		47.8	50.0	-4.4	20.0
1,2-Dichlorobenzene	Ave	1.768	1.767	0.4000	50.0	50.0	-0.0	20.0
1,2-Diethylbenzene	Ave	1.911	1.673		43.8	50.0	-12.5	20.0
1,2-Dibromo-3-Chloropropane	Ave	0.3002	0.2646	0.0500	44.1	50.0	-11.9	20.0
1,3,5-Trichlorobenzene	Ave	1.331	1.294		48.6	50.0	-2.8	20.0
1,2,4-Trichlorobenzene	Ave	1.246	1.181	0.2000	47.4	50.0	-5.2	20.0
Hexachlorobutadiene	Ave	0.5444	0.5364		49.3	50.0	-1.5	20.0
Naphthalene	Ave	4.133	4.061		49.1	50.0	-1.7	20.0
1,2,3-Trichlorobenzene	Ave	1.202	1.158		48.2	50.0	-3.7	20.0
2-Methylnaphthalene	Ave	2.722	2.277		41.8	50.0	-16.4	20.0
Dibromofluoromethane (Surr)	Ave	0.2407	0.2373		49.3	50.0	-1.4	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.0600	0.0599		49.9	50.0	-0.2	20.0
Toluene-d8 (Surr)	Ave	1.265	1.223		48.4	50.0	-3.3	20.0
4-Bromofluorobenzene (Surr)	Ave	0.4850	0.4614		47.6	50.0	-4.9	20.0

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19C01.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 19-Aug-2020 09:19:30 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0008412-003
Misc. Info.: CCVIS
Operator ID: clm27445 Instrument ID: 9355
Sublist: chrom-MSVoa_9355*sub2

Method: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 19-Aug-2020 12:00:33 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1016

First Level Reviewer: mellingerc Date: 19-Aug-2020 10:44:32

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Dichlorodifluoromethane	85	2.050	2.050	0.000	100	352262	50.0	34.7	
4 Chloromethane	50	2.238	2.238	0.000	99	440511	50.0	40.2	
5 Butadiene	39	2.360	2.360	0.000	91	483277	50.0	60.9	
6 Vinyl chloride	62	2.360	2.360	0.000	99	427332	50.0	41.7	
8 Bromomethane	94	2.695	2.695	0.000	90	372848	50.0	49.5	
9 Chloroethane	64	2.786	2.786	0.000	100	293469	50.0	48.1	
10 Dichlorofluoromethane	67	3.023	3.023	0.000	98	671814	50.0	46.8	
11 Trichlorofluoromethane	101	3.090	3.090	0.000	99	660876	50.0	52.7	
12 Pentane	43	3.151	3.151	0.000	97	650394	50.0	57.7	
14 Ethyl ether	59	3.370	3.370	0.000	93	251682	50.0	37.1	
15 1,2-Dichloro-1,1,2-trifluoroetha	67	3.425	3.425	0.000	92	297847	50.0	45.0	
16 Acrolein	56	3.528	3.528	0.000	99	960678	500.0	391.6	
17 1,1-Dichloroethene	96	3.686	3.686	0.000	99	237713	50.0	50.7	
18 Acetone	58	3.692	3.692	0.000	99	98707	100.0	92.9	
19 112TCTFE	101	3.710	3.710	0.000	94	257766	50.0	51.8	
20 Isopropyl alcohol	45	3.863	3.863	0.000	98	162183	250.0	217.5	
21 Iodomethane	142	3.893	3.893	0.000	99	442260	50.0	47.3	
22 Carbon disulfide	76	4.009	4.009	0.000	100	813850	50.0	53.7	
24 Methyl acetate	43	4.136	4.136	0.000	98	356306	50.0	38.3	
25 3-Chloro-1-propene	41	4.179	4.179	0.000	89	402692	50.0	41.0	
* 26 t-Butyl alcohol-d10 (IS)	65	4.361	4.361	0.000	89	259939	250.0	250.0	M
27 Methylene Chloride	84	4.368	4.368	0.000	92	283881	50.0	48.8	
28 2-Methyl-2-propanol	59	4.477	4.477	0.000	96	303200	250.0	232.5	
30 Acrylonitrile	53	4.684	4.684	0.000	99	176467	50.0	38.6	
31 Methyl tert-butyl ether	73	4.781	4.781	0.000	97	847921	50.0	44.4	
32 trans-1,2-Dichloroethene	96	4.799	4.799	0.000	99	279288	50.0	49.2	
33 Hexane	57	5.225	5.225	0.000	95	403394	50.0	47.7	
36 1,1-Dichloroethane	63	5.450	5.450	0.000	97	477837	50.0	47.4	
37 Isopropyl ether	45	5.505	5.505	0.000	92	897179	50.0	43.3	
38 2-Chloro-1,3-butadiene	53	5.560	5.560	0.000	93	426072	50.0	44.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
39 Tert-butyl ethyl ether	59	6.034	6.034	0.000	97	822886	50.0	42.9	
41 2-Butanone (MEK)	43	6.223	6.223	0.000	100	496655	100.0	72.8	
42 cis-1,2-Dichloroethene	96	6.272	6.272	0.000	85	322758	50.0	48.9	
44 2,2-Dichloropropane	77	6.290	6.290	0.000	89	399540	50.0	48.6	
45 Propionitrile	54	6.296	6.296	0.000	99	400335	250.0	248.1	
46 Methacrylonitrile	67	6.527	6.527	0.000	92	517041	125.0	105.2	
47 Chlorobromomethane	128	6.612	6.612	0.000	94	174115	50.0	47.0	
48 Tetrahydrofuran	71	6.625	6.625	0.000	94	136987	100.0	81.2	
49 Chloroform	83	6.752	6.752	0.000	96	511815	50.0	49.5	
$ 50 Dibromofluoromethane (Surr)	113	6.965	6.965	0.000	93	248838	50.0	49.3	
51 1,1,1-Trichloroethane	97	6.990	6.990	0.000	98	435066	50.0	49.3	
52 Cyclohexane	56	7.099	7.099	0.000	92	465158	50.0	46.3	
53 1,1-Dichloropropene	75	7.196	7.196	0.000	94	386589	50.0	48.0	
54 Carbon tetrachloride	117	7.209	7.209	0.000	98	382018	50.0	51.3	
55 Isobutyl alcohol	41	7.306	7.306	0.000	93	293472	625.0	624.2	
$ 56 1,2-Dichloroethane-d4 (Surr)	102	7.428	7.428	0.000	98	62779	50.0	49.9	
57 Benzene	78	7.464	7.464	0.000	97	1199771	50.0	49.6	
59 1,2-Dichloroethane	62	7.531	7.531	0.000	98	435884	50.0	48.1	
60 Tert-amyl methyl ether	73	7.647	7.647	0.000	97	855680	50.0	44.0	
* 62 Fluorobenzene (IS)	96	7.866	7.866	0.000	99	1048734	50.0	50.0	
63 n-Heptane	43	7.878	7.878	0.000	92	474949	50.0	47.2	
64 n-Butanol	56	8.188	8.188	0.000	91	475227	1250.0	1052.8	
65 Trichloroethene	95	8.346	8.346	0.000	98	309252	50.0	48.4	
66 Methylcyclohexane	83	8.663	8.663	0.000	94	545607	50.0	47.6	
67 1,2-Dichloropropane	63	8.675	8.675	0.000	72	323038	50.0	49.4	
34 2-ethoxy-2-methyl butane	87	8.675	8.675	0.000	91	447431	50.0	43.3	
68 Methyl methacrylate	69	8.742	8.742	0.000	89	326404	50.0	43.9	
69 1,4-Dioxane	88	8.760	8.760	0.000	90	73814	625.0	704.7	M
70 Dibromomethane	93	8.784	8.784	0.000	97	224863	50.0	51.9	
72 Dichlorobromomethane	83	9.015	9.015	0.000	99	390088	50.0	51.5	
73 2-Nitropropane	41	9.259	9.259	0.000	100	280978	100.0	85.1	
74 2-Chloroethyl vinyl ether	63	9.362	9.362	0.000	92	253465	50.0	44.1	
75 cis-1,3-Dichloropropene	75	9.551	9.551	0.000	95	481978	50.0	50.0	
76 4-Methyl-2-pentanone (MIBK)	43	9.703	9.703	0.000	98	1067104	100.0	79.9	
$ 77 Toluene-d8 (Surr)	98	9.855	9.855	0.000	94	1039066	50.0	48.4	
78 Toluene	92	9.934	9.934	0.000	98	782138	50.0	48.3	
80 trans-1,3-Dichloropropene	75	10.177	10.177	0.000	95	461093	50.0	48.1	
81 Ethyl methacrylate	69	10.232	10.232	0.000	90	533606	50.0	44.6	
82 1,1,2-Trichloroethane	97	10.378	10.378	0.000	92	320285	50.0	50.5	
83 Tetrachloroethene	166	10.482	10.482	0.000	99	355536	50.0	43.2	
84 1,3-Dichloropropane	76	10.542	10.542	0.000	93	527294	50.0	48.6	
86 2-Hexanone	43	10.579	10.579	0.000	98	852391	100.0	75.8	
88 Chlorodibromomethane	129	10.761	10.761	0.000	90	328765	50.0	52.6	
89 Ethylene Dibromide	107	10.877	10.877	0.000	98	352376	50.0	49.5	
* 91 Chlorobenzene-d5 (IS)	117	11.297	11.297	0.000	87	849339	50.0	50.0	
92 1-Chlorohexane	91	11.303	11.303	0.000	98	430870	50.0	46.0	
93 Chlorobenzene	112	11.327	11.327	0.000	95	923213	50.0	49.8	
94 1,1,1,2-Tetrachloroethane	131	11.406	11.406	0.000	95	327896	50.0	52.1	
95 Ethylbenzene	91	11.406	11.406	0.000	98	1589652	50.0	49.5	
96 m-Xylene & p-Xylene	106	11.522	11.522	0.000	99	1265345	100.0	99.9	
97 o-Xylene	106	11.850	11.850	0.000	97	609523	50.0	49.1	
98 Styrene	104	11.862	11.862	0.000	95	1052122	50.0	50.7	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
99 Bromoform	173	12.027	12.027	0.000	96	252360	50.0	51.4	
100 Isopropylbenzene	105	12.148	12.148	0.000	96	1562536	50.0	50.2	
102 Cyclohexanone	55	12.221	12.221	0.000	94	262123	625.0	532.2	
$ 103 4-Bromofluorobenzene (Surr)	95	12.294	12.294	0.000	92	391921	50.0	47.6	
104 1,1,2,2-Tetrachloroethane	83	12.386	12.386	0.000	97	561432	50.0	47.1	
106 trans-1,4-Dichloro-2-butene	53	12.404	12.404	0.000	82	464109	125.0	94.9	
105 Bromobenzene	156	12.410	12.410	0.000	93	457747	50.0	47.1	
107 1,2,3-Trichloropropane	110	12.434	12.434	0.000	87	182909	50.0	45.1	
108 N-Propylbenzene	91	12.477	12.477	0.000	99	1899330	50.0	47.2	
109 2-Chlorotoluene	126	12.556	12.556	0.000	97	389912	50.0	46.3	
110 1,3,5-Trimethylbenzene	105	12.611	12.611	0.000	94	1390645	50.0	47.0	
111 4-Chlorotoluene	126	12.647	12.647	0.000	97	416856	50.0	46.4	
113 tert-Butylbenzene	134	12.854	12.854	0.000	93	295574	50.0	46.8	
114 Pentachloroethane	167	12.891	12.891	0.000	91	250305	50.0	57.1	
115 1,2,4-Trimethylbenzene	105	12.891	12.891	0.000	97	1493887	50.0	48.0	
116 sec-Butylbenzene	105	13.012	13.012	0.000	95	1806028	50.0	48.3	
117 1,3-Dichlorobenzene	146	13.116	13.116	0.000	98	885581	50.0	49.5	
118 4-Isopropyltoluene	119	13.122	13.122	0.000	97	1642962	50.0	49.4	
* 119 1,4-Dichlorobenzene-d4	152	13.177	13.177	0.000	94	488221	50.0	50.0	
121 1,4-Dichlorobenzene	146	13.195	13.195	0.000	94	917656	50.0	49.2	
120 1,2,3-Trimethylbenzene	105	13.195	13.195	0.000	98	1535371	50.0	44.0	
122 Benzyl chloride	91	13.262	13.262	0.000	99	1165806	50.0	49.5	
123 1,3-Diethylbenzene	119	13.323	13.323	0.000	95	966006	50.0	44.1	
124 p-Diethylbenzene	119	13.396	13.396	0.000	93	1027685	50.0	44.2	
125 n-Butylbenzene	92	13.414	13.414	0.000	97	841115	50.0	47.8	
126 1,2-Dichlorobenzene	146	13.450	13.450	0.000	99	862776	50.0	50.0	
127 o-diethylbenzene	119	13.469	13.469	0.000	95	816646	50.0	43.8	
129 1,2-Dibromo-3-Chloropropane	75	13.992	13.992	0.000	84	129159	50.0	44.1	
130 1,3,5-Trichlorobenzene	180	14.120	14.120	0.000	98	631590	50.0	48.6	
131 1,2,4-Trichlorobenzene	180	14.545	14.545	0.000	94	576350	50.0	47.4	
132 Hexachlorobutadiene	225	14.624	14.624	0.000	98	261897	50.0	49.3	
133 Naphthalene	128	14.728	14.728	0.000	97	1982857	50.0	49.1	
134 1,2,3-Trichlorobenzene	180	14.868	14.868	0.000	96	565347	50.0	48.2	
135 2-Methylnaphthalene	142	15.519	15.519	0.000	92	1111693	50.0	41.8	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MSV_V_VOA3_00041	Amount Added:	2.00	Units: uL	
MSV_V_VOA6_00048	Amount Added:	5.00	Units: uL	
MSV_VCYC_00002	Amount Added:	10.00	Units: uL	
MSV_V_VOA1_00084	Amount Added:	5.00	Units: uL	
MSV_V_2CEVE_00091	Amount Added:	5.00	Units: uL	
MSV_V_EE_00003	Amount Added:	5.00	Units: uL	
MSV_DCFM_00019	Amount Added:	2.50	Units: uL	
MSV_V_Gas_00130	Amount Added:	2.50	Units: uL	
MSV_HP20_ISSS_00023	Amount Added:	1.00	Units: uL	Run Reagent

Report Date: 19-Aug-2020 12:00:34 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19C01.D

Injection Date: 19-Aug-2020 09:19:30 Instrument ID: 9355 Operator ID: clm27445

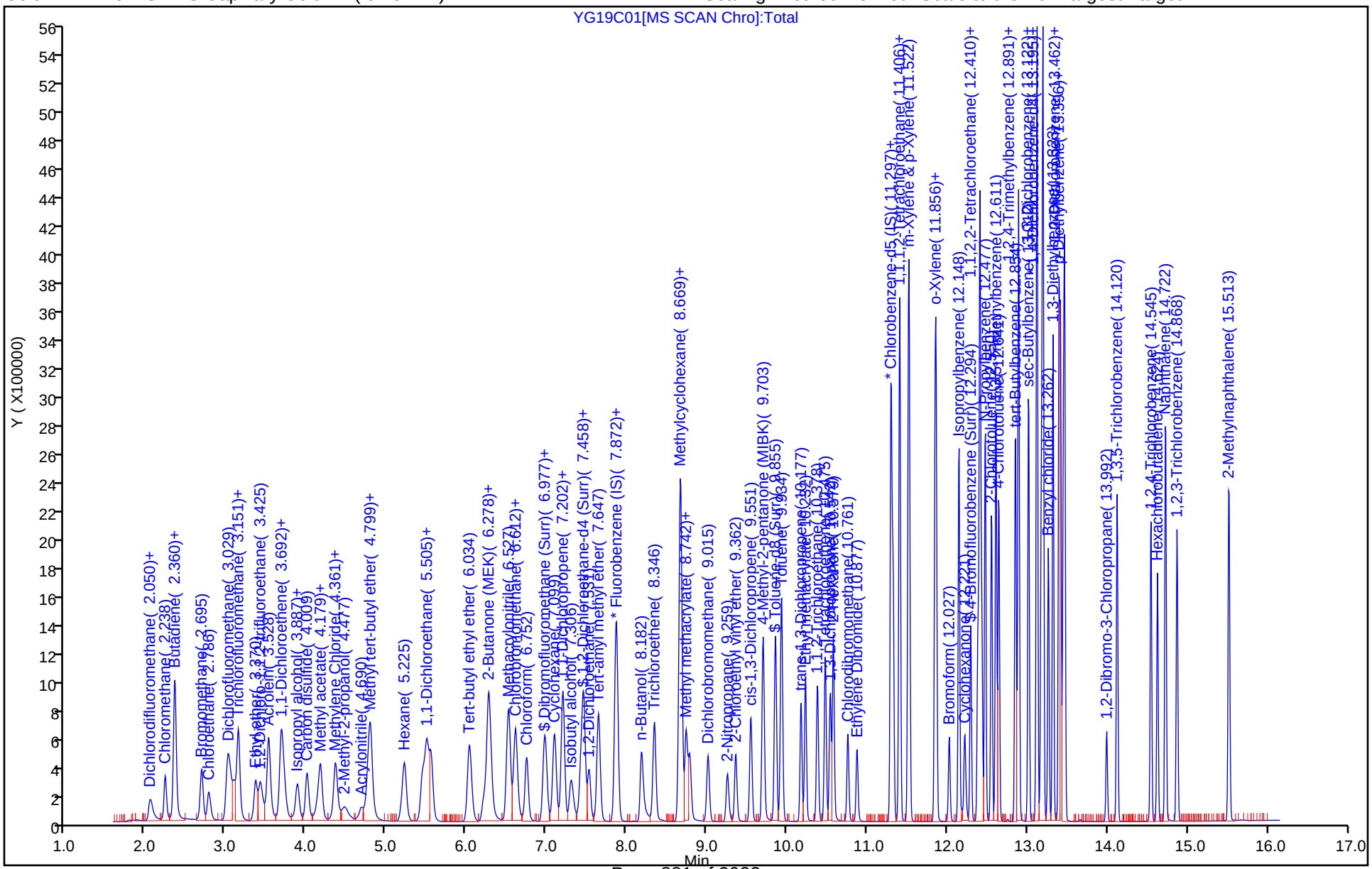
Lims ID: CCVIS Worklist Smp#: 3

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 2

Method: MSVoa_9355 Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

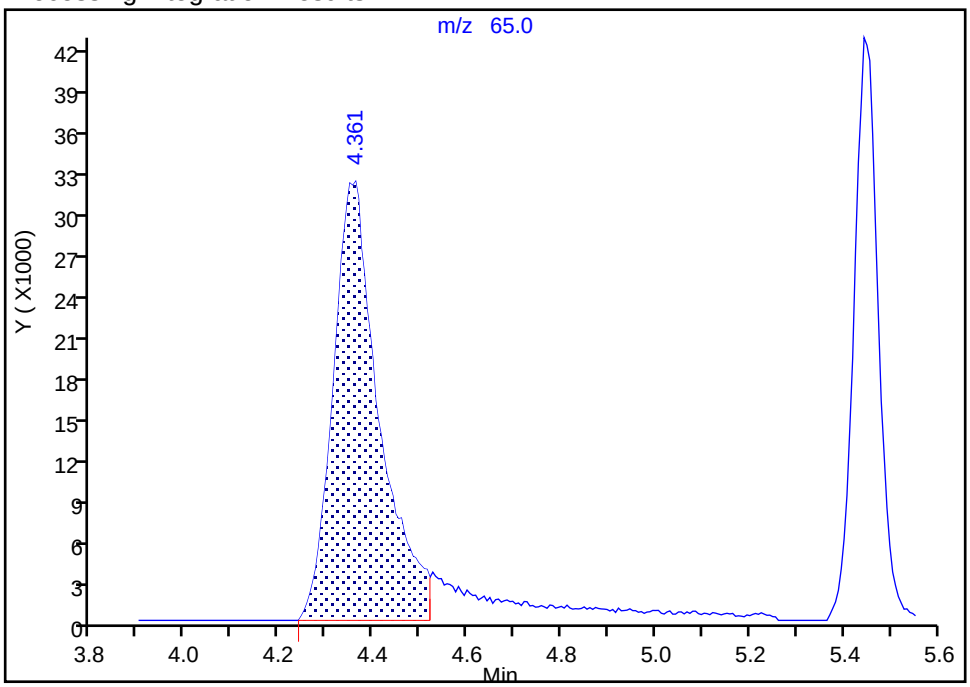
Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19C01.D
Injection Date: 19-Aug-2020 09:19:30 Instrument ID: 9355
Lims ID: CCVIS
Client ID:
Operator ID: clm27445 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

* 26 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2

Signal: 1

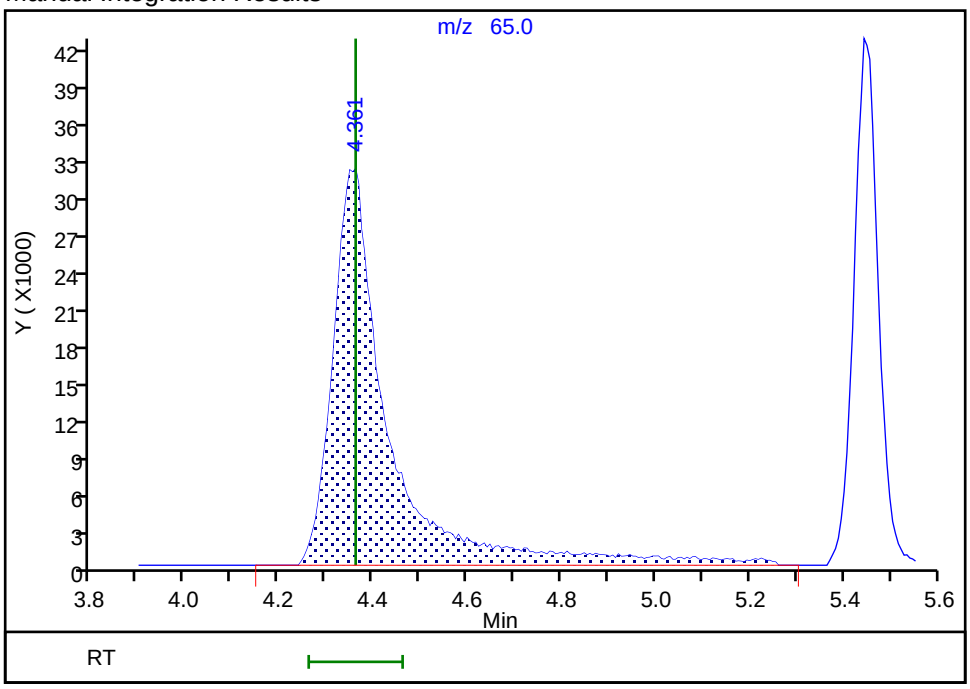
Processing Integration Results

RT: 4.36
Area: 215485
Amount: 250.0000
Amount Units: ug/l



Manual Integration Results

RT: 4.36
Area: 259939
Amount: 250.0000
Amount Units: ug/l



Reviewer: mellingerc, 19-Aug-2020 09:46:30
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

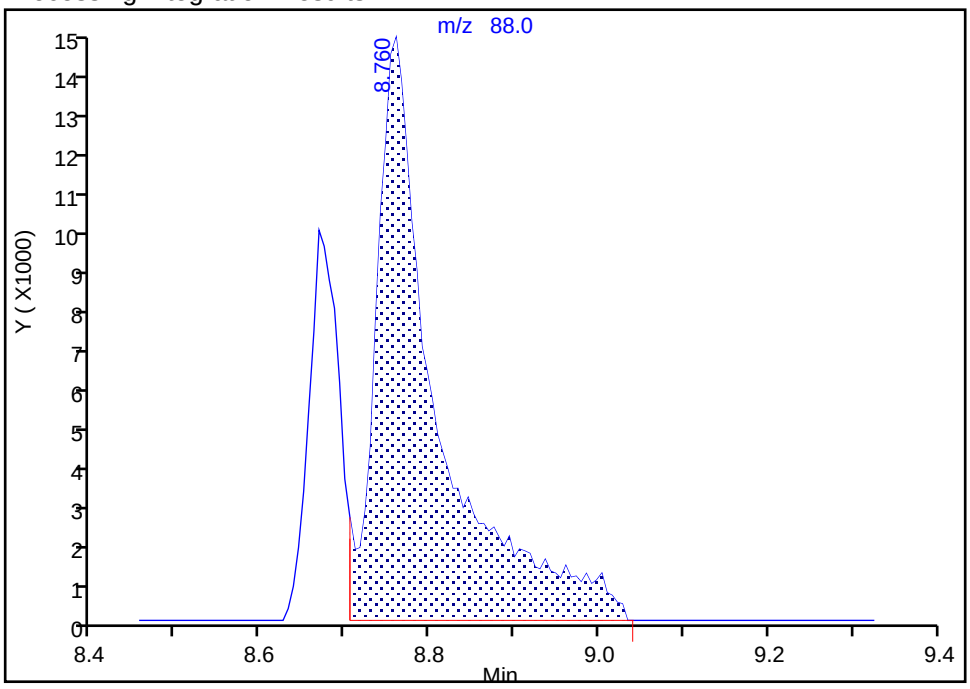
Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19C01.D				
Injection Date:	19-Aug-2020 09:19:30	Instrument ID:	9355		
Lims ID:	CCVIS				
Client ID:					
Operator ID:	clm27445	ALS Bottle#:	2	Worklist Smp#:	3
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

69 1,4-Dioxane, CAS: 123-91-1

Signal: 1

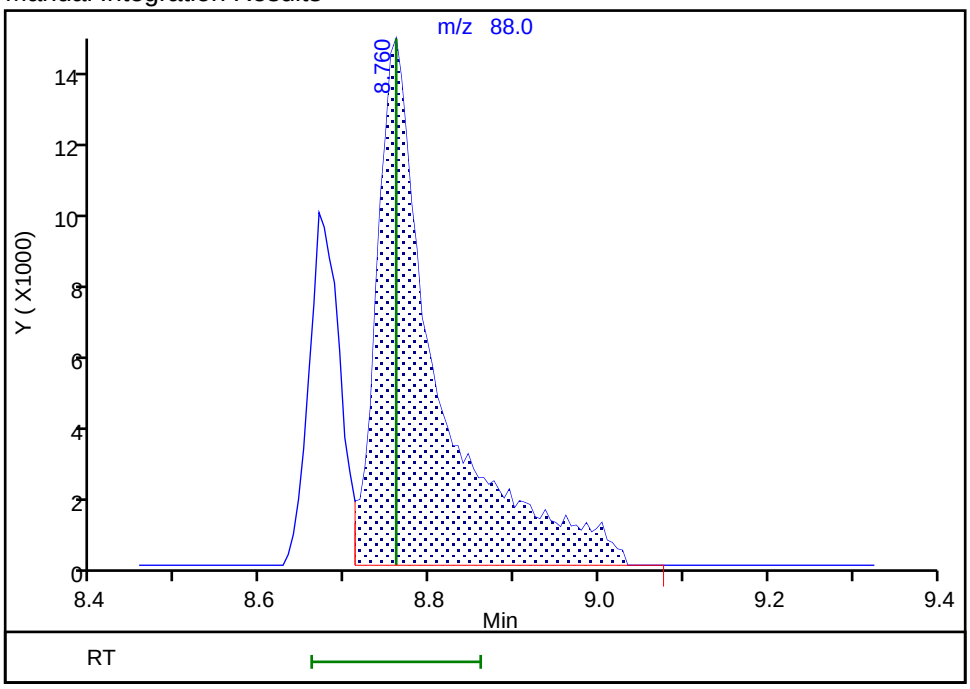
Processing Integration Results

RT: 8.76
Area: 74764
Amount: 713.7385
Amount Units: ug/l



Manual Integration Results

RT: 8.76
Area: 73814
Amount: 704.6693
Amount Units: ug/l



Reviewer: mellingerc, 19-Aug-2020 09:47:48

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-35697/3 Calibration Date: 08/21/2020 09:05

Instrument ID: 9355 Calib Start Date: 07/14/2020 13:31

GC Column: R-624SilMS 30m ID: 0.25(mm) Calib End Date: 07/14/2020 15:43

Lab File ID: YG21C01.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dichlorodifluoromethane	Ave	0.4845	0.4154	0.1000	42.9	50.0	-14.3	20.0
Chloromethane	Ave	0.5222	0.5032	0.1000	48.2	50.0	-3.7	20.0
1,3-Butadiene	Ave	0.3783	0.5370		71.0	50.0	41.9*	20.0
Vinyl chloride	Ave	0.4884	0.4730	0.1000	48.4	50.0	-3.1	20.0
Bromomethane	Ave	0.3588	0.4095	0.1000	57.1	50.0	14.1	20.0
Chloroethane	Ave	0.2906	0.3154	0.1000	54.3	50.0	8.6	20.0
Dichlorofluoromethane	Ave	0.6846	0.6170		45.1	50.0	-9.9	20.0
Trichlorofluoromethane	Ave	0.5977	0.6777	0.1000	56.7	50.0	13.4	20.0
n-Pentane	Ave	0.5376	0.6191		57.6	50.0	15.2	20.0
Ethyl ether	Ave	0.3238	0.2239		34.6	50.0	-30.8*	20.0
Freon 123a	Ave	0.3156	0.3163		50.1	50.0	0.2	20.0
Acrolein	Ave	2.359	2.051		435	500	-13.1	20.0
1,1-Dichloroethene	Ave	0.2235	0.2303	0.1000	51.5	50.0	3.0	20.0
Acetone	Ave	1.022	1.118	0.1000	109	100	9.4	20.0
Freon 113	Ave	0.2374	0.2630	0.1000	55.4	50.0	10.8	20.0
2-Propanol	Ave	0.7171	0.7565		264	250	5.5	20.0
Methyl iodide	Ave	0.4461	0.4185		46.9	50.0	-6.2	20.0
Carbon disulfide	Ave	0.7224	0.7800	0.1000	54.0	50.0	8.0	20.0
Methyl acetate	Ave	0.4441	0.3574	0.1000	40.2	50.0	-19.5	20.0
Allyl chloride	Ave	0.4681	0.3777		40.3	50.0	-19.3	20.0
Methylene Chloride	Ave	0.2773	0.2868	0.1000	51.7	50.0	3.4	20.0
t-Butyl alcohol	Lin2		1.357		273	250	9.3	20.0
Acrylonitrile	Ave	0.2178	0.1833		42.1	50.0	-15.8	20.0
Methyl tertiary butyl ether	Ave	0.9101	0.8126	0.1000	44.6	50.0	-10.7	20.0
trans-1,2-Dichloroethene	Ave	0.2707	0.2832	0.1000	52.3	50.0	4.6	20.0
n-Hexane	Ave	0.4028	0.3949		49.0	50.0	-2.0	20.0
1,1-Dichloroethane	Ave	0.4809	0.4922	0.2000	51.2	50.0	2.3	20.0
di-Isopropyl ether	Ave	0.9888	0.9030		45.7	50.0	-8.7	20.0
2-Chloro-1,3-butadiene	Ave	0.4619	0.4325		46.8	50.0	-6.4	20.0
Ethyl t-butyl ether	Ave	0.9143	0.7962		43.5	50.0	-12.9	20.0
2-Butanone	Ave	0.3251	0.2563	0.1000	78.8	100	-21.2*	20.0
cis-1,2-Dichloroethene	Ave	0.3146	0.3320	0.1000	52.8	50.0	5.5	20.0
2,2-Dichloropropane	Ave	0.3919	0.4188		53.4	50.0	6.9	20.0
Propionitrile	Ave	1.552	1.749		282	250	12.7	20.0
Methacrylonitrile	Ave	0.2344	0.2166		116	125	-7.6	20.0
Bromochloromethane	Ave	0.1767	0.1751		49.6	50.0	-0.9	20.0
Tetrahydrofuran	Ave	1.623	1.446		89.0	100	-11.0	20.0
Chloroform	Ave	0.4931	0.5364	0.2000	54.4	50.0	8.8	20.0
1,1,1-Trichloroethane	Ave	0.4207	0.4527	0.1000	53.8	50.0	7.6	20.0
Cyclohexane	Ave	0.4787	0.4802	0.1000	50.1	50.0	0.3	20.0
1,1-Dichloropropene	Ave	0.3839	0.3994		52.0	50.0	4.0	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-35697/3 Calibration Date: 08/21/2020 09:05

Instrument ID: 9355 Calib Start Date: 07/14/2020 13:31

GC Column: R-624SilMS 30m ID: 0.25(mm) Calib End Date: 07/14/2020 15:43

Lab File ID: YG21C01.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Carbon tetrachloride	Ave	0.3553	0.4007	0.1000	56.4	50.0	12.8	20.0
Isobutyl alcohol	Ave	0.4522	0.5558		768	625	22.9*	20.0
Benzene	Ave	1.153	1.252	0.5000	54.3	50.0	8.6	20.0
1,2-Dichloroethane	Ave	0.4319	0.4518	0.1000	52.3	50.0	4.6	20.0
t-Amyl methyl ether	Ave	0.9266	0.8509		45.9	50.0	-8.2	20.0
n-Heptane	Ave	0.4795	0.4868		50.8	50.0	1.5	20.0
n-Butanol	Lin		0.4410		1280	1250	2.5	20.0
Trichloroethene	Ave	0.3046	0.3258	0.2000	53.5	50.0	6.9	20.0
Methylcyclohexane	Ave	0.5469	0.5376	0.1000	49.1	50.0	-1.7	20.0
1,2-Dichloropropane	Ave	0.3118	0.3417	0.1000	54.8	50.0	9.6	20.0
t-Amyl ethyl ether	Ave	0.4930	0.4585		46.5	50.0	-7.0	20.0
Methyl methacrylate	Ave	0.3543	0.3382		47.7	50.0	-4.6	20.0
1,4-Dioxane	Ave	0.1007	0.1298	0.0050	805	625	28.8*	20.0
Dibromomethane	Ave	0.2064	0.2352		57.0	50.0	14.0	20.0
Bromodichloromethane	Ave	0.3612	0.4010	0.2000	55.5	50.0	11.0	20.0
2-Nitropropane	Ave	3.177	2.976		93.7	100	-6.3	20.0
2-Chloroethyl vinyl ether	Ave	0.2740	0.2521		46.0	50.0	-8.0	20.0
cis-1,3-Dichloropropene	Ave	0.4600	0.4878	0.2000	53.0	50.0	6.0	20.0
4-Methyl-2-pentanone	Ave	0.6366	0.5483	0.1000	86.1	100	-13.9	20.0
Toluene	Ave	0.9537	1.013	0.4000	53.1	50.0	6.2	20.0
trans-1,3-Dichloropropene	Ave	0.5640	0.5734	0.1000	50.8	50.0	1.7	20.0
Ethyl methacrylate	Ave	0.7046	0.6620		47.0	50.0	-6.0	20.0
1,1,2-Trichloroethane	Ave	0.3731	0.4041	0.1000	54.2	50.0	8.3	20.0
Tetrachloroethene	Ave	0.4848	0.4365	0.2000	45.0	50.0	-10.0	20.0
1,3-Dichloropropane	Ave	0.6381	0.6743		52.8	50.0	5.7	20.0
2-Hexanone	Ave	0.6623	0.5426	0.1000	81.9	100	-18.1	20.0
Dibromochloromethane	Ave	0.3678	0.4046		55.0	50.0	10.0	20.0
1,2-Dibromoethane	Ave	0.4187	0.4344	0.1000	51.9	50.0	3.8	20.0
1-Chlorohexane	Ave	0.5515	0.5549		50.3	50.0	0.6	20.0
Chlorobenzene	Ave	1.091	1.205	0.5000	55.2	50.0	10.4	20.0
1,1,1,2-Tetrachloroethane	Ave	0.3702	0.4258		57.5	50.0	15.0	20.0
Ethylbenzene	Ave	1.890	2.092	0.1000	55.3	50.0	10.7	20.0
m&p-Xylene	Ave	0.7460	0.8371	0.1000	112	100	12.2	20.0
o-Xylene	Ave	0.7312	0.7926	0.3000	54.2	50.0	8.4	20.0
Styrene	Ave	1.221	1.378	0.3000	56.4	50.0	12.8	20.0
Bromoform	Ave	0.2892	0.2944	0.1000	50.9	50.0	1.8	20.0
Isopropylbenzene	Ave	1.831	2.029	0.1000	55.4	50.0	10.8	20.0
Cyclohexanone	Ave	0.4737	0.4513		595	625	-4.7	20.0
1,1,2,2-Tetrachloroethane	Ave	1.221	1.251	0.3000	51.2	50.0	2.5	20.0
trans-1,4-Dichloro-2-butene	Ave	0.5011	0.3524		87.9	125	-29.7*	20.0
Bromobenzene	Ave	0.9950	1.020		51.3	50.0	2.6	20.0

FORM VII
GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-35697/3 Calibration Date: 08/21/2020 09:05

Instrument ID: 9355 Calib Start Date: 07/14/2020 13:31

GC Column: R-624SilMS 30m ID: 0.25(mm) Calib End Date: 07/14/2020 15:43

Lab File ID: YG21C01.D Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,2,3-Trichloropropane	Ave	0.4150	0.4110		49.5	50.0	-1.0	20.0
N-Propylbenzene	Ave	4.121	4.320		52.4	50.0	4.8	20.0
2-Chlorotoluene	Ave	0.8624	0.8751		50.7	50.0	1.5	20.0
1,3,5-Trimethylbenzene	Ave	3.027	3.141		51.9	50.0	3.8	20.0
4-Chlorotoluene	Ave	0.9205	0.9425		51.2	50.0	2.4	20.0
tert-Butylbenzene	Ave	0.6462	0.6581		50.9	50.0	1.8	20.0
Pentachloroethane	Ave	0.4488	0.5738		63.9	50.0	27.9*	20.0
1,2,4-Trimethylbenzene	Ave	3.189	3.422		53.7	50.0	7.3	20.0
sec-Butylbenzene	Ave	3.828	4.049		52.9	50.0	5.8	20.0
1,3-Dichlorobenzene	Ave	1.833	1.996	0.6000	54.4	50.0	8.8	20.0
p-Isopropyltoluene	Ave	3.405	3.712		54.5	50.0	9.0	20.0
1,2,3-Trimethylbenzene	Ave	3.572	3.439		48.1	50.0	-3.7	20.0
1,4-Dichlorobenzene	Ave	1.909	2.096	0.5000	54.9	50.0	9.8	20.0
Benzyl chloride	Ave	2.411	2.641		54.8	50.0	9.6	20.0
1,3-Diethylbenzene	Ave	2.244	2.139		47.7	50.0	-4.7	20.0
1,4-Diethylbenzene	Ave	2.383	2.299		48.2	50.0	-3.5	20.0
n-Butylbenzene	Ave	1.803	1.923		53.3	50.0	6.7	20.0
1,2-Dichlorobenzene	Ave	1.768	1.940	0.4000	54.9	50.0	9.7	20.0
1,2-Diethylbenzene	Ave	1.911	1.820		47.6	50.0	-4.7	20.0
1,2-Dibromo-3-Chloropropane	Ave	0.3002	0.2780	0.0500	46.3	50.0	-7.4	20.0
1,3,5-Trichlorobenzene	Ave	1.331	1.393		52.3	50.0	4.7	20.0
1,2,4-Trichlorobenzene	Ave	1.246	1.248	0.2000	50.1	50.0	0.2	20.0
Hexachlorobutadiene	Ave	0.5444	0.5746		52.8	50.0	5.5	20.0
Naphthalene	Ave	4.133	4.411		53.4	50.0	6.7	20.0
1,2,3-Trichlorobenzene	Ave	1.202	1.241		51.6	50.0	3.2	20.0
2-Methylnaphthalene	Ave	2.722	2.451		45.0	50.0	-10.0	20.0
Dibromofluoromethane (Surr)	Ave	0.2407	0.2357		49.0	50.0	-2.1	20.0
1,2-Dichloroethane-d4 (Surr)	Ave	0.0600	0.0590		49.2	50.0	-1.7	20.0
Toluene-d8 (Surr)	Ave	1.265	1.227		48.5	50.0	-3.0	20.0
4-Bromofluorobenzene (Surr)	Ave	0.4850	0.4628		47.7	50.0	-4.6	20.0

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21C01.D
Lims ID: CCVIS
Client ID:
Sample Type: CCVIS
Inject. Date: 21-Aug-2020 09:05:30 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0008609-003
Misc. Info.: CCVIS
Operator ID: clm27445 Instrument ID: 9355
Sublist: chrom-MSVoa_9355*sub2

Method: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 21-Aug-2020 19:21:31 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1048

First Level Reviewer: mellingerc Date: 21-Aug-2020 10:01:07

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Dichlorodifluoromethane	85	2.044	2.044	0.000	100	388308	50.0	42.9	
4 Chloromethane	50	2.232	2.232	0.000	100	470398	50.0	48.2	
5 Butadiene	39	2.348	2.348	0.000	93	502000	50.0	71.0	
6 Vinyl chloride	62	2.348	2.348	0.000	98	442243	50.0	48.4	
8 Bromomethane	94	2.682	2.682	0.000	90	382861	50.0	57.1	
9 Chloroethane	64	2.774	2.774	0.000	100	294905	50.0	54.3	
10 Dichlorofluoromethane	67	3.011	3.011	0.000	98	576839	50.0	45.1	
11 Trichlorofluoromethane	101	3.084	3.084	0.000	99	633566	50.0	56.7	
12 Pentane	43	3.139	3.139	0.000	96	578747	50.0	57.6	
14 Ethyl ether	59	3.352	3.352	0.000	92	209299	50.0	34.6	
15 1,2-Dichloro-1,1,2-trifluoroetha	67	3.413	3.413	0.000	93	295738	50.0	50.1	
16 Acrolein	56	3.522	3.522	0.000	99	939837	500.0	434.6	
17 1,1-Dichloroethene	96	3.674	3.674	0.000	99	215277	50.0	51.5	
18 Acetone	58	3.686	3.686	0.000	100	102476	100.0	109.4	
19 112TCTFE	101	3.711	3.711	0.000	95	245858	50.0	55.4	
20 Isopropyl alcohol	45	3.863	3.863	0.000	98	173357	250.0	263.7	
21 Iodomethane	142	3.881	3.881	0.000	99	391273	50.0	46.9	
22 Carbon disulfide	76	4.003	4.003	0.000	100	729173	50.0	54.0	
24 Methyl acetate	43	4.130	4.130	0.000	98	334177	50.0	40.2	
25 3-Chloro-1-propene	41	4.167	4.167	0.000	89	353115	50.0	40.3	
* 26 t-Butyl alcohol-d10 (IS)	65	4.349	4.349	0.000	91	229153	250.0	250.0	M
27 Methylene Chloride	84	4.355	4.355	0.000	94	268164	50.0	51.7	
28 2-Methyl-2-propanol	59	4.471	4.471	0.000	96	311006	250.0	273.2	
30 Acrylonitrile	53	4.678	4.678	0.000	100	171391	50.0	42.1	
31 Methyl tert-butyl ether	73	4.775	4.775	0.000	97	759683	50.0	44.6	
32 trans-1,2-Dichloroethene	96	4.793	4.793	0.000	99	264769	50.0	52.3	
33 Hexane	57	5.219	5.219	0.000	96	369177	50.0	49.0	
36 1,1-Dichloroethane	63	5.438	5.438	0.000	97	460116	50.0	51.2	
37 Isopropyl ether	45	5.493	5.493	0.000	92	844176	50.0	45.7	
38 2-Chloro-1,3-butadiene	53	5.548	5.548	0.000	93	404311	50.0	46.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
39 Tert-butyl ethyl ether	59	6.028	6.028	0.000	96	744320	50.0	43.5	
41 2-Butanone (MEK)	43	6.217	6.217	0.000	100	479163	100.0	78.8	
42 cis-1,2-Dichloroethene	96	6.266	6.266	0.000	85	310403	50.0	52.8	
44 2,2-Dichloropropane	77	6.278	6.278	0.000	89	391566	50.0	53.4	
45 Propionitrile	54	6.290	6.290	0.000	98	400770	250.0	281.7	
46 Methacrylonitrile	67	6.521	6.521	0.000	92	506359	125.0	115.5	
47 Chlorobromomethane	128	6.600	6.600	0.000	96	163725	50.0	49.6	
48 Tetrahydrofuran	71	6.619	6.619	0.000	92	132503	100.0	89.0	
49 Chloroform	83	6.746	6.746	0.000	96	501442	50.0	54.4	
$ 50 Dibromofluoromethane (Surr)	113	6.959	6.959	0.000	93	220363	50.0	49.0	
51 1,1,1-Trichloroethane	97	6.984	6.984	0.000	98	423251	50.0	53.8	
52 Cyclohexane	56	7.093	7.093	0.000	92	448913	50.0	50.1	
53 1,1-Dichloropropene	75	7.196	7.196	0.000	94	373352	50.0	52.0	
54 Carbon tetrachloride	117	7.203	7.203	0.000	98	374634	50.0	56.4	
55 Isobutyl alcohol	41	7.306	7.306	0.000	91	318421	625.0	768.2	
$ 56 1,2-Dichloroethane-d4 (Surr)	102	7.422	7.422	0.000	98	55154	50.0	49.2	
57 Benzene	78	7.458	7.458	0.000	97	1170909	50.0	54.3	
59 1,2-Dichloroethane	62	7.525	7.525	0.000	98	422424	50.0	52.3	
60 Tert-amyl methyl ether	73	7.641	7.641	0.000	97	795540	50.0	45.9	
* 62 Fluorobenzene (IS)	96	7.860	7.860	0.000	99	934893	50.0	50.0	
63 n-Heptane	43	7.872	7.872	0.000	92	455134	50.0	50.8	
64 n-Butanol	56	8.182	8.182	0.000	91	505314	1250.0	1280.9	
65 Trichloroethene	95	8.340	8.340	0.000	98	304585	50.0	53.5	
66 Methylcyclohexane	83	8.663	8.663	0.000	89	502557	50.0	49.1	
67 1,2-Dichloropropane	63	8.669	8.669	0.000	72	319435	50.0	54.8	
34 2-ethoxy-2-methyl butane	87	8.675	8.675	0.000	93	428668	50.0	46.5	
68 Methyl methacrylate	69	8.742	8.742	0.000	90	316149	50.0	47.7	
69 1,4-Dioxane	88	8.754	8.754	0.000	90	74359	625.0	805.2	M
70 Dibromomethane	93	8.784	8.784	0.000	96	219929	50.0	57.0	
72 Dichlorobromomethane	83	9.009	9.009	0.000	99	374928	50.0	55.5	
73 2-Nitropropane	41	9.253	9.253	0.000	99	272754	100.0	93.7	
74 2-Chloroethyl vinyl ether	63	9.356	9.356	0.000	92	235729	50.0	46.0	
75 cis-1,3-Dichloropropene	75	9.545	9.545	0.000	94	456015	50.0	53.0	
76 4-Methyl-2-pentanone (MIBK)	43	9.703	9.703	0.000	98	1025144	100.0	86.1	
$ 77 Toluene-d8 (Surr)	98	9.855	9.855	0.000	94	934473	50.0	48.5	
78 Toluene	92	9.928	9.928	0.000	97	771711	50.0	53.1	
80 trans-1,3-Dichloropropene	75	10.177	10.177	0.000	95	436815	50.0	50.8	
81 Ethyl methacrylate	69	10.232	10.232	0.000	90	504297	50.0	47.0	
82 1,1,2-Trichloroethane	97	10.378	10.378	0.000	93	307876	50.0	54.2	
83 Tetrachloroethene	166	10.476	10.476	0.000	97	332501	50.0	45.0	
84 1,3-Dichloropropane	76	10.542	10.542	0.000	93	513674	50.0	52.8	
86 2-Hexanone	43	10.579	10.579	0.000	98	826714	100.0	81.9	
88 Chlorodibromomethane	129	10.761	10.761	0.000	90	308265	50.0	55.0	
89 Ethylene Dibromide	107	10.871	10.871	0.000	99	330933	50.0	51.9	
* 91 Chlorobenzene-d5 (IS)	117	11.297	11.297	0.000	89	761819	50.0	50.0	
92 1-Chlorohexane	91	11.297	11.297	0.000	98	422710	50.0	50.3	
93 Chlorobenzene	112	11.321	11.321	0.000	95	917794	50.0	55.2	
94 1,1,1,2-Tetrachloroethane	131	11.406	11.406	0.000	94	324414	50.0	57.5	
95 Ethylbenzene	91	11.406	11.406	0.000	98	1593925	50.0	55.3	
96 m-Xylene & p-Xylene	106	11.522	11.522	0.000	99	1275505	100.0	112.2	
97 o-Xylene	106	11.850	11.850	0.000	97	603833	50.0	54.2	
98 Styrene	104	11.863	11.863	0.000	94	1049801	50.0	56.4	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
99 Bromoform	173	12.027	12.027	0.000	96	224266	50.0	50.9	
100 Isopropylbenzene	105	12.149	12.149	0.000	96	1545878	50.0	55.4	
102 Cyclohexanone	55	12.222	12.222	0.000	94	258542	625.0	595.4	
$ 103 4-Bromofluorobenzene (Surr)	95	12.295	12.295	0.000	91	352589	50.0	47.7	
104 1,1,2,2-Tetrachloroethane	83	12.380	12.380	0.000	96	551443	50.0	51.2	
106 trans-1,4-Dichloro-2-butene	53	12.404	12.404	0.000	75	388153	125.0	87.9	
105 Bromobenzene	156	12.410	12.410	0.000	96	449610	50.0	51.3	
107 1,2,3-Trichloropropane	110	12.434	12.434	0.000	87	181109	50.0	49.5	
108 N-Propylbenzene	91	12.477	12.477	0.000	99	1903728	50.0	52.4	
109 2-Chlorotoluene	126	12.556	12.556	0.000	97	385583	50.0	50.7	
110 1,3,5-Trimethylbenzene	105	12.611	12.611	0.000	94	1384052	50.0	51.9	
111 4-Chlorotoluene	126	12.647	12.647	0.000	97	415323	50.0	51.2	
113 tert-Butylbenzene	134	12.854	12.854	0.000	93	289997	50.0	50.9	
114 Pentachloroethane	167	12.885	12.885	0.000	79	252855	50.0	63.9	
115 1,2,4-Trimethylbenzene	105	12.891	12.891	0.000	97	1507896	50.0	53.7	
116 sec-Butylbenzene	105	13.012	13.012	0.000	95	1784101	50.0	52.9	
117 1,3-Dichlorobenzene	146	13.116	13.116	0.000	98	879327	50.0	54.4	
118 4-Isopropyltoluene	119	13.122	13.122	0.000	96	1635548	50.0	54.5	
* 119 1,4-Dichlorobenzene-d4	152	13.177	13.177	0.000	94	440641	50.0	50.0	
121 1,4-Dichlorobenzene	146	13.195	13.195	0.000	95	923536	50.0	54.9	
120 1,2,3-Trimethylbenzene	105	13.195	13.195	0.000	98	1515384	50.0	48.1	
122 Benzyl chloride	91	13.262	13.262	0.000	99	1163874	50.0	54.8	
123 1,3-Diethylbenzene	119	13.323	13.323	0.000	95	942679	50.0	47.7	
124 p-Diethylbenzene	119	13.396	13.396	0.000	93	1013252	50.0	48.2	
125 n-Butylbenzene	92	13.414	13.414	0.000	97	847321	50.0	53.3	
126 1,2-Dichlorobenzene	146	13.450	13.450	0.000	98	854852	50.0	54.9	
127 o-diethylbenzene	119	13.469	13.469	0.000	95	801951	50.0	47.6	
129 1,2-Dibromo-3-Chloropropane	75	13.992	13.992	0.000	84	122500	50.0	46.3	
130 1,3,5-Trichlorobenzene	180	14.120	14.120	0.000	98	613848	50.0	52.3	
131 1,2,4-Trichlorobenzene	180	14.545	14.545	0.000	94	549932	50.0	50.1	
132 Hexachlorobutadiene	225	14.625	14.625	0.000	99	253185	50.0	52.8	
133 Naphthalene	128	14.728	14.728	0.000	97	1943499	50.0	53.4	
134 1,2,3-Trichlorobenzene	180	14.868	14.868	0.000	96	546785	50.0	51.6	
135 2-Methylnaphthalene	142	15.513	15.513	0.000	91	1079985	50.0	45.0	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MSV_V_VOA3_00041	Amount Added:	2.00	Units: uL	
MSV_V_VOA6_00049	Amount Added:	5.00	Units: uL	
MSV_VCYC_00002	Amount Added:	10.00	Units: uL	
MSV_V_VOA1_00085	Amount Added:	5.00	Units: uL	
MSV_V_2CEVE_00091	Amount Added:	5.00	Units: uL	
MSV_V_EE_00003	Amount Added:	5.00	Units: uL	
MSV_V_Gas_00131	Amount Added:	2.50	Units: uL	
MSV_DCFM_00019	Amount Added:	2.50	Units: uL	
MSV_HP20_ISSS_00023	Amount Added:	1.00	Units: uL	Run Reagent

Report Date: 21-Aug-2020 19:21:32 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21C01.D

Injection Date: 21-Aug-2020 09:05:30 Instrument ID: 9355 Operator ID: clm27445

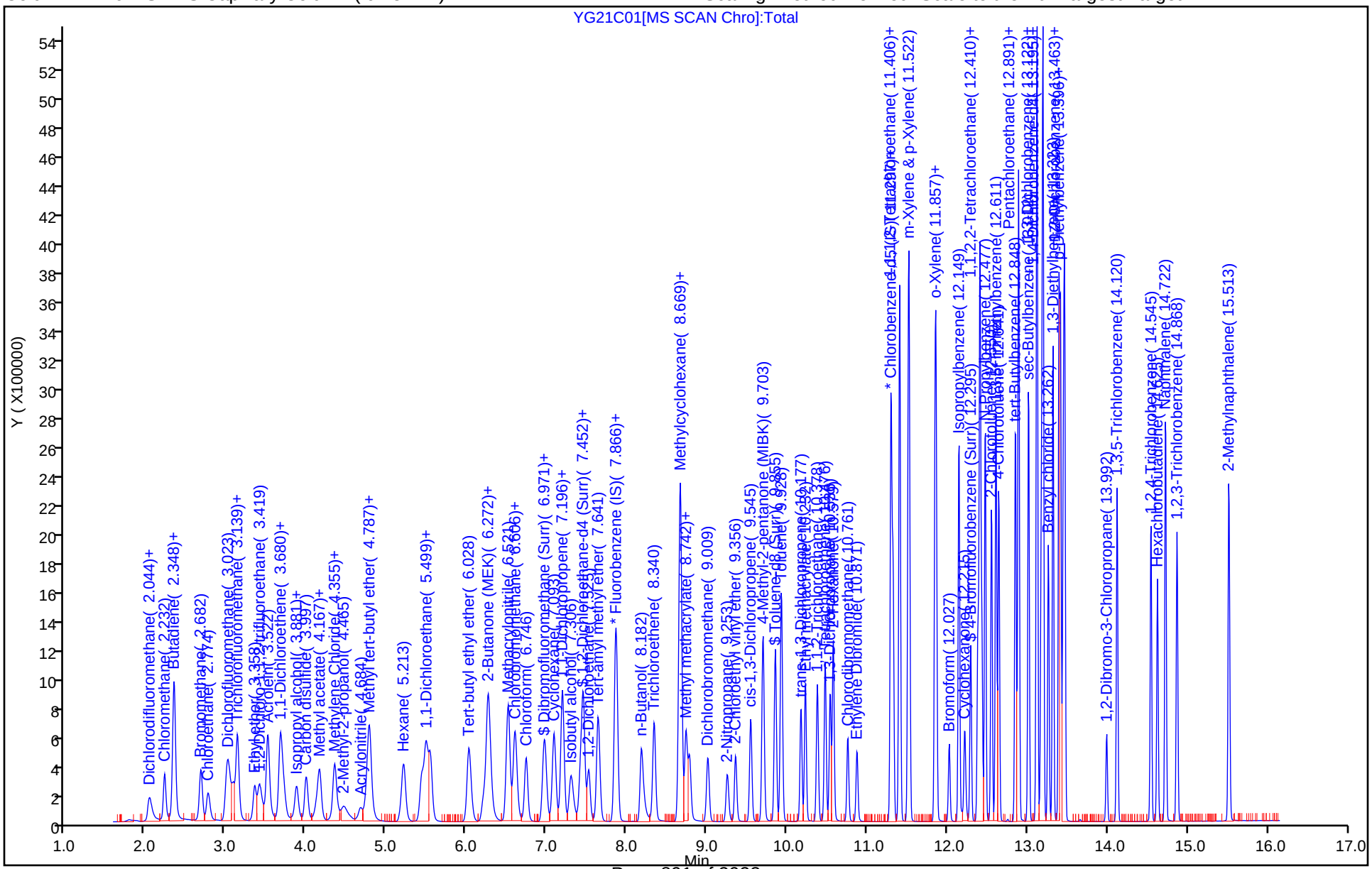
Lims ID: CCVIS Worklist Smp#: 3

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 2

Method: MSVoa_9355 Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

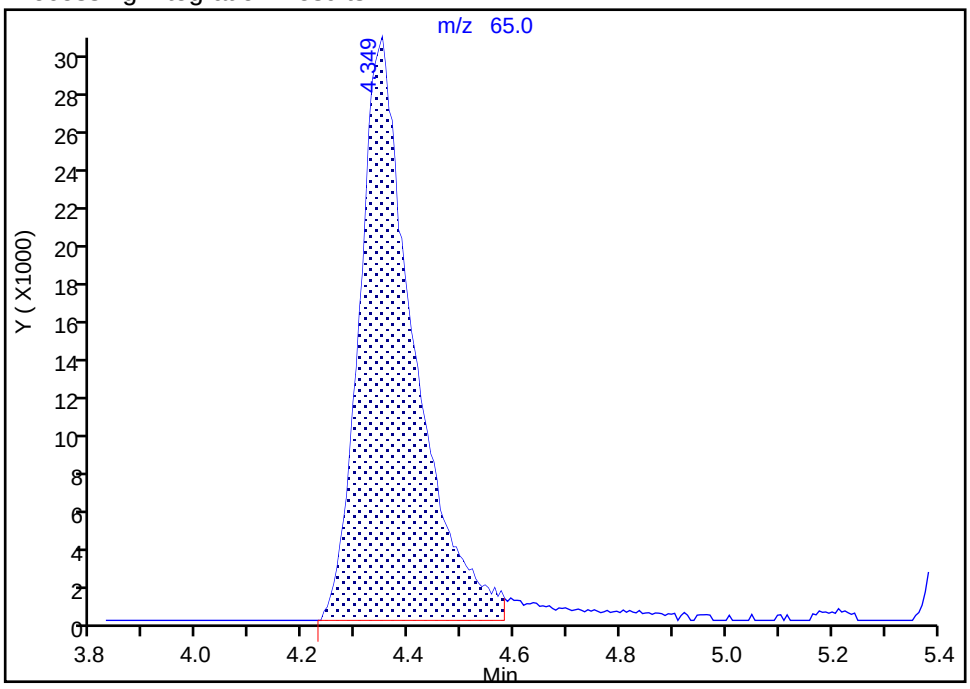
Data File: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21C01.D
Injection Date: 21-Aug-2020 09:05:30 Instrument ID: 9355
Lims ID: CCVIS
Client ID:
Operator ID: clm27445 ALS Bottle#: 2 Worklist Smp#: 3
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

* 26 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2

Signal: 1

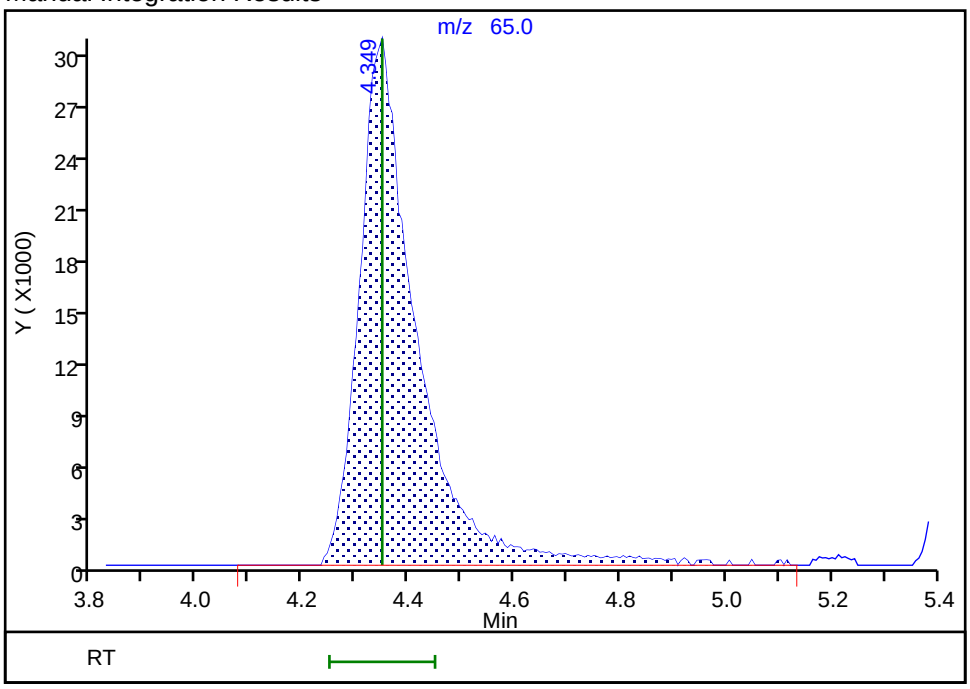
Processing Integration Results

RT: 4.35
Area: 216577
Amount: 250.0000
Amount Units: ug/l



Manual Integration Results

RT: 4.35
Area: 229153
Amount: 250.0000
Amount Units: ug/l



Reviewer: mellingerc, 21-Aug-2020 09:33:04
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

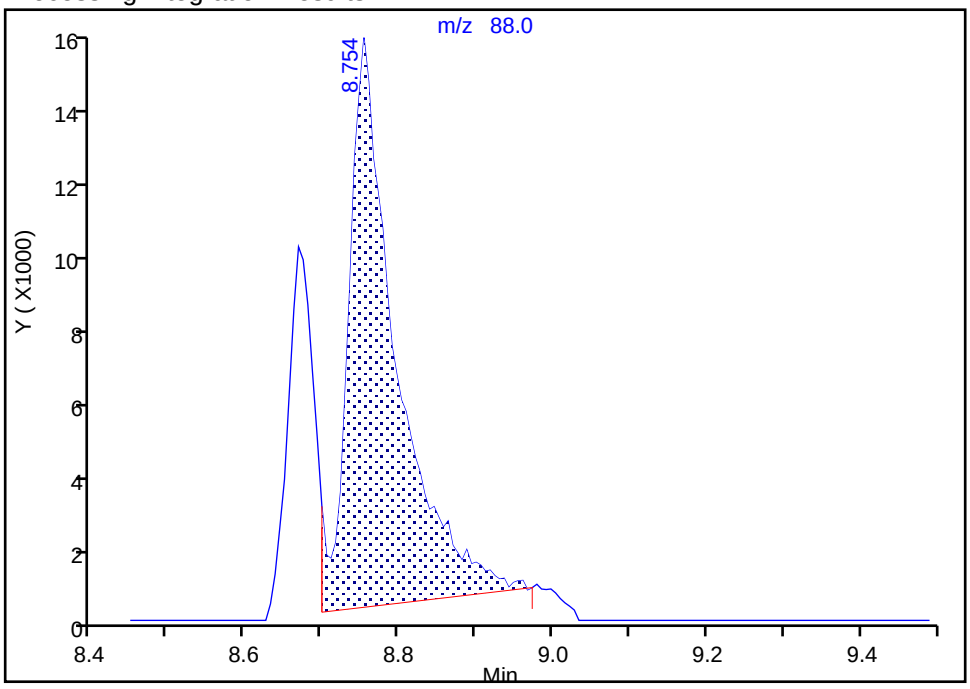
Data File:	\\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21C01.D				
Injection Date:	21-Aug-2020 09:05:30	Instrument ID:	9355		
Lims ID:	CCVIS				
Client ID:					
Operator ID:	clm27445	ALS Bottle#:	2	Worklist Smp#:	3
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Column:	Rxi-624Sil MS Capillary Column (0.25mm)	Detector	MS Quad		

69 1,4-Dioxane, CAS: 123-91-1

Signal: 1

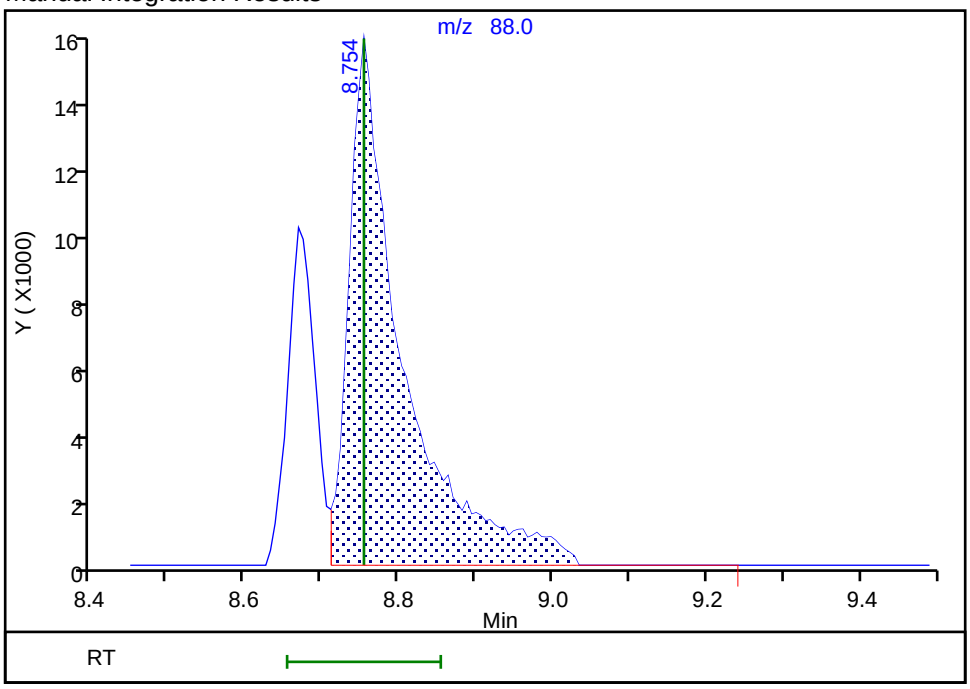
Processing Integration Results

RT: 8.75
Area: 64917
Amount: 702.9929
Amount Units: ug/l



Manual Integration Results

RT: 8.75
Area: 74359
Amount: 805.2413
Amount Units: ug/l



Reviewer: mellingerc, 21-Aug-2020 09:34:10

Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14T01.D				
Lims ID:	bfb				
Client ID:					
Sample Type:	BFB				
Inject. Date:	14-Jul-2020 12:32:30	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 uL	Dil. Factor:	1.0000		
Sample Info:	410-0005480-001				
Misc. Info.:	BFB				
Operator ID:	JTL32685	Instrument ID:	9355		
Method:	\\chromfs\Lancaster\ChromData\9355\20200714-5480.b\MSVoa_9355.m				
Limit Group:	MSV - 8260C_D				
Last Update:	14-Jul-2020 19:22:40	Calib Date:	14-Jul-2020 17:55:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I14.D				
Column 1 :	Rxi-624Sil MS Capillary Column (0.25 mm)		Det: MS Quad		
Process Host:	CTX1016				
First Level Reviewer: campbellme		Date:	14-Jul-2020 18:19:45		

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

$ 29 BFB

Reagents:

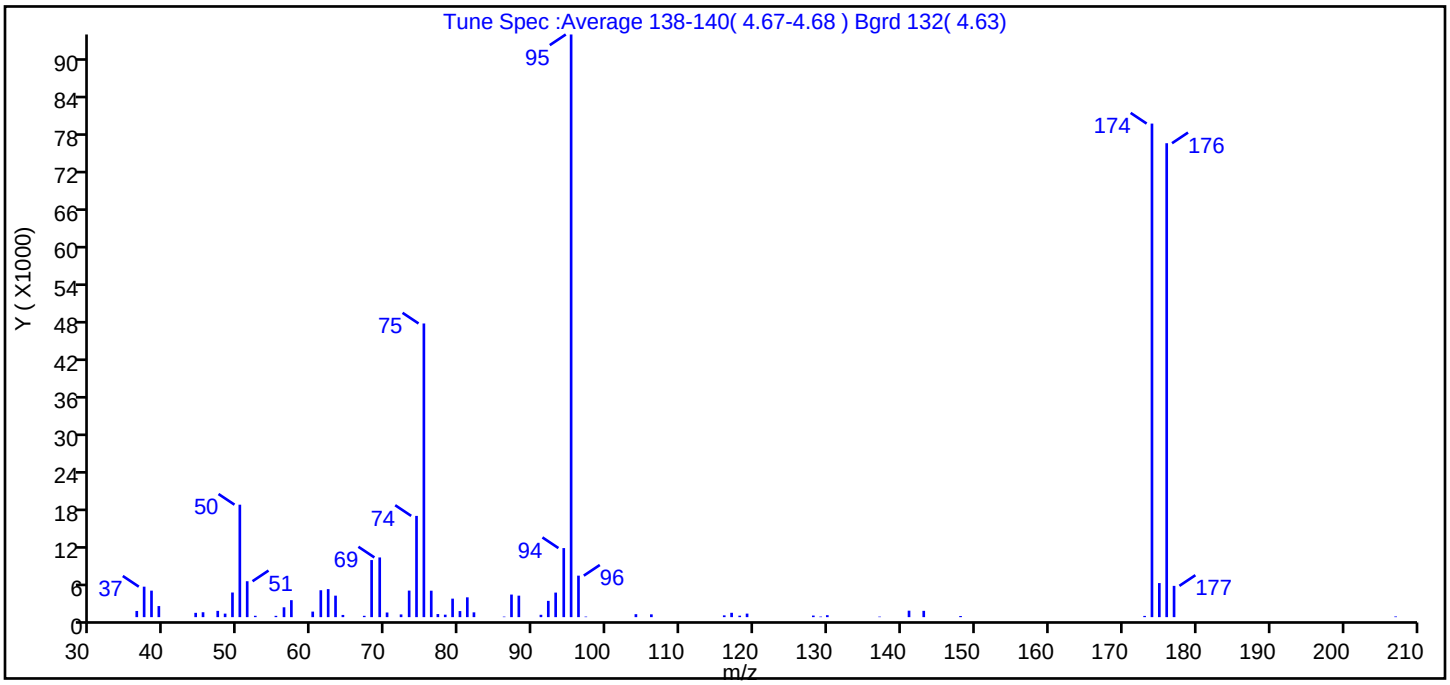
MSV_V_BFB_00002 Amount Added: 1.00 Units: uL

MS Tune Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14T01.D				
Injection Date:	14-Jul-2020 12:32:30	Instrument ID:	9355		
Lims ID:	bfb				
Client ID:					
Operator ID:	JTL32685	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 uL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Tune Method:	BFB Method 8260D				

$ 29 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	50 to 200% of m/z 174	100.0 (118.1)
96	5 to 9% of m/z 95	7.1
173	<2% of m/z 174	0.2 (0.3)
174	50 to 200% of m/z 95	84.7
175	5 to 9% of m/z 174	5.8 (6.9)
176	95 to 105% of m/z 174	81.3 (96.0)
177	5 to 10% of m/z 176	5.4 (6.6)

Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14T01.D\MSVoa_9355.rslt\spectra.d
Injection Date: 14-Jul-2020 12:32:30
Spectrum: Tune Spec :Average 138-140(4.67-4.68) Bgrd 132(4.63)
Base Peak: 95.10
Minimum % Base Peak: 0
Number of Points: 64

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	987	61.00	4294	80.00	969	117.00	694
37.00	4865	62.00	4475	81.00	3163	118.00	237
38.00	4232	63.00	3431	82.00	767	119.00	565
39.00	1769	64.00	352	86.00	84	128.00	252
44.00	688	67.00	213	87.00	3605	129.00	89
45.00	783	68.00	9113	88.00	3431	130.00	311
47.00	1002	69.00	9531	91.00	375	137.00	83
48.00	562	70.00	741	92.00	2599	141.00	1032
49.00	3932	72.00	433	93.00	3919	143.00	1007
50.00	17952	73.00	4239	94.00	11025	148.00	177
51.00	5733	74.00	16164	95.00	93016	173.00	197
52.00	218	75.00	46880	96.00	6625	174.00	78792
55.00	210	76.00	4223	97.00	87	175.00	5438
56.00	1575	77.00	493	104.00	473	176.00	75656
57.00	2710	78.00	394	106.00	448	177.00	4993
60.00	886	79.00	2955	116.00	286	207.00	110

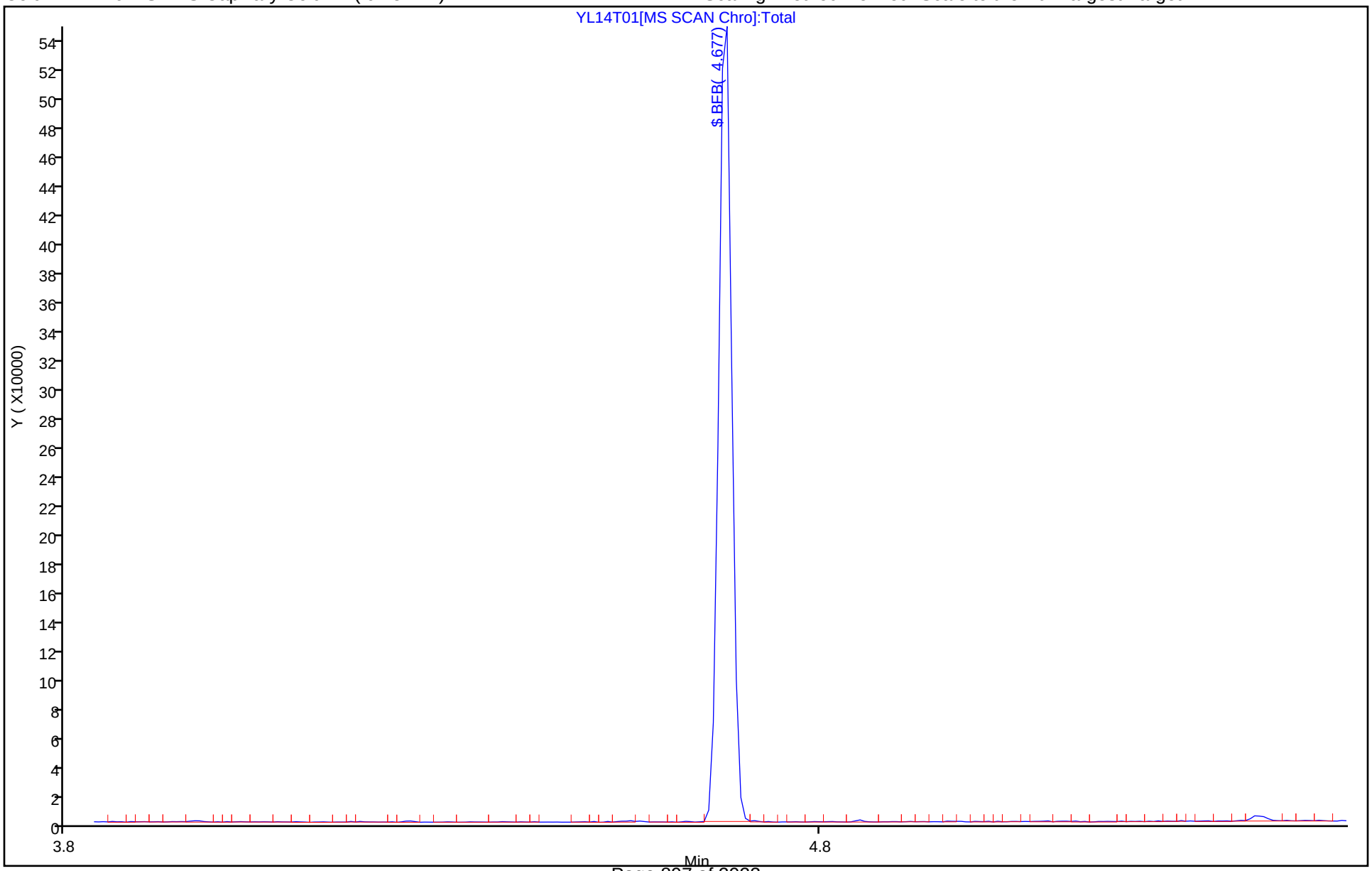
Report Date: 14-Jul-2020 19:22:41 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14T01.D

Injection Date:	14-Jul-2020 12:32:30	Instrument ID:	9355	Operator ID:	JTL32685
Lims ID:	bfb			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 uL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19T02.D				
Lims ID:	bfb				
Client ID:					
Sample Type:	BFB				
Inject. Date:	19-Aug-2020 08:32:30	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 uL	Dil. Factor:	1.0000		
Sample Info:	410-0008412-001				
Misc. Info.:	BFB				
Operator ID:	clm27445	Instrument ID:	9355		
Method:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m				
Limit Group:	MSV - 8260C_D				
Last Update:	19-Aug-2020 12:00:30	Calib Date:	14-Jul-2020 18:39:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D				
Column 1 :	Rxi-624Sil MS Capillary Column (0.25 mm)		Det: MS Quad		
Process Host:	CTX1016				
First Level Reviewer: mellingerc		Date:	19-Aug-2020 09:39:07		

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

$ 29 BFB

Reagents:

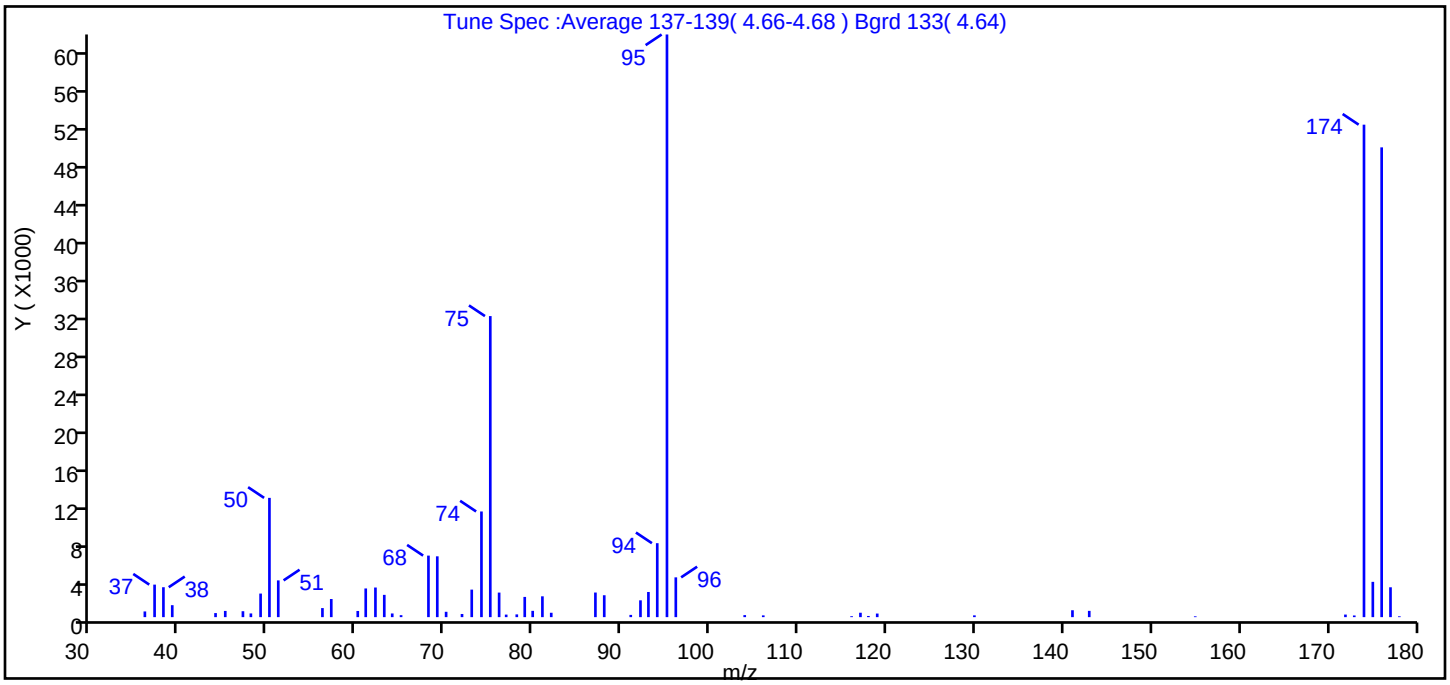
MSV_V_BFB_00003 Amount Added: 1.00 Units: uL

MS Tune Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19T02.D				
Injection Date:	19-Aug-2020 08:32:30	Instrument ID:	9355		
Lims ID:	bfb				
Client ID:					
Operator ID:	clm27445	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 uL	Dil. Factor:	1.0000		
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		
Tune Method:	BFB Method 8260D				

$ 29 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	50 to 200% of m/z 174	100.0 (118.3)
96	5 to 9% of m/z 95	6.8
173	<2% of m/z 174	0.3 (0.3)
174	50 to 200% of m/z 95	84.5
175	5 to 9% of m/z 174	6.1 (7.2)
176	95 to 105% of m/z 174	80.6 (95.4)
177	5 to 10% of m/z 176	5.1 (6.4)

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19T02.D\MSVoa_9355.rslt\spectra.d
Injection Date: 19-Aug-2020 08:32:30
Spectrum: Tune Spec :Average 137-139(4.66-4.68) Bgrd 133(4.64)
Base Peak: 95.10
Minimum % Base Peak: 0
Number of Points: 58

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	603	62.00	3132	80.00	666	118.00	123
37.00	3439	63.00	2356	81.00	2202	119.00	380
38.00	3164	64.00	389	82.00	463	130.00	189
39.00	1265	65.00	209	87.00	2602	141.00	730
44.00	430	68.00	6507	88.00	2316	143.00	664
45.00	657	69.00	6431	91.00	238	155.00	85
47.00	627	70.00	566	92.00	1778	172.00	273
48.00	392	72.00	334	93.00	2660	173.00	177
49.00	2493	73.00	2911	94.00	7820	174.00	52072
50.00	12612	74.00	11173	95.00	61608	175.00	3732
51.00	3886	75.00	31832	96.00	4207	176.00	49672
56.00	958	76.00	2597	104.00	215	177.00	3158
57.00	1916	77.00	269	106.00	187	178.00	86
60.00	652	78.00	291	116.00	97		
61.00	3033	79.00	2139	117.00	466		

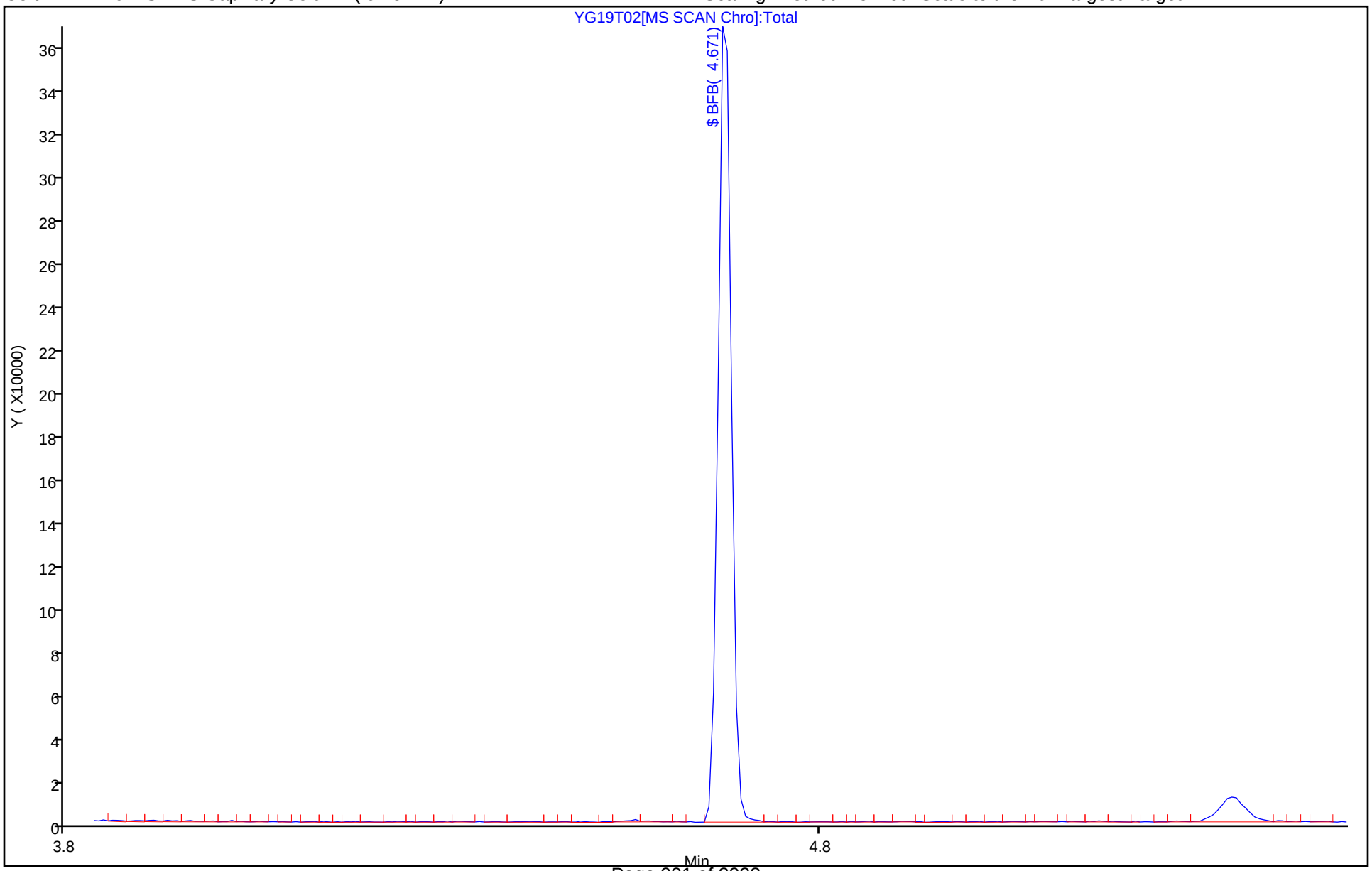
Report Date: 19-Aug-2020 12:00:31 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19T02.D

Injection Date:	19-Aug-2020 08:32:30	Instrument ID:	9355	Operator ID:	clm27445
Lims ID:	bfb			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 uL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21T01.D				
Lims ID:	bfb				
Client ID:					
Sample Type:	BFB				
Inject. Date:	21-Aug-2020 08:14:30	ALS Bottle#:	1	Worklist Smp#:	1
Injection Vol:	1.0 uL	Dil. Factor:	1.0000		
Sample Info:	410-0008609-001				
Misc. Info.:	BFB				
Operator ID:	clm27445	Instrument ID:	9355		
Method:	\\chromfs\Lancaster\ChromData\9355\20200821-8609.b\MSVoa_9355.m				
Limit Group:	MSV - 8260C_D				
Last Update:	21-Aug-2020 19:21:42	Calib Date:	14-Jul-2020 18:39:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D				
Column 1 :	Rxi-624Sil MS Capillary Column (0.25 mm)		Det: MS Quad		
Process Host:	CTX1048				

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags

$ 29 BFB

Reagents:

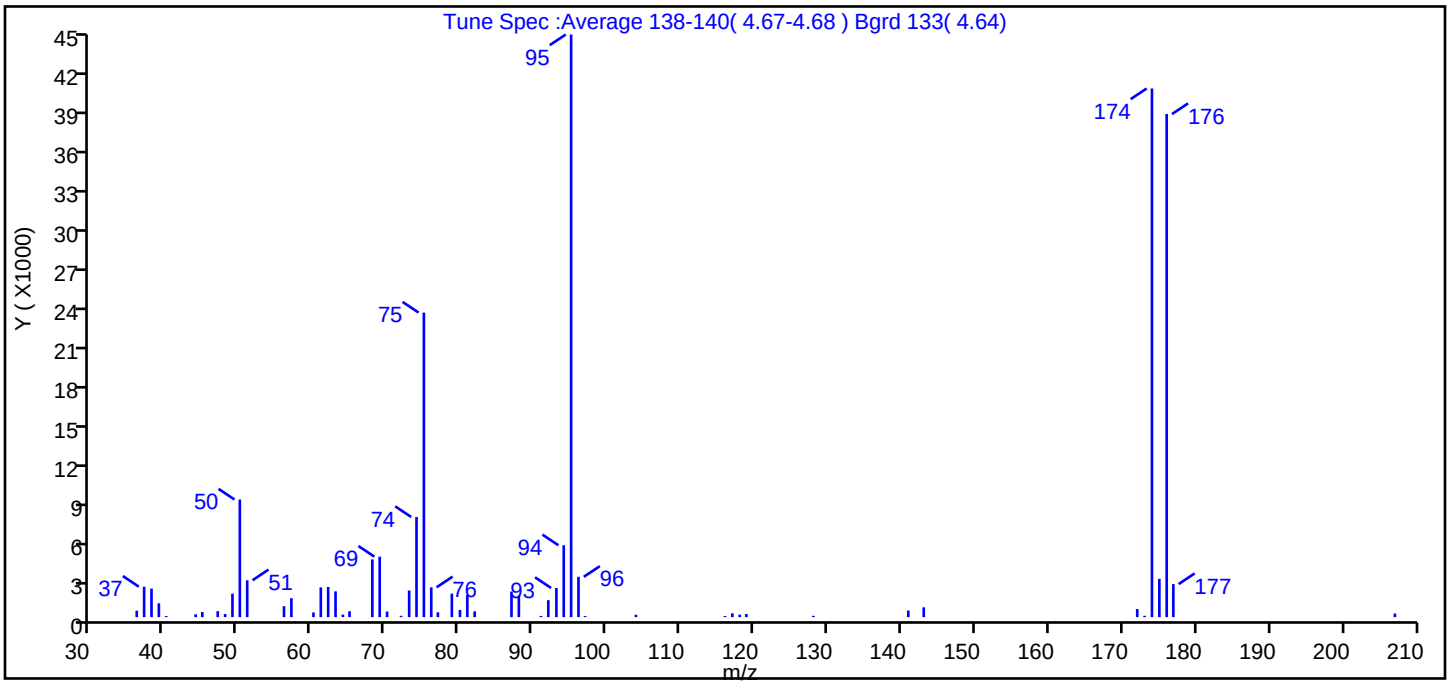
MSV_V_BFB_00003 Amount Added: 1.00 Units: uL

MS Tune Report

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21T01.D
Injection Date: 21-Aug-2020 08:14:30 Instrument ID: 9355
Lims ID: bfb
Client ID:
Operator ID: clm27445 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 uL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Tune Method: BFB Method 8260D

$ 29 BFB



m/z	Ion Abundance Criteria	% Relative Abundance
95	50 to 200% of m/z 174	100.0 (110.2)
96	5 to 9% of m/z 95	6.9
173	<2% of m/z 174	0.2 (0.3)
174	50 to 200% of m/z 95	90.7
175	5 to 9% of m/z 174	6.6 (7.2)
176	95 to 105% of m/z 174	86.3 (95.2)
177	5 to 10% of m/z 176	5.7 (6.6)

Data File: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21T01.D\MSVoa_9355.rslt\spectra.d
Injection Date: 21-Aug-2020 08:14:30
Spectrum: Tune Spec :Average 138-140(4.67-4.68) Bgrd 133(4.64)
Base Peak: 95.10
Minimum % Base Peak: 0
Number of Points: 57

m/z	Y	m/z	Y	m/z	Y	m/z	Y
36.00	498	61.00	2294	80.00	556	118.00	189
37.00	2347	62.00	2321	81.00	1716	119.00	244
38.00	2195	63.00	1986	82.00	448	128.00	103
39.00	1067	64.00	197	87.00	1978	141.00	511
40.00	83	65.00	454	88.00	1647	143.00	757
44.00	219	68.00	4448	91.00	94	172.00	626
45.00	395	69.00	4657	92.00	1307	173.00	105
47.00	461	70.00	430	93.00	2245	174.00	40712
48.00	243	72.00	105	94.00	5535	175.00	2945
49.00	1807	73.00	2049	95.00	44872	176.00	38744
50.00	9058	74.00	7713	96.00	3105	177.00	2546
51.00	2841	75.00	23456	97.00	85	207.00	278
56.00	845	76.00	2296	104.00	186		
57.00	1458	77.00	375	116.00	89		
60.00	361	79.00	1809	117.00	297		

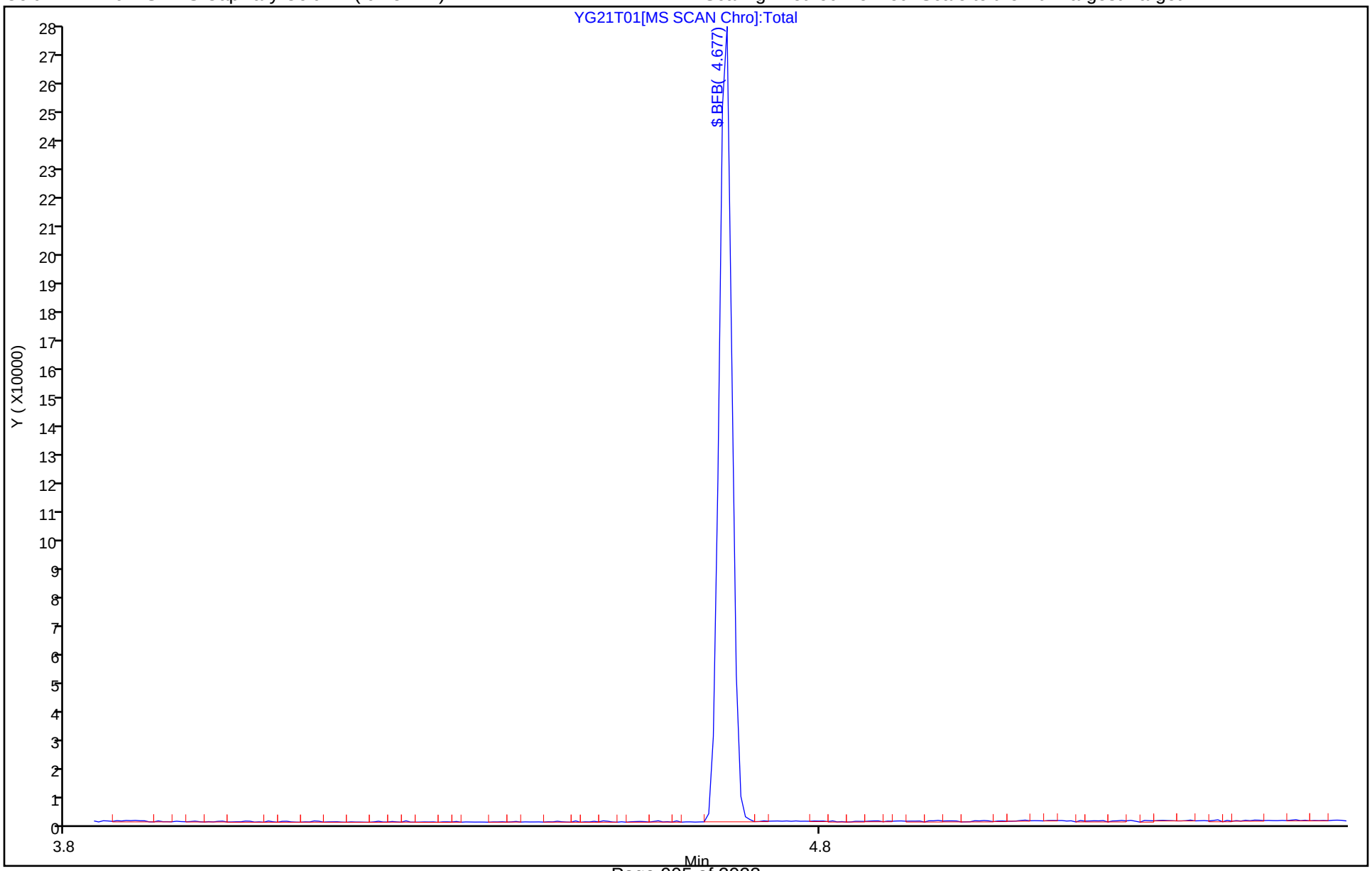
Report Date: 21-Aug-2020 19:21:43 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21T01.D

Injection Date:	21-Aug-2020 08:14:30	Instrument ID:	9355	Operator ID:	clm27445
Lims ID:	bfb			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 uL	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 410-34763/7

Matrix: Water Lab File ID: YG19B01.D

Analysis Method: 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 08/19/2020 11:31

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 34763 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.20
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.20
100-41-4	Ethylbenzene	ND		1.0	0.40
100-42-5	Styrene	ND		5.0	0.20
106-46-7	1,4-Dichlorobenzene	ND		5.0	0.20
106-93-4	1,2-Dibromoethane	ND		1.0	0.20
107-06-2	1,2-Dichloroethane	ND		1.0	0.30
108-10-1	4-Methyl-2-pentanone	ND		10	0.50
108-87-2	Methylcyclohexane	ND		5.0	0.50
108-88-3	Toluene	ND		1.0	0.20
108-90-7	Chlorobenzene	ND		1.0	0.20
110-82-7	Cyclohexane	ND		5.0	1.0
120-82-1	1,2,4-Trichlorobenzene	ND		5.0	0.30
124-48-1	Dibromochloromethane	ND		1.0	0.20
1330-20-7	Xylenes, Total	ND		6.0	1.4
127-18-4	Tetrachloroethene	ND		1.0	0.20
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.20
156-60-5	trans-1,2-Dichloroethene	ND		5.0	0.20
1634-04-4	Methyl tertiary butyl ether	ND		1.0	0.20
541-73-1	1,3-Dichlorobenzene	ND		5.0	0.20
56-23-5	Carbon tetrachloride	ND		1.0	0.20
591-78-6	2-Hexanone	ND		10	0.30
67-64-1	Acetone	ND		20	0.70
67-66-3	Chloroform	ND		1.0	0.20
71-43-2	Benzene	ND		1.0	0.20
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.30
74-83-9	Bromomethane	ND		1.0	0.30
74-87-3	Chloromethane	ND		1.0	0.20
75-00-3	Chloroethane	ND		1.0	0.20
75-01-4	Vinyl chloride	ND		1.0	0.20
75-09-2	Methylene Chloride	ND		1.0	0.30
75-15-0	Carbon disulfide	ND		5.0	0.20
75-25-2	Bromoform	ND		4.0	1.0
75-27-4	Bromodichloromethane	ND		1.0	0.20
75-34-3	1,1-Dichloroethane	ND		1.0	0.20
75-35-4	1,1-Dichloroethene	ND		1.0	0.20

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 410-34763/7

Matrix: Water Lab File ID: YG19B01.D

Analysis Method: 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 08/19/2020 11:31

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 34763 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-69-4	Trichlorofluoromethane	ND		1.0	0.20
75-71-8	Dichlorodifluoromethane	ND		1.0	0.20
76-13-1	Freon 113	ND		10	0.20
78-87-5	1,2-Dichloropropane	ND		1.0	0.20
78-93-3	2-Butanone	ND		10	0.30
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.20
79-01-6	Trichloroethene	ND		1.0	0.20
79-20-9	Methyl acetate	ND		5.0	0.30
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.20
95-50-1	1,2-Dichlorobenzene	ND		5.0	0.20
96-12-8	1,2-Dibromo-3-Chloropropane	ND		5.0	0.30
98-82-8	Isopropylbenzene	ND		5.0	0.20

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	102		80-120
1868-53-7	Dibromofluoromethane (Surr)	102		80-120
460-00-4	4-Bromofluorobenzene (Surr)	91		80-120
2037-26-5	Toluene-d8 (Surr)	101		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19B01.D
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 19-Aug-2020 11:31:30 ALS Bottle#: 8 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0008412-007
Misc. Info.: MB
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 19-Aug-2020 12:00:33 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1016

First Level Reviewer: mellingerc Date: 19-Aug-2020 11:59:52

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Chlorotrifluoroethene	116		2.001					ND	
2 Dichlorodifluoromethane	85		2.050					ND	
3 Chlorodifluoromethane	51		2.062					ND	
4 Chloromethane	50		2.238					ND	
5 Butadiene	39		2.360					ND	
6 Vinyl chloride	62		2.360					ND	
7 2-Chloro-1,1,1-Trifluoroethane	118		2.439					ND	
8 Bromomethane	94		2.695					ND	
9 Chloroethane	64		2.786					ND	
10 Dichlorofluoromethane	67		3.023					ND	
11 Trichlorofluoromethane	101		3.090					ND	
12 Pentane	43		3.151					ND	
13 Ethanol	45		3.206					ND	
14 Ethyl ether	59		3.370					ND	
15 1,2-Dichloro-1,1,2-trifluoroetha	67		3.425					ND	
16 Acrolein	56		3.528					ND	
17 1,1-Dichloroethene	96		3.686					ND	
18 Acetone	58		3.692					ND	
19 112TCTFE	101		3.710					ND	
20 Isopropyl alcohol	45		3.863					ND	
21 Iodomethane	142		3.893					ND	
22 Carbon disulfide	76		4.009					ND	
23 Acetonitrile	41		4.069					ND	
24 Methyl acetate	43		4.136					ND	
25 3-Chloro-1-propene	41		4.179					ND	
* 26 t-Butyl alcohol-d10 (IS)	65	4.356	4.361	-0.005	32	245459	250.0	250.0	M
27 Methylene Chloride	84		4.368					ND	
28 2-Methyl-2-propanol	59		4.477					ND	
30 Acrylonitrile	53		4.684					ND	
31 Methyl tert-butyl ether	73		4.781					ND	
32 trans-1,2-Dichloroethene	96		4.799					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
33 Hexane	57		5.225					ND	
35 Vinyl acetate	43		5.438					ND	
36 1,1-Dichloroethane	63		5.450					ND	
37 Isopropyl ether	45		5.505					ND	
38 2-Chloro-1,3-butadiene	53		5.560					ND	
39 Tert-butyl ethyl ether	59		6.034					ND	
S 40 1,2-Dichloroethene, Total	100		6.155					ND	
41 2-Butanone (MEK)	43		6.223					ND	
42 cis-1,2-Dichloroethene	96		6.272					ND	
43 Ethyl acetate	43		6.290					ND	
44 2,2-Dichloropropane	77		6.290					ND	
45 Propionitrile	54		6.296					ND	
46 Methacrylonitrile	67		6.527					ND	
47 Chlorobromomethane	128		6.612					ND	
48 Tetrahydrofuran	71		6.625					ND	
49 Chloroform	83		6.752					ND	
$ 50 Dibromofluoromethane (Surr)	113	6.965	6.965	0.000	93	234535	50.0		51.0
51 1,1,1-Trichloroethane	97		6.990					ND	
52 Cyclohexane	56		7.099					ND	
53 1,1-Dichloropropene	75		7.196					ND	
54 Carbon tetrachloride	117		7.209					ND	
55 Isobutyl alcohol	41		7.306					ND	
$ 56 1,2-Dichloroethane-d4 (Surr)	102	7.428	7.428	0.000	98	58469	50.0		51.0
57 Benzene	78		7.464					ND	
58 Isopropyl acetate	43		7.519					ND	
59 1,2-Dichloroethane	62		7.531					ND	
60 Tert-amyl methyl ether	73		7.647					ND	
61 t-Amyl alcohol	73	7.866	7.842	0.024	34	11910			NC
* 62 Fluorobenzene (IS)	96	7.860	7.866	-0.006	99	956058	50.0		50.0
63 n-Heptane	43		7.878					ND	
64 n-Butanol	56		8.188					ND	
65 Trichloroethene	95		8.346					ND	
66 Methylcyclohexane	83		8.663					ND	
67 1,2-Dichloropropane	63		8.675					ND	
34 2-ethoxy-2-methyl butane	87		8.675					ND	
68 Methyl methacrylate	69		8.742					ND	
69 1,4-Dioxane	88		8.760					ND	
70 Dibromomethane	93		8.784					ND	
71 n-Propyl acetate	61		8.821					ND	
72 Dichlorobromomethane	83		9.015					ND	
73 2-Nitropropane	41		9.259					ND	
74 2-Chloroethyl vinyl ether	63		9.362					ND	
75 cis-1,3-Dichloropropene	75		9.551					ND	
76 4-Methyl-2-pentanone (MIBK)	43		9.703					ND	
$ 77 Toluene-d8 (Surr)	98	9.855	9.855	0.000	94	934837	50.0		50.5
78 Toluene	92		9.934					ND	
S 79 1,3-Dichloropropene, Total	100		10.060					ND	
80 trans-1,3-Dichloropropene	75		10.177					ND	
81 Ethyl methacrylate	69		10.232					ND	
82 1,1,2-Trichloroethane	97		10.378					ND	
83 Tetrachloroethene	166		10.482					ND	
84 1,3-Dichloropropane	76		10.542					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
86 2-Hexanone	43		10.579				ND		
85 3,4-Dichloro-1-butene	75		10.579				ND		
87 n-Butyl acetate	43		10.701				ND		
88 Chlorodibromomethane	129		10.761				ND		
89 Ethylene Dibromide	107		10.877				ND		
S 90 Xylenes, Total	106		11.245				ND		
* 91 Chlorobenzene-d5 (IS)	117	11.297	11.297	0.000	86	731613	50.0	50.0	
92 1-Chlorohexane	91		11.303				ND		U
93 Chlorobenzene	112		11.327				ND		
94 1,1,1,2-Tetrachloroethane	131		11.406				ND		
95 Ethylbenzene	91		11.406				ND		
96 m-Xylene & p-Xylene	106		11.522				ND		
97 o-Xylene	106		11.850				ND		
98 Styrene	104		11.862				ND		
99 Bromoform	173		12.027				ND		
100 Isopropylbenzene	105		12.148				ND		
101 cis-1,4-Dichloro-2-butene	88		12.185				ND		
102 Cyclohexanone	55		12.221				ND		
$ 103 4-Bromofluorobenzene (Surr)	95	12.295	12.294	0.001	91	322545	50.0	45.5	
104 1,1,2,2-Tetrachloroethane	83		12.386				ND		
106 trans-1,4-Dichloro-2-butene	53		12.404				ND		
105 Bromobenzene	156		12.410				ND		
107 1,2,3-Trichloropropane	110		12.434				ND		
108 N-Propylbenzene	91		12.477				ND		
109 2-Chlorotoluene	126		12.556				ND		
110 1,3,5-Trimethylbenzene	105		12.611				ND		
111 4-Chlorotoluene	126		12.647				ND		
112 2,3,4-Trichlorobutene	109		12.659				ND		
113 tert-Butylbenzene	134		12.854				ND		
114 Pentachloroethane	167		12.891				ND		
115 1,2,4-Trimethylbenzene	105		12.891				ND		
116 sec-Butylbenzene	105		13.012				ND		
117 1,3-Dichlorobenzene	146		13.116				ND		
118 4-Isopropyltoluene	119		13.122				ND		
* 119 1,4-Dichlorobenzene-d4	152	13.177	13.177	0.000	95	399139	50.0	50.0	
121 1,4-Dichlorobenzene	146		13.195				ND		
120 1,2,3-Trimethylbenzene	105		13.195				ND		
122 Benzyl chloride	91		13.262				ND		
123 1,3-Diethylbenzene	119		13.323				ND		
124 p-Diethylbenzene	119		13.396				ND		
125 n-Butylbenzene	92		13.414				ND		
126 1,2-Dichlorobenzene	146		13.450				ND		
127 o-diethylbenzene	119		13.469				ND		
128 Hexachloroethane	201		13.560				ND		
129 1,2-Dibromo-3-Chloropropane	75		13.992				ND		
130 1,3,5-Trichlorobenzene	180		14.120				ND		
131 1,2,4-Trichlorobenzene	180		14.545				ND		
132 Hexachlorobutadiene	225		14.624				ND		
133 Naphthalene	128		14.728				ND		
134 1,2,3-Trichlorobenzene	180		14.868				ND		
135 2-Methylnaphthalene	142		15.519				ND		
136 C4-C10	1		0.000				ND		

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
159 1,3-Dichlorobutene-2(total)	1		0.000					ND	
158 Propene oxide	1		0.000					ND	
157 C4-C12	1		0.000					ND	
156 1-Chlorobutane	1		0.000					ND	
155 1,4-Divinylbenzene	1		0.000					ND	
154 trans-1,2,3-Trichlorobutene-2	1		0.000					ND	
153 1,1-Dichloro-1-fluoroethane	1		0.000					ND	
152 cis-1,2,3-Trichlorobutene-2	1		0.000					ND	
151 2,3-Dichloro-1,3-butadiene	1		0.000					ND	
150 Diethoxymethane	1		0.000					ND	
149 C5-C12	1		0.000					ND	
148 1-Bromo-2-chloroethane	1		0.000					ND	
147 C6-C12	1		0.000					ND	
S 146 Total Diethylbenzene	1		0.000					ND	
145 3-chloro-1-Butene	1		0.000					ND	
144 C6-C10	1		0.000					ND	
143 Methyl acrylate	1		0.000					ND	
142 tert-Butyl Formate	1		0.000					ND	
141 1,3-Divinylbenzene	1		0.000					ND	
140 Ethyl bromide	1		0.000					ND	
139 Chloroacetonitrile	1		0.000					ND	
S 138 divinyl benzene	1		0.000					ND	
137 Methylal	1		0.000					ND	
160 n-Decane	57		0.000					ND	
161 Dodecane	57		0.000					ND	
167 Butane	1		0.000					ND	
168 2,3-Dibromo-1-propanol TIC	1		0.000					ND	
169 1-Methyl-2-pyrrilidinone TIC	1		0.000					ND	
170 2-Bromoethanol TIC	1		0.000					ND	
171 Monochloroacetic acid TIC	1		0.000					ND	
172 2-Chloroethanol TIC	1		0.000					ND	
173 Epibromohydrin TIC	1		0.000					ND	
174 Chloroacetaldehyde TIC	1		0.000					ND	
175 Vinyl bromide TIC	1		0.000					ND	
176 Epichlorohydrin TIC	1		0.000					ND	
177 2-Bromo-3-chloropropene TIC	1		0.000					ND	
178 Ethylene oxide TIC	1		0.000					ND	
179 2,3-Dibromopropene TIC	1		0.000					ND	
180 3-Chloro-1,2-propanediol TIC	1		0.000					ND	
181 1-Bromo-2-chloroethane TIC	1		0.000					ND	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

MSV_HP20_ISSS_00023 Amount Added: 1.00 Units: uL Run Reagent

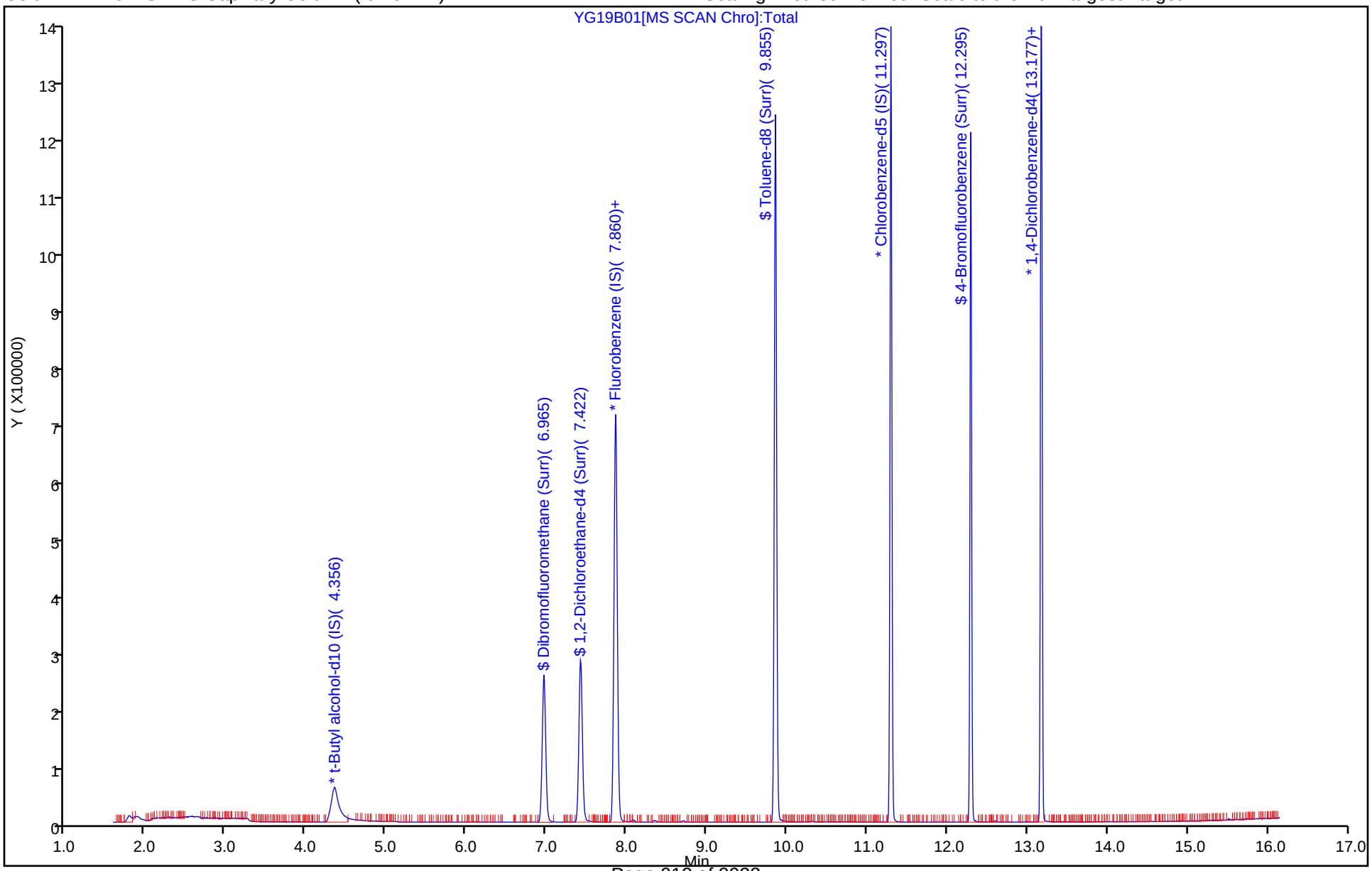
Report Date: 19-Aug-2020 12:01:11 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19B01.D

Injection Date:	19-Aug-2020 11:31:30	Instrument ID:	9355	Operator ID:	clm27445
Lims ID:	MB			Worklist Smp#:	7
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19B01.D
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 19-Aug-2020 11:31:30 ALS Bottle#: 8 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0008412-007
Misc. Info.: MB
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 19-Aug-2020 12:00:33 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1016

First Level Reviewer: mellingerc Date: 19-Aug-2020 11:59:52

Compound	Amount Added	Amount Recovered	% Rec.
$ 50 Dibromofluoromethane (Surr)	50.0	51.0	101.91
$ 56 1,2-Dichloroethane-d4 (Surr)	50.0	51.0	101.91
$ 77 Toluene-d8 (Surr)	50.0	50.5	101.03
$ 103 4-Bromofluorobenzene (Surr)	50.0	45.5	90.91

Eurofins Lancaster Laboratories Env, LLC

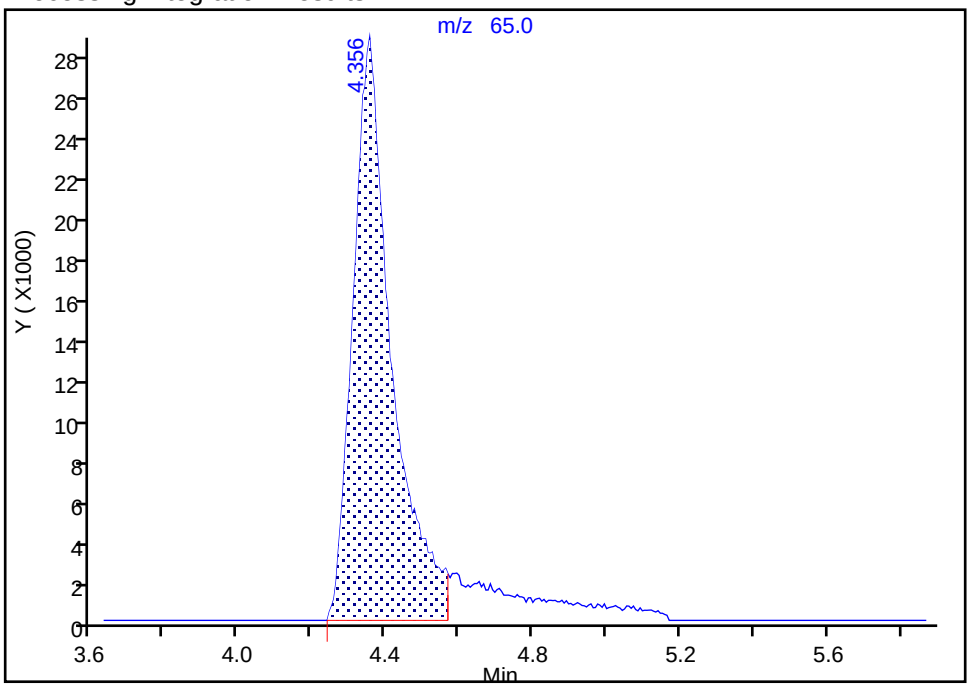
Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19B01.D
Injection Date: 19-Aug-2020 11:31:30 Instrument ID: 9355
Lims ID: MB
Client ID:
Operator ID: clm27445 ALS Bottle#: 8 Worklist Smp#: 7
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

* 26 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2

Signal: 1

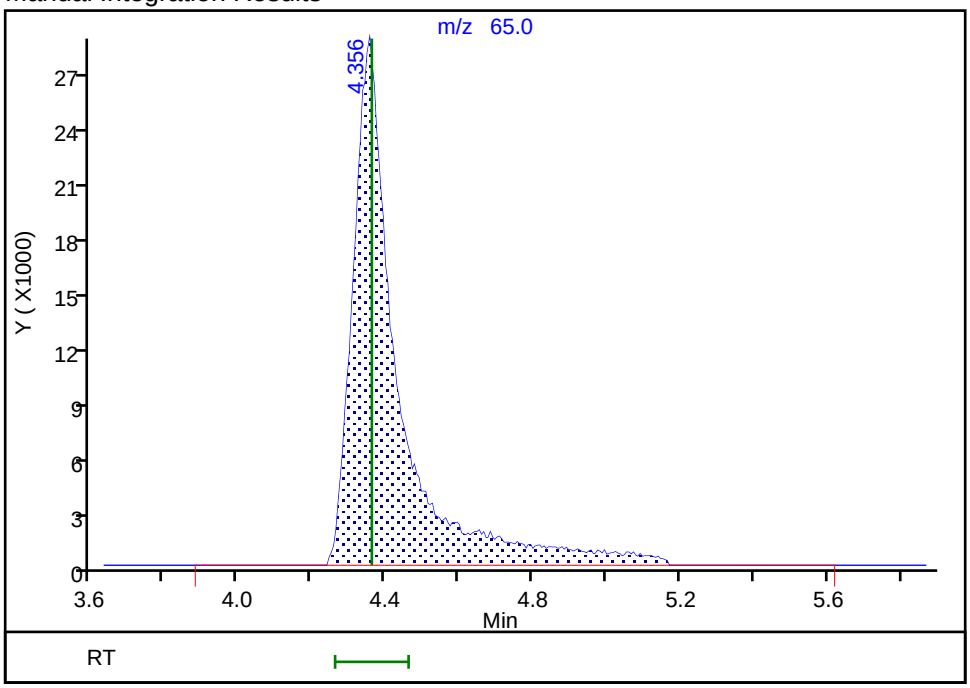
Processing Integration Results

RT: 4.36
Area: 208587
Amount: 250.0000
Amount Units: ug/l



Manual Integration Results

RT: 4.36
Area: 245459
Amount: 250.0000
Amount Units: ug/l



Reviewer: mellingerc, 19-Aug-2020 11:59:10
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 410-35697/12

Matrix: Water Lab File ID: YG21B01.D

Analysis Method: 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 08/21/2020 12:24

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 35697 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
10061-01-5	cis-1,3-Dichloropropene	ND		1.0	0.20
10061-02-6	trans-1,3-Dichloropropene	ND		1.0	0.20
100-41-4	Ethylbenzene	ND		1.0	0.40
100-42-5	Styrene	ND		5.0	0.20
106-46-7	1,4-Dichlorobenzene	ND		5.0	0.20
106-93-4	1,2-Dibromoethane	ND		1.0	0.20
107-06-2	1,2-Dichloroethane	ND		1.0	0.30
108-10-1	4-Methyl-2-pentanone	ND		10	0.50
108-87-2	Methylcyclohexane	ND		5.0	0.50
108-88-3	Toluene	ND		1.0	0.20
108-90-7	Chlorobenzene	ND		1.0	0.20
110-82-7	Cyclohexane	ND		5.0	1.0
120-82-1	1,2,4-Trichlorobenzene	ND		5.0	0.30
124-48-1	Dibromochloromethane	ND		1.0	0.20
1330-20-7	Xylenes, Total	ND		6.0	1.4
127-18-4	Tetrachloroethene	ND		1.0	0.20
156-59-2	cis-1,2-Dichloroethene	ND		1.0	0.20
156-60-5	trans-1,2-Dichloroethene	ND		5.0	0.20
1634-04-4	Methyl tertiary butyl ether	ND		1.0	0.20
541-73-1	1,3-Dichlorobenzene	ND		5.0	0.20
56-23-5	Carbon tetrachloride	ND		1.0	0.20
591-78-6	2-Hexanone	ND		10	0.30
67-64-1	Acetone	ND		20	0.70
67-66-3	Chloroform	ND		1.0	0.20
71-43-2	Benzene	ND		1.0	0.20
71-55-6	1,1,1-Trichloroethane	ND		1.0	0.30
74-83-9	Bromomethane	ND		1.0	0.30
74-87-3	Chloromethane	ND		1.0	0.20
75-00-3	Chloroethane	ND		1.0	0.20
75-01-4	Vinyl chloride	ND		1.0	0.20
75-09-2	Methylene Chloride	ND		1.0	0.30
75-15-0	Carbon disulfide	ND		5.0	0.20
75-25-2	Bromoform	ND		4.0	1.0
75-27-4	Bromodichloromethane	ND		1.0	0.20
75-34-3	1,1-Dichloroethane	ND		1.0	0.20
75-35-4	1,1-Dichloroethene	ND		1.0	0.20

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 410-35697/12

Matrix: Water Lab File ID: YG21B01.D

Analysis Method: 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 08/21/2020 12:24

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 35697 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-69-4	Trichlorofluoromethane	ND		1.0	0.20
75-71-8	Dichlorodifluoromethane	ND		1.0	0.20
76-13-1	Freon 113	ND		10	0.20
78-87-5	1,2-Dichloropropane	ND		1.0	0.20
78-93-3	2-Butanone	ND		10	0.30
79-00-5	1,1,2-Trichloroethane	ND		1.0	0.20
79-01-6	Trichloroethene	ND		1.0	0.20
79-20-9	Methyl acetate	ND		5.0	0.30
79-34-5	1,1,2,2-Tetrachloroethane	ND		1.0	0.20
95-50-1	1,2-Dichlorobenzene	ND		5.0	0.20
96-12-8	1,2-Dibromo-3-Chloropropane	ND		5.0	0.30
98-82-8	Isopropylbenzene	ND		5.0	0.20

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	104		80-120
1868-53-7	Dibromofluoromethane (Surr)	104		80-120
460-00-4	4-Bromofluorobenzene (Surr)	88		80-120
2037-26-5	Toluene-d8 (Surr)	101		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21B01.D
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 21-Aug-2020 12:24:30 ALS Bottle#: 11 Worklist Smp#: 12
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0008609-012
Misc. Info.: MB
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 21-Aug-2020 19:20:40 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1048

First Level Reviewer: mellingerc Date: 21-Aug-2020 12:51:13

	Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1	Chlorotrifluoroethene	116		2.001					ND	
2	Dichlorodifluoromethane	85		2.044					ND	
3	Chlorodifluoromethane	51		2.062					ND	
4	Chloromethane	50		2.232					ND	
5	Butadiene	39		2.348					ND	
6	Vinyl chloride	62		2.348					ND	
7	2-Chloro-1,1,1-Trifluoroethane	118		2.439					ND	
8	Bromomethane	94		2.682					ND	
9	Chloroethane	64		2.774					ND	
10	Dichlorofluoromethane	67		3.011					ND	
11	Trichlorofluoromethane	101		3.084					ND	
12	Pentane	43		3.139					ND	
13	Ethanol	45		3.206					ND	
14	Ethyl ether	59		3.352					ND	
15	1,2-Dichloro-1,1,2-trifluoroetha	67		3.413					ND	
16	Acrolein	56		3.522					ND	
17	1,1-Dichloroethene	96		3.674					ND	
18	Acetone	58		3.686					ND	
19	112TCTFE	101		3.711					ND	
20	Isopropyl alcohol	45		3.863					ND	
21	Iodomethane	142		3.881					ND	
22	Carbon disulfide	76		4.003					ND	
23	Acetonitrile	41		4.063					ND	
24	Methyl acetate	43		4.130					ND	
25	3-Chloro-1-propene	41		4.167					ND	
* 26	t-Butyl alcohol-d10 (IS)	65	4.368	4.355	0.013	28	205978	250.0	250.0	M
27	Methylene Chloride	84		4.355					ND	
28	2-Methyl-2-propanol	59		4.471					ND	
30	Acrylonitrile	53		4.678					ND	
31	Methyl tert-butyl ether	73		4.775					ND	
32	trans-1,2-Dichloroethene	96		4.793					ND	

	Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
	33 Hexane	57		5.219					ND	
	35 Vinyl acetate	43		5.432					ND	
	36 1,1-Dichloroethane	63		5.438					ND	
	37 Isopropyl ether	45		5.493					ND	
	38 2-Chloro-1,3-butadiene	53		5.548					ND	
	39 Tert-butyl ethyl ether	59		6.028					ND	
S	40 1,2-Dichloroethene, Total	100		6.155					ND	
	41 2-Butanone (MEK)	43		6.217					ND	
	42 cis-1,2-Dichloroethene	96		6.266					ND	
	44 2,2-Dichloropropane	77		6.278					ND	
	45 Propionitrile	54		6.290					ND	
	43 Ethyl acetate	43		6.296					ND	
	46 Methacrylonitrile	67		6.521					ND	
	47 Chlorobromomethane	128		6.600					ND	
	48 Tetrahydrofuran	71		6.619					ND	
	49 Chloroform	83		6.746					ND	
$	50 Dibromofluoromethane (Surr)	113	6.965	6.959	0.006	93	200052	50.0	51.8	
	51 1,1,1-Trichloroethane	97		6.984					ND	
	52 Cyclohexane	56		7.093					ND	
	53 1,1-Dichloropropene	75		7.196					ND	
	54 Carbon tetrachloride	117		7.203					ND	
	55 Isobutyl alcohol	41		7.306					ND	
$	56 1,2-Dichloroethane-d4 (Surr)	102	7.422	7.422	0.000	98	50195	50.0	52.1	
	57 Benzene	78		7.458					ND	
	58 Isopropyl acetate	43		7.519					ND	
	59 1,2-Dichloroethane	62		7.525					ND	
	60 Tert-amyl methyl ether	73		7.641					ND	
	61 t-Amyl alcohol	73	7.866	7.842	0.024	34	10443			NC
*	62 Fluorobenzene (IS)	96	7.866	7.860	0.006	99	802780	50.0	50.0	
	63 n-Heptane	43		7.872					ND	
	64 n-Butanol	56		8.182					ND	
	65 Trichloroethene	95		8.340					ND	
	66 Methylcyclohexane	83		8.663					ND	
	67 1,2-Dichloropropane	63		8.669					ND	
	34 2-ethoxy-2-methyl butane	87		8.675					ND	
	68 Methyl methacrylate	69		8.742					ND	
	69 1,4-Dioxane	88		8.754					ND	
	70 Dibromomethane	93		8.784					ND	
	71 n-Propyl acetate	61		8.815					ND	
	72 Dichlorobromomethane	83		9.009					ND	
	73 2-Nitropropane	41		9.253					ND	
	74 2-Chloroethyl vinyl ether	63		9.356					ND	
	75 cis-1,3-Dichloropropene	75		9.545					ND	
	76 4-Methyl-2-pentanone (MIBK)	43		9.703					ND	
$	77 Toluene-d8 (Surr)	98	9.855	9.855	0.000	95	781344	50.0	50.7	
	78 Toluene	92		9.928					ND	
S	79 1,3-Dichloropropene, Total	100		10.060					ND	
	80 trans-1,3-Dichloropropene	75		10.177					ND	
	81 Ethyl methacrylate	69		10.232					ND	
	82 1,1,2-Trichloroethane	97		10.378					ND	
	83 Tetrachloroethene	166		10.476					ND	
	84 1,3-Dichloropropane	76		10.542					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
85 3,4-Dichloro-1-butene	75		10.579					ND	
86 2-Hexanone	43		10.579					ND	
87 n-Butyl acetate	43		10.701					ND	
88 Chlorodibromomethane	129		10.761					ND	
89 Ethylene Dibromide	107		10.871					ND	
S 90 Xylenes, Total	106		11.245					ND	
* 91 Chlorobenzene-d5 (IS)	117	11.297	11.297	0.000	86	608717	50.0	50.0	
92 1-Chlorohexane	91		11.297					ND	U
93 Chlorobenzene	112		11.321					ND	
94 1,1,1,2-Tetrachloroethane	131		11.406					ND	
95 Ethylbenzene	91		11.406					ND	
96 m-Xylene & p-Xylene	106		11.522					ND	
97 o-Xylene	106		11.850					ND	
98 Styrene	104		11.863					ND	
99 Bromoform	173		12.027					ND	
100 Isopropylbenzene	105		12.149					ND	
101 cis-1,4-Dichloro-2-butene	88		12.185					ND	
102 Cyclohexanone	55		12.222					ND	
$ 103 4-Bromofluorobenzene (Surr)	95	12.295	12.295	0.001	91	259967	50.0	44.0	
104 1,1,2,2-Tetrachloroethane	83		12.380					ND	
106 trans-1,4-Dichloro-2-butene	53		12.404					ND	
105 Bromobenzene	156		12.410					ND	
107 1,2,3-Trichloropropane	110		12.434					ND	
108 N-Propylbenzene	91		12.477					ND	
109 2-Chlorotoluene	126		12.556					ND	
110 1,3,5-Trimethylbenzene	105		12.611					ND	
111 4-Chlorotoluene	126		12.647					ND	
112 2,3,4-Trichlorobutene	109		12.659					ND	
113 tert-Butylbenzene	134		12.854					ND	
114 Pentachloroethane	167		12.885					ND	
115 1,2,4-Trimethylbenzene	105		12.891					ND	
116 sec-Butylbenzene	105		13.012					ND	
117 1,3-Dichlorobenzene	146		13.116					ND	
118 4-Isopropyltoluene	119		13.122					ND	
* 119 1,4-Dichlorobenzene-d4	152	13.177	13.177	0.000	95	325146	50.0	50.0	
121 1,4-Dichlorobenzene	146		13.195					ND	
120 1,2,3-Trimethylbenzene	105		13.195					ND	
122 Benzyl chloride	91		13.262					ND	
123 1,3-Diethylbenzene	119		13.323					ND	
124 p-Diethylbenzene	119		13.396					ND	
125 n-Butylbenzene	92		13.414					ND	
126 1,2-Dichlorobenzene	146		13.450					ND	
127 o-diethylbenzene	119		13.469					ND	
128 Hexachloroethane	201		13.560					ND	
129 1,2-Dibromo-3-Chloropropane	75		13.992					ND	
130 1,3,5-Trichlorobenzene	180		14.120					ND	
131 1,2,4-Trichlorobenzene	180		14.545					ND	
132 Hexachlorobutadiene	225		14.625					ND	
133 Naphthalene	128		14.728					ND	
134 1,2,3-Trichlorobenzene	180		14.868					ND	
135 2-Methylnaphthalene	142		15.513					ND	
136 C4-C10	1		0.000					ND	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
159 1,3-Dichlorobutene-2(total)	1		0.000					ND	
158 Propene oxide	1		0.000					ND	
157 C4-C12	1		0.000					ND	
156 1-Chlorobutane	1		0.000					ND	
155 1,4-Divinylbenzene	1		0.000					ND	
154 trans-1,2,3-Trichlorobutene-2	1		0.000					ND	
153 1,1-Dichloro-1-fluoroethane	1		0.000					ND	
152 cis-1,2,3-Trichlorobutene-2	1		0.000					ND	
151 2,3-Dichloro-1,3-butadiene	1		0.000					ND	
150 Diethoxymethane	1		0.000					ND	
149 C5-C12	1		0.000					ND	
148 1-Bromo-2-chloroethane	1		0.000					ND	
147 C6-C12	1		0.000					ND	
S 146 Total Diethylbenzene	1		0.000					ND	
145 3-chloro-1-Butene	1		0.000					ND	
144 C6-C10	1		0.000					ND	
143 Methyl acrylate	1		0.000					ND	
142 tert-Butyl Formate	1		0.000					ND	
141 1,3-Divinylbenzene	1		0.000					ND	
140 Ethyl bromide	1		0.000					ND	
139 Chloroacetonitrile	1		0.000					ND	
S 138 divinyl benzene	1		0.000					ND	
137 Methylal	1		0.000					ND	
160 n-Decane	57		0.000					ND	
161 Dodecane	57		0.000					ND	
167 Butane	1		0.000					ND	
168 2,3-Dibromo-1-propanol TIC	1		0.000					ND	
169 1-Methyl-2-pyrrilidinone TIC	1		0.000					ND	
170 2-Bromoethanol TIC	1		0.000					ND	
171 Monochloroacetic acid TIC	1		0.000					ND	
172 2-Chloroethanol TIC	1		0.000					ND	
173 Epibromohydrin TIC	1		0.000					ND	
174 Chloroacetaldehyde TIC	1		0.000					ND	
175 Vinyl bromide TIC	1		0.000					ND	
176 Epichlorohydrin TIC	1		0.000					ND	
177 2-Bromo-3-chloropropene TIC	1		0.000					ND	
178 Ethylene oxide TIC	1		0.000					ND	
179 2,3-Dibromopropene TIC	1		0.000					ND	
180 3-Chloro-1,2-propanediol TIC	1		0.000					ND	
181 1-Bromo-2-chloroethane TIC	1		0.000					ND	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

MSV_HP20_ISSS_00023 Amount Added: 1.00 Units: uL Run Reagent

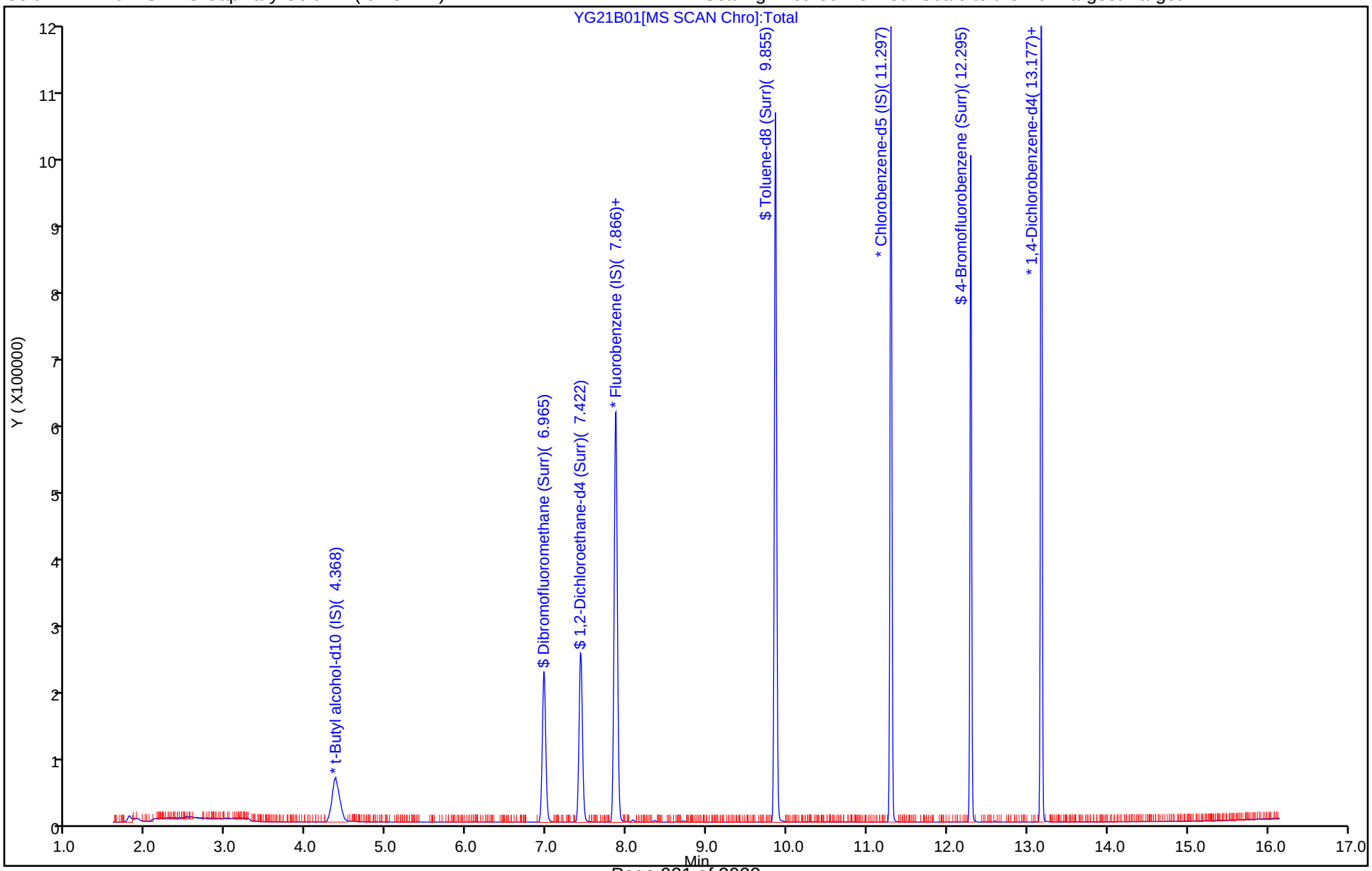
Report Date: 21-Aug-2020 19:21:08 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21B01.D

Injection Date:	21-Aug-2020 12:24:30	Instrument ID:	9355	Operator ID:	clm27445
Lims ID:	MB			Worklist Smp#:	12
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21B01.D
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 21-Aug-2020 12:24:30 ALS Bottle#: 11 Worklist Smp#: 12
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0008609-012
Misc. Info.: MB
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 21-Aug-2020 19:20:40 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1048

First Level Reviewer: mellingerc Date: 21-Aug-2020 12:51:13

Compound	Amount Added	Amount Recovered	% Rec.
$ 50 Dibromofluoromethane (Surr)	50.0	51.8	103.53
$ 56 1,2-Dichloroethane-d4 (Surr)	50.0	52.1	104.19
$ 77 Toluene-d8 (Surr)	50.0	50.7	101.49
$ 103 4-Bromofluorobenzene (Surr)	50.0	44.0	88.06

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

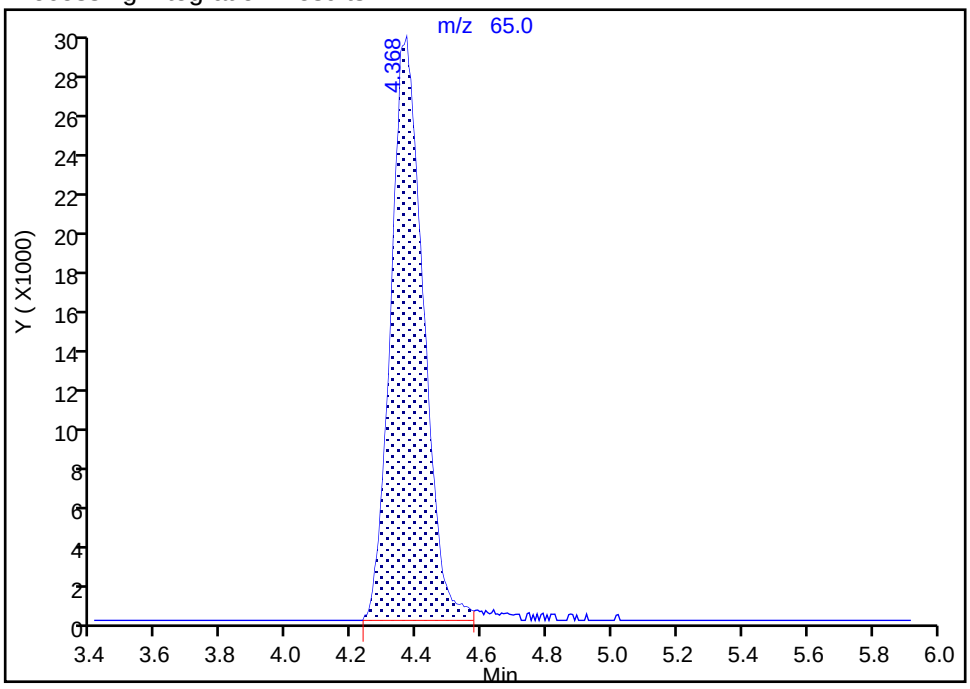
Data File: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21B01.D
Injection Date: 21-Aug-2020 12:24:30 Instrument ID: 9355
Lims ID: MB
Client ID:
Operator ID: clm27445 ALS Bottle#: 11 Worklist Smp#: 12
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

* 26 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2

Signal: 1

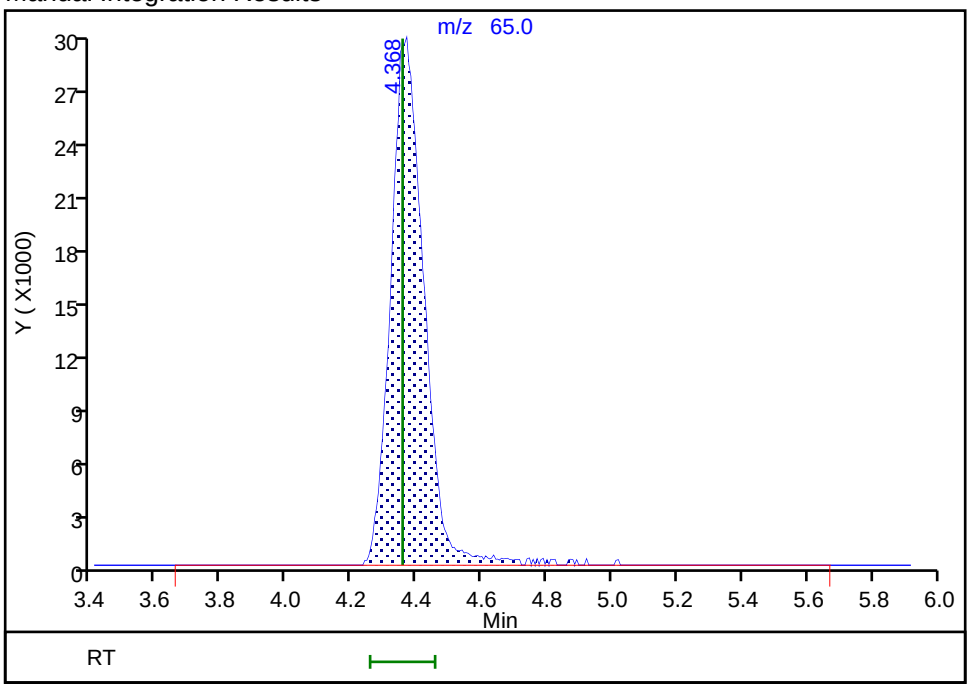
Processing Integration Results

RT: 4.37
Area: 201006
Amount: 250.0000
Amount Units: ug/l



Manual Integration Results

RT: 4.37
Area: 205978
Amount: 250.0000
Amount Units: ug/l



Reviewer: mellingerc, 21-Aug-2020 12:50:36
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 410-34763/5

Matrix: Water Lab File ID: YG19L01.D

Analysis Method: 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 08/19/2020 10:03

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 34763 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
10061-01-5	cis-1,3-Dichloropropene	18.8		1.0	0.20
10061-02-6	trans-1,3-Dichloropropene	18.2		1.0	0.20
100-41-4	Ethylbenzene	20.0		1.0	0.40
100-42-5	Styrene	19.6		5.0	0.20
106-46-7	1,4-Dichlorobenzene	20.1		5.0	0.20
106-93-4	1,2-Dibromoethane	19.4		1.0	0.20
107-06-2	1,2-Dichloroethane	19.1		1.0	0.30
108-10-1	4-Methyl-2-pentanone	86.1		10	0.50
108-87-2	Methylcyclohexane	18.9		5.0	0.50
108-88-3	Toluene	20.1		1.0	0.20
108-90-7	Chlorobenzene	20.9		1.0	0.20
110-82-7	Cyclohexane	17.9		5.0	1.0
120-82-1	1,2,4-Trichlorobenzene	18.9		5.0	0.30
124-48-1	Dibromochloromethane	20.5		1.0	0.20
1330-20-7	Xylenes, Total	60.2		6.0	1.4
127-18-4	Tetrachloroethene	18.4		1.0	0.20
156-59-2	cis-1,2-Dichloroethene	21.0		1.0	0.20
156-60-5	trans-1,2-Dichloroethene	19.9		5.0	0.20
1634-04-4	Methyl tertiary butyl ether	17.2		1.0	0.20
541-73-1	1,3-Dichlorobenzene	19.8		5.0	0.20
56-23-5	Carbon tetrachloride	20.8		1.0	0.20
591-78-6	2-Hexanone	85.8		10	0.30
67-64-1	Acetone	144		20	0.70
67-66-3	Chloroform	20.6		1.0	0.20
71-43-2	Benzene	20.2		1.0	0.20
71-55-6	1,1,1-Trichloroethane	20.3		1.0	0.30
74-83-9	Bromomethane	26.0		1.0	0.30
74-87-3	Chloromethane	18.1		1.0	0.20
75-00-3	Chloroethane	24.4		1.0	0.20
75-01-4	Vinyl chloride	19.2		1.0	0.20
75-09-2	Methylene Chloride	20.2		1.0	0.30
75-15-0	Carbon disulfide	19.6		5.0	0.20
75-25-2	Bromoform	18.0		4.0	1.0
75-27-4	Bromodichloromethane	19.8		1.0	0.20
75-34-3	1,1-Dichloroethane	19.4		1.0	0.20
75-35-4	1,1-Dichloroethene	20.6		1.0	0.20

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 410-34763/5

Matrix: Water Lab File ID: YG19L01.D

Analysis Method: 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 08/19/2020 10:03

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 34763 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-69-4	Trichlorofluoromethane	26.4		1.0	0.20
75-71-8	Dichlorodifluoromethane	16.1		1.0	0.20
76-13-1	Freon 113	19.3		10	0.20
78-87-5	1,2-Dichloropropane	19.7		1.0	0.20
78-93-3	2-Butanone	118		10	0.30
79-00-5	1,1,2-Trichloroethane	21.2		1.0	0.20
79-01-6	Trichloroethene	20.2		1.0	0.20
79-20-9	Methyl acetate	16.0		5.0	0.30
79-34-5	1,1,2,2-Tetrachloroethane	19.6		1.0	0.20
95-50-1	1,2-Dichlorobenzene	20.3		5.0	0.20
96-12-8	1,2-Dibromo-3-Chloropropane	17.1		5.0	0.30
98-82-8	Isopropylbenzene	20.3		5.0	0.20

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	101		80-120
1868-53-7	Dibromofluoromethane (Surr)	100		80-120
460-00-4	4-Bromofluorobenzene (Surr)	97		80-120
2037-26-5	Toluene-d8 (Surr)	101		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19L01.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 19-Aug-2020 10:03:30 ALS Bottle#: 4 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0008412-005
Misc. Info.: LCS
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 19-Aug-2020 12:00:33 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1016

First Level Reviewer: mellingerc Date: 19-Aug-2020 10:53:15

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Dichlorodifluoromethane	85	2.050	2.050	0.000	100	168043	20.0	16.1	
4 Chloromethane	50	2.232	2.238	-0.006	100	202700	20.0	18.1	
5 Butadiene	39	2.354	2.360	-0.006	93	227151	20.0	28.0	
6 Vinyl chloride	62	2.354	2.360	-0.006	99	201049	20.0	19.2	
8 Bromomethane	94	2.682	2.695	-0.013	89	200665	20.0	26.0	
9 Chloroethane	64	2.774	2.786	-0.012	100	152603	20.0	24.4	
11 Trichlorofluoromethane	101	3.084	3.090	-0.006	99	338899	20.0	26.4	
12 Pentane	43	3.145	3.151	-0.006	96	230307	20.0	19.9	
14 Ethyl ether	59	3.358	3.370	-0.012	93	132863	20.0	19.1	
15 1,2-Dichloro-1,1,2-trifluoroetha	67	3.424	3.425	-0.001	96	136163	20.0	20.1	
16 Acrolein	56	3.522	3.528	-0.006	99	301248	150.0	118.5	
17 1,1-Dichloroethene	96	3.674	3.686	-0.012	99	99047	20.0	20.6	
18 Acetone	58	3.692	3.692	0.000	100	158539	150.0	144.1	
19 112TCTFE	101	3.710	3.710	0.000	92	98231	20.0	19.3	
20 Isopropyl alcohol	45	3.863	3.863	-0.001	97	85986	150.0	111.3	
21 Iodomethane	142	3.881	3.893	-0.012	99	168940	20.0	17.6	
22 Carbon disulfide	76	4.002	4.009	-0.007	100	303444	20.0	19.6	
24 Methyl acetate	43	4.136	4.136	0.000	97	152819	20.0	16.0	
25 3-Chloro-1-propene	41	4.173	4.179	-0.006	89	165903	20.0	16.5	
* 26 t-Butyl alcohol-d10 (IS)	65	4.355	4.361	-0.006	94	269317	250.0	250.0	M
27 Methylene Chloride	84	4.361	4.368	-0.007	92	120607	20.0	20.2	
28 2-Methyl-2-propanol	59	4.471	4.477	-0.006	96	257956	200.0	188.0	
30 Acrylonitrile	53	4.684	4.684	0.000	99	380124	100.0	81.3	
31 Methyl tert-butyl ether	73	4.775	4.781	-0.006	97	335355	20.0	17.2	
32 trans-1,2-Dichloroethene	96	4.793	4.799	-0.006	99	115899	20.0	19.9	
33 Hexane	57	5.213	5.225	-0.012	95	150219	20.0	17.4	
36 1,1-Dichloroethane	63	5.438	5.450	-0.012	97	200678	20.0	19.4	a
37 Isopropyl ether	45	5.499	5.505	-0.006	92	354172	20.0	16.7	
38 2-Chloro-1,3-butadiene	53	5.554	5.560	-0.006	93	166793	20.0	16.8	
39 Tert-butyl ethyl ether	59	6.034	6.034	0.000	96	319302	20.0	16.3	
41 2-Butanone (MEK)	43	6.217	6.223	-0.006	100	821818	150.0	117.7	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
42 cis-1,2-Dichloroethene	96	6.266	6.272	-0.006	85	141849	20.0	21.0	
44 2,2-Dichloropropane	77	6.278	6.290	-0.012	88	168673	20.0	20.0	
45 Propionitrile	54	6.296	6.296	0.000	99	243558	150.0	145.7	
46 Methacrylonitrile	67	6.521	6.527	-0.006	92	647022	150.0	128.5	
47 Chlorobromomethane	128	6.606	6.612	-0.006	88	73601	20.0	19.4	
48 Tetrahydrofuran	71	6.618	6.625	-0.007	90	157534	100.0	90.1	
49 Chloroform	83	6.746	6.752	-0.006	96	217930	20.0	20.6	
$ 50 Dibromofluoromethane (Surr)	113	6.959	6.965	-0.006	93	258055	50.0	49.9	
51 1,1,1-Trichloroethane	97	6.983	6.990	-0.007	98	183677	20.0	20.3	
52 Cyclohexane	56	7.093	7.099	-0.006	92	183872	20.0	17.9	
53 1,1-Dichloropropene	75	7.196	7.196	0.000	95	160484	20.0	19.5	
54 Carbon tetrachloride	117	7.202	7.209	-0.007	97	158937	20.0	20.8	
55 Isobutyl alcohol	41	7.300	7.306	-0.006	91	243845	500.0	500.6	
$ 56 1,2-Dichloroethane-d4 (Surr)	102	7.421	7.428	-0.007	98	65184	50.0	50.6	
57 Benzene	78	7.458	7.464	-0.006	97	501223	20.0	20.2	
59 1,2-Dichloroethane	62	7.525	7.531	-0.006	98	177209	20.0	19.1	
60 Tert-amyl methyl ether	73	7.646	7.647	-0.001	96	340388	20.0	17.1	
* 62 Fluorobenzene (IS)	96	7.859	7.866	-0.007	99	1074066	50.0	50.0	
63 n-Heptane	43	7.872	7.878	-0.006	92	188055	20.0	18.3	
64 n-Butanol	56	8.182	8.188	-0.006	92	420840	1000.0	892.2	
65 Trichloroethene	95	8.340	8.346	-0.006	98	132011	20.0	20.2	
66 Methylcyclohexane	83	8.662	8.663	-0.001	90	221940	20.0	18.9	
67 1,2-Dichloropropane	63	8.675	8.675	0.000	76	132097	20.0	19.7	
34 2-ethoxy-2-methyl butane	87	8.675	8.675	0.000	91	181983	20.0	17.2	
68 Methyl methacrylate	69	8.742	8.742	0.000	90	123347	20.0	16.2	
69 1,4-Dioxane	88	8.760	8.760	0.000	92	58498	500.0	539.0	M
70 Dibromomethane	93	8.784	8.784	0.000	96	89830	20.0	20.3	
72 Dichlorobromomethane	83	9.015	9.015	0.000	99	153549	20.0	19.8	
73 2-Nitropropane	41	9.259	9.259	0.000	97	52770	20.0	15.4	
74 2-Chloroethyl vinyl ether	63	9.362	9.362	0.000	93	91953	20.0	15.6	
75 cis-1,3-Dichloropropene	75	9.545	9.551	-0.006	94	185565	20.0	18.8	
76 4-Methyl-2-pentanone (MIBK)	43	9.703	9.703	0.000	98	1176988	100.0	86.1	
$ 77 Toluene-d8 (Surr)	98	9.855	9.855	0.000	94	1085355	50.0	50.4	
78 Toluene	92	9.928	9.934	-0.006	97	326774	20.0	20.1	
80 trans-1,3-Dichloropropene	75	10.177	10.177	0.000	95	174847	20.0	18.2	
81 Ethyl methacrylate	69	10.232	10.232	0.000	89	198011	20.0	16.5	
82 1,1,2-Trichloroethane	97	10.378	10.378	0.000	92	134302	20.0	21.2	
83 Tetrachloroethene	166	10.475	10.482	-0.007	97	152012	20.0	18.4	
84 1,3-Dichloropropane	76	10.542	10.542	0.000	93	211146	20.0	19.5	
86 2-Hexanone	43	10.579	10.579	0.000	98	966554	100.0	85.8	
88 Chlorodibromomethane	129	10.761	10.761	0.000	89	128054	20.0	20.5	
89 Ethylene Dibromide	107	10.877	10.877	0.000	99	138360	20.0	19.4	
* 91 Chlorobenzene-d5 (IS)	117	11.297	11.297	0.000	87	850666	50.0	50.0	
92 1-Chlorohexane	91	11.303	11.303	0.000	97	172816	20.0	18.4	
93 Chlorobenzene	112	11.321	11.327	-0.006	95	387945	20.0	20.9	
94 1,1,1,2-Tetrachloroethane	131	11.406	11.406	0.000	95	127039	20.0	20.2	
95 Ethylbenzene	91	11.406	11.406	0.000	98	642114	20.0	20.0	
96 m-Xylene & p-Xylene	106	11.522	11.522	0.000	99	518443	40.0	40.8	
97 o-Xylene	106	11.850	11.850	0.000	97	241543	20.0	19.4	
98 Styrene	104	11.862	11.862	0.000	95	407767	20.0	19.6	
99 Bromoform	173	12.027	12.027	0.000	96	88571	20.0	18.0	
100 Isopropylbenzene	105	12.148	12.148	0.000	96	632276	20.0	20.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
102 Cyclohexanone	55	12.221	12.221	0.000	94	209211	499.9	409.9	
$ 103 4-Bromofluorobenzene (Surr)	95	12.294	12.294	0.000	91	398524	50.0	48.3	
104 1,1,2,2-Tetrachloroethane	83	12.380	12.386	-0.006	97	230375	20.0	19.6	
106 trans-1,4-Dichloro-2-butene	53	12.404	12.404	0.000	89	355541	100.0	73.6	
105 Bromobenzene	156	12.410	12.410	0.000	80	183997	20.0	19.2	
107 1,2,3-Trichloropropane	110	12.434	12.434	0.000	88	74903	20.0	18.7	
108 N-Propylbenzene	91	12.477	12.477	0.000	99	794190	20.0	20.0	
109 2-Chlorotoluene	126	12.556	12.556	0.000	96	158795	20.0	19.1	
110 1,3,5-Trimethylbenzene	105	12.611	12.611	0.000	94	562220	20.0	19.3	
111 4-Chlorotoluene	126	12.647	12.647	0.000	97	171063	20.0	19.3	
113 tert-Butylbenzene	134	12.854	12.854	0.000	93	117356	20.0	18.8	
114 Pentachloroethane	167	12.884	12.891	-0.007	87	95748	20.0	22.1	
115 1,2,4-Trimethylbenzene	105	12.891	12.891	0.000	97	585264	20.0	19.0	
116 sec-Butylbenzene	105	13.012	13.012	0.000	95	726717	20.0	19.7	
117 1,3-Dichlorobenzene	146	13.116	13.116	0.000	98	349747	20.0	19.8	
118 4-Isopropyltoluene	119	13.122	13.122	0.000	97	645945	20.0	19.7	
* 119 1,4-Dichlorobenzene-d4	152	13.176	13.177	-0.001	95	481887	50.0	50.0	
121 1,4-Dichlorobenzene	146	13.195	13.195	0.000	94	370271	20.0	20.1	
120 1,2,3-Trimethylbenzene	105	13.195	13.195	0.000	98	650822	20.0	18.9	
122 Benzyl chloride	91	13.262	13.262	0.000	99	437805	20.0	18.8	
123 1,3-Diethylbenzene	119	13.322	13.323	-0.001	95	390536	20.0	18.1	
124 p-Diethylbenzene	119	13.395	13.396	-0.001	94	421974	20.0	18.4	
125 n-Butylbenzene	92	13.414	13.414	0.000	97	336140	20.0	19.3	
126 1,2-Dichlorobenzene	146	13.450	13.450	0.000	98	346745	20.0	20.3	
127 o-diethylbenzene	119	13.468	13.469	-0.001	95	333160	20.0	18.1	
129 1,2-Dibromo-3-Chloropropane	75	13.992	13.992	0.000	83	49516	20.0	17.1	
130 1,3,5-Trichlorobenzene	180	14.119	14.120	-0.001	97	252185	20.0	19.7	
131 1,2,4-Trichlorobenzene	180	14.545	14.545	0.000	94	226438	20.0	18.9	
132 Hexachlorobutadiene	225	14.624	14.624	0.000	98	107134	20.0	20.4	
133 Naphthalene	128	14.728	14.728	0.000	97	759741	20.0	19.1	
134 1,2,3-Trichlorobenzene	180	14.868	14.868	0.000	95	230970	20.0	19.9	
135 2-Methylnaphthalene	142	15.519	15.519	0.000	92	390635	20.0	14.9	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

MSV_Q_QVOA1_00042	Amount Added: 50.00	Units: uL	
MSV_Q_QVOA6_00039	Amount Added: 50.00	Units: uL	
MSV_QCYC_00003	Amount Added: 50.00	Units: uL	
MSV_Q_QGases_00076	Amount Added: 50.00	Units: uL	
MSV_Q_QARC_00041	Amount Added: 50.00	Units: uL	
MSV_Q_EE_00002	Amount Added: 50.00	Units: uL	
MSV_HP20_ISSS_00023	Amount Added: 1.00	Units: uL	Run Reagent

Report Date: 19-Aug-2020 12:00:45 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19L01.D

Injection Date: 19-Aug-2020 10:03:30 Instrument ID: 9355 Operator ID: clm27445

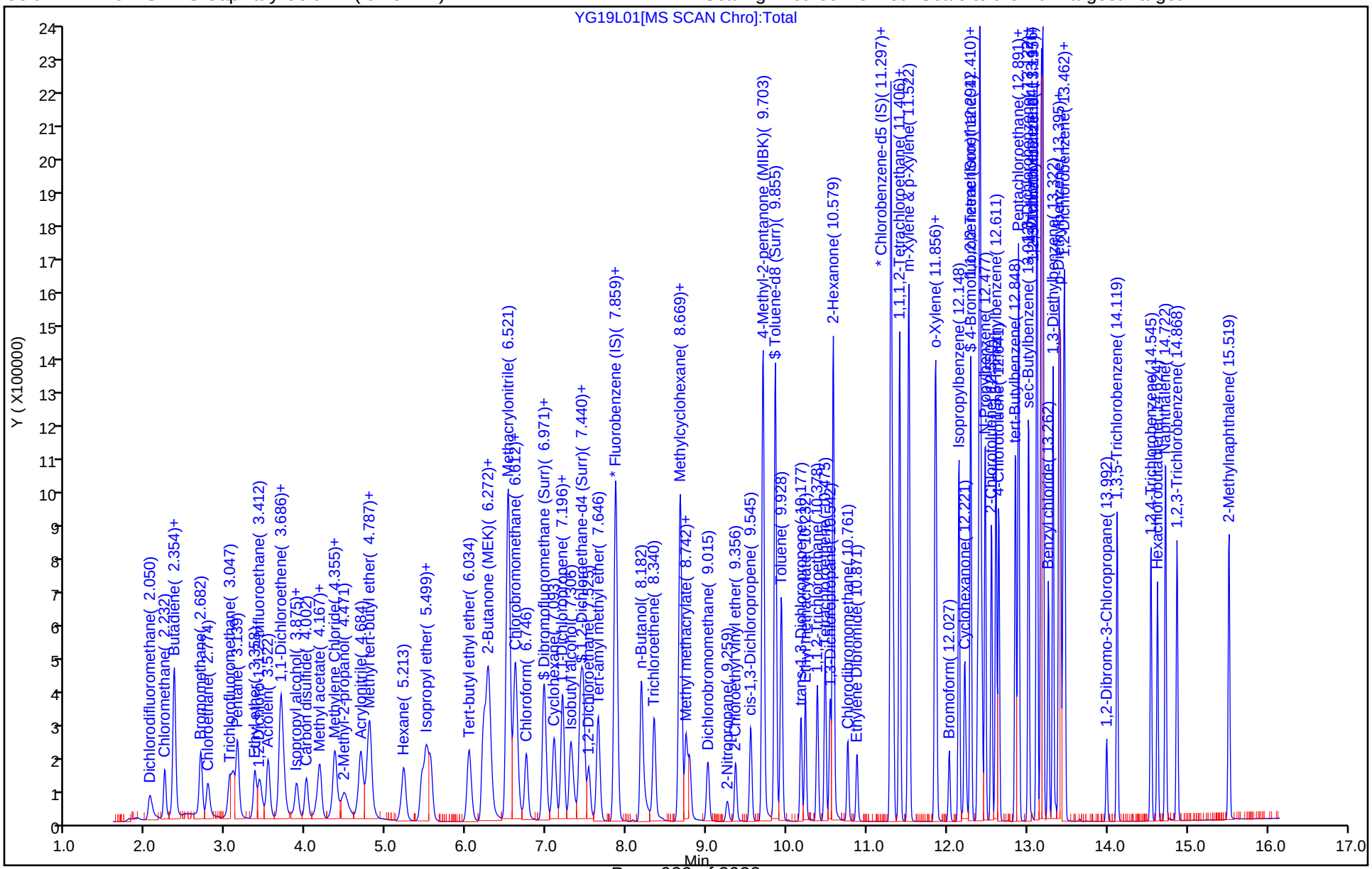
Lims ID: LCS Worklist Smp#: 5

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 4

Method: MSVoa_9355 Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19L01.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 19-Aug-2020 10:03:30 ALS Bottle#: 4 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0008412-005
Misc. Info.: LCS
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 19-Aug-2020 12:00:33 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1016

First Level Reviewer: mellingerc Date: 19-Aug-2020 10:53:15

Compound	Amount Added	Amount Recovered	% Rec.
$ 50 Dibromofluoromethane (Surr)	50.0	49.9	99.81
$ 56 1,2-Dichloroethane-d4 (Surr)	50.0	50.6	101.13
$ 77 Toluene-d8 (Surr)	50.0	50.4	100.88
$ 103 4-Bromofluorobenzene (Surr)	50.0	48.3	96.60

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

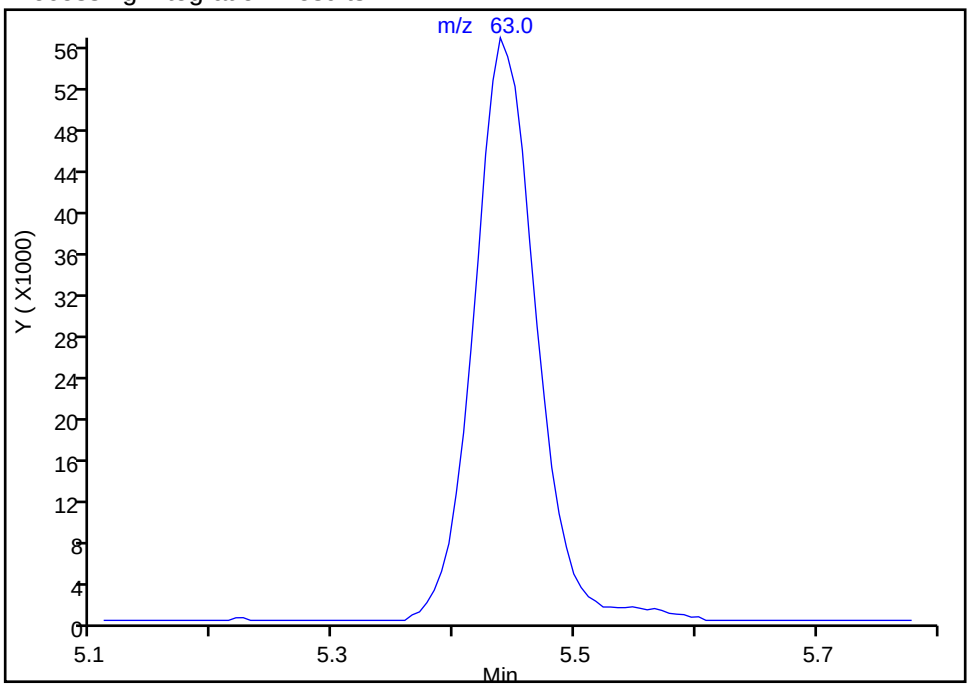
Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19L01.D
Injection Date: 19-Aug-2020 10:03:30 Instrument ID: 9355
Lims ID: LCS
Client ID:
Operator ID: clm27445 ALS Bottle#: 4 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

36 1,1-Dichloroethane, CAS: 75-34-3

Signal: 1

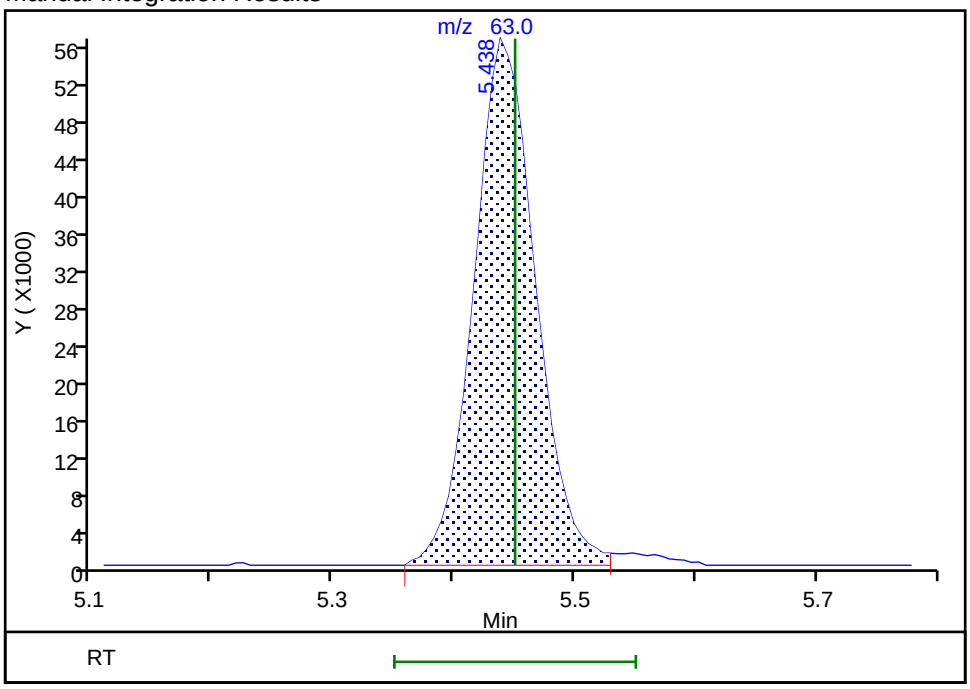
Not Detected
Expected RT: 5.45

Processing Integration Results



Manual Integration Results

RT: 5.44
Area: 200678
Amount: 19.426760
Amount Units: ug/l



Reviewer: mellingerc, 19-Aug-2020 10:45:28
Audit Action: Assigned Compound ID Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

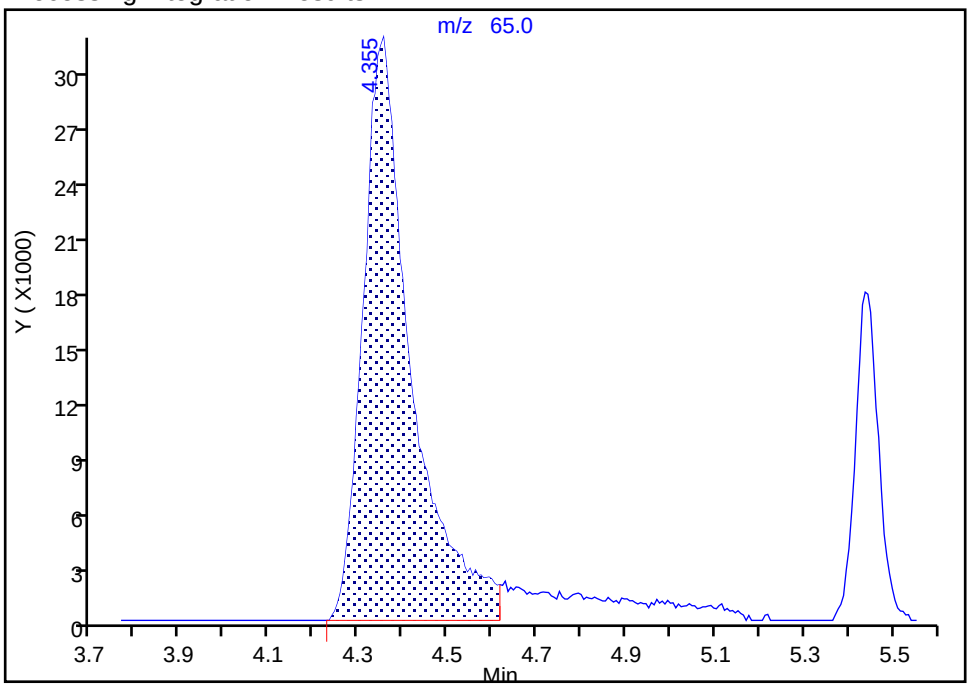
Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19L01.D
Injection Date: 19-Aug-2020 10:03:30 Instrument ID: 9355
Lims ID: LCS
Client ID:
Operator ID: clm27445 ALS Bottle#: 4 Worklist Smp#: 5
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

* 26 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2

Signal: 1

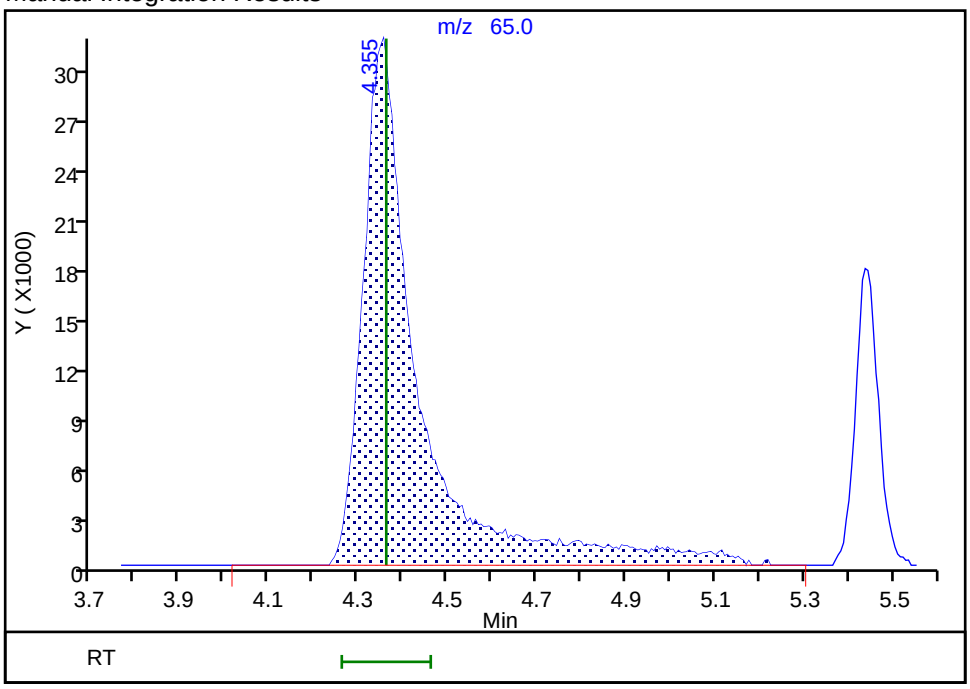
Processing Integration Results

RT: 4.36
Area: 233685
Amount: 250.0000
Amount Units: ug/l



Manual Integration Results

RT: 4.36
Area: 269317
Amount: 250.0000
Amount Units: ug/l



Reviewer: mellingerc, 19-Aug-2020 10:45:01
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 410-35697/6

Matrix: Water Lab File ID: YG21L01.D

Analysis Method: 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 08/21/2020 10:11

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 35697 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
10061-01-5	cis-1,3-Dichloropropene	18.9		1.0	0.20
10061-02-6	trans-1,3-Dichloropropene	18.3		1.0	0.20
100-41-4	Ethylbenzene	20.6		1.0	0.40
100-42-5	Styrene	20.3		5.0	0.20
106-46-7	1,4-Dichlorobenzene	20.5		5.0	0.20
106-93-4	1,2-Dibromoethane	20.1		1.0	0.20
107-06-2	1,2-Dichloroethane	21.0		1.0	0.30
108-10-1	4-Methyl-2-pentanone	92.6		10	0.50
108-87-2	Methylcyclohexane	18.2		5.0	0.50
108-88-3	Toluene	21.1		1.0	0.20
108-90-7	Chlorobenzene	21.9		1.0	0.20
110-82-7	Cyclohexane	18.0		5.0	1.0
120-82-1	1,2,4-Trichlorobenzene	18.3		5.0	0.30
124-48-1	Dibromochloromethane	20.9		1.0	0.20
1330-20-7	Xylenes, Total	62.2		6.0	1.4
127-18-4	Tetrachloroethene	18.3		1.0	0.20
156-59-2	cis-1,2-Dichloroethene	22.0		1.0	0.20
156-60-5	trans-1,2-Dichloroethene	21.2		5.0	0.20
1634-04-4	Methyl tertiary butyl ether	17.1		1.0	0.20
541-73-1	1,3-Dichlorobenzene	20.2		5.0	0.20
56-23-5	Carbon tetrachloride	21.7		1.0	0.20
591-78-6	2-Hexanone	91.9		10	0.30
67-64-1	Acetone	168		20	0.70
67-66-3	Chloroform	21.6		1.0	0.20
71-43-2	Benzene	21.4		1.0	0.20
71-55-6	1,1,1-Trichloroethane	21.1		1.0	0.30
74-83-9	Bromomethane	26.4		1.0	0.30
74-87-3	Chloromethane	18.7		1.0	0.20
75-00-3	Chloroethane	24.0		1.0	0.20
75-01-4	Vinyl chloride	19.7		1.0	0.20
75-09-2	Methylene Chloride	21.5		1.0	0.30
75-15-0	Carbon disulfide	20.9		5.0	0.20
75-25-2	Bromoform	17.7		4.0	1.0
75-27-4	Bromodichloromethane	20.6		1.0	0.20
75-34-3	1,1-Dichloroethane	20.3		1.0	0.20
75-35-4	1,1-Dichloroethene	21.8		1.0	0.20

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 410-35697/6

Matrix: Water Lab File ID: YG21L01.D

Analysis Method: 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 08/21/2020 10:11

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 35697 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-69-4	Trichlorofluoromethane	24.6		1.0	0.20
75-71-8	Dichlorodifluoromethane	16.4		1.0	0.20
76-13-1	Freon 113	20.5		10	0.20
78-87-5	1,2-Dichloropropane	21.0		1.0	0.20
78-93-3	2-Butanone	135		10	0.30
79-00-5	1,1,2-Trichloroethane	22.2		1.0	0.20
79-01-6	Trichloroethene	20.8		1.0	0.20
79-20-9	Methyl acetate	17.3		5.0	0.30
79-34-5	1,1,2,2-Tetrachloroethane	20.3		1.0	0.20
95-50-1	1,2-Dichlorobenzene	20.8		5.0	0.20
96-12-8	1,2-Dibromo-3-Chloropropane	17.2		5.0	0.30
98-82-8	Isopropylbenzene	20.3		5.0	0.20

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		80-120
1868-53-7	Dibromofluoromethane (Surr)	100		80-120
460-00-4	4-Bromofluorobenzene (Surr)	98		80-120
2037-26-5	Toluene-d8 (Surr)	102		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21L01.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 21-Aug-2020 10:11:30 ALS Bottle#: 5 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0008609-006
Misc. Info.: LCS
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 21-Aug-2020 19:21:42 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1048

First Level Reviewer: mellingerc Date: 21-Aug-2020 10:50:38

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Dichlorodifluoromethane	85	2.056	2.044	0.012	100	150521	20.0	16.4	
4 Chloromethane	50	2.238	2.232	0.006	100	184556	20.0	18.7	
5 Butadiene	39	2.354	2.348	0.006	92	279273	20.0	39.1	
6 Vinyl chloride	62	2.360	2.348	0.012	99	182009	20.0	19.7	
8 Bromomethane	94	2.688	2.682	0.006	90	178908	20.0	26.4	
9 Chloroethane	64	2.780	2.774	0.006	100	132019	20.0	24.0	
11 Trichlorofluoromethane	101	3.090	3.084	0.006	99	277701	20.0	24.6	
12 Pentane	43	3.145	3.139	0.006	97	235082	20.0	23.1	
14 Ethyl ether	59	3.364	3.352	0.012	93	102885	20.0	16.8	
15 1,2-Dichloro-1,1,2-trifluoroetha	67	3.425	3.413	0.012	91	123766	20.0	20.8	
16 Acrolein	56	3.528	3.522	0.006	99	283439	150.0	125.4	
17 1,1-Dichloroethene	96	3.680	3.674	0.006	99	92039	20.0	21.8	
18 Acetone	58	3.698	3.686	0.012	100	164375	150.0	167.9	
19 112TCTFE	101	3.704	3.711	-0.007	89	92108	20.0	20.5	
20 Isopropyl alcohol	45	3.869	3.863	0.006	96	100742	150.0	146.6	
21 Iodomethane	142	3.887	3.881	0.006	99	154226	20.0	18.3	
22 Carbon disulfide	76	4.009	4.003	0.006	100	285192	20.0	20.9	
24 Methyl acetate	43	4.136	4.130	0.006	98	145322	20.0	17.3	
25 3-Chloro-1-propene	41	4.173	4.167	0.006	89	141363	20.0	16.0	
* 26 t-Butyl alcohol-d10 (IS)	65	4.361	4.355	0.006	94	239537	250.0	250.0	M
27 Methylene Chloride	84	4.367	4.355	0.012	92	112383	20.0	21.5	
28 2-Methyl-2-propanol	59	4.489	4.471	0.018	96	262535	200.0	217.5	
30 Acrylonitrile	53	4.684	4.678	0.006	98	375329	100.0	91.2	
31 Methyl tert-butyl ether	73	4.781	4.775	0.006	97	293268	20.0	17.1	
32 trans-1,2-Dichloroethene	96	4.799	4.793	0.006	99	108218	20.0	21.2	
33 Hexane	57	5.219	5.219	0.000	95	130417	20.0	17.1	
36 1,1-Dichloroethane	63	5.444	5.438	0.006	97	184733	20.0	20.3	
37 Isopropyl ether	45	5.505	5.493	0.012	93	312706	20.0	16.7	
38 2-Chloro-1,3-butadiene	53	5.560	5.548	0.012	93	148579	20.0	17.0	
39 Tert-butyl ethyl ether	59	6.034	6.028	0.006	95	273111	20.0	15.8	
41 2-Butanone (MEK)	43	6.229	6.217	0.012	100	826149	150.0	134.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
42 cis-1,2-Dichloroethene	96	6.272	6.266	0.006	85	130600	20.0	22.0	
44 2,2-Dichloropropane	77	6.284	6.278	0.006	88	157526	20.0	21.3	
45 Propionitrile	54	6.302	6.290	0.012	99	251982	150.0	169.4	
46 Methacrylonitrile	67	6.527	6.521	0.006	92	624075	150.0	141.0	
47 Chlorobromomethane	128	6.606	6.600	0.006	68	64750	20.0	19.4	
48 Tetrahydrofuran	71	6.624	6.619	0.005	91	151515	100.0	97.4	
49 Chloroform	83	6.752	6.746	0.006	96	201408	20.0	21.6	
$ 50 Dibromofluoromethane (Surr)	113	6.965	6.959	0.006	93	227155	50.0	50.0	
51 1,1,1-Trichloroethane	97	6.989	6.984	0.005	99	168040	20.0	21.1	
52 Cyclohexane	56	7.099	7.093	0.006	92	162761	20.0	18.0	
53 1,1-Dichloropropene	75	7.202	7.196	0.006	95	145517	20.0	20.1	
54 Carbon tetrachloride	117	7.208	7.203	0.005	96	145977	20.0	21.7	
55 Isobutyl alcohol	41	7.312	7.306	0.006	91	253452	500.0	585.0	
$ 56 1,2-Dichloroethane-d4 (Surr)	102	7.427	7.422	0.005	98	56870	50.0	50.2	
57 Benzene	78	7.464	7.458	0.006	97	465636	20.0	21.4	
59 1,2-Dichloroethane	62	7.531	7.525	0.006	98	171505	20.0	21.0	
60 Tert-amyl methyl ether	73	7.647	7.641	0.005	96	298615	20.0	17.1	
* 62 Fluorobenzene (IS)	96	7.859	7.860	-0.001	98	944533	50.0	50.0	
63 n-Heptane	43	7.878	7.872	0.006	95	167677	20.0	18.5	
64 n-Butanol	56	8.188	8.182	0.006	91	398524	1000.0	953.3	
65 Trichloroethene	95	8.346	8.340	0.006	98	119882	20.0	20.8	
66 Methylcyclohexane	83	8.662	8.663	-0.001	96	188192	20.0	18.2	
67 1,2-Dichloropropane	63	8.669	8.669	0.000	72	123742	20.0	21.0	
34 2-ethoxy-2-methyl butane	87	8.675	8.675	0.000	92	157856	20.0	17.0	
68 Methyl methacrylate	69	8.742	8.742	0.000	89	115956	20.0	17.3	
69 1,4-Dioxane	88	8.760	8.754	0.006	92	56067	500.0	580.8	M
70 Dibromomethane	93	8.784	8.784	0.000	96	84728	20.0	21.7	
72 Dichlorobromomethane	83	9.015	9.009	0.006	99	140445	20.0	20.6	
73 2-Nitropropane	41	9.253	9.253	0.000	97	51399	20.0	16.9	
74 2-Chloroethyl vinyl ether	63	9.362	9.356	0.006	93	80727	20.0	15.6	
75 cis-1,3-Dichloropropene	75	9.551	9.545	0.006	94	164353	20.0	18.9	
76 4-Methyl-2-pentanone (MIBK)	43	9.703	9.703	0.000	98	1113351	100.0	92.6	
$ 77 Toluene-d8 (Surr)	98	9.855	9.855	0.000	94	954482	50.0	50.9	
78 Toluene	92	9.928	9.928	0.000	98	297844	20.0	21.1	
80 trans-1,3-Dichloropropene	75	10.177	10.177	0.000	95	153468	20.0	18.3	
81 Ethyl methacrylate	69	10.232	10.232	0.000	90	176064	20.0	16.8	
82 1,1,2-Trichloroethane	97	10.378	10.378	0.000	92	122906	20.0	22.2	
83 Tetrachloroethene	166	10.475	10.476	-0.001	97	131900	20.0	18.3	
84 1,3-Dichloropropane	76	10.542	10.542	0.000	93	193752	20.0	20.5	
86 2-Hexanone	43	10.579	10.579	0.000	98	902802	100.0	91.9	
88 Chlorodibromomethane	129	10.761	10.761	0.000	90	114108	20.0	20.9	
89 Ethylene Dibromide	107	10.877	10.871	0.006	98	125095	20.0	20.1	
* 91 Chlorobenzene-d5 (IS)	117	11.297	11.297	0.000	87	741755	50.0	50.0	
92 1-Chlorohexane	91	11.303	11.297	0.006	97	148605	20.0	18.2	
93 Chlorobenzene	112	11.321	11.321	0.000	95	353812	20.0	21.9	
94 1,1,1,2-Tetrachloroethane	131	11.406	11.406	0.000	94	117211	20.0	21.3	
95 Ethylbenzene	91	11.406	11.406	0.000	98	578227	20.0	20.6	
96 m-Xylene & p-Xylene	106	11.522	11.522	0.000	100	467405	40.0	42.2	
97 o-Xylene	106	11.850	11.850	0.000	96	216582	20.0	20.0	
98 Styrene	104	11.862	11.863	-0.001	95	368133	20.0	20.3	
99 Bromoform	173	12.027	12.027	0.000	95	75869	20.0	17.7	
100 Isopropylbenzene	105	12.148	12.149	-0.001	96	551622	20.0	20.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
102 Cyclohexanone	55	12.221	12.222	-0.001	94	208929	499.9	460.3	
$ 103 4-Bromofluorobenzene (Surr)	95	12.294	12.295	0.000	90	353632	50.0	49.2	
104 1,1,2,2-Tetrachloroethane	83	12.386	12.380	0.006	97	212338	20.0	20.3	
106 trans-1,4-Dichloro-2-butene	53	12.410	12.404	0.006	87	281929	100.0	65.8	
105 Bromobenzene	156	12.410	12.410	0.000	85	167336	20.0	19.7	
107 1,2,3-Trichloropropane	110	12.434	12.434	0.000	87	69086	20.0	19.5	
108 N-Propylbenzene	91	12.477	12.477	0.000	99	723806	20.0	20.5	
109 2-Chlorotoluene	126	12.556	12.556	0.000	97	143802	20.0	19.5	
110 1,3,5-Trimethylbenzene	105	12.611	12.611	0.000	94	504902	20.0	19.5	
111 4-Chlorotoluene	126	12.647	12.647	0.000	97	155578	20.0	19.8	
113 tert-Butylbenzene	134	12.854	12.854	0.000	93	102047	20.0	18.5	
114 Pentachloroethane	167	12.891	12.885	0.006	87	86859	20.0	22.6	
115 1,2,4-Trimethylbenzene	105	12.891	12.891	0.000	97	532011	20.0	19.5	
116 sec-Butylbenzene	105	13.018	13.012	0.006	95	649299	20.0	19.8	
117 1,3-Dichlorobenzene	146	13.116	13.116	0.000	98	317405	20.0	20.2	
118 4-Isopropyltoluene	119	13.122	13.122	0.000	97	574701	20.0	19.7	
* 119 1,4-Dichlorobenzene-d4	152	13.176	13.177	-0.001	95	427656	50.0	50.0	
121 1,4-Dichlorobenzene	146	13.195	13.195	0.000	94	335202	20.0	20.5	
120 1,2,3-Trimethylbenzene	105	13.195	13.195	0.000	98	577207	20.0	18.9	
122 Benzyl chloride	91	13.262	13.262	0.000	99	409177	20.0	19.8	
123 1,3-Diethylbenzene	119	13.322	13.323	-0.001	95	343454	20.0	17.9	
124 p-Diethylbenzene	119	13.395	13.396	-0.001	93	365503	20.0	17.9	
125 n-Butylbenzene	92	13.414	13.414	0.000	97	304317	20.0	19.7	
126 1,2-Dichlorobenzene	146	13.450	13.450	0.000	98	314440	20.0	20.8	
127 o-diethylbenzene	119	13.468	13.469	-0.001	95	296116	20.0	18.1	
129 1,2-Dibromo-3-Chloropropane	75	13.992	13.992	0.000	82	44108	20.0	17.2	
130 1,3,5-Trichlorobenzene	180	14.119	14.120	-0.001	97	220670	20.0	19.4	
131 1,2,4-Trichlorobenzene	180	14.545	14.545	0.000	94	194921	20.0	18.3	
132 Hexachlorobutadiene	225	14.624	14.625	-0.001	98	93462	20.0	20.1	
133 Naphthalene	128	14.728	14.728	0.000	97	678347	20.0	19.2	
134 1,2,3-Trichlorobenzene	180	14.868	14.868	0.000	95	202118	20.0	19.7	
135 2-Methylnaphthalene	142	15.519	15.513	0.006	92	343120	20.0	14.7	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MSV_Q_QVOA1_00042	Amount Added: 50.00	Units: uL	
MSV_Q_QVOA6_00040	Amount Added: 50.00	Units: uL	
MSV_QCYC_00003	Amount Added: 50.00	Units: uL	
MSV_Q_QGases_00078	Amount Added: 50.00	Units: uL	
MSV_Q_QARC_00041	Amount Added: 50.00	Units: uL	
MSV_Q_EE_00002	Amount Added: 50.00	Units: uL	
MSV_HP20_ISSS_00023	Amount Added: 1.00	Units: uL	Run Reagent

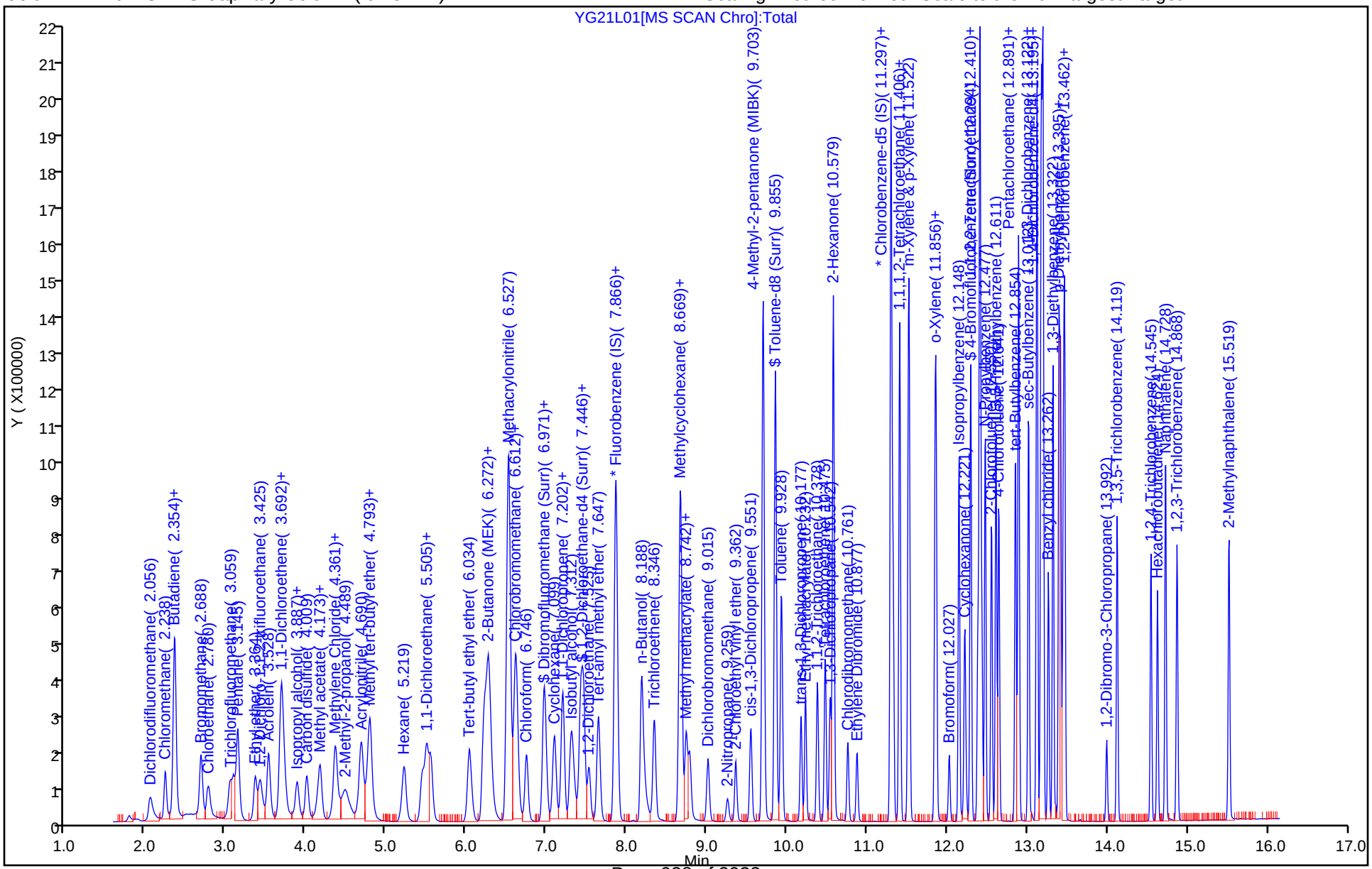
Report Date: 21-Aug-2020 19:21:46 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21L01.D

Injection Date:	21-Aug-2020 10:11:30	Instrument ID:	9355	Operator ID:	clm27445
Lims ID:	LCS			Worklist Smp#:	6
Client ID:					
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21L01.D
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 21-Aug-2020 10:11:30 ALS Bottle#: 5 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0008609-006
Misc. Info.: LCS
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 21-Aug-2020 19:21:42 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1048

First Level Reviewer: mellingerc Date: 21-Aug-2020 10:50:38

Compound	Amount Added	Amount Recovered	% Rec.
$ 50 Dibromofluoromethane (Surr)	50.0	50.0	99.91
$ 56 1,2-Dichloroethane-d4 (Surr)	50.0	50.2	100.33
$ 77 Toluene-d8 (Surr)	50.0	50.9	101.75
$ 103 4-Bromofluorobenzene (Surr)	50.0	49.2	98.31

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

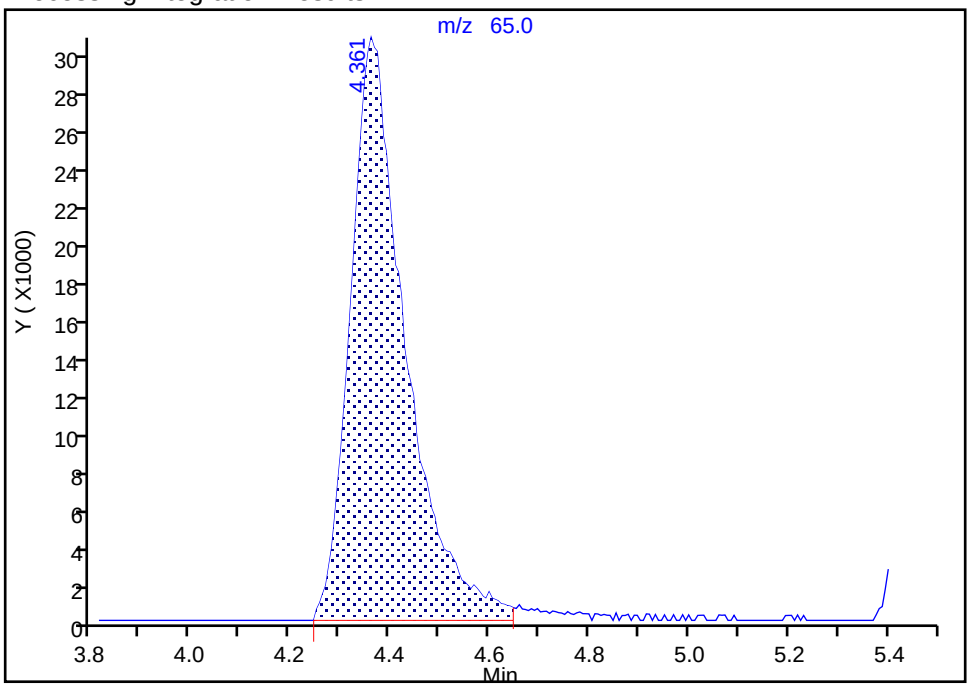
Data File: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21L01.D
Injection Date: 21-Aug-2020 10:11:30 Instrument ID: 9355
Lims ID: LCS
Client ID:
Operator ID: clm27445 ALS Bottle#: 5 Worklist Smp#: 6
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

* 26 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2

Signal: 1

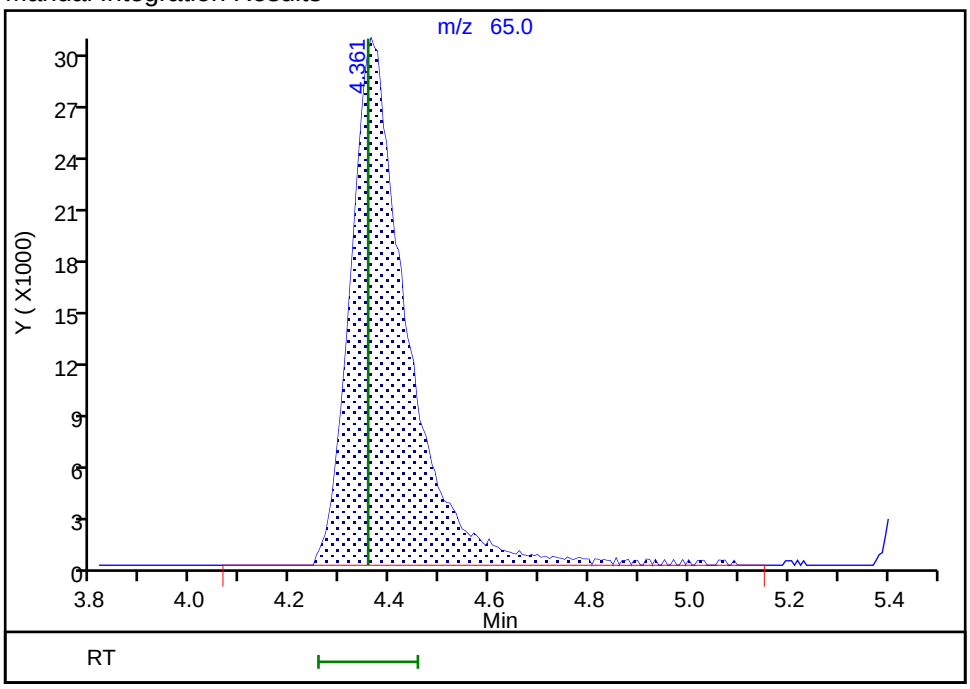
Processing Integration Results

RT: 4.36
Area: 232550
Amount: 250.0000
Amount Units: ug/l



Manual Integration Results

RT: 4.36
Area: 239537
Amount: 250.0000
Amount Units: ug/l



Reviewer: mellingerc, 21-Aug-2020 10:49:25
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 410-34763/34

Matrix: Water Lab File ID: YG19L02.D

Analysis Method: 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 08/19/2020 10:47

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 34763 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
10061-01-5	cis-1,3-Dichloropropene	18.7		1.0	0.20
10061-02-6	trans-1,3-Dichloropropene	18.1		1.0	0.20
100-41-4	Ethylbenzene	20.1		1.0	0.40
100-42-5	Styrene	19.6		5.0	0.20
106-46-7	1,4-Dichlorobenzene	20.3		5.0	0.20
106-93-4	1,2-Dibromoethane	19.6		1.0	0.20
107-06-2	1,2-Dichloroethane	19.8		1.0	0.30
108-10-1	4-Methyl-2-pentanone	86.2		10	0.50
108-87-2	Methylcyclohexane	19.3		5.0	0.50
108-88-3	Toluene	20.3		1.0	0.20
108-90-7	Chlorobenzene	20.8		1.0	0.20
110-82-7	Cyclohexane	18.1		5.0	1.0
120-82-1	1,2,4-Trichlorobenzene	18.9		5.0	0.30
124-48-1	Dibromochloromethane	20.5		1.0	0.20
1330-20-7	Xylenes, Total	60.3		6.0	1.4
127-18-4	Tetrachloroethene	18.7		1.0	0.20
156-59-2	cis-1,2-Dichloroethene	21.1		1.0	0.20
156-60-5	trans-1,2-Dichloroethene	20.1		5.0	0.20
1634-04-4	Methyl tertiary butyl ether	17.1		1.0	0.20
541-73-1	1,3-Dichlorobenzene	19.8		5.0	0.20
56-23-5	Carbon tetrachloride	20.6		1.0	0.20
591-78-6	2-Hexanone	86.8		10	0.30
67-64-1	Acetone	141		20	0.70
67-66-3	Chloroform	20.3		1.0	0.20
71-43-2	Benzene	20.2		1.0	0.20
71-55-6	1,1,1-Trichloroethane	20.3		1.0	0.30
74-83-9	Bromomethane	25.8		1.0	0.30
74-87-3	Chloromethane	18.1		1.0	0.20
75-00-3	Chloroethane	24.2		1.0	0.20
75-01-4	Vinyl chloride	19.4		1.0	0.20
75-09-2	Methylene Chloride	20.4		1.0	0.30
75-15-0	Carbon disulfide	19.5		5.0	0.20
75-25-2	Bromoform	18.0		4.0	1.0
75-27-4	Bromodichloromethane	19.9		1.0	0.20
75-34-3	1,1-Dichloroethane	19.5		1.0	0.20
75-35-4	1,1-Dichloroethene	20.8		1.0	0.20

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 410-34763/34

Matrix: Water Lab File ID: YG19L02.D

Analysis Method: 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 08/19/2020 10:47

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 34763 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-69-4	Trichlorofluoromethane	26.3		1.0	0.20
75-71-8	Dichlorodifluoromethane	16.0		1.0	0.20
76-13-1	Freon 113	19.3		10	0.20
78-87-5	1,2-Dichloropropane	20.0		1.0	0.20
78-93-3	2-Butanone	122		10	0.30
79-00-5	1,1,2-Trichloroethane	21.0		1.0	0.20
79-01-6	Trichloroethene	20.2		1.0	0.20
79-20-9	Methyl acetate	16.1		5.0	0.30
79-34-5	1,1,2,2-Tetrachloroethane	19.6		1.0	0.20
95-50-1	1,2-Dichlorobenzene	20.3		5.0	0.20
96-12-8	1,2-Dibromo-3-Chloropropane	16.7		5.0	0.30
98-82-8	Isopropylbenzene	20.2		5.0	0.20

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	100		80-120
1868-53-7	Dibromofluoromethane (Surr)	98		80-120
460-00-4	4-Bromofluorobenzene (Surr)	97		80-120
2037-26-5	Toluene-d8 (Surr)	101		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19L02.D
Lims ID: LCSD
Client ID:
Sample Type: LCSD
Inject. Date: 19-Aug-2020 10:47:30 ALS Bottle#: 6 Worklist Smp#: 34
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0008412-005
Misc. Info.: LCS
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 19-Aug-2020 12:00:33 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1016

First Level Reviewer: mellingerc Date: 19-Aug-2020 11:33:32

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Dichlorodifluoromethane	85	2.050	2.050	0.000	100	167719	20.0	16.0	
4 Chloromethane	50	2.232	2.238	-0.006	100	204834	20.0	18.1	
5 Butadiene	39	2.348	2.360	-0.012	92	238169	20.0	29.1	
6 Vinyl chloride	62	2.348	2.360	-0.012	98	204603	20.0	19.4	
8 Bromomethane	94	2.676	2.695	-0.019	89	200460	20.0	25.8	
9 Chloroethane	64	2.768	2.786	-0.018	100	152032	20.0	24.2	
11 Trichlorofluoromethane	101	3.072	3.090	-0.018	99	340893	20.0	26.3	
12 Pentane	43	3.139	3.151	-0.012	97	241588	20.0	20.8	
14 Ethyl ether	59	3.352	3.370	-0.018	92	128956	20.0	18.4	
15 1,2-Dichloro-1,1,2-trifluoroetha	67	3.413	3.425	-0.013	92	135990	20.0	19.9	
16 Acrolein	56	3.522	3.528	-0.006	99	298022	150.0	115.0	
17 1,1-Dichloroethene	96	3.674	3.686	-0.012	98	100740	20.0	20.8	
18 Acetone	58	3.692	3.692	0.000	100	158153	150.0	141.0	
19 112TCTFE	101	3.698	3.710	-0.012	50	99106	20.0	19.3	
20 Isopropyl alcohol	45	3.863	3.863	0.000	98	92319	150.0	117.2	
21 Iodomethane	142	3.881	3.893	-0.012	99	170779	20.0	17.7	
22 Carbon disulfide	76	3.997	4.009	-0.012	100	304189	20.0	19.5	
24 Methyl acetate	43	4.130	4.136	-0.006	98	154547	20.0	16.1	
25 3-Chloro-1-propene	41	4.167	4.179	-0.012	89	164066	20.0	16.2	
* 26 t-Butyl alcohol-d10 (IS)	65	4.343	4.361	-0.018	96	274584	250.0	250.0	M
27 Methylene Chloride	84	4.355	4.368	-0.013	94	122593	20.0	20.4	
28 2-Methyl-2-propanol	59	4.477	4.477	0.000	96	266007	200.0	190.3	
30 Acrylonitrile	53	4.678	4.684	-0.006	98	378239	100.0	80.2	
31 Methyl tert-butyl ether	73	4.775	4.781	-0.006	97	335941	20.0	17.1	
32 trans-1,2-Dichloroethene	96	4.793	4.799	-0.006	99	118043	20.0	20.1	
33 Hexane	57	5.219	5.225	-0.006	95	154889	20.0	17.8	
36 1,1-Dichloroethane	63	5.438	5.450	-0.012	97	202595	20.0	19.5	
37 Isopropyl ether	45	5.499	5.505	-0.006	92	358500	20.0	16.8	
38 2-Chloro-1,3-butadiene	53	5.554	5.560	-0.006	93	165331	20.0	16.5	
39 Tert-butyl ethyl ether	59	6.035	6.034	0.001	96	323431	20.0	16.3	
41 2-Butanone (MEK)	43	6.217	6.223	-0.006	100	855114	150.0	121.5	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
42 cis-1,2-Dichloroethene	96	6.266	6.272	-0.006	85	143473	20.0	21.1	
44 2,2-Dichloropropane	77	6.278	6.290	-0.012	86	168855	20.0	19.9	
45 Propionitrile	54	6.290	6.296	-0.006	98	267431	150.0	156.9	
46 Methacrylonitrile	67	6.515	6.527	-0.012	91	652535	150.0	128.6	
47 Chlorobromomethane	128	6.600	6.612	-0.012	93	71788	20.0	18.8	
48 Tetrahydrofuran	71	6.612	6.625	-0.013	90	159618	100.0	89.5	
49 Chloroform	83	6.746	6.752	-0.006	96	217194	20.0	20.3	
$ 50 Dibromofluoromethane (Surr)	113	6.959	6.965	-0.006	92	256135	50.0	49.2	
51 1,1,1-Trichloroethane	97	6.984	6.990	-0.006	98	184871	20.0	20.3	
52 Cyclohexane	56	7.093	7.099	-0.006	93	187460	20.0	18.1	
53 1,1-Dichloropropene	75	7.196	7.196	0.000	93	161957	20.0	19.5	
54 Carbon tetrachloride	117	7.203	7.209	-0.006	97	158200	20.0	20.6	
55 Isobutyl alcohol	41	7.300	7.306	-0.006	92	249135	500.0	501.6	
$ 56 1,2-Dichloroethane-d4 (Surr)	102	7.422	7.428	-0.006	98	64993	50.0	50.0	
57 Benzene	78	7.452	7.464	-0.012	97	505088	20.0	20.2	
59 1,2-Dichloroethane	62	7.525	7.531	-0.006	98	184825	20.0	19.8	
60 Tert-amyl methyl ether	73	7.641	7.647	-0.006	96	345338	20.0	17.2	
* 62 Fluorobenzene (IS)	96	7.860	7.866	-0.006	99	1082243	50.0	50.0	
63 n-Heptane	43	7.872	7.878	-0.006	91	186956	20.0	18.0	
64 n-Butanol	56	8.182	8.188	-0.006	92	403564	1000.0	836.0	
65 Trichloroethene	95	8.340	8.346	-0.006	98	133306	20.0	20.2	
66 Methylcyclohexane	83	8.663	8.663	0.000	93	228893	20.0	19.3	
67 1,2-Dichloropropane	63	8.669	8.675	-0.006	71	134746	20.0	20.0	
34 2-ethoxy-2-methyl butane	87	8.675	8.675	0.000	92	185025	20.0	17.3	
68 Methyl methacrylate	69	8.736	8.742	-0.006	89	125977	20.0	16.4	
69 1,4-Dioxane	88	8.748	8.760	-0.012	34	60134	500.0	543.5	M
70 Dibromomethane	93	8.784	8.784	0.000	97	91330	20.0	20.4	
72 Dichlorobromomethane	83	9.009	9.015	-0.006	99	155545	20.0	19.9	
73 2-Nitropropane	41	9.253	9.259	-0.006	97	52041	20.0	14.9	
74 2-Chloroethyl vinyl ether	63	9.356	9.362	-0.006	93	93263	20.0	15.7	
75 cis-1,3-Dichloropropene	75	9.545	9.551	-0.006	94	186619	20.0	18.7	
76 4-Methyl-2-pentanone (MIBK)	43	9.703	9.703	0.000	98	1188503	100.0	86.2	
$ 77 Toluene-d8 (Surr)	98	9.855	9.855	0.000	94	1095448	50.0	50.7	
78 Toluene	92	9.928	9.934	-0.006	98	330701	20.0	20.3	
80 trans-1,3-Dichloropropene	75	10.171	10.177	-0.006	96	174628	20.0	18.1	
81 Ethyl methacrylate	69	10.232	10.232	0.000	89	203566	20.0	16.9	
82 1,1,2-Trichloroethane	97	10.378	10.378	0.000	93	133952	20.0	21.0	
83 Tetrachloroethene	166	10.476	10.482	-0.006	98	155303	20.0	18.7	
84 1,3-Dichloropropane	76	10.536	10.542	-0.006	94	215443	20.0	19.7	
86 2-Hexanone	43	10.579	10.579	0.000	98	983138	100.0	86.8	
88 Chlorodibromomethane	129	10.761	10.761	0.000	89	128790	20.0	20.5	
89 Ethylene Dibromide	107	10.871	10.877	-0.006	99	140417	20.0	19.6	
* 91 Chlorobenzene-d5 (IS)	117	11.297	11.297	0.000	87	854879	50.0	50.0	
92 1-Chlorohexane	91	11.303	11.303	0.000	98	172004	20.0	18.2	
93 Chlorobenzene	112	11.321	11.327	-0.006	95	388898	20.0	20.8	
94 1,1,1,2-Tetrachloroethane	131	11.406	11.406	0.000	95	129413	20.0	20.4	
95 Ethylbenzene	91	11.406	11.406	0.000	98	648525	20.0	20.1	
96 m-Xylene & p-Xylene	106	11.522	11.522	0.000	100	519834	40.0	40.8	
97 o-Xylene	106	11.850	11.850	0.000	97	243954	20.0	19.5	
98 Styrene	104	11.863	11.862	0.001	95	409549	20.0	19.6	
99 Bromoform	173	12.027	12.027	0.000	96	89086	20.0	18.0	
100 Isopropylbenzene	105	12.149	12.148	0.001	96	632447	20.0	20.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
102 Cyclohexanone	55	12.215	12.221	-0.006	93	215795	499.9	414.7	
$ 103 4-Bromofluorobenzene (Surr)	95	12.295	12.294	0.001	92	402611	50.0	48.6	
104 1,1,2,2-Tetrachloroethane	83	12.380	12.386	-0.006	97	232441	20.0	19.6	
106 trans-1,4-Dichloro-2-butene	53	12.410	12.404	0.006	88	349527	100.0	71.8	
105 Bromobenzene	156	12.410	12.410	0.000	82	186496	20.0	19.3	
107 1,2,3-Trichloropropane	110	12.434	12.434	0.000	87	75623	20.0	18.8	
108 N-Propylbenzene	91	12.477	12.477	0.000	99	803237	20.0	20.1	
109 2-Chlorotoluene	126	12.556	12.556	0.000	97	159815	20.0	19.1	
110 1,3,5-Trimethylbenzene	105	12.611	12.611	0.000	94	563956	20.0	19.2	
111 4-Chlorotoluene	126	12.647	12.647	0.000	97	172006	20.0	19.2	
113 tert-Butylbenzene	134	12.854	12.854	0.000	93	118798	20.0	18.9	
114 Pentachloroethane	167	12.885	12.891	-0.006	87	94197	20.0	21.6	
115 1,2,4-Trimethylbenzene	105	12.891	12.891	0.000	97	589975	20.0	19.0	
116 sec-Butylbenzene	105	13.012	13.012	0.000	95	739331	20.0	19.9	
117 1,3-Dichlorobenzene	146	13.116	13.116	0.000	98	352306	20.0	19.8	
118 4-Isopropyltoluene	119	13.122	13.122	0.000	97	648886	20.0	19.6	
* 119 1,4-Dichlorobenzene-d4	152	13.177	13.177	0.000	95	485619	50.0	50.0	
121 1,4-Dichlorobenzene	146	13.195	13.195	0.000	93	376408	20.0	20.3	
120 1,2,3-Trimethylbenzene	105	13.195	13.195	0.000	98	650475	20.0	18.7	
122 Benzyl chloride	91	13.262	13.262	0.000	99	435079	20.0	18.6	
123 1,3-Diethylbenzene	119	13.323	13.323	0.000	95	392414	20.0	18.0	
124 p-Diethylbenzene	119	13.396	13.396	0.000	94	425194	20.0	18.4	
125 n-Butylbenzene	92	13.414	13.414	0.000	96	339445	20.0	19.4	
126 1,2-Dichlorobenzene	146	13.450	13.450	0.000	98	348216	20.0	20.3	
127 o-diethylbenzene	119	13.469	13.469	0.000	96	332053	20.0	17.9	
129 1,2-Dibromo-3-Chloropropane	75	13.992	13.992	0.000	83	48686	20.0	16.7	
130 1,3,5-Trichlorobenzene	180	14.120	14.120	0.000	98	252873	20.0	19.6	
131 1,2,4-Trichlorobenzene	180	14.545	14.545	0.000	94	228228	20.0	18.9	
132 Hexachlorobutadiene	225	14.625	14.624	0.001	98	108684	20.0	20.6	
133 Naphthalene	128	14.728	14.728	0.000	97	763988	20.0	19.0	
134 1,2,3-Trichlorobenzene	180	14.868	14.868	0.000	95	230451	20.0	19.7	
135 2-Methylnaphthalene	142	15.519	15.519	0.000	92	391449	20.0	14.8	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MSV_Q_QVOA1_00042	Amount Added: 50.00	Units: uL	
MSV_Q_QVOA6_00039	Amount Added: 50.00	Units: uL	
MSV_QCYC_00003	Amount Added: 50.00	Units: uL	
MSV_Q_QGases_00076	Amount Added: 50.00	Units: uL	
MSV_Q_QARC_00041	Amount Added: 50.00	Units: uL	
MSV_Q_EE_00002	Amount Added: 50.00	Units: uL	
MSV_HP20_ISSS_00023	Amount Added: 1.00	Units: uL	Run Reagent

Report Date: 19-Aug-2020 12:00:56 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19L02.D

Injection Date: 19-Aug-2020 10:47:30 Instrument ID: 9355 Operator ID: clm27445

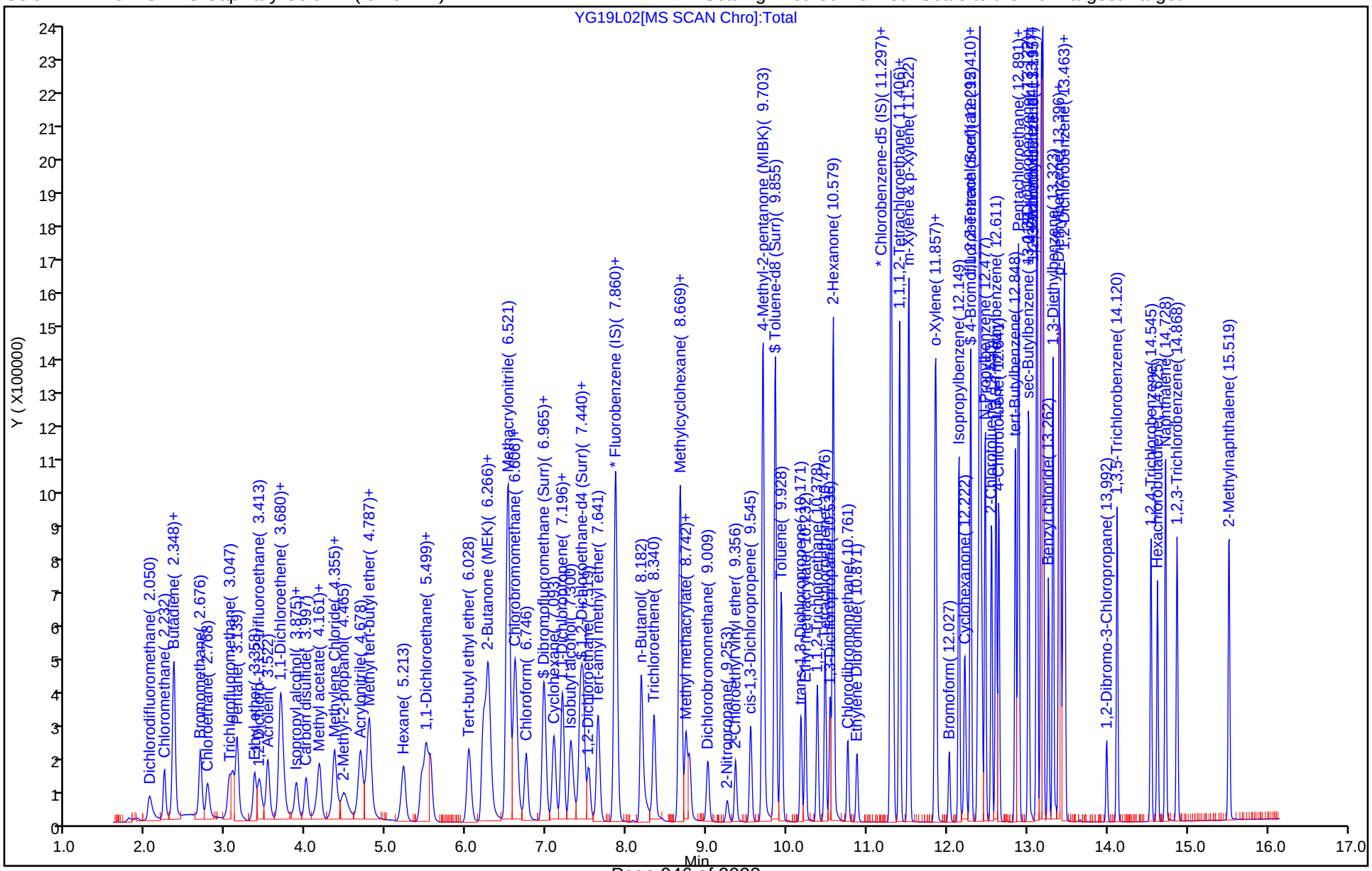
Lims ID: LCSD Worklist Smp#: 34

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 6

Method: MSVoa_9355 Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19L02.D
Lims ID: LCSD
Client ID:
Sample Type: LCSD
Inject. Date: 19-Aug-2020 10:47:30 ALS Bottle#: 6 Worklist Smp#: 34
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0008412-005
Misc. Info.: LCS
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 19-Aug-2020 12:00:33 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1016

First Level Reviewer: mellingerc Date: 19-Aug-2020 11:33:32

Compound	Amount Added	Amount Recovered	% Rec.
$ 50 Dibromofluoromethane (Surr)	50.0	49.2	98.32
$ 56 1,2-Dichloroethane-d4 (Surr)	50.0	50.0	100.07
$ 77 Toluene-d8 (Surr)	50.0	50.7	101.32
$ 103 4-Bromofluorobenzene (Surr)	50.0	48.6	97.11

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

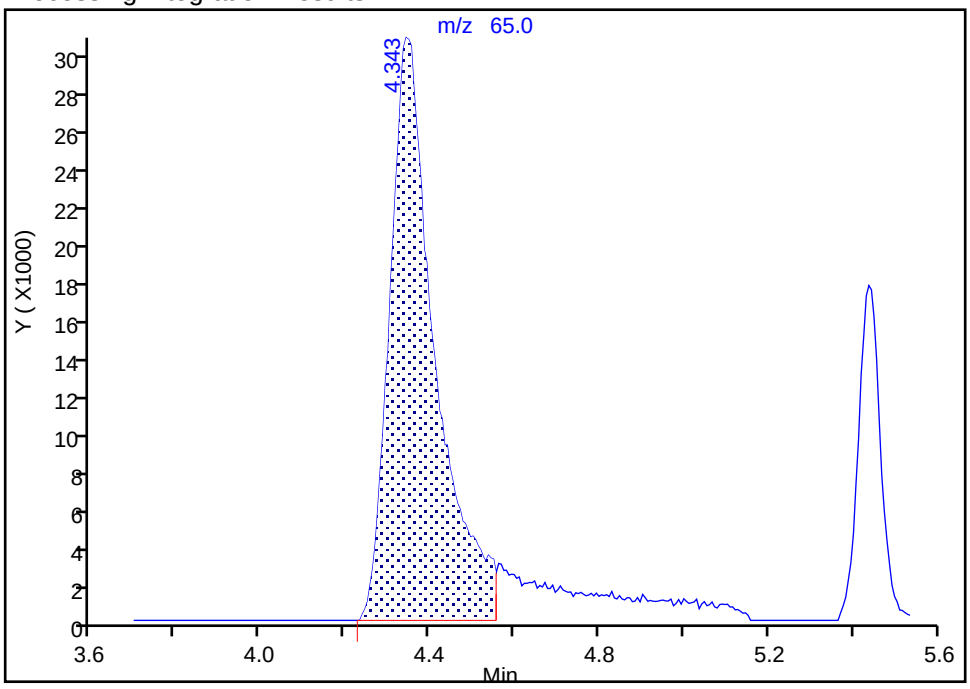
Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19L02.D
Injection Date: 19-Aug-2020 10:47:30 Instrument ID: 9355
Lims ID: LCSD
Client ID:
Operator ID: clm27445 ALS Bottle#: 6 Worklist Smp#: 34
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

* 26 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2

Signal: 1

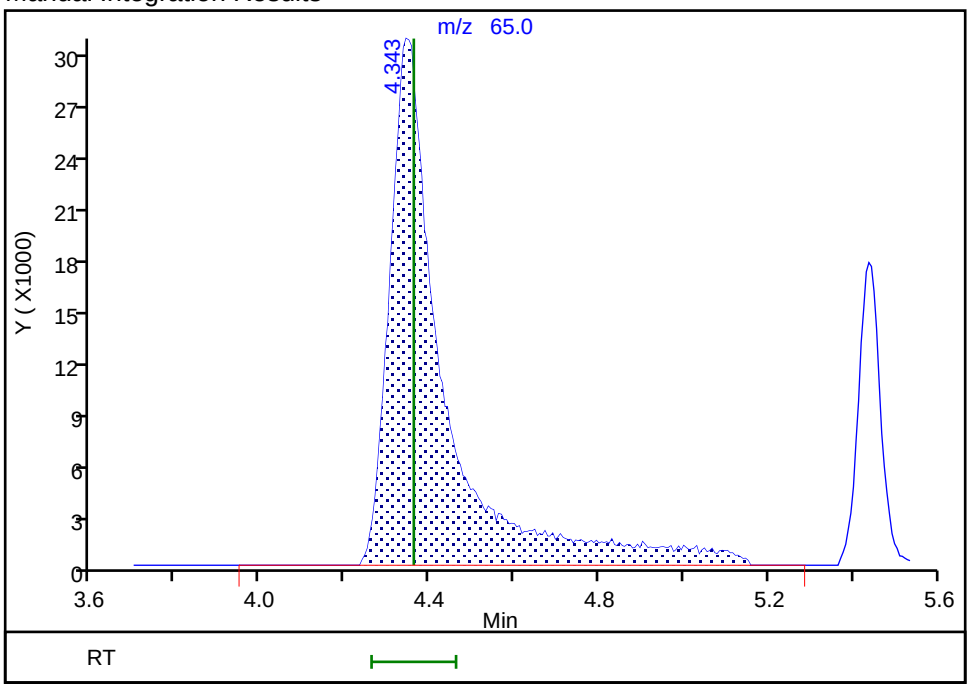
Processing Integration Results

RT: 4.34
Area: 227590
Amount: 250.0000
Amount Units: ug/l



Manual Integration Results

RT: 4.34
Area: 274584
Amount: 250.0000
Amount Units: ug/l



Reviewer: mellingerc, 19-Aug-2020 11:32:10
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 410-35697/8

Matrix: Water Lab File ID: YG21L02.D

Analysis Method: 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 08/21/2020 10:56

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 35697 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
10061-01-5	cis-1,3-Dichloropropene	18.9		1.0	0.20
10061-02-6	trans-1,3-Dichloropropene	18.3		1.0	0.20
100-41-4	Ethylbenzene	20.5		1.0	0.40
100-42-5	Styrene	20.1		5.0	0.20
106-46-7	1,4-Dichlorobenzene	20.8		5.0	0.20
106-93-4	1,2-Dibromoethane	20.4		1.0	0.20
107-06-2	1,2-Dichloroethane	21.0		1.0	0.30
108-10-1	4-Methyl-2-pentanone	93.0		10	0.50
108-87-2	Methylcyclohexane	18.2		5.0	0.50
108-88-3	Toluene	20.9		1.0	0.20
108-90-7	Chlorobenzene	21.7		1.0	0.20
110-82-7	Cyclohexane	17.8		5.0	1.0
120-82-1	1,2,4-Trichlorobenzene	18.4		5.0	0.30
124-48-1	Dibromochloromethane	20.8		1.0	0.20
1330-20-7	Xylenes, Total	61.3		6.0	1.4
127-18-4	Tetrachloroethene	18.4		1.0	0.20
156-59-2	cis-1,2-Dichloroethene	21.8		1.0	0.20
156-60-5	trans-1,2-Dichloroethene	20.9		5.0	0.20
1634-04-4	Methyl tertiary butyl ether	17.1		1.0	0.20
541-73-1	1,3-Dichlorobenzene	20.4		5.0	0.20
56-23-5	Carbon tetrachloride	21.5		1.0	0.20
591-78-6	2-Hexanone	93.3		10	0.30
67-64-1	Acetone	164		20	0.70
67-66-3	Chloroform	21.5		1.0	0.20
71-43-2	Benzene	21.3		1.0	0.20
71-55-6	1,1,1-Trichloroethane	21.1		1.0	0.30
74-83-9	Bromomethane	24.4		1.0	0.30
74-87-3	Chloromethane	18.6		1.0	0.20
75-00-3	Chloroethane	23.8		1.0	0.20
75-01-4	Vinyl chloride	19.2		1.0	0.20
75-09-2	Methylene Chloride	21.5		1.0	0.30
75-15-0	Carbon disulfide	20.9		5.0	0.20
75-25-2	Bromoform	17.7		4.0	1.0
75-27-4	Bromodichloromethane	20.7		1.0	0.20
75-34-3	1,1-Dichloroethane	20.2		1.0	0.20
75-35-4	1,1-Dichloroethene	21.7		1.0	0.20

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 410-35697/8

Matrix: Water Lab File ID: YG21L02.D

Analysis Method: 8260C Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 08/21/2020 10:56

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 35697 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-69-4	Trichlorofluoromethane	23.9		1.0	0.20
75-71-8	Dichlorodifluoromethane	15.8		1.0	0.20
76-13-1	Freon 113	20.2		10	0.20
78-87-5	1,2-Dichloropropane	20.8		1.0	0.20
78-93-3	2-Butanone	135		10	0.30
79-00-5	1,1,2-Trichloroethane	22.1		1.0	0.20
79-01-6	Trichloroethene	20.6		1.0	0.20
79-20-9	Methyl acetate	16.7		5.0	0.30
79-34-5	1,1,2,2-Tetrachloroethane	20.5		1.0	0.20
95-50-1	1,2-Dichlorobenzene	20.7		5.0	0.20
96-12-8	1,2-Dibromo-3-Chloropropane	17.9		5.0	0.30
98-82-8	Isopropylbenzene	20.2		5.0	0.20

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	101		80-120
1868-53-7	Dibromofluoromethane (Surr)	99		80-120
460-00-4	4-Bromofluorobenzene (Surr)	98		80-120
2037-26-5	Toluene-d8 (Surr)	101		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21L02.D
Lims ID: LCSD
Client ID:
Sample Type: LCSD
Inject. Date: 21-Aug-2020 10:56:30 ALS Bottle#: 7 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0008609-008
Misc. Info.: LCSD
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 21-Aug-2020 19:20:40 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1048

First Level Reviewer: mellingerc Date: 21-Aug-2020 11:27:21

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Dichlorodifluoromethane	85	2.044	2.044	0.000	100	147641	20.0	15.8	
4 Chloromethane	50	2.232	2.232	0.000	100	187052	20.0	18.6	
5 Butadiene	39	2.348	2.348	0.000	91	282811	20.0	38.7	
6 Vinyl chloride	62	2.348	2.348	0.000	99	181107	20.0	19.2	
8 Bromomethane	94	2.676	2.682	-0.006	90	169060	20.0	24.4	
9 Chloroethane	64	2.768	2.774	-0.006	100	133547	20.0	23.8	
11 Trichlorofluoromethane	101	3.078	3.084	-0.006	98	275483	20.0	23.9	
12 Pentane	43	3.139	3.139	0.000	97	231646	20.0	22.3	
14 Ethyl ether	59	3.352	3.352	0.000	93	110540	20.0	17.7	
15 1,2-Dichloro-1,1,2-trifluoroetha	67	3.419	3.413	0.007	92	126756	20.0	20.8	
16 Acrolein	56	3.522	3.522	0.000	99	288614	150.0	122.7	
17 1,1-Dichloroethene	96	3.674	3.674	0.000	99	93639	20.0	21.7	
18 Acetone	58	3.692	3.686	0.006	100	167265	150.0	164.2	
19 112TCTFE	101	3.705	3.711	-0.006	89	92752	20.0	20.2	
20 Isopropyl alcohol	45	3.863	3.863	0.000	98	105718	150.0	147.8	
21 Iodomethane	142	3.875	3.881	-0.006	100	155806	20.0	18.1	
22 Carbon disulfide	76	3.997	4.003	-0.006	99	292156	20.0	20.9	
24 Methyl acetate	43	4.130	4.130	0.000	98	143399	20.0	16.7	
25 3-Chloro-1-propene	41	4.167	4.167	0.000	90	142500	20.0	15.8	
* 26 t-Butyl alcohol-d10 (IS)	65	4.355	4.355	0.000	92	249323	250.0	250.0	M
27 Methylene Chloride	84	4.355	4.355	0.000	93	114885	20.0	21.5	
28 2-Methyl-2-propanol	59	4.477	4.471	0.006	95	272381	200.0	216.7	
30 Acrylonitrile	53	4.678	4.678	0.000	98	383375	100.0	91.2	
31 Methyl tert-butyl ether	73	4.775	4.775	0.000	97	300434	20.0	17.1	
32 trans-1,2-Dichloroethene	96	4.787	4.793	-0.006	99	109356	20.0	20.9	
33 Hexane	57	5.213	5.219	-0.006	95	132706	20.0	17.1	
36 1,1-Dichloroethane	63	5.438	5.438	0.000	98	187479	20.0	20.2	
37 Isopropyl ether	45	5.499	5.493	0.006	91	319843	20.0	16.8	
38 2-Chloro-1,3-butadiene	53	5.548	5.548	0.000	93	149285	20.0	16.7	
39 Tert-butyl ethyl ether	59	6.035	6.028	0.007	96	282226	20.0	16.0	
41 2-Butanone (MEK)	43	6.223	6.217	0.006	100	847124	150.0	135.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
42 cis-1,2-Dichloroethene	96	6.266	6.266	0.000	85	132636	20.0	21.8	
44 2,2-Dichloropropane	77	6.278	6.278	0.000	86	160205	20.0	21.2	
45 Propionitrile	54	6.296	6.290	0.006	99	255734	150.0	165.2	
46 Methacrylonitrile	67	6.515	6.521	-0.006	92	644728	150.0	142.5	
47 Chlorobromomethane	128	6.600	6.600	0.000	91	65467	20.0	19.2	
48 Tetrahydrofuran	71	6.619	6.619	0.000	88	156957	100.0	96.9	
49 Chloroform	83	6.746	6.746	0.000	96	204834	20.0	21.5	
$ 50 Dibromofluoromethane (Surr)	113	6.959	6.959	0.000	93	231203	50.0	49.7	
51 1,1,1-Trichloroethane	97	6.977	6.984	-0.007	98	171026	20.0	21.1	
52 Cyclohexane	56	7.093	7.093	0.000	93	164977	20.0	17.8	
53 1,1-Dichloropropene	75	7.190	7.196	-0.006	95	149010	20.0	20.1	
54 Carbon tetrachloride	117	7.203	7.203	0.000	97	147703	20.0	21.5	
55 Isobutyl alcohol	41	7.312	7.306	0.006	91	259820	500.0	576.1	
$ 56 1,2-Dichloroethane-d4 (Surr)	102	7.422	7.422	0.000	98	58526	50.0	50.5	
57 Benzene	78	7.458	7.458	0.000	97	473381	20.0	21.3	
59 1,2-Dichloroethane	62	7.525	7.525	0.000	98	175473	20.0	21.0	
60 Tert-amyl methyl ether	73	7.647	7.641	0.006	96	307128	20.0	17.2	
* 62 Fluorobenzene (IS)	96	7.860	7.860	0.000	99	965334	50.0	50.0	
63 n-Heptane	43	7.872	7.872	0.000	92	164928	20.0	17.8	
64 n-Butanol	56	8.182	8.182	0.000	92	405434	1000.0	930.6	
65 Trichloroethene	95	8.340	8.340	0.000	98	121389	20.0	20.6	
66 Methylcyclohexane	83	8.663	8.663	0.000	93	191648	20.0	18.2	
67 1,2-Dichloropropane	63	8.669	8.669	0.000	72	125148	20.0	20.8	
34 2-ethoxy-2-methyl butane	87	8.675	8.675	0.000	91	164867	20.0	17.3	
68 Methyl methacrylate	69	8.742	8.742	0.000	88	119554	20.0	17.5	
69 1,4-Dioxane	88	8.754	8.754	0.000	95	57995	500.0	577.2	M
70 Dibromomethane	93	8.784	8.784	0.000	96	86508	20.0	21.7	
72 Dichlorobromomethane	83	9.009	9.009	0.000	99	144671	20.0	20.7	
73 2-Nitropropane	41	9.259	9.253	0.006	96	53749	20.0	17.0	
74 2-Chloroethyl vinyl ether	63	9.362	9.356	0.006	92	85122	20.0	16.1	
75 cis-1,3-Dichloropropene	75	9.545	9.545	0.000	94	167436	20.0	18.9	
76 4-Methyl-2-pentanone (MIBK)	43	9.703	9.703	0.000	98	1143128	100.0	93.0	
$ 77 Toluene-d8 (Surr)	98	9.855	9.855	0.000	94	977309	50.0	50.7	
78 Toluene	92	9.928	9.928	0.000	97	303251	20.0	20.9	
80 trans-1,3-Dichloropropene	75	10.177	10.177	0.000	95	157265	20.0	18.3	
81 Ethyl methacrylate	69	10.232	10.232	0.000	90	180548	20.0	16.8	
82 1,1,2-Trichloroethane	97	10.378	10.378	0.000	92	125816	20.0	22.1	
83 Tetrachloroethene	166	10.476	10.476	0.000	97	135530	20.0	18.4	
84 1,3-Dichloropropane	76	10.536	10.542	-0.006	92	198654	20.0	20.4	
86 2-Hexanone	43	10.579	10.579	0.000	98	941526	100.0	93.3	
88 Chlorodibromomethane	129	10.761	10.761	0.000	89	116428	20.0	20.8	
89 Ethylene Dibromide	107	10.871	10.871	0.000	99	130143	20.0	20.4	
* 91 Chlorobenzene-d5 (IS)	117	11.297	11.297	0.000	88	761494	50.0	50.0	
92 1-Chlorohexane	91	11.303	11.297	0.006	98	153044	20.0	18.2	
93 Chlorobenzene	112	11.321	11.321	0.000	95	360245	20.0	21.7	
94 1,1,1,2-Tetrachloroethane	131	11.406	11.406	0.000	93	118326	20.0	21.0	
95 Ethylbenzene	91	11.406	11.406	0.000	98	591133	20.0	20.5	
96 m-Xylene & p-Xylene	106	11.522	11.522	0.000	100	474529	40.0	41.8	
97 o-Xylene	106	11.850	11.850	0.000	96	217156	20.0	19.5	
98 Styrene	104	11.863	11.863	0.000	94	373737	20.0	20.1	
99 Bromoform	173	12.027	12.027	0.000	95	77846	20.0	17.7	
100 Isopropylbenzene	105	12.149	12.149	0.000	96	564148	20.0	20.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
102 Cyclohexanone	55	12.222	12.222	0.000	94	218940	499.9	463.4	
$ 103 4-Bromofluorobenzene (Surr)	95	12.295	12.295	0.001	92	361155	50.0	48.9	
104 1,1,2,2-Tetrachloroethane	83	12.380	12.380	0.000	97	216221	20.0	20.5	
106 trans-1,4-Dichloro-2-butene	53	12.404	12.404	0.000	88	290151	100.0	67.1	
105 Bromobenzene	156	12.410	12.410	0.000	84	169472	20.0	19.7	
107 1,2,3-Trichloropropane	110	12.434	12.434	0.000	88	70764	20.0	19.8	
108 N-Propylbenzene	91	12.477	12.477	0.000	99	731150	20.0	20.6	
109 2-Chlorotoluene	126	12.550	12.556	-0.006	96	147064	20.0	19.8	
110 1,3,5-Trimethylbenzene	105	12.611	12.611	0.000	94	511058	20.0	19.6	
111 4-Chlorotoluene	126	12.641	12.647	-0.006	98	157042	20.0	19.8	
113 tert-Butylbenzene	134	12.854	12.854	0.000	94	104058	20.0	18.7	
114 Pentachloroethane	167	12.885	12.885	0.000	88	86038	20.0	22.2	
115 1,2,4-Trimethylbenzene	105	12.891	12.891	0.000	97	538156	20.0	19.6	
116 sec-Butylbenzene	105	13.012	13.012	0.000	95	657212	20.0	19.9	
117 1,3-Dichlorobenzene	146	13.116	13.116	0.000	98	322682	20.0	20.4	
118 4-Isopropyltoluene	119	13.122	13.122	0.000	97	585384	20.0	19.9	
* 119 1,4-Dichlorobenzene-d4	152	13.177	13.177	0.000	95	431231	50.0	50.0	
121 1,4-Dichlorobenzene	146	13.195	13.195	0.000	96	341927	20.0	20.8	
120 1,2,3-Trimethylbenzene	105	13.195	13.195	0.000	98	587438	20.0	19.1	
122 Benzyl chloride	91	13.262	13.262	0.000	99	415521	20.0	20.0	
123 1,3-Diethylbenzene	119	13.323	13.323	0.000	95	344648	20.0	17.8	
124 p-Diethylbenzene	119	13.396	13.396	0.000	94	369567	20.0	18.0	
125 n-Butylbenzene	92	13.414	13.414	0.000	97	304749	20.0	19.6	
126 1,2-Dichlorobenzene	146	13.450	13.450	0.000	98	315529	20.0	20.7	
127 o-diethylbenzene	119	13.463	13.469	-0.006	96	297753	20.0	18.1	
129 1,2-Dibromo-3-Chloropropane	75	13.992	13.992	0.000	82	46336	20.0	17.9	
130 1,3,5-Trichlorobenzene	180	14.120	14.120	0.000	98	222320	20.0	19.4	
131 1,2,4-Trichlorobenzene	180	14.545	14.545	0.000	94	197499	20.0	18.4	
132 Hexachlorobutadiene	225	14.625	14.625	0.000	98	94861	20.0	20.2	
133 Naphthalene	128	14.728	14.728	0.000	97	690358	20.0	19.4	
134 1,2,3-Trichlorobenzene	180	14.868	14.868	0.000	96	204740	20.0	19.7	
135 2-Methylnaphthalene	142	15.519	15.513	0.006	92	351366	20.0	15.0	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MSV_Q_QVOA1_00042	Amount Added: 50.00	Units: uL	
MSV_Q_QARC_00041	Amount Added: 50.00	Units: uL	
MSV_Q_QVOA6_00040	Amount Added: 50.00	Units: uL	
MSV_Q_EE_00002	Amount Added: 50.00	Units: uL	
MSV_Q_QGases_00078	Amount Added: 50.00	Units: uL	
MSV_QCYC_00003	Amount Added: 50.00	Units: uL	
MSV_HP20_ISSS_00023	Amount Added: 1.00	Units: uL	Run Reagent

Report Date: 21-Aug-2020 19:20:51 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21L02.D

Injection Date: 21-Aug-2020 10:56:30 Instrument ID: 9355 Operator ID: clm27445

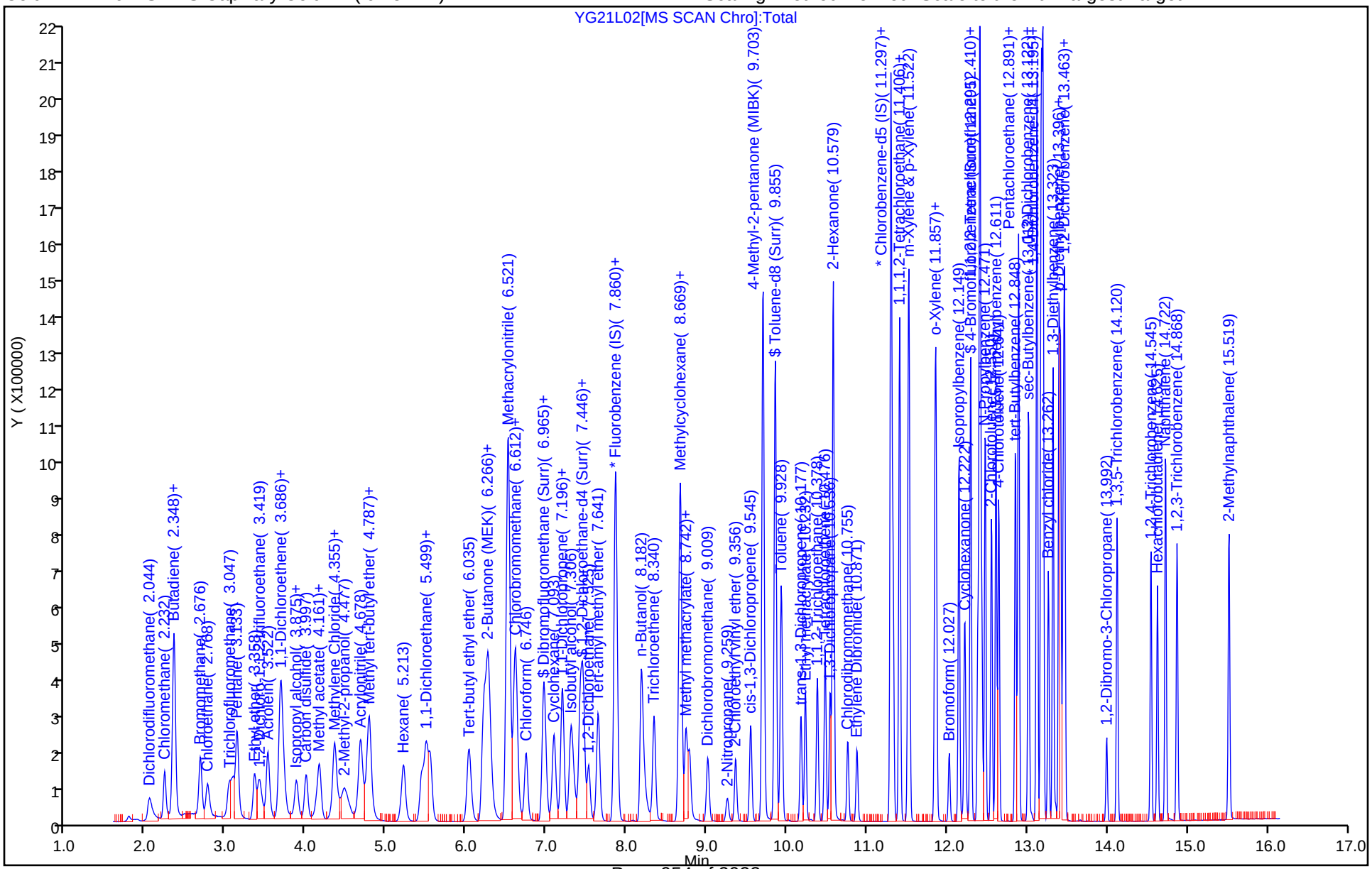
Lims ID: LCSD Worklist Smp#: 8

Client ID:

Purge Vol: 5.000 mL Dil. Factor: 1.0000 ALS Bottle#: 7

Method: MSVoa_9355 Limit Group: MSV - 8260C_D

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21L02.D
Lims ID: LCSD
Client ID:
Sample Type: LCSD
Inject. Date: 21-Aug-2020 10:56:30 ALS Bottle#: 7 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0008609-008
Misc. Info.: LCSD
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 21-Aug-2020 19:20:40 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1048

First Level Reviewer: mellingerc Date: 21-Aug-2020 11:27:21

Compound	Amount Added	Amount Recovered	% Rec.
$ 50 Dibromofluoromethane (Surr)	50.0	49.7	99.50
$ 56 1,2-Dichloroethane-d4 (Surr)	50.0	50.5	101.03
$ 77 Toluene-d8 (Surr)	50.0	50.7	101.48
$ 103 4-Bromofluorobenzene (Surr)	50.0	48.9	97.79

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

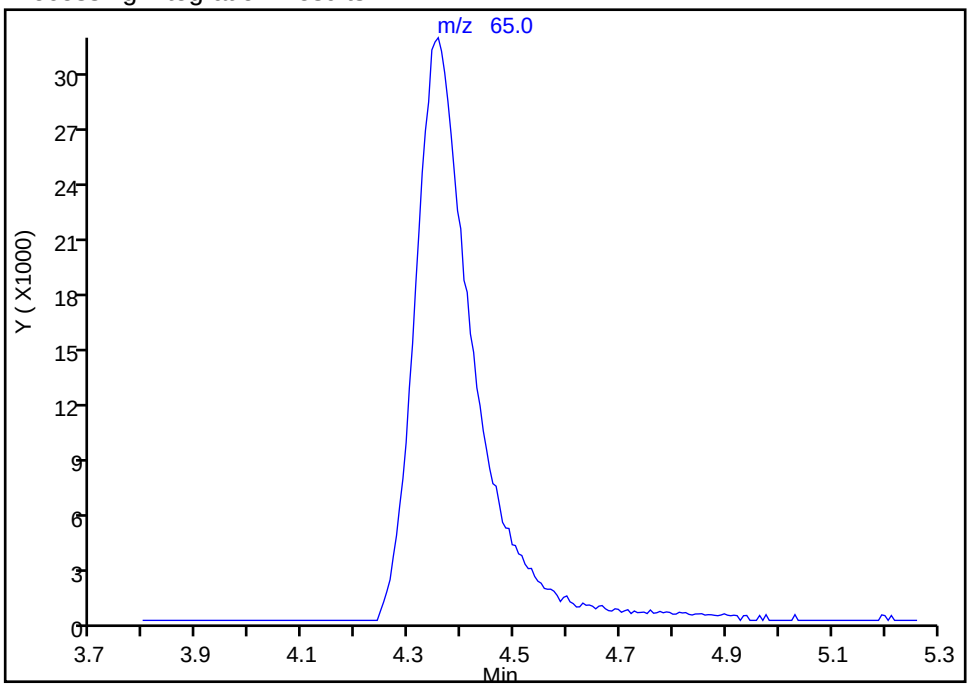
Data File: \\chromfs\Lancaster\ChromData\9355\20200821-8609.b\YG21L02.D
Injection Date: 21-Aug-2020 10:56:30 Instrument ID: 9355
Lims ID: LCSD
Client ID:
Operator ID: clm27445 ALS Bottle#: 7 Worklist Smp#: 8
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Method: MSVoa_9355 Limit Group: MSV - 8260C_D
Column: Rxi-624Sil MS Capillary Column (0.25mm) Detector MS Quad

* 26 t-Butyl alcohol-d10 (IS), CAS: 53001-22-2

Signal: 1

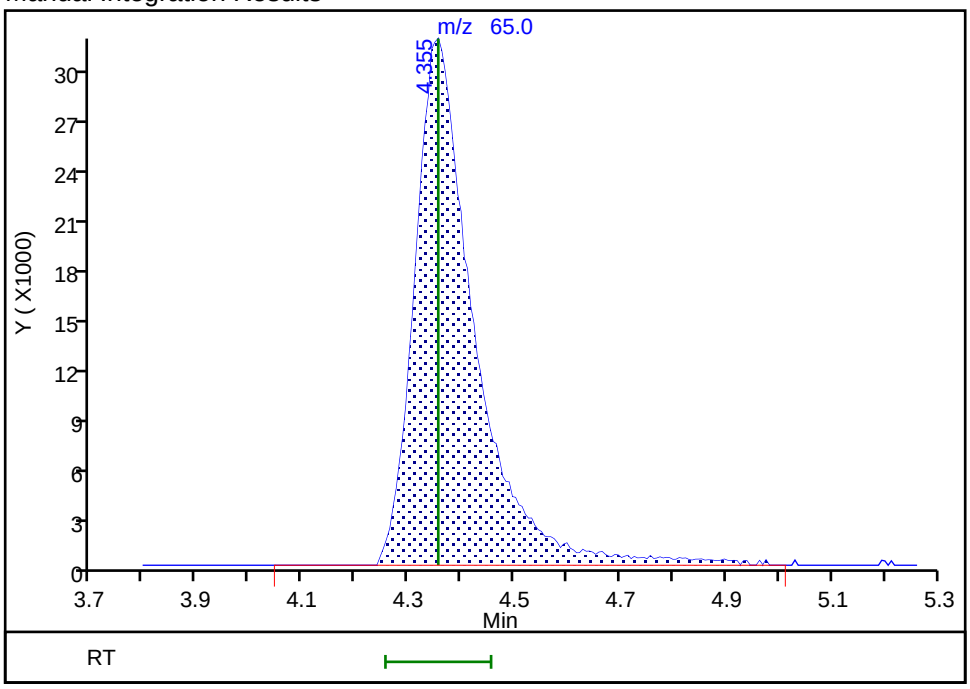
Not Detected
Expected RT: 4.36

Processing Integration Results



Manual Integration Results

RT: 4.36
Area: 249323
Amount: 250.0000
Amount Units: ug/l



Reviewer: mellingerc, 21-Aug-2020 11:26:27
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-03 MS Lab Sample ID: 410-10696-2 MS

Matrix: Water Lab File ID: YG19S04.D

Analysis Method: 8260C Date Collected: 08/12/2020 09:40

Sample wt/vol: 5(mL) Date Analyzed: 08/19/2020 13:27

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 34763 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
10061-01-5	cis-1,3-Dichloropropene	18.1		1.0	0.20
10061-02-6	trans-1,3-Dichloropropene	18.0		1.0	0.20
100-41-4	Ethylbenzene	20.9		1.0	0.40
100-42-5	Styrene	20.1		5.0	0.20
106-46-7	1,4-Dichlorobenzene	20.6		5.0	0.20
106-93-4	1,2-Dibromoethane	19.6		1.0	0.20
107-06-2	1,2-Dichloroethane	19.9		1.0	0.30
108-10-1	4-Methyl-2-pentanone	84.1		10	0.50
108-87-2	Methylcyclohexane	22.4		5.0	0.50
108-88-3	Toluene	20.9		1.0	0.20
108-90-7	Chlorobenzene	21.4		1.0	0.20
110-82-7	Cyclohexane	20.6		5.0	1.0
120-82-1	1,2,4-Trichlorobenzene	20.9		5.0	0.30
124-48-1	Dibromochloromethane	20.6		1.0	0.20
1330-20-7	Xylenes, Total	63.2		6.0	1.4
127-18-4	Tetrachloroethene	19.1		1.0	0.20
156-59-2	cis-1,2-Dichloroethene	21.9		1.0	0.20
156-60-5	trans-1,2-Dichloroethene	21.5		5.0	0.20
1634-04-4	Methyl tertiary butyl ether	16.7		1.0	0.20
541-73-1	1,3-Dichlorobenzene	20.3		5.0	0.20
56-23-5	Carbon tetrachloride	22.4		1.0	0.20
591-78-6	2-Hexanone	85.1		10	0.30
67-64-1	Acetone	160		20	0.70
67-66-3	Chloroform	21.2		1.0	0.20
71-43-2	Benzene	21.2		1.0	0.20
71-55-6	1,1,1-Trichloroethane	21.8		1.0	0.30
74-83-9	Bromomethane	29.0		1.0	0.30
74-87-3	Chloromethane	20.4		1.0	0.20
75-00-3	Chloroethane	26.3		1.0	0.20
75-01-4	Vinyl chloride	22.1		1.0	0.20
75-09-2	Methylene Chloride	21.1		1.0	0.30
75-15-0	Carbon disulfide	21.6		5.0	0.20
75-25-2	Bromoform	17.5		4.0	1.0
75-27-4	Bromodichloromethane	20.5		1.0	0.20
75-34-3	1,1-Dichloroethane	20.3		1.0	0.20
75-35-4	1,1-Dichloroethene	22.6		1.0	0.20

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-03 MS Lab Sample ID: 410-10696-2 MS

Matrix: Water Lab File ID: YG19S04.D

Analysis Method: 8260C Date Collected: 08/12/2020 09:40

Sample wt/vol: 5(mL) Date Analyzed: 08/19/2020 13:27

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 34763 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-69-4	Trichlorofluoromethane	28.6		1.0	0.20
75-71-8	Dichlorodifluoromethane	20.5		1.0	0.20
76-13-1	Freon 113	21.9		10	0.20
78-87-5	1,2-Dichloropropane	20.2		1.0	0.20
78-93-3	2-Butanone	115		10	0.30
79-00-5	1,1,2-Trichloroethane	21.3		1.0	0.20
79-01-6	Trichloroethene	21.3		1.0	0.20
79-20-9	Methyl acetate	15.3		5.0	0.30
79-34-5	1,1,2,2-Tetrachloroethane	19.3		1.0	0.20
95-50-1	1,2-Dichlorobenzene	20.8		5.0	0.20
96-12-8	1,2-Dibromo-3-Chloropropane	17.3		5.0	0.30
98-82-8	Isopropylbenzene	21.8		5.0	0.20

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	99		80-120
1868-53-7	Dibromofluoromethane (Surr)	99		80-120
460-00-4	4-Bromofluorobenzene (Surr)	96		80-120
2037-26-5	Toluene-d8 (Surr)	100		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S04.D
Lims ID: 410-10696-A-2 MS
Client ID: MW-03
Sample Type: MS
Inject. Date: 19-Aug-2020 13:27:30 ALS Bottle#: 12 Worklist Smp#: 38
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0008412-038
Misc. Info.: 410-10696-A-2 MS
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 19-Aug-2020 18:40:21 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1016

First Level Reviewer: campbellme Date: 19-Aug-2020 18:35:26

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Dichlorodifluoromethane	85	2.056	2.050	0.006	100	208968	20.0	20.5	
4 Chloromethane	50	2.238	2.238	0.000	100	224255	20.0	20.4	
5 Butadiene	39	2.354	2.360	-0.006	91	299132	20.0	37.5	
6 Vinyl chloride	62	2.354	2.360	-0.006	94	227219	20.0	22.1	
8 Bromomethane	94	2.682	2.695	-0.013	90	219042	20.0	29.0	
9 Chloroethane	64	2.774	2.786	-0.012	100	161390	20.0	26.3	
11 Trichlorofluoromethane	101	3.090	3.090	0.000	99	360764	20.0	28.6	
12 Pentane	43	3.145	3.151	-0.006	97	273595	20.0	24.1	
14 Ethyl ether	59	3.358	3.370	-0.012	92	115031	20.0	16.9	
15 1,2-Dichloro-1,1,2-trifluoroetha	67	3.431	3.425	0.006	92	143137	20.0	21.5	
16 Acrolein	56	3.528	3.528	0.000	99	283567	150.0	124.4	
17 1,1-Dichloroethene	96	3.680	3.686	-0.006	99	106405	20.0	22.6	
18 Acetone	58	3.692	3.692	0.000	100	157464	150.0	159.6	
19 112TCTFE	101	3.711	3.710	0.001	92	109366	20.0	21.9	
20 Isopropyl alcohol	45	3.869	3.863	0.006	96	78098	150.0	112.7	
21 Iodomethane	142	3.887	3.893	-0.006	99	175668	20.0	18.7	
22 Carbon disulfide	76	4.003	4.009	-0.006	100	329053	20.0	21.6	
24 Methyl acetate	43	4.136	4.136	0.000	98	143364	20.0	15.3	
25 3-Chloro-1-propene	41	4.173	4.179	-0.006	89	167765	20.0	17.0	
* 26 t-Butyl alcohol-d10 (IS)	65	4.349	4.361	-0.012	95	241478	250.0	250.0	
27 Methylene Chloride	84	4.362	4.368	-0.006	92	123399	20.0	21.1	
28 2-Methyl-2-propanol	59	4.477	4.477	0.000	96	260608	200.0	213.9	
30 Acrylonitrile	53	4.684	4.684	0.000	100	358450	100.0	78.1	
31 Methyl tert-butyl ether	73	4.775	4.781	-0.006	98	320129	20.0	16.7	
32 trans-1,2-Dichloroethene	96	4.793	4.799	-0.006	99	122629	20.0	21.5	
33 Hexane	57	5.219	5.225	-0.006	95	173738	20.0	20.5	
36 1,1-Dichloroethane	63	5.444	5.450	-0.006	97	206155	20.0	20.3	
37 Isopropyl ether	45	5.499	5.505	-0.006	92	350007	20.0	16.8	
38 2-Chloro-1,3-butadiene	53	5.554	5.560	-0.006	93	176711	20.0	18.2	
39 Tert-butyl ethyl ether	59	6.034	6.034	0.000	96	306824	20.0	15.9	
41 2-Butanone (MEK)	43	6.223	6.223	0.000	100	788989	150.0	115.2	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
42 cis-1,2-Dichloroethene	96	6.266	6.272	-0.006	85	144911	20.0	21.9	
44 2,2-Dichloropropane	77	6.284	6.290	-0.006	90	178572	20.0	21.6	
45 Propionitrile	54	6.296	6.296	0.000	98	245618	150.0	163.8	
46 Methacrylonitrile	67	6.521	6.527	-0.006	92	624780	150.0	126.5	
47 Chlorobromomethane	128	6.606	6.612	-0.006	93	70812	20.0	19.0	
48 Tetrahydrofuran	71	6.619	6.625	-0.007	92	148652	100.0	94.8	
49 Chloroform	83	6.746	6.752	-0.006	96	220234	20.0	21.2	
$ 50 Dibromofluoromethane (Surr)	113	6.965	6.965	0.000	93	251078	50.0	49.5	
51 1,1,1-Trichloroethane	97	6.984	6.990	-0.006	98	193634	20.0	21.8	
52 Cyclohexane	56	7.093	7.099	-0.006	92	208194	20.0	20.6	
53 1,1-Dichloropropene	75	7.196	7.196	0.000	94	170594	20.0	21.1	
54 Carbon tetrachloride	117	7.203	7.209	-0.006	97	167990	20.0	22.4	
55 Isobutyl alcohol	41	7.306	7.306	0.000	93	241852	500.0	553.7	
$ 56 1,2-Dichloroethane-d4 (Surr)	102	7.422	7.428	-0.006	98	62596	50.0	49.5	
57 Benzene	78	7.458	7.464	-0.006	97	516177	20.0	21.2	
59 1,2-Dichloroethane	62	7.525	7.531	-0.006	98	181537	20.0	19.9	
60 Tert-amyl methyl ether	73	7.641	7.647	-0.006	96	328538	20.0	16.8	
* 62 Fluorobenzene (IS)	96	7.860	7.866	-0.006	97	1053919	50.0	50.0	
63 n-Heptane	43	7.872	7.878	-0.006	91	212962	20.0	21.1	
64 n-Butanol	56	8.182	8.188	-0.006	92	384295	1000.0	909.6	
65 Trichloroethene	95	8.340	8.346	-0.006	98	137057	20.0	21.3	
66 Methylcyclohexane	83	8.657	8.663	-0.007	94	258129	20.0	22.4	
67 1,2-Dichloropropane	63	8.675	8.675	0.000	72	132889	20.0	20.2	
34 2-ethoxy-2-methyl butane	87	8.675	8.675	0.000	93	173579	20.0	16.7	
68 Methyl methacrylate	69	8.742	8.742	0.000	91	115084	20.0	15.4	
69 1,4-Dioxane	88	8.754	8.760	-0.006	45	50038	500.0	514.2	
70 Dibromomethane	93	8.784	8.784	0.000	96	88007	20.0	20.2	
72 Dichlorobromomethane	83	9.015	9.015	0.000	99	156335	20.0	20.5	
73 2-Nitropropane	41	9.259	9.259	0.000	98	46859	20.0	15.3	
74 2-Chloroethyl vinyl ether	63	9.362	9.362	0.000	1	730	20.0	0.1264	
75 cis-1,3-Dichloropropene	75	9.551	9.551	0.000	94	175858	20.0	18.1	
76 4-Methyl-2-pentanone (MIBK)	43	9.703	9.703	0.000	98	1128073	100.0	84.1	
$ 77 Toluene-d8 (Surr)	98	9.855	9.855	0.000	94	1053310	50.0	50.0	
78 Toluene	92	9.928	9.934	-0.006	97	332413	20.0	20.9	
80 trans-1,3-Dichloropropene	75	10.177	10.177	0.000	96	169118	20.0	18.0	
81 Ethyl methacrylate	69	10.232	10.232	0.000	89	213439	20.0	18.2	
82 1,1,2-Trichloroethane	97	10.378	10.378	0.000	92	132130	20.0	21.3	
83 Tetrachloroethene	166	10.475	10.482	-0.007	98	153898	20.0	19.1	
84 1,3-Dichloropropane	76	10.542	10.542	0.000	95	206207	20.0	19.4	
86 2-Hexanone	43	10.579	10.579	0.000	98	938278	100.0	85.1	
88 Chlorodibromomethane	129	10.761	10.761	0.000	89	125866	20.0	20.6	
89 Ethylene Dibromide	107	10.871	10.877	-0.006	98	136410	20.0	19.6	
* 91 Chlorobenzene-d5 (IS)	117	11.297	11.297	0.000	87	832056	50.0	50.0	
92 1-Chlorohexane	91	11.297	11.303	-0.006	97	187521	20.0	20.4	
93 Chlorobenzene	112	11.327	11.327	0.000	95	388983	20.0	21.4	
94 1,1,1,2-Tetrachloroethane	131	11.406	11.406	0.000	95	128851	20.0	20.9	
95 Ethylbenzene	91	11.406	11.406	0.000	98	659036	20.0	20.9	
96 m-Xylene & p-Xylene	106	11.522	11.522	0.000	99	529475	40.0	42.7	
97 o-Xylene	106	11.850	11.850	0.000	96	248916	20.0	20.5	
98 Styrene	104	11.863	11.862	0.001	95	409421	20.0	20.1	
99 Bromoform	173	12.027	12.027	0.000	95	84210	20.0	17.5	
100 Isopropylbenzene	105	12.148	12.148	0.000	96	663245	20.0	21.8	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
102 Cyclohexanone	55	12.221	12.221	0.000	94	181178	499.9	395.9	
$ 103 4-Bromofluorobenzene (Surr)	95	12.294	12.294	0.000	91	388514	50.0	48.1	
104 1,1,2,2-Tetrachloroethane	83	12.380	12.386	-0.006	97	222712	20.0	19.3	
106 trans-1,4-Dichloro-2-butene	53	12.404	12.404	0.000	87	287984	100.0	60.8	
105 Bromobenzene	156	12.410	12.410	0.000	86	183366	20.0	19.5	
107 1,2,3-Trichloropropane	110	12.434	12.434	0.000	88	73013	20.0	18.6	
108 N-Propylbenzene	91	12.477	12.477	0.000	99	823956	20.0	21.2	
109 2-Chlorotoluene	126	12.556	12.556	0.000	97	164066	20.0	20.1	
110 1,3,5-Trimethylbenzene	105	12.611	12.611	0.000	94	575795	20.0	20.1	
111 4-Chlorotoluene	126	12.647	12.647	0.000	97	172525	20.0	19.8	
113 tert-Butylbenzene	134	12.854	12.854	0.000	94	121983	20.0	20.0	
114 Pentachloroethane	167	12.891	12.891	0.000	91	101121	20.0	23.8	
115 1,2,4-Trimethylbenzene	105	12.891	12.891	0.000	97	598070	20.0	19.8	
116 sec-Butylbenzene	105	13.018	13.012	0.006	94	781286	20.0	21.6	
117 1,3-Dichlorobenzene	146	13.116	13.116	0.000	98	351093	20.0	20.3	
118 4-Isopropyltoluene	119	13.122	13.122	0.000	97	669988	20.0	20.8	
* 119 1,4-Dichlorobenzene-d4	152	13.177	13.177	0.000	95	472590	50.0	50.0	
121 1,4-Dichlorobenzene	146	13.195	13.195	0.000	95	372364	20.0	20.6	
120 1,2,3-Trimethylbenzene	105	13.195	13.195	0.000	98	660412	20.0	19.6	
122 Benzyl chloride	91	13.262	13.262	0.000	99	425094	20.0	18.7	
123 1,3-Diethylbenzene	119	13.323	13.323	0.000	95	413377	20.0	19.5	
124 p-Diethylbenzene	119	13.396	13.396	0.000	94	447987	20.0	19.9	
125 n-Butylbenzene	92	13.414	13.414	0.000	97	354569	20.0	20.8	
126 1,2-Dichlorobenzene	146	13.450	13.450	0.000	98	347535	20.0	20.8	
127 o-diethylbenzene	119	13.469	13.469	0.000	96	353411	20.0	19.6	
129 1,2-Dibromo-3-Chloropropane	75	13.992	13.992	0.000	83	49232	20.0	17.3	
130 1,3,5-Trichlorobenzene	180	14.120	14.120	0.000	97	266436	20.0	21.2	
131 1,2,4-Trichlorobenzene	180	14.545	14.545	0.000	95	246583	20.0	20.9	
132 Hexachlorobutadiene	225	14.624	14.624	0.000	98	117427	20.0	22.8	
133 Naphthalene	128	14.722	14.728	-0.006	97	788102	20.0	20.2	
134 1,2,3-Trichlorobenzene	180	14.868	14.868	0.000	96	236308	20.0	20.8	
135 2-Methylnaphthalene	142	15.513	15.519	-0.006	92	459216	20.0	17.8	

Reagents:

MSV_Q_EE_00002	Amount Added: 21.50	Units: uL	
MSV_Q_QARC_00041	Amount Added: 21.50	Units: uL	
MSV_Q_QGases_00076	Amount Added: 21.50	Units: uL	
MSV_QCYC_00003	Amount Added: 21.50	Units: uL	
MSV_Q_QVOA6_00039	Amount Added: 21.50	Units: uL	
MSV_Q_QVOA1_00042	Amount Added: 21.50	Units: uL	
MSV_HP20_ISSS_00023	Amount Added: 1.00	Units: uL	Run Reagent

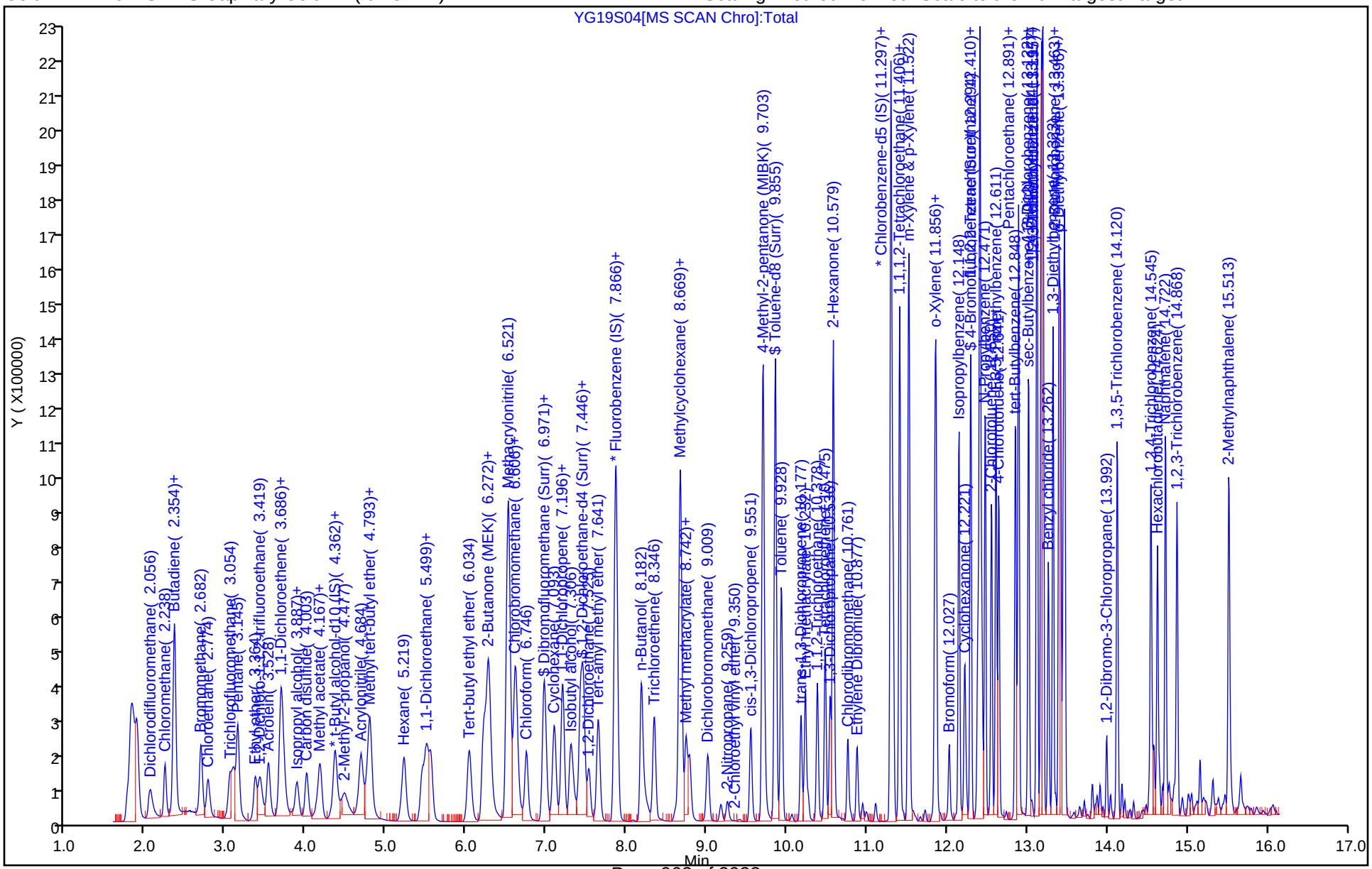
Report Date: 19-Aug-2020 18:40:33 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S04.D

Injection Date:	19-Aug-2020 13:27:30	Instrument ID:	9355	Operator ID:	clm27445
Lims ID:	410-10696-A-2 MS			Worklist Smp#:	38
Client ID:	MW-03				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S04.D				
Lims ID:	410-10696-A-2 MS				
Client ID:	MW-03				
Sample Type:	MS				
Inject. Date:	19-Aug-2020 13:27:30	ALS Bottle#:	12	Worklist Smp#:	38
Purge Vol:	5.000 mL	Dil. Factor:	1.0000		
Sample Info:	410-0008412-038				
Misc. Info.:	410-10696-A-2 MS				
Operator ID:	clm27445	Instrument ID:	9355		
Method:	\\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m				
Limit Group:	MSV - 8260C_D				
Last Update:	19-Aug-2020 18:40:21	Calib Date:	14-Jul-2020 18:39:30		
Integrator:	RTE	ID Type:	Deconvolution ID		
Quant Method:	Internal Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D				
Column 1 :	Rxi-624Sil MS Capillary Column (0.25 mm)		Det: MS Quad		
Process Host:	CTX1016				

First Level Reviewer: campbellme Date: 19-Aug-2020 18:35:26

Compound	Amount Added	Amount Recovered	% Rec.
$ 50 Dibromofluoromethane (Surr)	50.0	49.5	98.97
$ 56 1,2-Dichloroethane-d4 (Surr)	50.0	49.5	98.97
$ 77 Toluene-d8 (Surr)	50.0	50.0	100.10
$ 103 4-Bromofluorobenzene (Surr)	50.0	48.1	96.28

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-03 MSD Lab Sample ID: 410-10696-2 MSD

Matrix: Water Lab File ID: YG19S05.D

Analysis Method: 8260C Date Collected: 08/12/2020 09:40

Sample wt/vol: 5(mL) Date Analyzed: 08/19/2020 13:49

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 34763 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
10061-01-5	cis-1,3-Dichloropropene	17.7		1.0	0.20
10061-02-6	trans-1,3-Dichloropropene	17.9		1.0	0.20
100-41-4	Ethylbenzene	20.4		1.0	0.40
100-42-5	Styrene	19.5		5.0	0.20
106-46-7	1,4-Dichlorobenzene	20.0		5.0	0.20
106-93-4	1,2-Dibromoethane	19.1		1.0	0.20
107-06-2	1,2-Dichloroethane	19.4		1.0	0.30
108-10-1	4-Methyl-2-pentanone	82.5		10	0.50
108-87-2	Methylcyclohexane	21.7		5.0	0.50
108-88-3	Toluene	20.3		1.0	0.20
108-90-7	Chlorobenzene	20.8		1.0	0.20
110-82-7	Cyclohexane	19.7		5.0	1.0
120-82-1	1,2,4-Trichlorobenzene	20.5		5.0	0.30
124-48-1	Dibromochloromethane	20.0		1.0	0.20
1330-20-7	Xylenes, Total	61.3		6.0	1.4
127-18-4	Tetrachloroethene	18.5		1.0	0.20
156-59-2	cis-1,2-Dichloroethene	20.8		1.0	0.20
156-60-5	trans-1,2-Dichloroethene	20.9		5.0	0.20
1634-04-4	Methyl tertiary butyl ether	16.6		1.0	0.20
541-73-1	1,3-Dichlorobenzene	19.6		5.0	0.20
56-23-5	Carbon tetrachloride	21.6		1.0	0.20
591-78-6	2-Hexanone	83.6		10	0.30
67-64-1	Acetone	154		20	0.70
67-66-3	Chloroform	20.8		1.0	0.20
71-43-2	Benzene	20.5		1.0	0.20
71-55-6	1,1,1-Trichloroethane	21.0		1.0	0.30
74-83-9	Bromomethane	28.0		1.0	0.30
74-87-3	Chloromethane	19.9		1.0	0.20
75-00-3	Chloroethane	25.9		1.0	0.20
75-01-4	Vinyl chloride	21.7		1.0	0.20
75-09-2	Methylene Chloride	20.3		1.0	0.30
75-15-0	Carbon disulfide	20.7		5.0	0.20
75-25-2	Bromoform	17.4		4.0	1.0
75-27-4	Bromodichloromethane	19.8		1.0	0.20
75-34-3	1,1-Dichloroethane	19.7		1.0	0.20
75-35-4	1,1-Dichloroethene	22.1		1.0	0.20

FORM I
GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-03 MSD Lab Sample ID: 410-10696-2 MSD

Matrix: Water Lab File ID: YG19S05.D

Analysis Method: 8260C Date Collected: 08/12/2020 09:40

Sample wt/vol: 5(mL) Date Analyzed: 08/19/2020 13:49

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: R-624SilMS 30m ID: 0.25(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 34763 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
75-69-4	Trichlorofluoromethane	29.1		1.0	0.20
75-71-8	Dichlorodifluoromethane	18.7		1.0	0.20
76-13-1	Freon 113	20.8		10	0.20
78-87-5	1,2-Dichloropropane	19.8		1.0	0.20
78-93-3	2-Butanone	114		10	0.30
79-00-5	1,1,2-Trichloroethane	21.2		1.0	0.20
79-01-6	Trichloroethene	20.5		1.0	0.20
79-20-9	Methyl acetate	15.0		5.0	0.30
79-34-5	1,1,2,2-Tetrachloroethane	18.8		1.0	0.20
95-50-1	1,2-Dichlorobenzene	20.0		5.0	0.20
96-12-8	1,2-Dibromo-3-Chloropropane	17.1		5.0	0.30
98-82-8	Isopropylbenzene	21.0		5.0	0.20

CAS NO.	SURROGATE	%REC	Q	LIMITS
17060-07-0	1,2-Dichloroethane-d4 (Surr)	99		80-120
1868-53-7	Dibromofluoromethane (Surr)	99		80-120
460-00-4	4-Bromofluorobenzene (Surr)	96		80-120
2037-26-5	Toluene-d8 (Surr)	100		80-120

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S05.D
Lims ID: 410-10696-A-2 MSD
Client ID: MW-03
Sample Type: MSD
Inject. Date: 19-Aug-2020 13:49:30 ALS Bottle#: 13 Worklist Smp#: 39
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0008412-039
Misc. Info.: 410-10696-A-2 MSD
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 19-Aug-2020 18:40:21 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1016

First Level Reviewer: campbellme Date: 19-Aug-2020 18:36:01

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
2 Dichlorodifluoromethane	85	2.044	2.050	-0.006	100	204685	20.0	18.7	
4 Chloromethane	50	2.226	2.238	-0.012	100	234893	20.0	19.9	
5 Butadiene	39	2.342	2.360	-0.018	91	303116	20.0	35.4	
6 Vinyl chloride	62	2.348	2.360	-0.012	94	239436	20.0	21.7	
8 Bromomethane	94	2.676	2.695	-0.019	90	227284	20.0	28.0	
9 Chloroethane	64	2.768	2.786	-0.018	99	169933	20.0	25.9	
11 Trichlorofluoromethane	101	3.072	3.090	-0.018	99	393455	20.0	29.1	
12 Pentane	43	3.139	3.151	-0.012	97	264540	20.0	21.8	
14 Ethyl ether	59	3.352	3.370	-0.018	92	142970	20.0	19.5	
15 1,2-Dichloro-1,1,2-trifluoroetha	67	3.413	3.425	-0.012	92	151567	20.0	21.2	
16 Acrolein	56	3.516	3.528	-0.012	99	309288	150.0	126.8	
17 1,1-Dichloroethene	96	3.668	3.686	-0.018	99	111692	20.0	22.1	
18 Acetone	58	3.686	3.692	-0.006	100	162270	150.0	153.7	
19 112TCTFE	101	3.698	3.710	-0.012	91	111463	20.0	20.8	
20 Isopropyl alcohol	45	3.857	3.863	-0.006	57	95133	150.0	128.4	
21 Iodomethane	142	3.875	3.893	-0.018	99	183370	20.0	18.2	
22 Carbon disulfide	76	3.990	4.009	-0.019	100	338466	20.0	20.7	
24 Methyl acetate	43	4.124	4.136	-0.012	98	151018	20.0	15.0	
25 3-Chloro-1-propene	41	4.161	4.179	-0.018	90	182444	20.0	17.2	
* 26 t-Butyl alcohol-d10 (IS)	65	4.343	4.361	-0.018	94	258374	250.0	250.0	
27 Methylene Chloride	84	4.349	4.368	-0.019	92	127431	20.0	20.3	
28 2-Methyl-2-propanol	59	4.471	4.477	-0.006	97	274758	200.0	210.5	
30 Acrylonitrile	53	4.672	4.684	-0.012	99	385414	100.0	78.3	
31 Methyl tert-butyl ether	73	4.769	4.781	-0.012	97	340785	20.0	16.6	
32 trans-1,2-Dichloroethene	96	4.787	4.799	-0.012	99	128132	20.0	20.9	
33 Hexane	57	5.213	5.225	-0.012	95	175579	20.0	19.3	
36 1,1-Dichloroethane	63	5.438	5.450	-0.012	97	214337	20.0	19.7	
37 Isopropyl ether	45	5.493	5.505	-0.012	93	371800	20.0	16.6	
38 2-Chloro-1,3-butadiene	53	5.548	5.560	-0.012	93	184510	20.0	17.7	
39 Tert-butyl ethyl ether	59	6.028	6.034	-0.006	96	330655	20.0	16.0	
41 2-Butanone (MEK)	43	6.211	6.223	-0.012	100	839930	150.0	114.3	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
42 cis-1,2-Dichloroethene	96	6.266	6.272	-0.006	85	148164	20.0	20.8	
44 2,2-Dichloropropane	77	6.284	6.290	-0.006	88	187494	20.0	21.2	
45 Propionitrile	54	6.290	6.296	-0.006	99	257454	150.0	160.5	
46 Methacrylonitrile	67	6.515	6.527	-0.012	92	650530	150.0	122.8	
47 Chlorobromomethane	128	6.600	6.612	-0.012	94	75335	20.0	18.9	
48 Tetrahydrofuran	71	6.612	6.625	-0.013	92	156526	100.0	93.3	
49 Chloroform	83	6.740	6.752	-0.012	96	231602	20.0	20.8	
$ 50 Dibromofluoromethane (Surr)	113	6.959	6.965	-0.006	93	268874	50.0	49.4	
51 1,1,1-Trichloroethane	97	6.978	6.990	-0.012	98	199876	20.0	21.0	
52 Cyclohexane	56	7.093	7.099	-0.006	92	213425	20.0	19.7	
53 1,1-Dichloropropene	75	7.197	7.196	0.001	94	176801	20.0	20.4	
54 Carbon tetrachloride	117	7.203	7.209	-0.006	98	173890	20.0	21.6	
55 Isobutyl alcohol	41	7.300	7.306	-0.006	92	240868	500.0	515.4	
$ 56 1,2-Dichloroethane-d4 (Surr)	102	7.422	7.428	-0.006	98	66883	50.0	49.3	
57 Benzene	78	7.452	7.464	-0.012	97	534238	20.0	20.5	
59 1,2-Dichloroethane	62	7.525	7.531	-0.006	98	189404	20.0	19.4	
60 Tert-amyl methyl ether	73	7.641	7.647	-0.006	96	349452	20.0	16.7	
* 62 Fluorobenzene (IS)	96	7.860	7.866	-0.006	99	1130357	50.0	50.0	
63 n-Heptane	43	7.872	7.878	-0.006	92	214827	20.0	19.8	
64 n-Butanol	56	8.182	8.188	-0.006	91	448075	1000.0	996.0	
65 Trichloroethene	95	8.340	8.346	-0.006	98	141131	20.0	20.5	
66 Methylcyclohexane	83	8.663	8.663	0.000	91	268541	20.0	21.7	
67 1,2-Dichloropropane	63	8.669	8.675	-0.006	71	139500	20.0	19.8	
34 2-ethoxy-2-methyl butane	87	8.675	8.675	0.000	92	185495	20.0	16.6	
68 Methyl methacrylate	69	8.736	8.742	-0.006	89	126862	20.0	15.8	
69 1,4-Dioxane	88	8.754	8.760	-0.006	93	60085	500.0	577.1	
70 Dibromomethane	93	8.784	8.784	0.000	96	92608	20.0	19.8	
72 Dichlorobromomethane	83	9.009	9.015	-0.006	99	161531	20.0	19.8	
73 2-Nitropropane	41	9.253	9.259	-0.006	97	55383	20.0	16.9	
74 2-Chloroethyl vinyl ether	63		9.362				20.0	ND	
75 cis-1,3-Dichloropropene	75	9.545	9.551	-0.006	94	183661	20.0	17.7	
76 4-Methyl-2-pentanone (MIBK)	43	9.697	9.703	-0.006	98	1188003	100.0	82.5	
$ 77 Toluene-d8 (Surr)	98	9.855	9.855	0.000	94	1130171	50.0	50.2	
78 Toluene	92	9.928	9.934	-0.006	97	344478	20.0	20.3	
80 trans-1,3-Dichloropropene	75	10.171	10.177	-0.006	96	179385	20.0	17.9	
81 Ethyl methacrylate	69	10.232	10.232	0.000	89	225972	20.0	18.0	
82 1,1,2-Trichloroethane	97	10.378	10.378	0.000	92	140797	20.0	21.2	
83 Tetrachloroethene	166	10.476	10.482	-0.006	98	159713	20.0	18.5	
84 1,3-Dichloropropane	76	10.536	10.542	-0.006	95	216063	20.0	19.0	
86 2-Hexanone	43	10.579	10.579	0.000	98	986064	100.0	83.6	
88 Chlorodibromomethane	129	10.761	10.761	0.000	90	130736	20.0	20.0	
89 Ethylene Dibromide	107	10.871	10.877	-0.006	98	142659	20.0	19.1	
* 91 Chlorobenzene-d5 (IS)	117	11.297	11.297	0.000	87	890588	50.0	50.0	
92 1-Chlorohexane	91	11.297	11.303	-0.006	98	195548	20.0	19.9	
93 Chlorobenzene	112	11.321	11.327	-0.006	95	404671	20.0	20.8	
94 1,1,1,2-Tetrachloroethane	131	11.406	11.406	0.000	94	134138	20.0	20.3	
95 Ethylbenzene	91	11.406	11.406	0.000	98	685370	20.0	20.4	
96 m-Xylene & p-Xylene	106	11.522	11.522	0.000	99	548874	40.0	41.3	
97 o-Xylene	106	11.850	11.850	0.000	96	259913	20.0	20.0	
98 Styrene	104	11.863	11.862	0.001	95	424903	20.0	19.5	
99 Bromoform	173	12.027	12.027	0.000	95	89740	20.0	17.4	
100 Isopropylbenzene	105	12.149	12.148	0.001	96	685312	20.0	21.0	

Compound	Sig	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
102 Cyclohexanone	55	12.222	12.221	0.001	94	227602	499.9	464.9	
$ 103 4-Bromofluorobenzene (Surr)	95	12.295	12.294	0.001	91	414634	50.0	48.0	
104 1,1,2,2-Tetrachloroethane	83	12.380	12.386	-0.006	97	231509	20.0	18.8	
106 trans-1,4-Dichloro-2-butene	53	12.404	12.404	0.000	87	297176	100.0	59.0	
105 Bromobenzene	156	12.410	12.410	0.000	86	189754	20.0	19.0	
107 1,2,3-Trichloropropane	110	12.434	12.434	0.000	87	75370	20.0	18.1	
108 N-Propylbenzene	91	12.471	12.477	-0.006	99	851865	20.0	20.6	
109 2-Chlorotoluene	126	12.550	12.556	-0.006	96	168054	20.0	19.4	
110 1,3,5-Trimethylbenzene	105	12.611	12.611	0.000	94	590093	20.0	19.4	
111 4-Chlorotoluene	126	12.641	12.647	-0.006	98	178853	20.0	19.3	
113 tert-Butylbenzene	134	12.854	12.854	0.000	93	126969	20.0	19.5	
114 Pentachloroethane	167	12.885	12.891	-0.006	90	108086	20.0	23.9	
115 1,2,4-Trimethylbenzene	105	12.891	12.891	0.000	97	614438	20.0	19.2	
116 sec-Butylbenzene	105	13.012	13.012	0.000	95	802636	20.0	20.8	
117 1,3-Dichlorobenzene	146	13.116	13.116	0.000	98	361003	20.0	19.6	
118 4-Isopropyltoluene	119	13.122	13.122	0.000	96	686877	20.0	20.1	
* 119 1,4-Dichlorobenzene-d4	152	13.177	13.177	0.000	98	502921	50.0	50.0	
121 1,4-Dichlorobenzene	146	13.189	13.195	-0.006	94	383473	20.0	20.0	
120 1,2,3-Trimethylbenzene	105	13.195	13.195	0.000	98	694937	20.0	19.3	
122 Benzyl chloride	91	13.262	13.262	0.000	99	446611	20.0	18.4	
123 1,3-Diethylbenzene	119	13.323	13.323	0.000	95	433498	20.0	19.2	
124 p-Diethylbenzene	119	13.396	13.396	0.000	95	470226	20.0	19.6	
125 n-Butylbenzene	92	13.414	13.414	0.000	95	362394	20.0	20.0	
126 1,2-Dichlorobenzene	146	13.450	13.450	0.000	98	355726	20.0	20.0	
127 o-diethylbenzene	119	13.469	13.469	0.000	97	370572	20.0	19.3	
129 1,2-Dibromo-3-Chloropropane	75	13.992	13.992	0.000	83	51606	20.0	17.1	
130 1,3,5-Trichlorobenzene	180	14.120	14.120	0.000	98	273884	20.0	20.5	
131 1,2,4-Trichlorobenzene	180	14.545	14.545	0.000	95	256858	20.0	20.5	
132 Hexachlorobutadiene	225	14.625	14.624	0.001	98	122747	20.0	22.4	
133 Naphthalene	128	14.722	14.728	-0.006	97	825341	20.0	19.9	
134 1,2,3-Trichlorobenzene	180	14.868	14.868	0.000	96	245255	20.0	20.3	
135 2-Methylnaphthalene	142	15.513	15.519	-0.006	92	501351	20.0	18.3	

Reagents:

MSV_Q_QARC_00041	Amount Added: 21.50	Units: uL	
MSV_Q_QGases_00076	Amount Added: 21.50	Units: uL	
MSV_QCYC_00003	Amount Added: 21.50	Units: uL	
MSV_Q_QVOA6_00039	Amount Added: 21.50	Units: uL	
MSV_Q_QVOA1_00042	Amount Added: 21.50	Units: uL	
MSV_Q_EE_00002	Amount Added: 21.50	Units: uL	
MSV_HP20_ISSS_00023	Amount Added: 1.00	Units: uL	Run Reagent

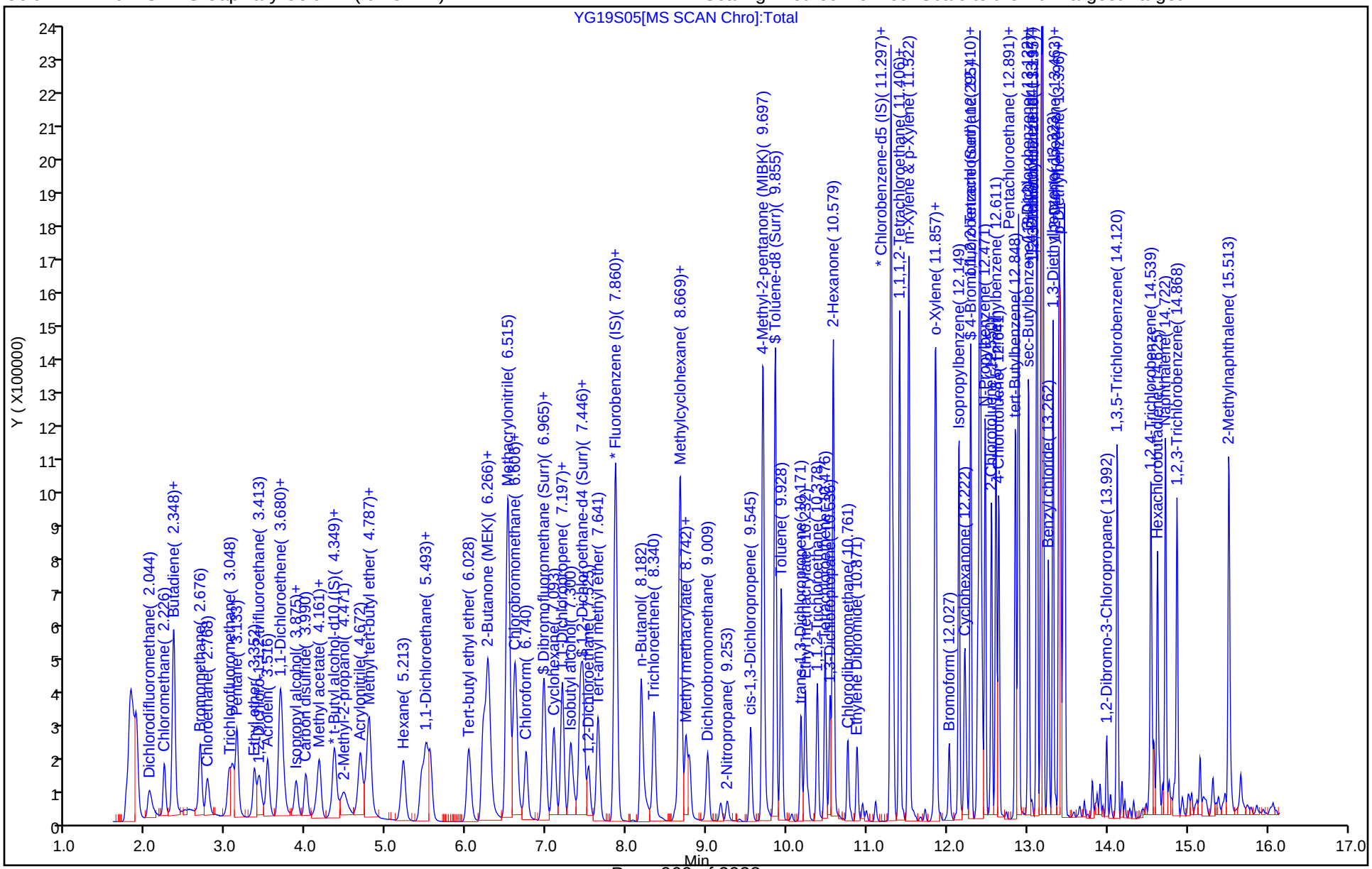
Report Date: 19-Aug-2020 18:40:38 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S05.D

Injection Date:	19-Aug-2020 13:49:30	Instrument ID:	9355	Operator ID:	clm27445
Lims ID:	410-10696-A-2 MSD			Worklist Smp#:	39
Client ID:	MW-03				
Purge Vol:	5.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	MSVoa_9355	Limit Group:	MSV - 8260C_D		

Column: Rxi-624Sil MS Capillary Column (0.25 mm) Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\YG19S05.D
Lims ID: 410-10696-A-2 MSD
Client ID: MW-03
Sample Type: MSD
Inject. Date: 19-Aug-2020 13:49:30 ALS Bottle#: 13 Worklist Smp#: 39
Purge Vol: 5.000 mL Dil. Factor: 1.0000
Sample Info: 410-0008412-039
Misc. Info.: 410-10696-A-2 MSD
Operator ID: clm27445 Instrument ID: 9355

Method: \\chromfs\Lancaster\ChromData\9355\20200819-8412.b\MSVoa_9355.m
Limit Group: MSV - 8260C_D
Last Update: 19-Aug-2020 18:40:21 Calib Date: 14-Jul-2020 18:39:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\9355\20200714-5480.b\YL14I16.D

Column 1 : Rxi-624Sil MS Capillary Column (0.25 mm) Det: MS Quad
Process Host: CTX1016

First Level Reviewer: campbellme Date: 19-Aug-2020 18:36:01

Compound	Amount Added	Amount Recovered	% Rec.
$ 50 Dibromofluoromethane (Surr)	50.0	49.4	98.82
$ 56 1,2-Dichloroethane-d4 (Surr)	50.0	49.3	98.60
$ 77 Toluene-d8 (Surr)	50.0	50.2	100.34
$ 103 4-Bromofluorobenzene (Surr)	50.0	48.0	96.00

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 9355 Start Date: 07/14/2020 12:32

Analysis Batch Number: 22126 End Date: 07/14/2020 19:01

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 410-22126/1		07/14/2020 12:32	1	YL14T01.D	R-624SilMS 30m 0.25(mm)
IC 410-22126/3		07/14/2020 13:31	1	YL14I01.D	R-624SilMS 30m 0.25(mm)
IC 410-22126/4		07/14/2020 13:53	1	YL14I02.D	R-624SilMS 30m 0.25(mm)
ICIS 410-22126/5		07/14/2020 14:15	1	YL14I03.D	R-624SilMS 30m 0.25(mm)
IC 410-22126/6		07/14/2020 14:37	1	YL14I04.D	R-624SilMS 30m 0.25(mm)
IC 410-22126/7		07/14/2020 14:59	1	YL14I05.D	R-624SilMS 30m 0.25(mm)
IC 410-22126/8		07/14/2020 15:22	1	YL14I06.D	R-624SilMS 30m 0.25(mm)
IC 410-22126/9		07/14/2020 15:43	1	YL14I07.D	R-624SilMS 30m 0.25(mm)
ICV 410-22126/10		07/14/2020 16:05	1	YL14V01.D	R-624SilMS 30m 0.25(mm)
IC 410-22126/12		07/14/2020 16:50	1		R-624SilMS 30m 0.25(mm)
IC 410-22126/13		07/14/2020 17:12	1		R-624SilMS 30m 0.25(mm)
IC 410-22126/14		07/14/2020 17:34	1		R-624SilMS 30m 0.25(mm)
IC 410-22126/15		07/14/2020 17:55	1		R-624SilMS 30m 0.25(mm)
IC 410-22126/16		07/14/2020 18:17	1		R-624SilMS 30m 0.25(mm)
IC 410-22126/17		07/14/2020 18:39	1		R-624SilMS 30m 0.25(mm)
ICV 410-22126/18		07/14/2020 19:01	1		R-624SilMS 30m 0.25(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 9355 Start Date: 08/19/2020 08:32

Analysis Batch Number: 34763 End Date: 08/19/2020 20:03

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 410-34763/1		08/19/2020 08:32	1	YG19T02.D	R-624SilMS 30m 0.25(mm)
CCVIS 410-34763/3		08/19/2020 09:19	1	YG19C01.D	R-624SilMS 30m 0.25(mm)
LCS 410-34763/5		08/19/2020 10:03	1	YG19L01.D	R-624SilMS 30m 0.25(mm)
LCSD 410-34763/34		08/19/2020 10:47	1	YG19L02.D	R-624SilMS 30m 0.25(mm)
ZZZZZ		08/19/2020 11:09	1		R-624SilMS 30m 0.25(mm)
MB 410-34763/7		08/19/2020 11:31	1	YG19B01.D	R-624SilMS 30m 0.25(mm)
410-10696-5	TB-01	08/19/2020 12:43	1	YG19S02.D	R-624SilMS 30m 0.25(mm)
410-10696-2	MW-03	08/19/2020 13:05	1	YG19S03.D	R-624SilMS 30m 0.25(mm)
410-10696-2 MS	MW-03 MS	08/19/2020 13:27	1	YG19S04.D	R-624SilMS 30m 0.25(mm)
410-10696-2 MSD	MW-03 MSD	08/19/2020 13:49	1	YG19S05.D	R-624SilMS 30m 0.25(mm)
410-10696-4	MW-05	08/19/2020 17:08	1	YG19S14.D	R-624SilMS 30m 0.25(mm)
ZZZZZ		08/19/2020 17:29	5		R-624SilMS 30m 0.25(mm)
410-10696-1	MW-01	08/19/2020 17:52	1	YG19S16.D	R-624SilMS 30m 0.25(mm)
410-10696-6	WPA-GW-02	08/19/2020 18:36	5	YG19S18.D	R-624SilMS 30m 0.25(mm)
410-10696-6 DL	WPA-GW-02 DL	08/19/2020 18:57	50	YG19S19.D	R-624SilMS 30m 0.25(mm)
410-10696-3 DL	MW-04 DL	08/19/2020 19:19	10	YG19S20.D	R-624SilMS 30m 0.25(mm)
ZZZZZ		08/19/2020 20:03	1		R-624SilMS 30m 0.25(mm)

GC/MS VOA ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 9355 Start Date: 08/21/2020 08:14

Analysis Batch Number: 35697 End Date: 08/21/2020 18:41

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
BFB 410-35697/1		08/21/2020 08:14	1	YG21T01.D	R-624SilMS 30m 0.25(mm)
CCVIS 410-35697/3		08/21/2020 09:05	1	YG21C01.D	R-624SilMS 30m 0.25(mm)
CCV 410-35697/4		08/21/2020 09:27	1		R-624SilMS 30m 0.25(mm)
LCS 410-35697/6		08/21/2020 10:11	1	YG21L01.D	R-624SilMS 30m 0.25(mm)
LCSD 410-35697/8		08/21/2020 10:56	1	YG21L02.D	R-624SilMS 30m 0.25(mm)
ZZZZZ		08/21/2020 11:17	1		R-624SilMS 30m 0.25(mm)
ZZZZZ		08/21/2020 11:40	1		R-624SilMS 30m 0.25(mm)
ZZZZZ		08/21/2020 12:02	1		R-624SilMS 30m 0.25(mm)
MB 410-35697/12		08/21/2020 12:24	1	YG21B01.D	R-624SilMS 30m 0.25(mm)
ZZZZZ		08/21/2020 13:10	1		R-624SilMS 30m 0.25(mm)
ZZZZZ		08/21/2020 13:32	1		R-624SilMS 30m 0.25(mm)
ZZZZZ		08/21/2020 16:51	1		R-624SilMS 30m 0.25(mm)
ZZZZZ		08/21/2020 17:13	1		R-624SilMS 30m 0.25(mm)
ZZZZZ		08/21/2020 17:35	1		R-624SilMS 30m 0.25(mm)
ZZZZZ		08/21/2020 17:57	1		R-624SilMS 30m 0.25(mm)
410-10696-3	MW-04	08/21/2020 18:19	5	YG21S15.D	R-624SilMS 30m 0.25(mm)
ZZZZZ		08/21/2020 18:41	1		R-624SilMS 30m 0.25(mm)

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 22126 Batch Start Date: 07/14/20 12:32 Batch Analyst: Riehl, Chelsea

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MSV_4ppbEE 00037	MSV_DCFM 00018	MSV_HP20_ISSS 00016	MSV_Q_EE 00002
BFB 410-22126/1		8260C		1 uL	1 uL				
IC 410-22126/3		8260C		5 mL	5 mL		7.5 uL	1 uL	
IC 410-22126/4		8260C		5 mL	5 mL		2.5 uL	1 uL	
ICIS 410-22126/5		8260C		5 mL	5 mL		2.5 uL	1 uL	
IC 410-22126/6		8260C		5 mL	5 mL		2 uL	1 uL	
IC 410-22126/7		8260C		5 mL	5 mL		1 uL	1 uL	
IC 410-22126/8		8260C		5 mL	5 mL		2 uL	1 uL	
IC 410-22126/9		8260C		5 mL	5 mL	12.5 mL		1 uL	
ICV 410-22126/10		8260C		5 mL	5 mL		1 uL	1 uL	50 uL

Lab Sample ID	Client Sample ID	Method Chain	Basis	MSV_Q_QARC 00036	MSV_Q_QGases 00067	MSV_Q_QVOA1 00037	MSV_Q_QVOA6 00034	MSV_QCYC 00003	MSV_V_2CEVE 00086
BFB 410-22126/1		8260C							
IC 410-22126/3		8260C							15 uL
IC 410-22126/4		8260C							5 uL
ICIS 410-22126/5		8260C							5 uL
IC 410-22126/6		8260C							4 uL
IC 410-22126/7		8260C							2 uL
IC 410-22126/8		8260C							4 uL
IC 410-22126/9		8260C							
ICV 410-22126/10		8260C		50 uL	50 uL	50 uL	50 uL	50 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MSV_V_BFB 00002	MSV_V_EE 00003	MSV_V_Gas 00108	MSV_V_VOA1 00074	MSV_V_VOA2 00039	MSV_V_VOA3 00036
BFB 410-22126/1		8260C		1 uL					
IC 410-22126/3		8260C			15 uL	7.5 uL	15 uL		6 uL
IC 410-22126/4		8260C			5 uL	2.5 uL	5 uL		2 uL
ICIS 410-22126/5		8260C			5 uL	2.5 uL	5 uL		2 uL

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 22126 Batch Start Date: 07/14/20 12:32 Batch Analyst: Riehl, Chelsea

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	MSV_V_BFB 00002	MSV_V_EE 00003	MSV_V_Gas 00108	MSV_V_VOA1 00074	MSV_V_VOA2 00039	MSV_V_VOA3 00036
IC 410-22126/6		8260C			4 uL	2 uL	4 uL	4 uL	1.6 uL
IC 410-22126/7		8260C			2 uL	1 uL	2 uL	2 uL	0.8 uL
IC 410-22126/8		8260C			4 uL	2 uL	4 uL	12 uL	1.6 uL
IC 410-22126/9		8260C							
ICV 410-22126/10		8260C							

Lab Sample ID	Client Sample ID	Method Chain	Basis	MSV_V_VOA6 00043	MSV_VCYC 00002				
BFB 410-22126/1		8260C							
IC 410-22126/3		8260C		15 uL	30 uL				
IC 410-22126/4		8260C		5 uL	10 uL				
ICIS 410-22126/5		8260C		5 uL	10 uL				
IC 410-22126/6		8260C		4 uL	16 uL				
IC 410-22126/7		8260C		2 uL	8 uL				
IC 410-22126/8		8260C		4 uL	32 uL				
IC 410-22126/9		8260C							
ICV 410-22126/10		8260C							

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 34763 Batch Start Date: 08/19/20 08:32 Batch Analyst: Campbell, Miranda E

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	ResidualChloCheck	Headspace	MSV_DCFM 00019
BFB 410-34763/1		8260C		1 uL	1 uL				
CCVIS 410-34763/3		8260C		5 mL	5 mL				2.5 uL
LCS 410-34763/5		8260C		5 mL	5 mL				
MB 410-34763/7		8260C		5 mL	5 mL				
LCSD 410-34763/34		8260C		5 mL	5 mL				
410-10696-A-5	TB-01	8260C	T	5 mL	5 mL	<2 SU	N	Y	
410-10696-A-2	MW-03	8260C	T	5 mL	5 mL	<2 SU	N	N	
410-10696-A-2 MS	MW-03	8260C	T	5 mL	5 mL	<2 SU	N	N	
410-10696-A-2 MSD	MW-03	8260C	T	5 mL	5 mL	<2 SU	N	N	
410-10696-A-4	MW-05	8260C	T	5 mL	5 mL	<2 SU	N	N	
410-10696-G-1	MW-01	8260C	T	5 mL	5 mL	<2 SU	N	N	
410-10696-G-6	WPA-GW-02	8260C	T	5 mL	5 mL	<2 SU	N	N	
410-10696-G-3	MW-04	8260C	T	5 mL	5 mL	<2 SU	N	N	
410-10696-G-6	WPA-GW-02	8260C	T	5 mL	5 mL	<2 SU	N	N	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MSV_HP20_ISSS 00023	MSV_Q_EE 00002	MSV_Q_QARC 00041	MSV_Q_QGases 00076	MSV_Q_QVOA1 00042	MSV_Q_QVOA6 00039
BFB 410-34763/1		8260C							
CCVIS 410-34763/3		8260C		1 uL					
LCS 410-34763/5		8260C		1 uL	50 uL	50 uL	50 uL	50 uL	50 uL
MB 410-34763/7		8260C		1 uL					
LCSD 410-34763/34		8260C		1 uL	50 uL	50 uL	50 uL	50 uL	50 uL
410-10696-A-5	TB-01	8260C	T	1 uL					
410-10696-A-2	MW-03	8260C	T	1 uL					
410-10696-A-2 MS	MW-03	8260C	T	1 uL	21.5 uL	21.5 uL	21.5 uL	21.5 uL	21.5 uL
410-10696-A-2 MSD	MW-03	8260C	T	1 uL	21.5 uL	21.5 uL	21.5 uL	21.5 uL	21.5 uL
410-10696-A-4	MW-05	8260C	T	1 uL					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 34763 Batch Start Date: 08/19/20 08:32 Batch Analyst: Campbell, Miranda E

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	MSV_HP20_ISSS 00023	MSV_Q_EE 00002	MSV_Q_QARC 00041	MSV_Q_QGases 00076	MSV_Q_QVOA1 00042	MSV_Q_QVOA6 00039
410-10696-G-1	MW-01	8260C	T	1 uL					
410-10696-G-6	WPA-GW-02	8260C	T	1 uL					
410-10696-G-3	MW-04	8260C	T	1 uL					
410-10696-G-6	WPA-GW-02	8260C	T	1 uL					

Lab Sample ID	Client Sample ID	Method Chain	Basis	MSV_QCYC 00003	MSV_V_2CEVE 00091	MSV_V_BFB 00003	MSV_V_EE 00003	MSV_V_Gas 00130	MSV_V_VOA1 00084
BFB 410-34763/1		8260C				1 uL			
CCVIS 410-34763/3		8260C			5 uL		5 uL	2.5 uL	5 uL
LCS 410-34763/5		8260C		50 uL					
MB 410-34763/7		8260C							
LCSD 410-34763/34		8260C		50 uL					
410-10696-A-5	TB-01	8260C	T						
410-10696-A-2	MW-03	8260C	T						
410-10696-A-2 MS	MW-03	8260C	T	21.5 uL					
410-10696-A-2 MSD	MW-03	8260C	T	21.5 uL					
410-10696-A-4	MW-05	8260C	T						
410-10696-G-1	MW-01	8260C	T						
410-10696-G-6	WPA-GW-02	8260C	T						
410-10696-G-3	MW-04	8260C	T						
410-10696-G-6	WPA-GW-02	8260C	T						

Lab Sample ID	Client Sample ID	Method Chain	Basis	MSV_V_VOA3 00041	MSV_V_VOA6 00048	MSV_VCYC 00002	AnalysisComment		
BFB 410-34763/1		8260C							
CCVIS 410-34763/3		8260C		2 uL	5 uL	10 uL			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 34763 Batch Start Date: 08/19/20 08:32 Batch Analyst: Campbell, Miranda E

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	MSV_V_VOA3 00041	MSV_V_VOA6 00048	MSV_VCYC 00002	AnalysisComment		
LCS 410-34763/5		8260C					BM oos high. ME if seen, windows are 40-121%.- OK ND in samples		
MB 410-34763/7		8260C							
LCSD 410-34763/34		8260C							
410-10696-A-5	TB-01	8260C	T				9440		
410-10696-A-2	MW-03	8260C	T						
410-10696-A-2 MS	MW-03	8260C	T						
410-10696-A-2 MSD	MW-03	8260C	T						
410-10696-A-4	MW-05	8260C	T						
410-10696-G-1	MW-01	8260C	T						
410-10696-G-6	WPA-GW-02	8260C	T						
410-10696-G-3	MW-04	8260C	T						
410-10696-G-6	WPA-GW-02	8260C	T						

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 35697 Batch Start Date: 08/21/20 08:14 Batch Analyst: Campbell, Miranda E

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Initial pH	ResidualChloCheck	Headspace	MSV_DCFM 00019
BFB 410-35697/1		8260C		1 uL	1 uL				
CCVIS 410-35697/3		8260C		5 mL	5 mL				2.5 uL
LCS 410-35697/6		8260C		5 mL	5 mL				
LCSD 410-35697/8		8260C		5 mL	5 mL				
MB 410-35697/12		8260C		5 mL	5 mL				
410-10696-H-3	MW-04	8260C	T	5 mL	5 mL	<2 SU	N	N	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MSV_HP20_ISSS 00023	MSV_Q_EE 00002	MSV_Q_QARC 00041	MSV_Q_QGases 00078	MSV_Q_QVOA1 00042	MSV_Q_QVOA6 00040
BFB 410-35697/1		8260C							
CCVIS 410-35697/3		8260C		1 uL					
LCS 410-35697/6		8260C		1 uL	50 uL	50 uL	50 uL	50 uL	50 uL
LCSD 410-35697/8		8260C		1 uL	50 uL	50 uL	50 uL	50 uL	50 uL
MB 410-35697/12		8260C		1 uL					
410-10696-H-3	MW-04	8260C	T	1 uL					

Lab Sample ID	Client Sample ID	Method Chain	Basis	MSV_QCYC 00003	MSV_V_2CEVE 00091	MSV_V_BFB 00003	MSV_V_EE 00003	MSV_V_Gas 00131	MSV_V_VOA1 00085
BFB 410-35697/1		8260C				1 uL			
CCVIS 410-35697/3		8260C			5 uL		5 uL	2.5 uL	5 uL
LCS 410-35697/6		8260C		50 uL					
LCSD 410-35697/8		8260C		50 uL					
MB 410-35697/12		8260C							
410-10696-H-3	MW-04	8260C	T						

Lab Sample ID	Client Sample ID	Method Chain	Basis	MSV_V_VOA3 00041	MSV_V_VOA6 00049	MSV_VCYC 00002	AnalysisComment		
BFB 410-35697/1		8260C							

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS VOA BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 35697 Batch Start Date: 08/21/20 08:14 Batch Analyst: Campbell, Miranda E

Batch Method: 8260C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	MSV_V_VOA3 00041	MSV_V_VOA6 00049	MSV_VCYC 00002	AnalysisComment		
CCVIS 410-35697/3		8260C		2 uL	5 uL	10 uL			
LCS 410-35697/6		8260C					BM oos high. ND in sampls.		
LCSD 410-35697/8		8260C							
MB 410-35697/12		8260C							
410-10696-H-3	MW-04	8260C	T						

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method 8270D

Semivolatile Organic Compounds (GC/MS) by Method 8270D

FORM II
GC/MS SEMI VOA SURROGATE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): DB-5MS 30m ID: 0.25(mm)

Client Sample ID	Lab Sample ID	2FP #	PHL #	NBZ #	FBP #	TBP #	TPHd14 #
MW-01	410-10696-1	30	25	40	40 X	60	29 X
MW-04	410-10696-3	22	21	54	47	47	46
MW-04 DL	410-10696-3 DL	26	26	66	59	61	57
MW-04 RE	410-10696-3 RE	40	32	69	60	76	38
MW-04 REDL	410-10696-3 REDL	49	37	83	77	99	46
WPA-GW-02	410-10696-6	16	14	54	46	35	39
	MB 410-33824/1-A	28	21	48	44	56	55
	MB 410-35738/1-A	46	33	81	70	91	84
	LCS 410-33824/2-A	34	27	51	47	62	51
	LCS 410-35738/2-A	55	40	85	74	104	86

	QC LIMITS
2FP = 2-Fluorophenol (Surr)	10-84
PHL = Phenol-d5 (Surr)	10-67
NBZ = Nitrobenzene-d5 (Surr)	38-113
FBP = 2-Fluorobiphenyl (Surr)	44-102
TBP = 2,4,6-Tribromophenol (Surr)	18-141
TPHd14 = p-Terphenyl-d14 (Surr)	34-128

Column to be used to flag recovery values

FORM II 8270D

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low Lab File ID: DH1004.D

Lab ID: LCS 410-33824/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1'-Biphenyl	50.2	26.7	53	56-109	*
2,4-Dichlorophenol	50.1	30.9	62	65-110	*
2,4-Dimethylphenol	50.1	26.2	52	53-93	*
2,4-Dinitrophenol	100	67.0	67	44-134	
2,4-Dinitrotoluene	50.3	32.0	64	66-122	*
2,4,5-Trichlorophenol	50.2	33.0	66	66-118	
2,4,6-Trichlorophenol	50.1	33.2	66	69-117	*
2,2'-oxybis[1-chloropropane]	50.2	26.0	52	48-105	
Di-n-butyl phthalate	50.2	31.2	62	58-125	
Di-n-octyl phthalate	50.2	30.9	62	60-136	
Benzo[a]anthracene	50.0	30.4	61	68-123	*
Benzo[a]pyrene	50.2	26.8	53	71-117	*
Benzo[b]fluoranthene	50.1	28.2	56	69-121	*
Benzo[g,h,i]perylene	50.1	25.9	52	60-119	*
Benzo[k]fluoranthene	50.1	30.4	61	69-122	*
Acenaphthene	50.1	26.0	52	52-114	
Acenaphthylene	50.2	29.0	58	56-127	
Acetophenone	50.1	30.2	60	61-114	*
Anthracene	50.1	31.1	62	67-116	*
Atrazine	50.4	35.6	71	71-133	
Benzaldehyde	50.5	27.2	54	55-116	*
Butylbenzylphthalate	50.0	27.7	55	40-133	
Caprolactam	50.5	7.56 J	15	10-57	
Carbazole	50.0	33.4	67	64-127	
Chrysene	50.0	33.5	67	65-121	
Dibenz(a,h)anthracene	50.2	25.8	52	63-128	*
Dibenzofuran	50.0	27.4	55	60-112	*
Diethyl phthalate	50.1	26.4	53	41-126	
Dimethyl phthalate	50.0	18.2	36	10-134	
Hexachlorobenzene	50.1	29.7	59	60-117	*
Hexachlorobutadiene	50.4	20.5	41	20-108	
Hexachlorocyclopentadiene	101	15.1	15	10-91	
Hexachloroethane	50.3	19.0	38	23-95	
Fluoranthene	50.1	34.9	70	63-122	
Fluorene	50.1	29.5	59	56-115	
Indeno[1,2,3-cd]pyrene	50.2	25.2	50	59-123	*
Isophorone	50.0	31.2	62	63-120	*
N-Nitrosodi-n-propylamine	50.0	31.7	63	58-120	
N-Nitrosodiphenylamine	50.0	31.0	62	60-126	
Naphthalene	50.4	25.5	51	51-102	
Nitrobenzene	50.2	29.9	60	59-109	
Pentachlorophenol	50.4	33.8	67	54-131	

Column to be used to flag recovery and RPD values

FORM III 8270D

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low Lab File ID: DH1004.D

Lab ID: LCS 410-33824/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Phenanthrene	50.2	29.8	59	65-113	*
Phenol	50.2	16.0	32	19-79	
Pyrene	50.4	30.1	60	65-115	*
2-Chloronaphthalene	50.0	25.8	52	51-107	
2-Chlorophenol	50.2	28.7	57	57-105	
2-Methylnaphthalene	50.0	26.5	53	51-107	
2-Methylphenol	50.2	28.7	57	53-107	
2-Nitroaniline	50.1	30.8	62	66-126	*
2-Nitrophenol	50.1	31.4	63	63-111	
3,3'-Dichlorobenzidine	50.2	26.8	53	42-107	
3-Nitroaniline	50.2	28.7	57	55-121	
4,6-Dinitro-2-methylphenol	50.0	33.5	67	63-129	
4-Bromophenyl-phenylether	50.3	29.8	59	60-114	*
4-Methylphenol	50.1	26.7	53	49-108	
4-Nitroaniline	50.1	28.8	58	55-113	
4-Nitrophenol	50.1	18.8 J	37	23-89	
Bis(2-chloroethoxy)methane	50.4	30.3	60	63-116	*
Bis(2-chloroethyl)ether	50.3	28.6	57	58-108	*
Bis(2-ethylhexyl) phthalate	50.3	34.3	68	61-129	
2,6-Dinitrotoluene	50.3	29.7	59	71-120	*
4-Chloro-3-methylphenol	50.0	34.6	69	60-118	
4-Chloroaniline	50.0	25.0	50	45-111	
4-Chlorophenyl-phenyl ether	50.2	26.9	53	57-110	*

Column to be used to flag recovery and RPD values

FORM III 8270D

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low Lab File ID: DH1410.D

Lab ID: LCS 410-35738/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,1'-Biphenyl	50.2	42.9	85	56-109	
2,4-Dichlorophenol	50.1	48.7	97	65-110	
2,4-Dimethylphenol	50.1	41.5	83	53-93	
2,4-Dinitrophenol	100	118	117	44-134	
2,4-Dinitrotoluene	50.3	55.1	110	66-122	
2,4,5-Trichlorophenol	50.2	51.5	103	66-118	
2,4,6-Trichlorophenol	50.1	52.9	106	69-117	
2,2'-oxybis[1-chloropropane]	50.2	42.2	84	48-105	
Di-n-butyl phthalate	50.2	50.5	101	58-125	
Di-n-octyl phthalate	50.2	47.3	94	60-136	
Benzo[a]anthracene	50.0	48.3	97	68-123	
Benzo[a]pyrene	50.2	45.3	90	71-117	
Benzo[b]fluoranthene	50.1	46.7	93	69-121	
Benzo[g,h,i]perylene	50.1	43.7	87	60-119	
Benzo[k]fluoranthene	50.1	51.5	103	69-122	
Acenaphthene	50.1	42.8	85	52-114	
Acenaphthylene	50.2	47.4	95	56-127	
Acetophenone	50.1	49.3	98	61-114	
Anthracene	50.1	51.2	102	67-116	
Atrazine	50.4	57.6	114	71-133	
Benzaldehyde	50.5	43.2	86	55-116	
Butylbenzylphthalate	50.0	42.3	85	40-133	
Caprolactam	50.5	11.8	23	10-57	
Carbazole	50.0	55.4	111	64-127	
Chrysene	50.0	53.0	106	65-121	
Dibenz(a,h)anthracene	50.2	42.9	86	63-128	
Dibenzofuran	50.0	44.9	90	60-112	
Diethyl phthalate	50.1	44.2	88	41-126	
Dimethyl phthalate	50.0	30.3	61	10-134	
Hexachlorobenzene	50.1	48.6	97	60-117	
Hexachlorobutadiene	50.4	35.6	71	20-108	
Hexachlorocyclopentadiene	101	21.5	21	10-91	
Hexachloroethane	50.3	31.6	63	23-95	
Fluoranthene	50.1	58.1	116	63-122	
Fluorene	50.1	49.1	98	56-115	
Indeno[1,2,3-cd]pyrene	50.2	42.0	84	59-123	
Isophorone	50.0	50.8	102	63-120	
N-Nitrosodi-n-propylamine	50.0	51.3	103	58-120	
N-Nitrosodiphenylamine	50.0	50.8	102	60-126	
Naphthalene	50.4	41.0	81	51-102	
Nitrobenzene	50.2	48.4	97	59-109	
Pentachlorophenol	50.4	56.9	113	54-131	

Column to be used to flag recovery and RPD values

FORM III 8270D

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low Lab File ID: DH1410.D

Lab ID: LCS 410-35738/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Phenanthrene	50.2	49.2	98	65-113	
Phenol	50.2	23.9	48	19-79	
Pyrene	50.4	49.3	98	65-115	
2-Chloronaphthalene	50.0	41.6	83	51-107	
2-Chlorophenol	50.2	45.0	90	57-105	
2-Methylnaphthalene	50.0	43.3	87	51-107	
2-Methylphenol	50.2	44.3	88	53-107	
2-Nitroaniline	50.1	50.4	101	66-126	
2-Nitrophenol	50.1	49.9	100	63-111	
3,3'-Dichlorobenzidine	50.2	35.7	71	42-107	
3-Nitroaniline	50.2	44.0	88	55-121	
4,6-Dinitro-2-methylphenol	50.0	56.3	113	63-129	
4-Bromophenyl-phenylether	50.3	48.2	96	60-114	
4-Methylphenol	50.1	40.6	81	49-108	
4-Nitroaniline	50.1	44.1	88	55-113	
4-Nitrophenol	50.1	28.6 J	57	23-89	
Bis(2-chloroethoxy)methane	50.4	50.0	99	63-116	
Bis(2-chloroethyl)ether	50.3	46.6	93	58-108	
Bis(2-ethylhexyl) phthalate	50.3	52.7	105	61-129	
2,6-Dinitrotoluene	50.3	49.2	98	71-120	
4-Chloro-3-methylphenol	50.0	54.3	109	60-118	
4-Chloroaniline	50.0	37.4	75	45-111	
4-Chlorophenyl-phenyl ether	50.2	43.8	87	57-110	

Column to be used to flag recovery and RPD values

FORM III 8270D

FORM IV
GC/MS SEMI VOA METHOD BLANK SUMMARY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab File ID: DH1003.D Lab Sample ID: MB 410-33824/1-A

Matrix: Water Date Extracted: 08/17/2020 08:45

Instrument ID: HP19760 Date Analyzed: 08/18/2020 11:00

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 410-33824/2-A	DH1004.D	08/18/2020 11:29
MW-01	410-10696-1	DH1013.D	08/18/2020 15:46
MW-04	410-10696-3	DH1014.D	08/18/2020 16:14
WPA-GW-02	410-10696-6	DH1015.D	08/18/2020 16:43
MW-04 DL	410-10696-3 DL	DH1078a.D	08/19/2020 18:26

FORM IV
GC/MS SEMI VOA METHOD BLANK SUMMARY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab File ID: DH1409.D Lab Sample ID: MB 410-35738/1-A

Matrix: Water Date Extracted: 08/21/2020 08:45

Instrument ID: HP19760 Date Analyzed: 08/25/2020 02:51

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 410-35738/2-A	DH1410.D	08/25/2020 03:20
MW-04 RE	410-10696-3 RE	DH1457.D	08/25/2020 13:45
MW-04 REDL	410-10696-3 REDL	DH1517.D	08/26/2020 15:28

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Lab File ID: DG1950z.D DFTPP Injection Date: 07/31/2020

Instrument ID: HP19760 DFTPP Injection Time: 15:03

Analysis Batch No.: 28519

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10-80% of Base Peak	56.2	
68	Less than 2% of mass 69	1.1	(1.7) 1
69	Mass 69 Relative abundance	63.0	
70	Less than 2% of mass 69	0.4	(0.6) 1
127	10-80% of Base Peak	57.7	
197	Less than 2% of mass 198	0.8	
198	Base peak	100.0	
199	5-9% of mass 198	6.7	
275	10-60% of Base Peak	21.0	
365	Greater than 1% of mass 198	2.7	
441	present but less than 24% of mass 442	9.1	(15.2) 2
442	Greater than 50% of mass 198	60.1	
443	15-24% of mass 442	11.4	(19.0) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	ICIS 410-28519/2	DG1951.D	07/31/2020	16:07
	IC 410-28519/3	DG1952.D	07/31/2020	16:46
	IC 410-28519/4	DG1953.D	07/31/2020	17:15
	IC 410-28519/5	DG1954.D	07/31/2020	17:44
	IC 410-28519/6	DG1955.D	07/31/2020	18:13
	IC 410-28519/7	DG1956.D	07/31/2020	18:42
	IC 410-28519/8	DG1957.D	07/31/2020	19:12
	IC 410-28519/9	DG1958.D	07/31/2020	19:41
	ICV 410-28519/12	DG1961.D	07/31/2020	21:08
	ICV 410-28519/13	DG1962.D	07/31/2020	21:37
	ICV 410-28519/14	DG1963.D	07/31/2020	22:06
	ICV 410-28519/15	DG1964.D	07/31/2020	22:35

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Lab File ID: DH1000.D DFTPP Injection Date: 08/18/2020

Instrument ID: HP19760 DFTPP Injection Time: 09:30

Analysis Batch No.: 34301

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10-80% of Base Peak	40.4	
68	Less than 2% of mass 69	1.0	(1.6) 1
69	Mass 69 Relative abundance	59.3	
70	Less than 2% of mass 69	0.3	(0.5) 1
127	10-80% of Base Peak	54.4	
197	Less than 2% of mass 198	0.3	
198	Base peak	100.0	
199	5-9% of mass 198	6.8	
275	10-60% of Base Peak	23.2	
365	Greater than 1% of mass 198	2.9	
441	present but less than 24% of mass 442	10.2	(15.1) 2
442	Greater than 50% of mass 198	67.5	
443	15-24% of mass 442	13.0	(19.3) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 410-34301/2	DH1001.D	08/18/2020	10:03
	MB 410-33824/1-A	DH1003.D	08/18/2020	11:00
	LCS 410-33824/2-A	DH1004.D	08/18/2020	11:29
MW-01	410-10696-1	DH1013.D	08/18/2020	15:46
MW-04	410-10696-3	DH1014.D	08/18/2020	16:14
WPA-GW-02	410-10696-6	DH1015.D	08/18/2020	16:43

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Lab File ID: DH1050.D DFTPP Injection Date: 08/19/2020

Instrument ID: HP19760 DFTPP Injection Time: 08:02

Analysis Batch No.: 34776

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10-80% of Base Peak	40.1	
68	Less than 2% of mass 69	1.0	(1.7) 1
69	Mass 69 Relative abundance	59.2	
70	Less than 2% of mass 69	0.4	(0.6) 1
127	10-80% of Base Peak	52.5	
197	Less than 2% of mass 198	0.3	
198	Base peak	100.0	
199	5-9% of mass 198	6.8	
275	10-60% of Base Peak	22.9	
365	Greater than 1% of mass 198	3.0	
441	present but less than 24% of mass 442	10.3	(15.3) 2
442	Greater than 50% of mass 198	67.3	
443	15-24% of mass 442	13.0	(19.3) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 410-34776/2	DH1051.D	08/19/2020	8:30
MW-04 DL	410-10696-3 DL	DH1078a.D	08/19/2020	18:26

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Lab File ID: DH1400a.D DFTPP Injection Date: 08/24/2020

Instrument ID: HP19760 DFTPP Injection Time: 20:29

Analysis Batch No.: 36695

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10-80% of Base Peak	40.0	
68	Less than 2% of mass 69	0.9	(1.6) 1
69	Mass 69 Relative abundance	59.2	
70	Less than 2% of mass 69	0.3	(0.6) 1
127	10-80% of Base Peak	53.8	
197	Less than 2% of mass 198	1.0	
198	Base peak	100.0	
199	5-9% of mass 198	6.7	
275	10-60% of Base Peak	23.1	
365	Greater than 1% of mass 198	2.8	
441	present but less than 24% of mass 442	10.1	(14.9) 2
442	Greater than 50% of mass 198	68.0	
443	15-24% of mass 442	13.1	(19.2) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 410-36695/2	DH1401.D	08/24/2020	20:52
	MB 410-35738/1-A	DH1409.D	08/25/2020	2:51
	LCS 410-35738/2-A	DH1410.D	08/25/2020	3:20

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Lab File ID: DH1450.D DFTPP Injection Date: 08/25/2020

Instrument ID: HP19760 DFTPP Injection Time: 09:12

Analysis Batch No.: 36891

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10-80% of Base Peak	35.1	
68	Less than 2% of mass 69	0.9	(1.7) 1
69	Mass 69 Relative abundance	53.6	
70	Less than 2% of mass 69	0.2	(0.5) 1
127	10-80% of Base Peak	50.9	
197	Less than 2% of mass 198	0.2	
198	Base peak	100.0	
199	5-9% of mass 198	6.9	
275	10-60% of Base Peak	23.8	
365	Greater than 1% of mass 198	3.3	
441	present but less than 24% of mass 442	11.9	(15.4) 2
442	Greater than 50% of mass 198	77.4	
443	15-24% of mass 442	14.8	(19.2) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 410-36891/2	DH1451.D	08/25/2020	9:57
MW-04 RE	410-10696-3 RE	DH1457.D	08/25/2020	13:45

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Lab File ID: DH1510a.D DFTPP Injection Date: 08/26/2020

Instrument ID: HP19760 DFTPP Injection Time: 11:55

Analysis Batch No.: 37350

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	10-80% of Base Peak	37.3	
68	Less than 2% of mass 69	0.9	(1.5) 1
69	Mass 69 Relative abundance	56.7	
70	Less than 2% of mass 69	0.2	(0.4) 1
127	10-80% of Base Peak	52.7	
197	Less than 2% of mass 198	0.5	
198	Base peak	100.0	
199	5-9% of mass 198	6.9	
275	10-60% of Base Peak	22.9	
365	Greater than 1% of mass 198	2.9	
441	present but less than 24% of mass 442	10.2	(14.7) 2
442	Greater than 50% of mass 198	69.3	
443	15-24% of mass 442	13.1	(18.9) 2

1-Value is % mass 69 2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCVIS 410-37350/2	DH1511.D	08/26/2020	12:17
MW-04 REDL	410-10696-3 REDL	DH1517.D	08/26/2020	15:28

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Sample No.: ICIS 410-28519/2 Date Analyzed: 07/31/2020 16:07

Instrument ID: HP19760 GC Column: DB-5MS 30m 0.25 ID: 0.25(mm)

Lab File ID (Standard): DG1951.D Heated Purge: (Y/N) N

Calibration ID: 8045

		DCBd4		NPT		ANT	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		187369	6.48	711185	8.42	347869	11.21
UPPER LIMIT		374738	6.98	1422370	8.92	695738	11.71
LOWER LIMIT		93685	5.98	355593	7.92	173935	10.71
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 410-28519/12		210073	6.48	804919	8.42	399969	11.21
ICV 410-28519/13		185521	6.48	701332	8.42	331754	11.20
ICV 410-28519/14		204140	6.48	764362	8.42	359335	11.20
ICV 410-28519/15		209195	6.48	793616	8.42	374107	11.20
CCVIS 410-34301/2		149598	6.34	553004	8.28	272658	11.06
CCVIS 410-34776/2		158533	6.34	578762	8.28	286805	11.06
CCVIS 410-36695/2		156968	6.27	591273	8.20	306072	10.99
CCVIS 410-36891/2		171567	6.27	634112	8.20	324327	10.99
CCVIS 410-37350/2		161971	6.23	609804	8.17	313341	10.95

DCBd4 = 1,4-Dichlorobenzene-d4
NPT = Naphthalene-d8
ANT = Acenaphthene-d10

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Sample No.: ICIS 410-28519/2 Date Analyzed: 07/31/2020 16:07

Instrument ID: HP19760 GC Column: DB-5MS 30m 0.25 ID: 0.25(mm)

Lab File ID (Standard): DG1951.D Heated Purge: (Y/N) N

Calibration ID: 8045

		PHN		PYR10		PRY	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		642951	13.13	632828	15.04	535333	19.47
UPPER LIMIT		1285902	13.63	1265656	15.54	1070666	19.97
LOWER LIMIT		321476	12.63	316414	14.54	267667	18.97
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 410-28519/12		752192	13.13	784846	15.04	719540	19.47
ICV 410-28519/13		632736	13.12	572915	15.04	450107	19.47
ICV 410-28519/14		659652	13.12	619037	15.04	485441	19.47
ICV 410-28519/15		680581	13.12	653679	15.04	501824	19.47
CCVIS 410-34301/2		519234	13.00	537098	14.88	530099	19.29
CCVIS 410-34776/2		540367	13.00	557416	14.89	535619	19.29
CCVIS 410-36695/2		589887	12.95	618400	14.81	577536	19.19
CCVIS 410-36891/2		612076	12.95	631301	14.81	617764	19.19
CCVIS 410-37350/2		599152	12.91	619539	14.77	608843	19.15

PHN = Phenanthrene-d10
PYR10 = Pyrene-d10 (IS)
PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Sample No.: CCVIS 410-34301/2 Date Analyzed: 08/18/2020 10:03

Instrument ID: HP19760 GC Column: DB-5MS 30m 0.25 ID: 0.25(mm)

Lab File ID (Standard): DH1001.D Heated Purge: (Y/N) N

Calibration ID: 8657

		DCBd4		NPT		ANT	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		149598	6.34	553004	8.28	272658	11.06
UPPER LIMIT		299196	6.84	1106008	8.78	545316	11.56
LOWER LIMIT		74799	5.84	276502	7.78	136329	10.56
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 410-33824/1-A		222518	6.34	824760	8.27	399780	11.06
LCS 410-33824/2-A		204597	6.34	769927	8.28	384998	11.06
410-10696-1	MW-01	202549	6.34	768291	8.28	393950	11.06
410-10696-3	MW-04	205456	6.34	780890	8.28	408433	11.06
410-10696-6	WPA-GW-02	236342	6.34	898515	8.28	463085	11.06

DCBd4 = 1,4-Dichlorobenzene-d4
NPT = Naphthalene-d8
ANT = Acenaphthene-d10

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Sample No.: CCVIS 410-34301/2 Date Analyzed: 08/18/2020 10:03

Instrument ID: HP19760 GC Column: DB-5MS 30m 0.25 ID: 0.25(mm)

Lab File ID (Standard): DH1001.D Heated Purge: (Y/N) N

Calibration ID: 8657

		PHN		PYR10		PRY	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		519234	13.00	537098	14.88	530099	19.29
UPPER LIMIT		1038468	13.50	1074196	15.38	1060198	19.79
LOWER LIMIT		259617	12.50	268549	14.38	265050	18.79
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 410-33824/1-A		760921	13.00	769300	14.89	741523	19.28
LCS 410-33824/2-A		720894	13.00	780484	14.88	778431	19.29
410-10696-1	MW-01	745991	13.00	774070	14.89	766118	19.29
410-10696-3	MW-04	785783	13.00	847509	14.89	806397	19.29
410-10696-6	WPA-GW-02	864196	13.00	917645	14.88	896812	19.29

PHN = Phenanthrene-d10
PYR10 = Pyrene-d10 (IS)
PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Sample No.: CCVIS 410-34776/2 Date Analyzed: 08/19/2020 08:30

Instrument ID: HP19760 GC Column: DB-5MS 30m 0.25 ID: 0.25(mm)

Lab File ID (Standard): DH1051.D Heated Purge: (Y/N) N

Calibration ID: 8657

		DCBd4		NPT		ANT	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		158533	6.34	578762	8.28	286805	11.06
UPPER LIMIT		317066	6.84	1157524	8.78	573610	11.56
LOWER LIMIT		79267	5.84	289381	7.78	143403	10.56
LAB SAMPLE ID	CLIENT SAMPLE ID						
410-10696-3 DL	MW-04 DL	177374	6.34	680838	8.28	350166	11.06

DCBd4 = 1,4-Dichlorobenzene-d4
NPT = Naphthalene-d8
ANT = Acenaphthene-d10

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Sample No.: CCVIS 410-34776/2 Date Analyzed: 08/19/2020 08:30

Instrument ID: HP19760 GC Column: DB-5MS 30m 0.25 ID: 0.25(mm)

Lab File ID (Standard): DH1051.D Heated Purge: (Y/N) N

Calibration ID: 8657

		PHN		PYR10		PRY	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		540367	13.00	557416	14.89	535619	19.29
UPPER LIMIT		1080734	13.50	1114832	15.39	1071238	19.79
LOWER LIMIT		270184	12.50	278708	14.39	267810	18.79
LAB SAMPLE ID	CLIENT SAMPLE ID						
410-10696-3 DL	MW-04 DL	665254	13.00	713668	14.88	631919	19.28

PHN = Phenanthrene-d10
PYR10 = Pyrene-d10 (IS)
PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Sample No.: CCVIS 410-36695/2 Date Analyzed: 08/24/2020 20:52

Instrument ID: HP19760 GC Column: DB-5MS 30m 0.25 ID: 0.25(mm)

Lab File ID (Standard): DH1401.D Heated Purge: (Y/N) N

Calibration ID: 8657

		DCBd4		NPT		ANT	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		156968	6.27	591273	8.20	306072	10.99
UPPER LIMIT		313936	6.77	1182546	8.70	612144	11.49
LOWER LIMIT		78484	5.77	295637	7.70	153036	10.49
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 410-35738/1-A		140844	6.27	518141	8.20	257151	10.98
LCS 410-35738/2-A		162441	6.27	604825	8.20	302577	10.99

DCBd4 = 1,4-Dichlorobenzene-d4
NPT = Naphthalene-d8
ANT = Acenaphthene-d10

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Sample No.: CCVIS 410-36695/2 Date Analyzed: 08/24/2020 20:52

Instrument ID: HP19760 GC Column: DB-5MS 30m 0.25 ID: 0.25(mm)

Lab File ID (Standard): DH1401.D Heated Purge: (Y/N) N

Calibration ID: 8657

		PHN		PYR10		PRY	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		589887	12.95	618400	14.81	577536	19.19
UPPER LIMIT		1179774	13.45	1236800	15.31	1155072	19.69
LOWER LIMIT		294944	12.45	309200	14.31	288768	18.69
LAB SAMPLE ID	CLIENT SAMPLE ID						
MB 410-35738/1-A		489478	12.94	486847	14.80	437034	19.19
LCS 410-35738/2-A		580577	12.94	625035	14.80	591191	19.19

PHN = Phenanthrene-d10
PYR10 = Pyrene-d10 (IS)
PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Sample No.: CCVIS 410-36891/2 Date Analyzed: 08/25/2020 09:57

Instrument ID: HP19760 GC Column: DB-5MS 30m 0.25 ID: 0.25(mm)

Lab File ID (Standard): DH1451.D Heated Purge: (Y/N) N

Calibration ID: 8657

		DCBd4		NPT		ANT	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		171567	6.27	634112	8.20	324327	10.99
UPPER LIMIT		343134	6.77	1268224	8.70	648654	11.49
LOWER LIMIT		85784	5.77	317056	7.70	162164	10.49
LAB SAMPLE ID	CLIENT SAMPLE ID						
410-10696-3 RE	MW-04 RE	151026	6.27	592506	8.20	310159	10.98

DCBd4 = 1,4-Dichlorobenzene-d4
NPT = Naphthalene-d8
ANT = Acenaphthene-d10

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Sample No.: CCVIS 410-36891/2 Date Analyzed: 08/25/2020 09:57

Instrument ID: HP19760 GC Column: DB-5MS 30m 0.25 ID: 0.25(mm)

Lab File ID (Standard): DH1451.D Heated Purge: (Y/N) N

Calibration ID: 8657

		PHN		PYR10		PRY	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		612076	12.95	631301	14.81	617764	19.19
UPPER LIMIT		1224152	13.45	1262602	15.31	1235528	19.69
LOWER LIMIT		306038	12.45	315651	14.31	308882	18.69
LAB SAMPLE ID	CLIENT SAMPLE ID						
410-10696-3 RE	MW-04 RE	553931	12.94	611701	14.81	600258	19.19

PHN = Phenanthrene-d10
PYR10 = Pyrene-d10 (IS)
PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Sample No.: CCVIS 410-37350/2 Date Analyzed: 08/26/2020 12:17

Instrument ID: HP19760 GC Column: DB-5MS 30m 0.25 ID: 0.25(mm)

Lab File ID (Standard): DH1511.D Heated Purge: (Y/N) N

Calibration ID: 8657

		DCBd4		NPT		ANT	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		161971	6.23	609804	8.17	313341	10.95
UPPER LIMIT		323942	6.73	1219608	8.67	626682	11.45
LOWER LIMIT		80986	5.73	304902	7.67	156671	10.45
LAB SAMPLE ID	CLIENT SAMPLE ID						
410-10696-3 REDL	MW-04 REDL	141944	6.23	539773	8.17	280522	10.95

DCBd4 = 1,4-Dichlorobenzene-d4
NPT = Naphthalene-d8
ANT = Acenaphthene-d10

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Sample No.: CCVIS 410-37350/2 Date Analyzed: 08/26/2020 12:17

Instrument ID: HP19760 GC Column: DB-5MS 30m 0.25 ID: 0.25(mm)

Lab File ID (Standard): DH1511.D Heated Purge: (Y/N) N

Calibration ID: 8657

		PHN		PYR10		PRY	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
12/24 HOUR STD		599152	12.91	619539	14.77	608843	19.15
UPPER LIMIT		1198304	13.41	1239078	15.27	1217686	19.65
LOWER LIMIT		299576	12.41	309770	14.27	304422	18.65
LAB SAMPLE ID	CLIENT SAMPLE ID						
410-10696-3 REDL	MW-04 REDL	540796	12.91	553487	14.77	516540	19.14

PHN = Phenanthrene-d10
PYR10 = Pyrene-d10 (IS)
PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270D

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-01 Lab Sample ID: 410-10696-1

Matrix: Water Lab File ID: DH1013.D

Analysis Method: 8270D Date Collected: 08/11/2020 15:45

Extract. Method: 3510C Date Extracted: 08/17/2020 08:45

Sample wt/vol: 248(mL) Date Analyzed: 08/18/2020 15:46

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34301 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
92-52-4	1,1'-Biphenyl	ND	*	10	3.0
120-83-2	2,4-Dichlorophenol	ND	*	2.0	0.50
105-67-9	2,4-Dimethylphenol	ND	*	10	3.0
51-28-5	2,4-Dinitrophenol	ND		30	14
121-14-2	2,4-Dinitrotoluene	ND	*	5.0	1.0
95-95-4	2,4,5-Trichlorophenol	ND		2.0	0.50
88-06-2	2,4,6-Trichlorophenol	ND	*	2.0	0.50
108-60-1	2,2'-oxybis[1-chloropropane]	ND		2.0	0.50
84-74-2	Di-n-butyl phthalate	ND		5.0	2.0
117-84-0	Di-n-octyl phthalate	ND		11	5.0
56-55-3	Benzo[a]anthracene	ND	*	0.50	0.10
50-32-8	Benzo[a]pyrene	ND	*	0.50	0.10
205-99-2	Benzo[b]fluoranthene	ND	*	0.50	0.10
191-24-2	Benzo[g,h,i]perylene	ND	*	0.50	0.10
207-08-9	Benzo[k]fluoranthene	ND	*	0.50	0.10
83-32-9	Acenaphthene	ND		0.50	0.10
208-96-8	Acenaphthylene	ND		0.50	0.10
98-86-2	Acetophenone	ND	*	10	4.0
120-12-7	Anthracene	ND	*	0.50	0.10
1912-24-9	Atrazine	ND		5.0	2.0
100-52-7	Benzaldehyde	ND	*	10	3.0
85-68-7	Butylbenzylphthalate	ND		5.0	2.0
105-60-2	Caprolactam	ND		11	5.0
86-74-8	Carbazole	ND		2.0	0.50
218-01-9	Chrysene	ND		0.50	0.10
53-70-3	Dibenz(a,h)anthracene	ND	*	0.50	0.10
132-64-9	Dibenzofuran	ND	*	2.0	0.50
84-66-2	Diethyl phthalate	ND		5.0	2.0
131-11-3	Dimethyl phthalate	ND		5.0	2.0
118-74-1	Hexachlorobenzene	ND	*	0.50	0.10
87-68-3	Hexachlorobutadiene	ND		2.0	0.50
77-47-4	Hexachlorocyclopentadiene	ND		11	5.0
67-72-1	Hexachloroethane	ND		5.0	1.0
206-44-0	Fluoranthene	ND		0.50	0.10

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-01 Lab Sample ID: 410-10696-1

Matrix: Water Lab File ID: DH1013.D

Analysis Method: 8270D Date Collected: 08/11/2020 15:45

Extract. Method: 3510C Date Extracted: 08/17/2020 08:45

Sample wt/vol: 248(mL) Date Analyzed: 08/18/2020 15:46

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34301 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
86-73-7	Fluorene	0.42	J	0.50	0.10
193-39-5	Indeno[1,2,3-cd]pyrene	ND	*	0.50	0.10
78-59-1	Isophorone	ND	*	2.0	0.50
621-64-7	N-Nitrosodi-n-propylamine	ND		3.0	0.71
86-30-6	N-Nitrosodiphenylamine	ND		3.0	0.71
91-20-3	Naphthalene	39		0.50	0.10
98-95-3	Nitrobenzene	ND		2.0	0.50
87-86-5	Pentachlorophenol	ND		5.0	1.0
85-01-8	Phenanthrene	ND	*	0.50	0.10
108-95-2	Phenol	ND		2.0	0.50
129-00-0	Pyrene	ND	*	0.50	0.10
91-58-7	2-Chloronaphthalene	ND		1.0	0.40
95-57-8	2-Chlorophenol	ND		2.0	0.50
91-57-6	2-Methylnaphthalene	23		0.50	0.10
95-48-7	2-Methylphenol	ND		2.0	0.50
88-74-4	2-Nitroaniline	ND	*	5.0	2.0
88-75-5	2-Nitrophenol	ND		10	3.0
91-94-1	3,3'-Dichlorobenzidine	ND		10	3.0
99-09-2	3-Nitroaniline	ND		7.1	3.0
534-52-1	4,6-Dinitro-2-methylphenol	ND		21	8.1
101-55-3	4-Bromophenyl-phenylether	ND	*	2.0	0.50
106-44-5	4-Methylphenol	ND		2.0	0.50
100-01-6	4-Nitroaniline	ND		3.0	0.91
100-02-7	4-Nitrophenol	ND		30	10
111-91-1	Bis(2-chloroethoxy)methane	ND	*	2.0	0.50
111-44-4	Bis(2-chloroethyl)ether	ND	*	2.0	0.50
117-81-7	Bis(2-ethylhexyl) phthalate	ND		11	5.0
606-20-2	2,6-Dinitrotoluene	ND	*	2.0	0.50
59-50-7	4-Chloro-3-methylphenol	ND		3.5	1.6
106-47-8	4-Chloroaniline	ND		10	4.0
7005-72-3	4-Chlorophenyl-phenyl ether	ND	*	2.0	0.50

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-01 Lab Sample ID: 410-10696-1

Matrix: Water Lab File ID: DH1013.D

Analysis Method: 8270D Date Collected: 08/11/2020 15:45

Extract. Method: 3510C Date Extracted: 08/17/2020 08:45

Sample wt/vol: 248(mL) Date Analyzed: 08/18/2020 15:46

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34301 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	60		18-141
321-60-8	2-Fluorobiphenyl (Surr)	40	X	44-102
367-12-4	2-Fluorophenol (Surr)	30		10-84
4165-60-0	Nitrobenzene-d5 (Surr)	40		38-113
1718-51-0	p-Terphenyl-d14 (Surr)	29	X	34-128
4165-62-2	Phenol-d5 (Surr)	25		10-67

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1013.D
Lims ID: 410-10696-C-1-A
Client ID: MW-01
Sample Type: Client
Inject. Date: 18-Aug-2020 15:46:30 ALS Bottle#: 14 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 410-10696-C-1-A
Misc. Info.: 410-0008313-013
Operator ID: em10340 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 19-Aug-2020 09:41:10 Calib Date: 14-Aug-2020 02:06:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200813-8022.b\DH0756.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1035

First Level Reviewer: monbornee Date: 19-Aug-2020 09:24:48

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
$	8 2-Fluorophenol	112	4.440	4.434	0.006	92	952399	15.0	
	12 Benzaldehyde	77		5.693				ND	
$	13 Phenol-d5	99	5.850	5.843	0.006	97	1003271	12.5	
	14 Phenol	94		5.868				ND	
	16 Bis(2-chloroethyl)ether	93		5.984				ND	
	17 2-Chlorophenol	128		6.019				ND	
*	19 1,4-Dichlorobenzene-d4	152	6.340	6.340	0.000	96	202549	5.00	
	23 2-Methylphenol	108		6.765				ND	
	25 2,2'-oxybis[1-chloropropane]	45		6.789				ND	
	27 Acetophenone	105		6.963				ND	
	29 N-Nitrosodi-n-propylamine	70		6.987				ND	
	28 4-Methylphenol	108		7.004				ND	
	32 Hexachloroethane	117		7.091				ND	U
$	33 Nitrobenzene-d5	82	7.173	7.173	0.000	85	752229	10.0	
	34 Nitrobenzene	77		7.202				ND	U
	36 Isophorone	82		7.587				ND	
	37 2-Nitrophenol	139		7.698				ND	
	38 2,4-Dimethylphenol	107		7.820				ND	
	41 Bis(2-chloroethoxy)methane	93		7.972				ND	U
	42 2,4-Dichlorophenol	162		8.071				ND	
*	44 Naphthalene-d8	136	8.275	8.269	0.006	99	768291	5.00	
	45 Naphthalene	128	8.304	8.409	0.000	98	1611447	9.57	
	46 4-Chloroaniline	127		8.426				ND	
	49 Hexachlorobutadiene	225		8.537				ND	
	52 Caprolactam	113		8.962				ND	
	54 4-Chloro-3-methylphenol	107		9.236				ND	
	56 2-Methylnaphthalene	142	9.411	9.406	0.005	91	610769	5.82	
	58 Hexachlorocyclopentadiene	237		9.674				ND	
	61 2,4,6-Trichlorophenol	196		9.878				ND	
	62 2,4,5-Trichlorophenol	196		9.924				ND	
$	63 2-Fluorobiphenyl (Surr)	172	10.029	10.023	0.006	100	1310411	10.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
66 2-Chloronaphthalene	162		10.169				ND	
65 1,1'-Biphenyl	154		10.175				ND	
69 2-Nitroaniline	138		10.356				ND	U
72 Dimethyl phthalate	163		10.711				ND	
74 2,6-Dinitrotoluene	165		10.775				ND	U
75 Acenaphthylene	152		10.822				ND	U
76 3-Nitroaniline	138		11.026				ND	
* 77 Acenaphthene-d10	164	11.055	11.055	0.000	98	393950	5.00	
78 Acenaphthene	153		11.108				ND	U
79 2,4-Dinitrophenol	184		11.201				ND	
80 4-Nitrophenol	109		11.352				ND	
83 Dibenzofuran	168	11.387	11.387	0.000	93	14749	0.1016	
82 2,4-Dinitrotoluene	165		11.416				ND	
87 Diethyl phthalate	149		11.819				ND	
89 Fluorene	166	11.883	11.883	0.000	93	11884	0.1045	
91 4-Chlorophenyl phenyl ether	204		11.918				ND	
92 4-Nitroaniline	138		11.918				ND	U
93 4,6-Dinitro-2-methylphenol	198		11.982				ND	
94 N-Nitrosodiphenylamine	169		12.075				ND	
$ 96 2,4,6-Tribromophenol	330	12.192	12.186	0.006	90	437862	29.9	
101 4-Bromophenyl phenyl ether	248		12.506				ND	
103 Hexachlorobenzene	284		12.541				ND	
105 Atrazine	200		12.739				ND	
106 Pentachlorophenol	266		12.792				ND	
* 110 Phenanthrene-d10	188	13.002	13.002	0.000	98	745991	5.00	
112 Phenanthrene	178		13.025				ND	U
113 Anthracene	178		13.089				ND	
114 Carbazole	167		13.305				ND	
116 Di-n-butyl phthalate	149		13.818				ND	
121 Fluoranthene	202		14.587				ND	
* 123 Pyrene-d10 (IS)	212	14.885	14.879	0.006	98	774070	5.00	
124 Pyrene	202		14.908				ND	
$ 125 p-Terphenyl-d14	244	15.205	15.199	0.006	98	1071346	7.22	
129 Butyl benzyl phthalate	149		16.050				ND	
132 Benzo[a]anthracene	228		16.849				ND	U
131 3,3'-Dichlorobenzidine	252		16.866				ND	U
134 Chrysene	228		16.907				ND	U
135 Bis(2-ethylhexyl) phthalate	149		17.105				ND	
137 Di-n-octyl phthalate	149		18.248				ND	U
138 Benzo[b]fluoranthene	252		18.667				ND	U
140 Benzo[k]fluoranthene	252		18.714				ND	
141 Benzo[a]pyrene	252		19.186				ND	U
* 142 Perylene-d12	264	19.285	19.279	0.006	98	766118	5.00	
146 Indeno[1,2,3-cd]pyrene	276		20.859				ND	
147 Dibenz(a,h)anthracene	278		20.906				ND	
148 Benzo[g,h,i]perylene	276		21.209				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

MSS_RV8270_IS_00012 Amount Added: 20.00 Units: uL Run Reagent

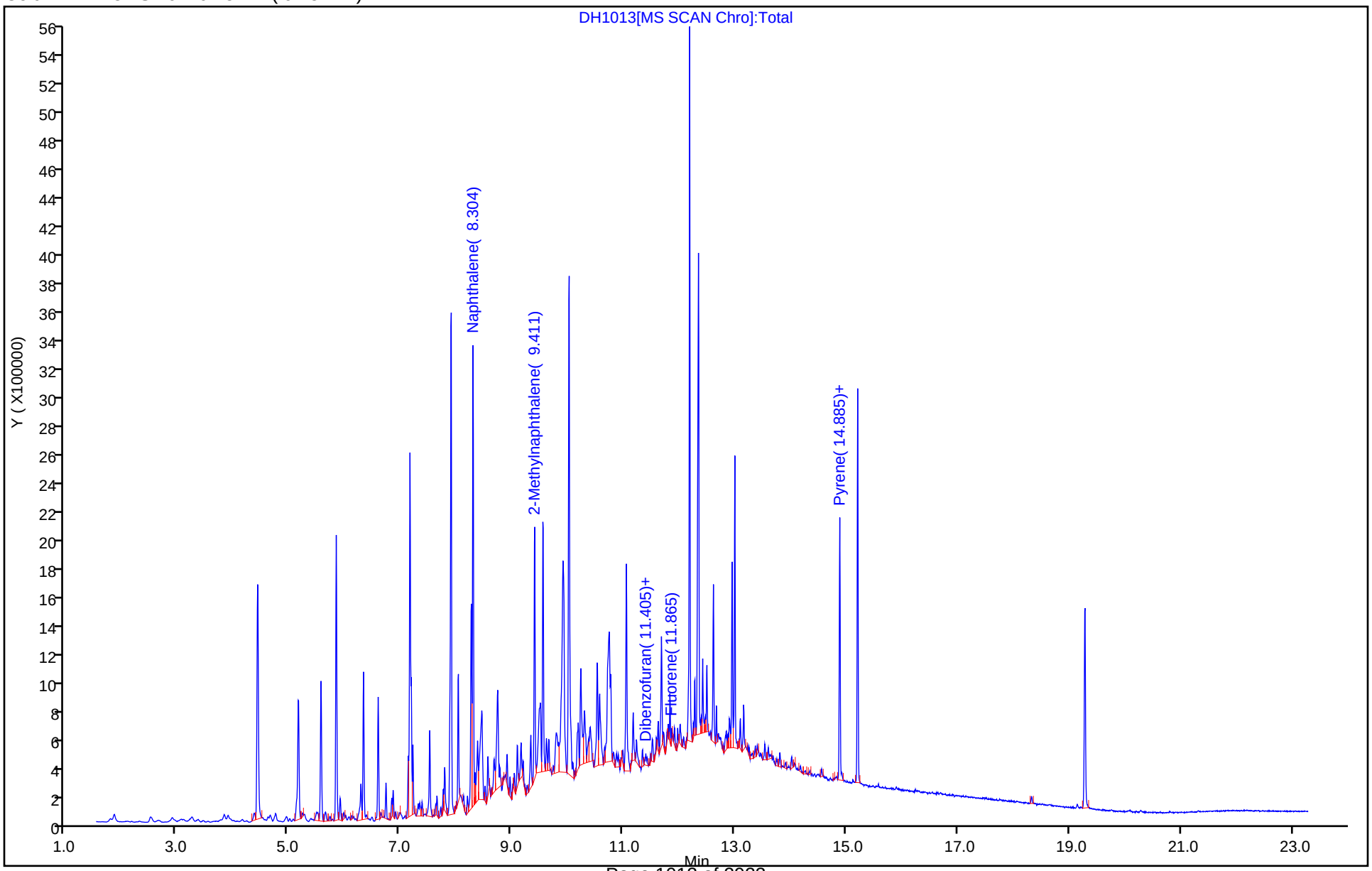
Report Date: 19-Aug-2020 13:58:04 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1013.D

Injection Date:	18-Aug-2020 15:46:30	Instrument ID:	HP19760	Operator ID:	em10340
Lims ID:	410-10696-C-1-A	Lab Sample ID:	410-10696-1	Worklist Smp#:	13
Client ID:	MW-01				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1013.D
Lims ID: 410-10696-C-1-A
Client ID: MW-01
Sample Type: Client
Inject. Date: 18-Aug-2020 15:46:30 ALS Bottle#: 14 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 410-10696-C-1-A
Misc. Info.: 410-0008313-013
Operator ID: em10340 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 19-Aug-2020 09:41:10 Calib Date: 14-Aug-2020 02:06:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200813-8022.b\DH0756.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1035

First Level Reviewer: monbornee Date: 19-Aug-2020 09:24:48

Compound	Amount Added	Amount Recovered	% Rec.
$ 8 2-Fluorophenol	50.2	15.0	29.96
$ 13 Phenol-d5	50.2	12.5	24.89
$ 33 Nitrobenzene-d5	25.1	10.0	39.88
$ 63 2-Fluorobiphenyl (Surr)	25.1	10.1	40.38
$ 96 2,4,6-Tribromophenol	50.1	29.9	59.75
$ 125 p-Terphenyl-d14	25.1	7.22	28.81

Report Date: 19-Aug-2020 13:58:05 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1013.D

Injection Date: 18-Aug-2020 15:46:30 Instrument ID: HP19760

Lims ID: 410-10696-C-1-A Lab Sample ID: 410-10696-1

Client ID: MW-01

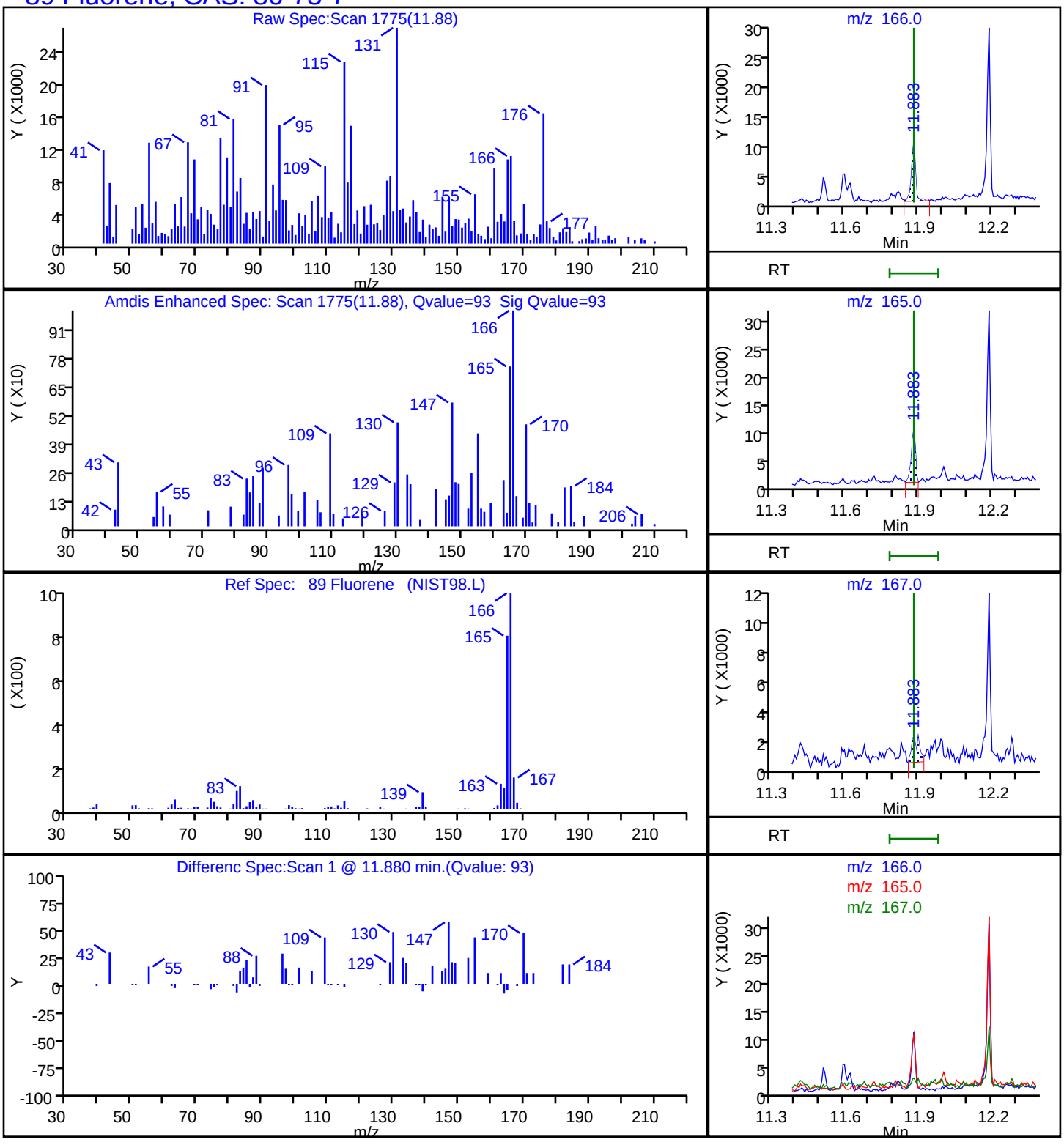
Operator ID: em10340 ALS Bottle#: 14 Worklist Smp#: 13

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI

Column: DB-5MS 20m 0.25mm (0.25 mm) Detector MS SCAN

89 Fluorene, CAS: 86-73-7

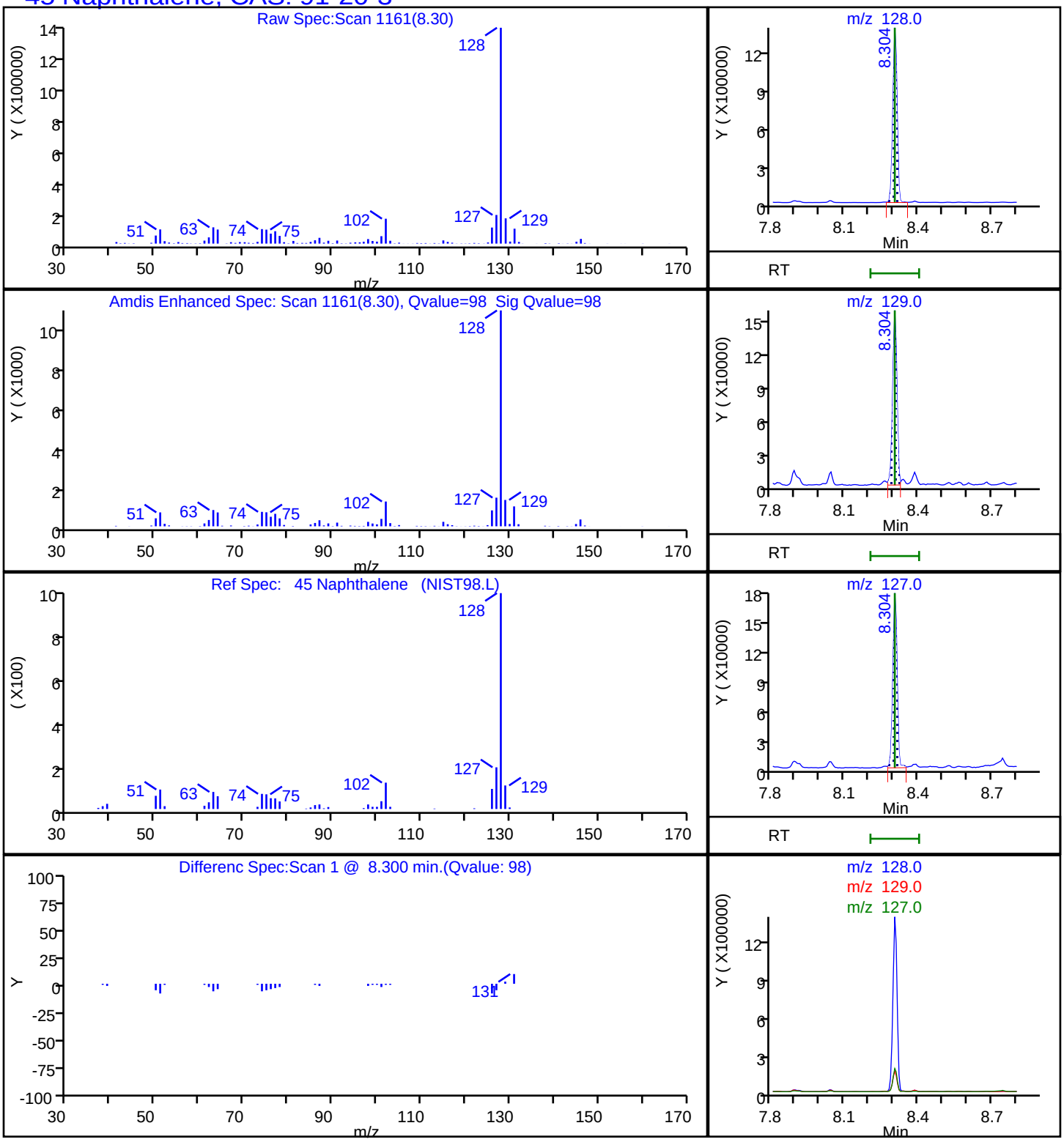


Report Date: 19-Aug-2020 13:58:04 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1013.D				
Injection Date:	18-Aug-2020 15:46:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-1-A	Lab Sample ID:	410-10696-1		
Client ID:	MW-01				
Operator ID:	em10340	ALS Bottle#:	14	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

45 Naphthalene, CAS: 91-20-3



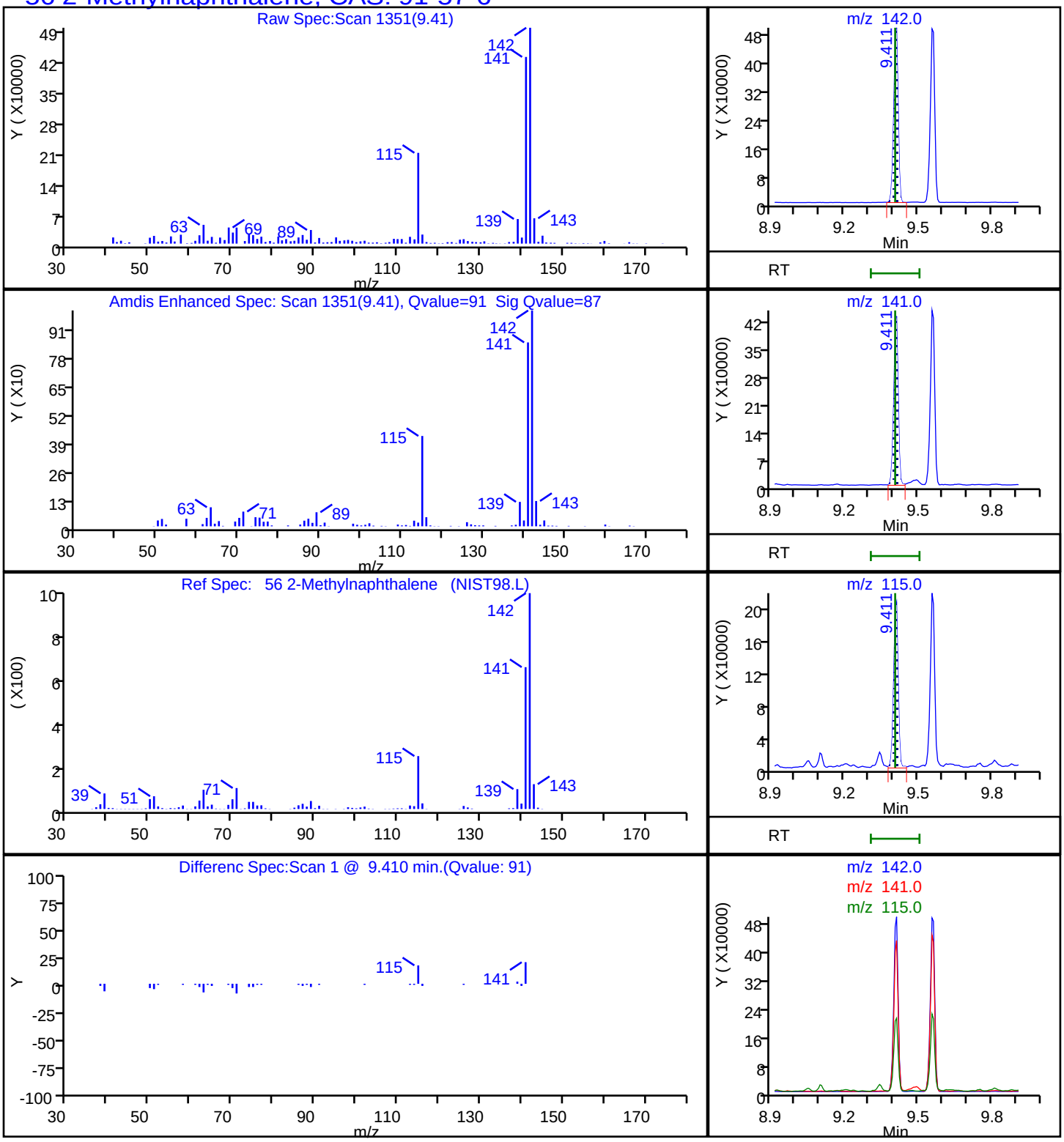
Report Date: 19-Aug-2020 13:58:04 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1013.D

Injection Date:	18-Aug-2020 15:46:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-1-A	Lab Sample ID:	410-10696-1		
Client ID:	MW-01				
Operator ID:	em10340	ALS Bottle#:	14	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

56 2-Methylnaphthalene, CAS: 91-57-6



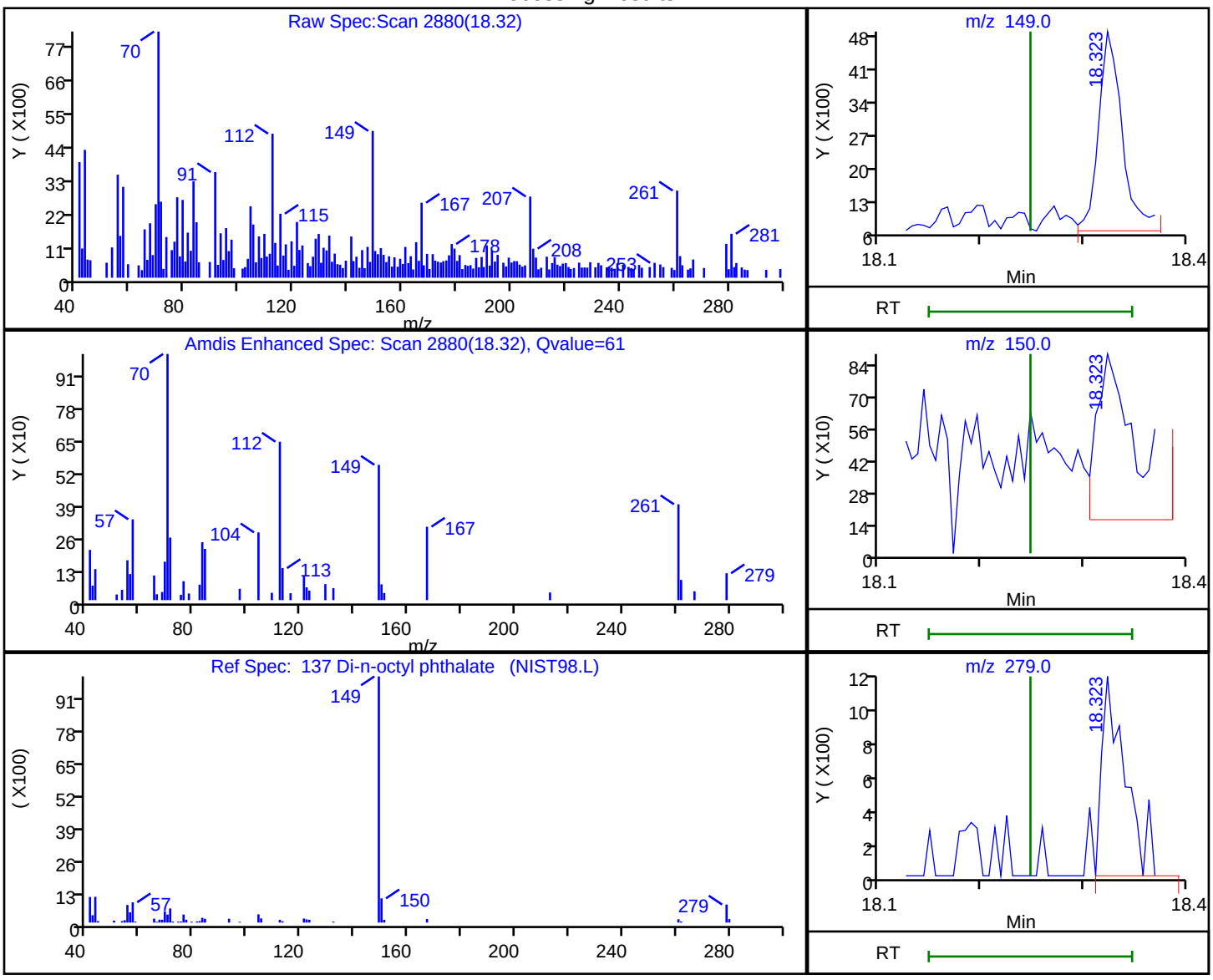
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1013.D				
Injection Date:	18-Aug-2020 15:46:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-1-A	Lab Sample ID:	410-10696-1		
Client ID:	MW-01				
Operator ID:	em10340	ALS Bottle#:	14	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

137 Di-n-octyl phthalate, CAS: 117-84-0

Processing Results



RT	Mass	Response	Amount
18.32	149.00	6873	0.989775
18.32	150.00	2034	
18.32	279.00	1802	

Reviewer: monbornee, 19-Aug-2020 09:24:41

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

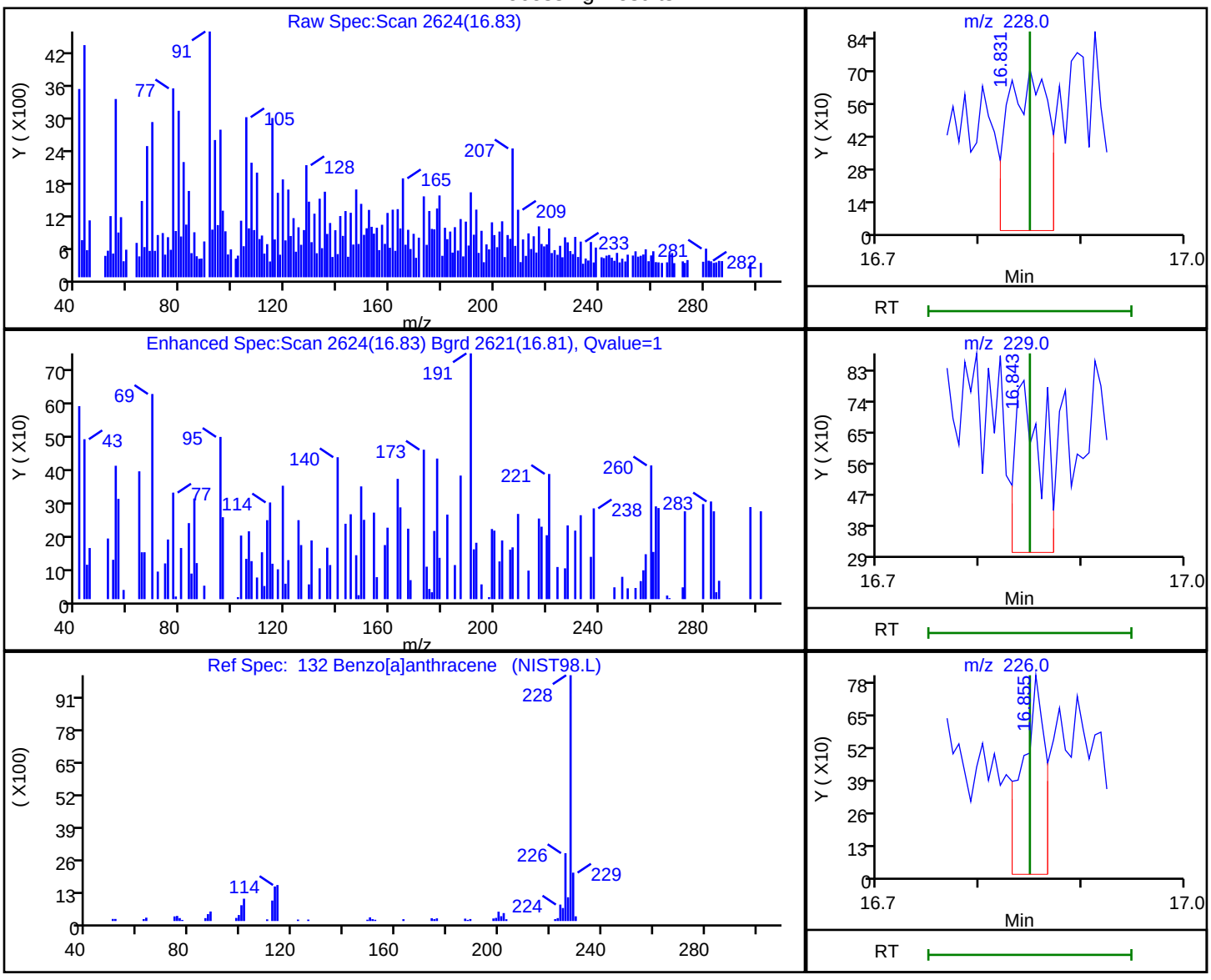
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1013.D				
Injection Date:	18-Aug-2020 15:46:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-1-A	Lab Sample ID:	410-10696-1		
Client ID:	MW-01				
Operator ID:	em10340	ALS Bottle#:	14	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

132 Benzo[a]anthracene, CAS: 56-55-3

Processing Results



RT	Mass	Response	Amount
16.83	228.00	1793	0.125207
16.84	229.00	861	
16.85	226.00	1109	

Reviewer: monbornee, 19-Aug-2020 09:24:37

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

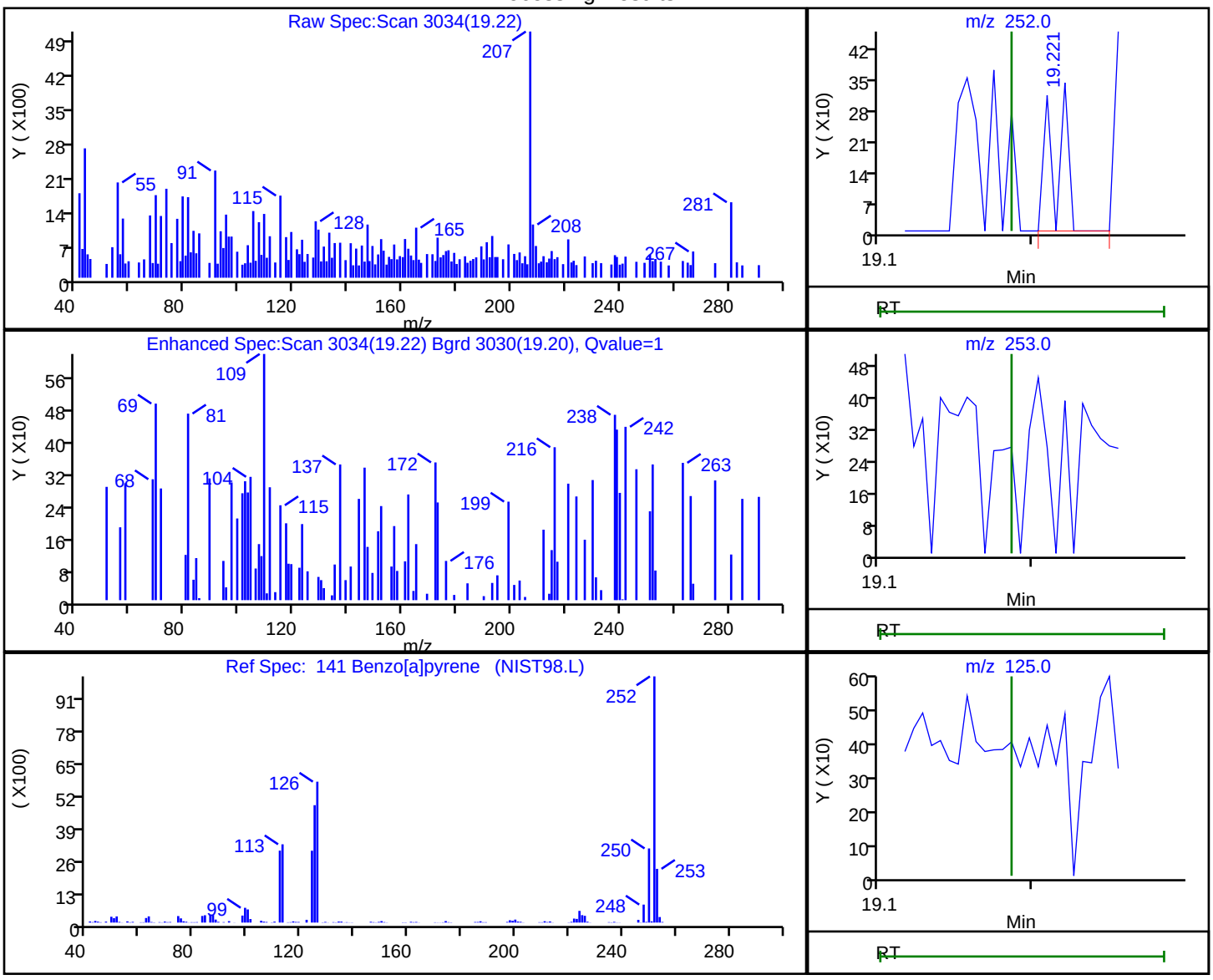
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1013.D				
Injection Date:	18-Aug-2020 15:46:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-1-A	Lab Sample ID:	410-10696-1		
Client ID:	MW-01				
Operator ID:	em10340	ALS Bottle#:	14	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

141 Benzo[a]pyrene, CAS: 50-32-8

Processing Results



RT	Mass	Response	Amount
19.22	252.00	226	0.099950
19.19	253.00	0	
19.19	125.00	0	

Reviewer: monbornee, 19-Aug-2020 09:24:44

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 19-Aug-2020 13:58:05 Chrom Revision: 2.3 17-Aug-2020 20:42:08

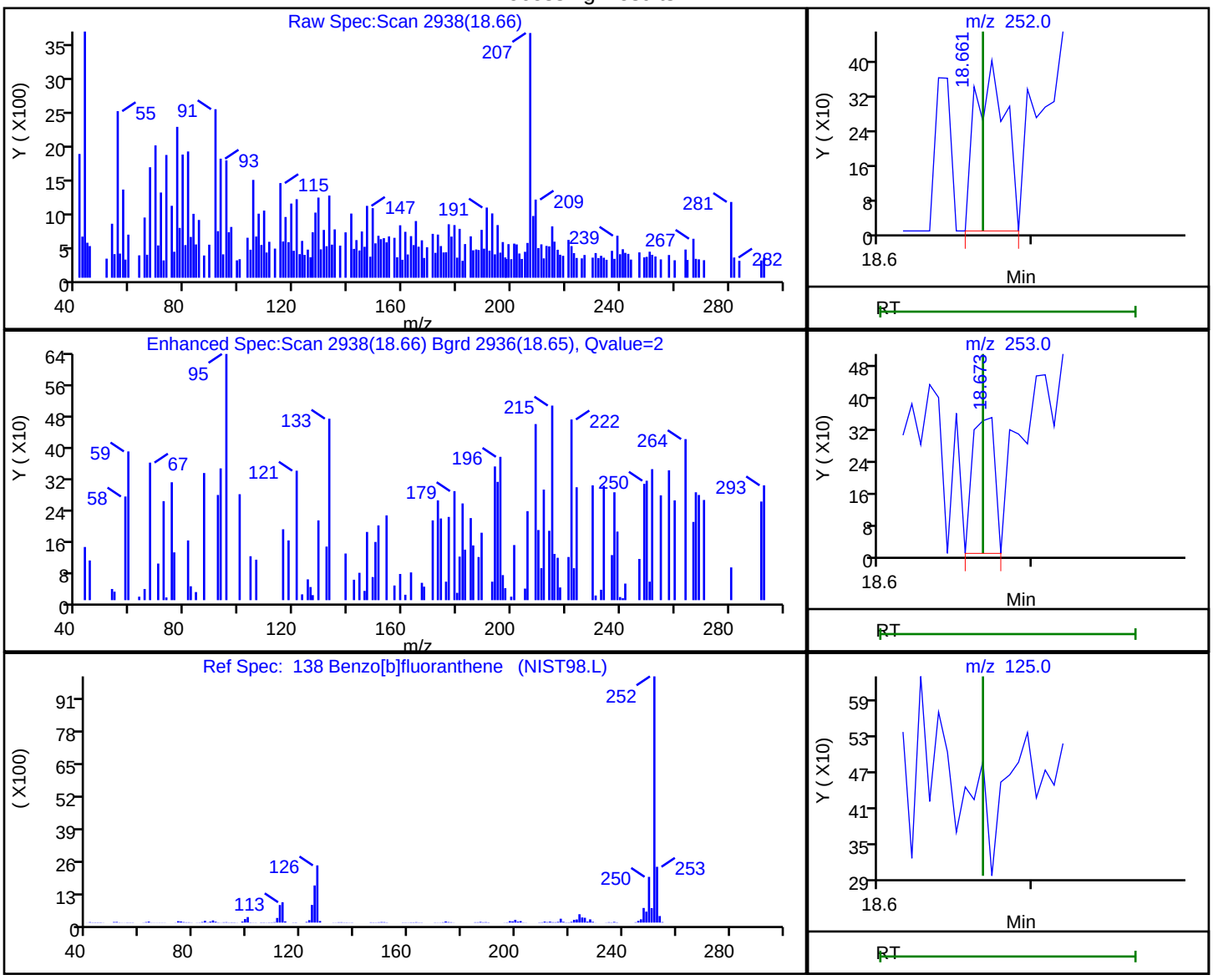
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1013.D				
Injection Date:	18-Aug-2020 15:46:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-1-A	Lab Sample ID:	410-10696-1		
Client ID:	MW-01				
Operator ID:	em10340	ALS Bottle#:	14	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

138 Benzo[b]fluoranthene, CAS: 205-99-2

Processing Results



RT	Mass	Response	Amount
18.66	252.00	542	0.099334
18.67	253.00	349	
18.67	125.00	0	

Reviewer: monbornee, 19-Aug-2020 09:24:42

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

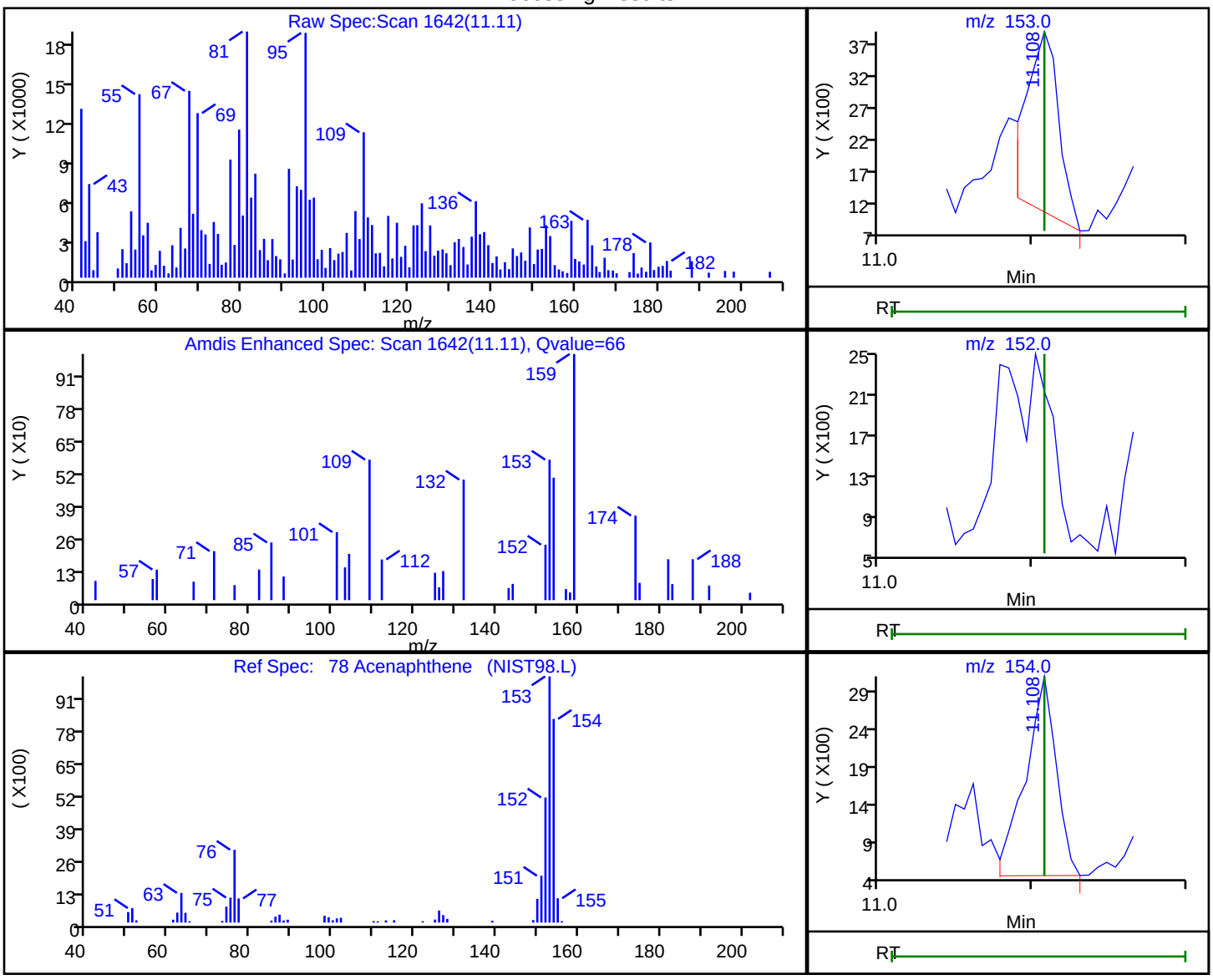
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1013.D				
Injection Date:	18-Aug-2020 15:46:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-1-A	Lab Sample ID:	410-10696-1		
Client ID:	MW-01				
Operator ID:	em10340	ALS Bottle#:	14	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

78 Acenaphthene, CAS: 83-32-9

Processing Results



RT	Mass	Response	Amount
11.11	153.00	3953	0.036445
11.11	152.00	0	
11.11	154.00	3668	

Reviewer: monbornee, 19-Aug-2020 09:24:15

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

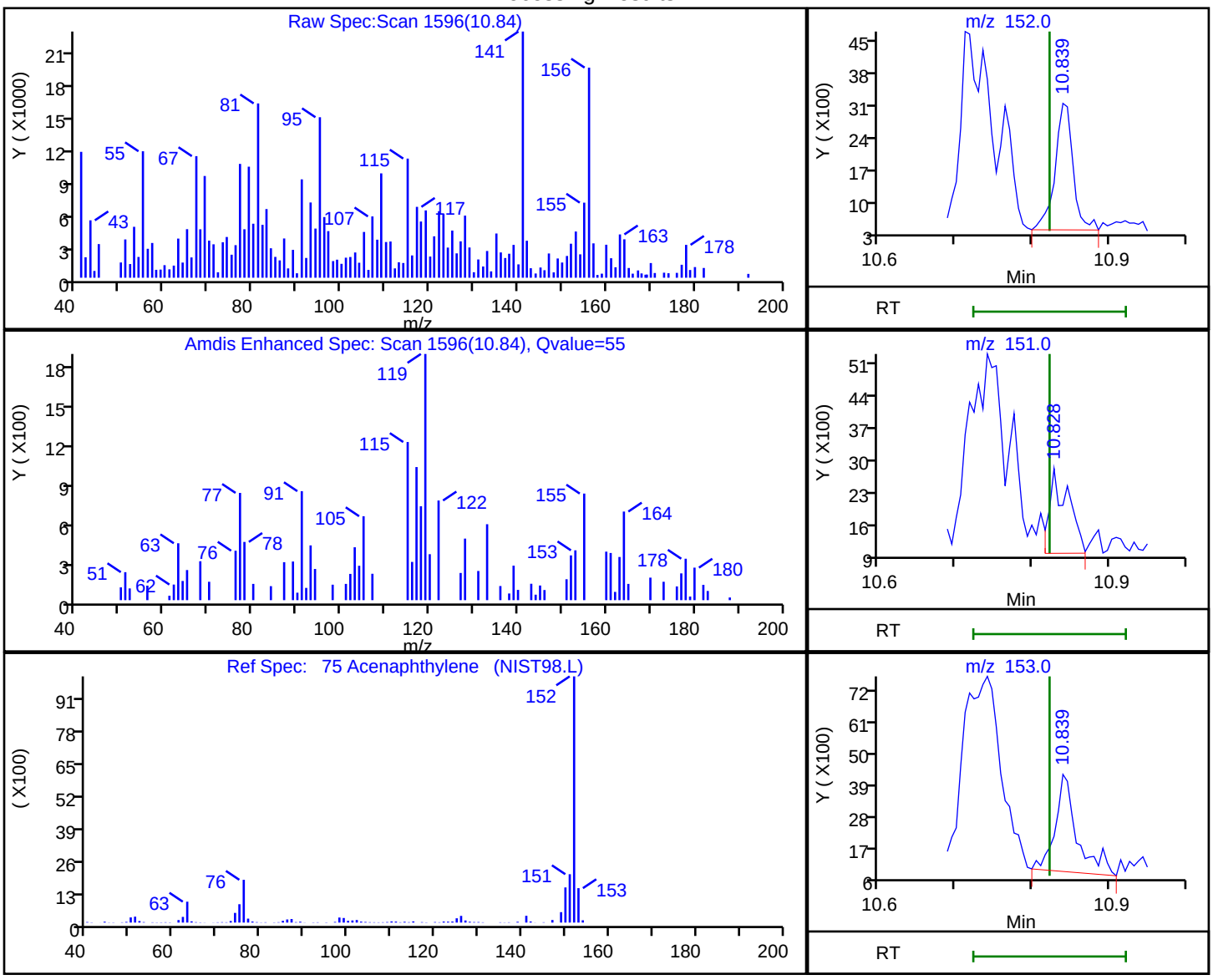
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1013.D				
Injection Date:	18-Aug-2020 15:46:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-1-A	Lab Sample ID:	410-10696-1		
Client ID:	MW-01				
Operator ID:	em10340	ALS Bottle#:	14	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

75 Acenaphthylene, CAS: 208-96-8

Processing Results



RT	Mass	Response	Amount
10.84	152.00	4539	0.031710
10.83	151.00	3066	
10.84	153.00	6760	

Reviewer: monbornee, 19-Aug-2020 09:24:13

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

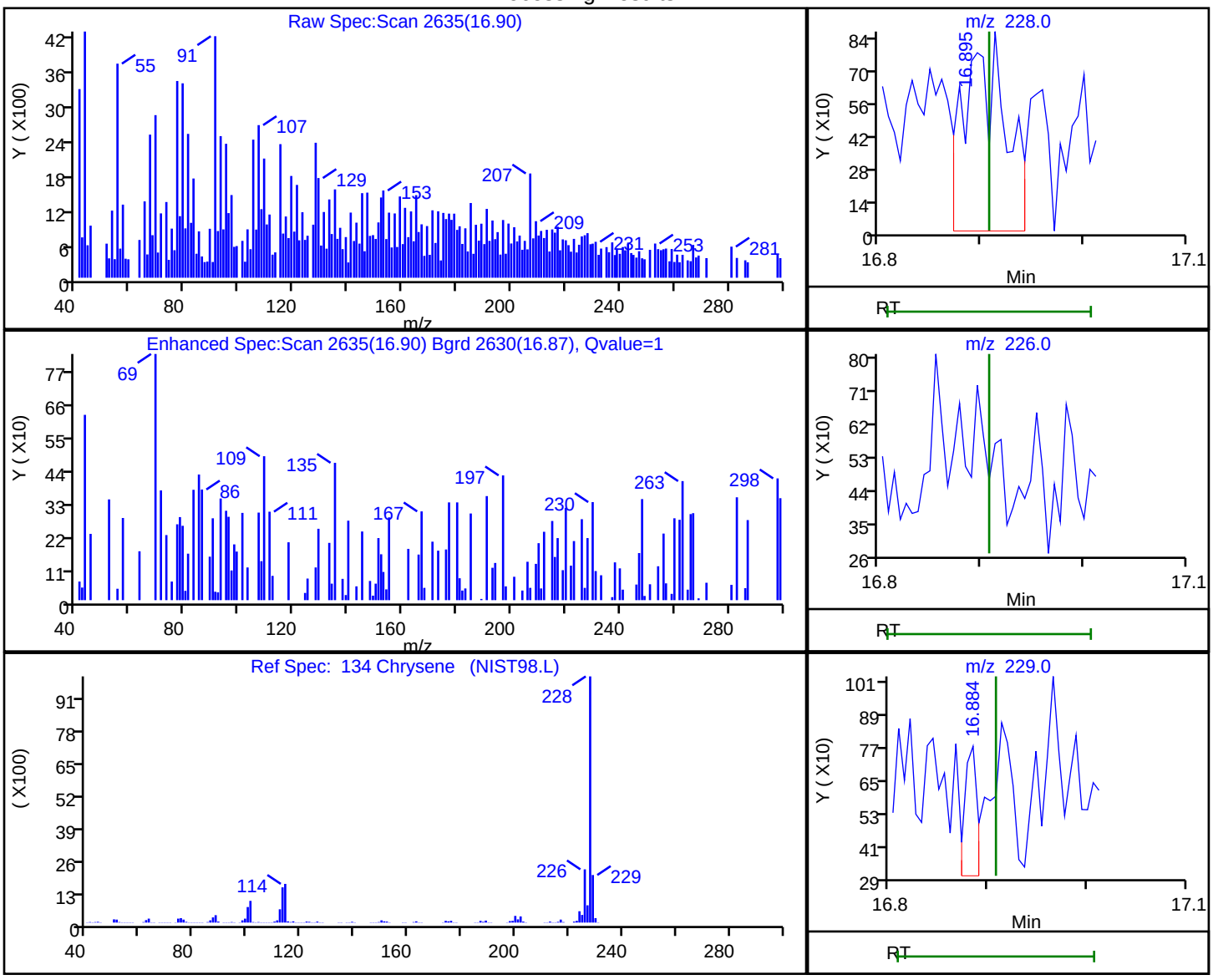
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1013.D				
Injection Date:	18-Aug-2020 15:46:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-1-A	Lab Sample ID:	410-10696-1		
Client ID:	MW-01				
Operator ID:	em10340	ALS Bottle#:	14	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

134 Chrysene, CAS: 218-01-9

Processing Results



RT	Mass	Response	Amount
16.90	228.00	2299	0.013008
16.91	226.00	0	
16.88	229.00	364	

Reviewer: monbornee, 19-Aug-2020 09:24:39

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

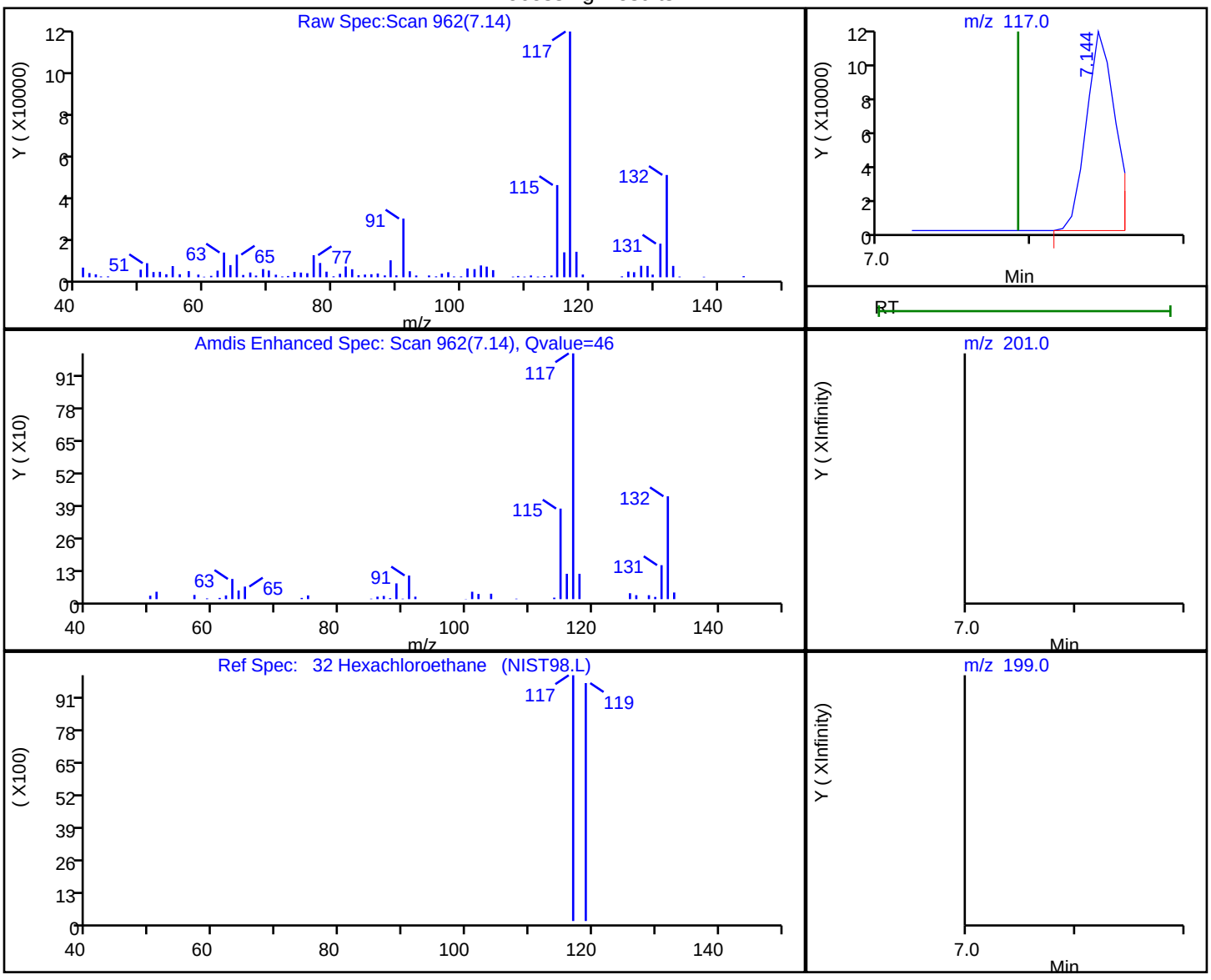
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1013.D				
Injection Date:	18-Aug-2020 15:46:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-1-A	Lab Sample ID:	410-10696-1		
Client ID:	MW-01				
Operator ID:	em10340	ALS Bottle#:	14	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

32 Hexachloroethane, CAS: 67-72-1

Processing Results



RT	Mass	Response	Amount
7.14	117.00	145345	4.816301
7.09	201.00	0	
7.09	199.00	0	

Reviewer: monbornee, 19-Aug-2020 09:23:57

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

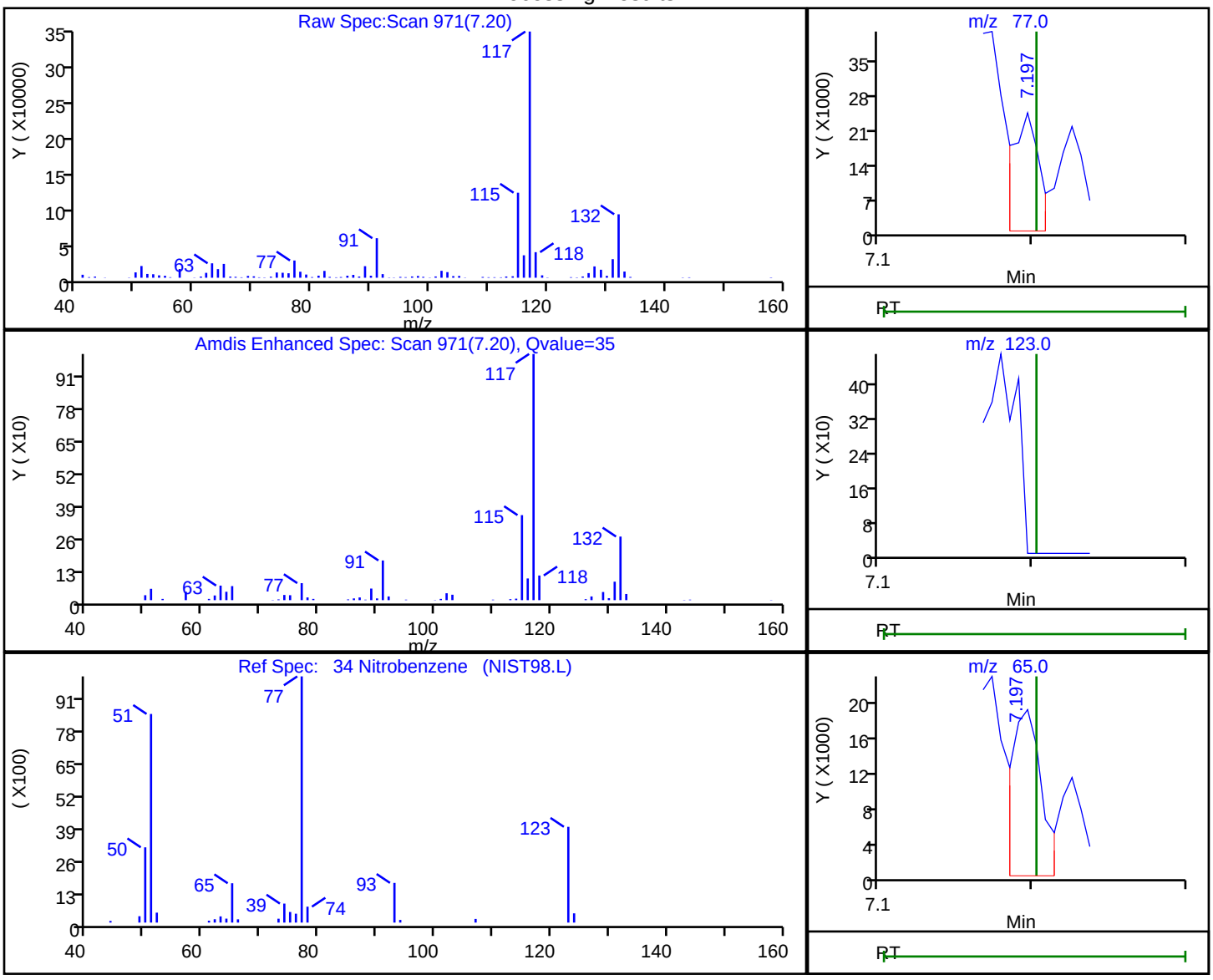
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1013.D				
Injection Date:	18-Aug-2020 15:46:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-1-A	Lab Sample ID:	410-10696-1		
Client ID:	MW-01				
Operator ID:	em10340	ALS Bottle#:	14	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

34 Nitrobenzene, CAS: 98-95-3

Processing Results



RT	Mass	Response	Amount
7.20	77.00	24810	0.327854
7.20	123.00	0	
7.20	65.00	23450	

Reviewer: monbornee, 19-Aug-2020 09:23:58

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

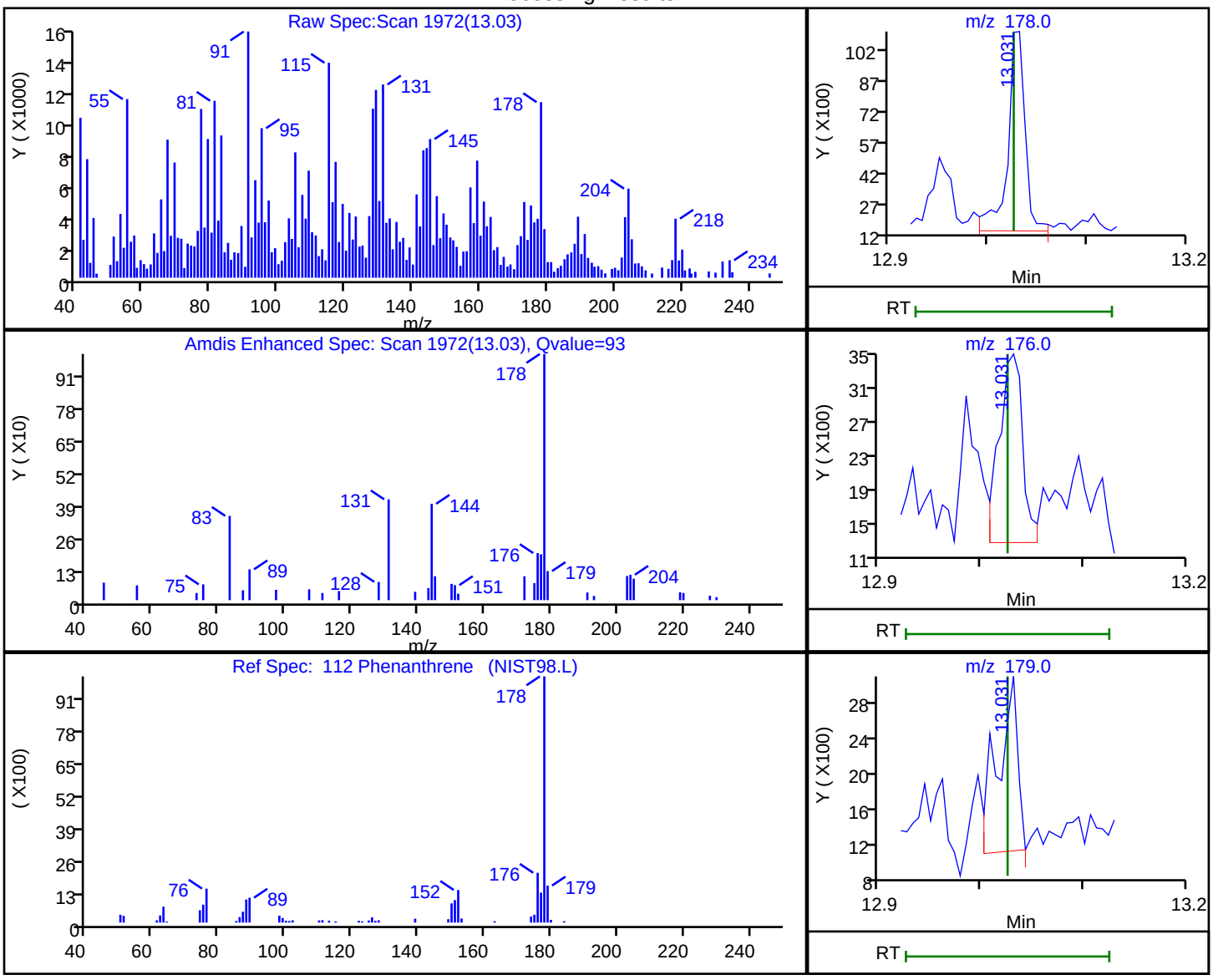
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1013.D				
Injection Date:	18-Aug-2020 15:46:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-1-A	Lab Sample ID:	410-10696-1		
Client ID:	MW-01				
Operator ID:	em10340	ALS Bottle#:	14	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

112 Phenanthrene, CAS: 85-01-8

Processing Results



RT	Mass	Response	Amount
13.03	178.00	11917	0.069149
13.03	176.00	3362	
13.03	179.00	2588	

Reviewer: monbornee, 19-Aug-2020 09:24:33

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

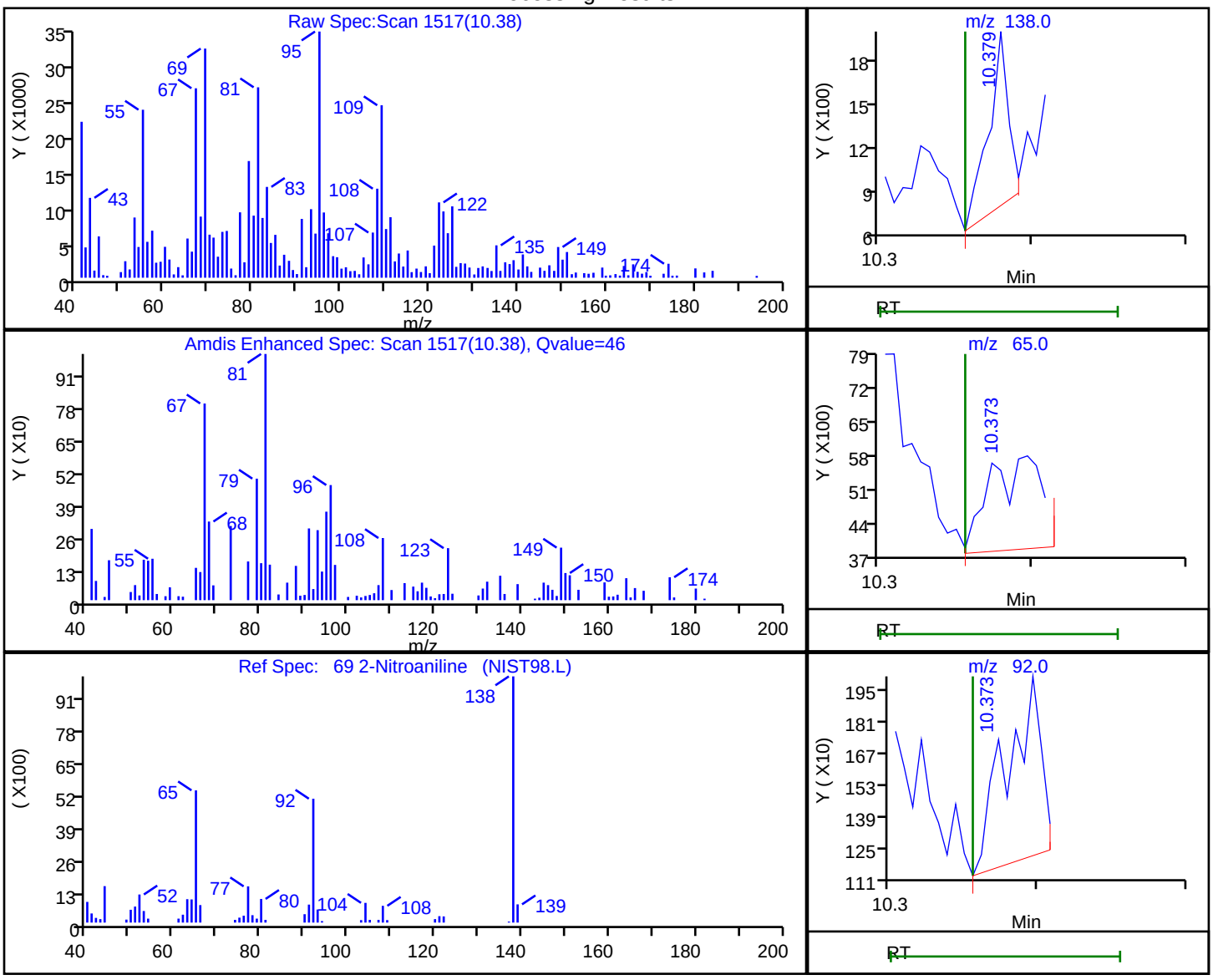
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1013.D				
Injection Date:	18-Aug-2020 15:46:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-1-A	Lab Sample ID:	410-10696-1		
Client ID:	MW-01				
Operator ID:	em10340	ALS Bottle#:	14	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

69 2-Nitroaniline, CAS: 88-74-4

Processing Results



RT	Mass	Response	Amount
10.38	138.00	1001	0.261128
10.37	65.00	4434	
10.37	92.00	1293	

Reviewer: monbornee, 19-Aug-2020 09:24:09

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

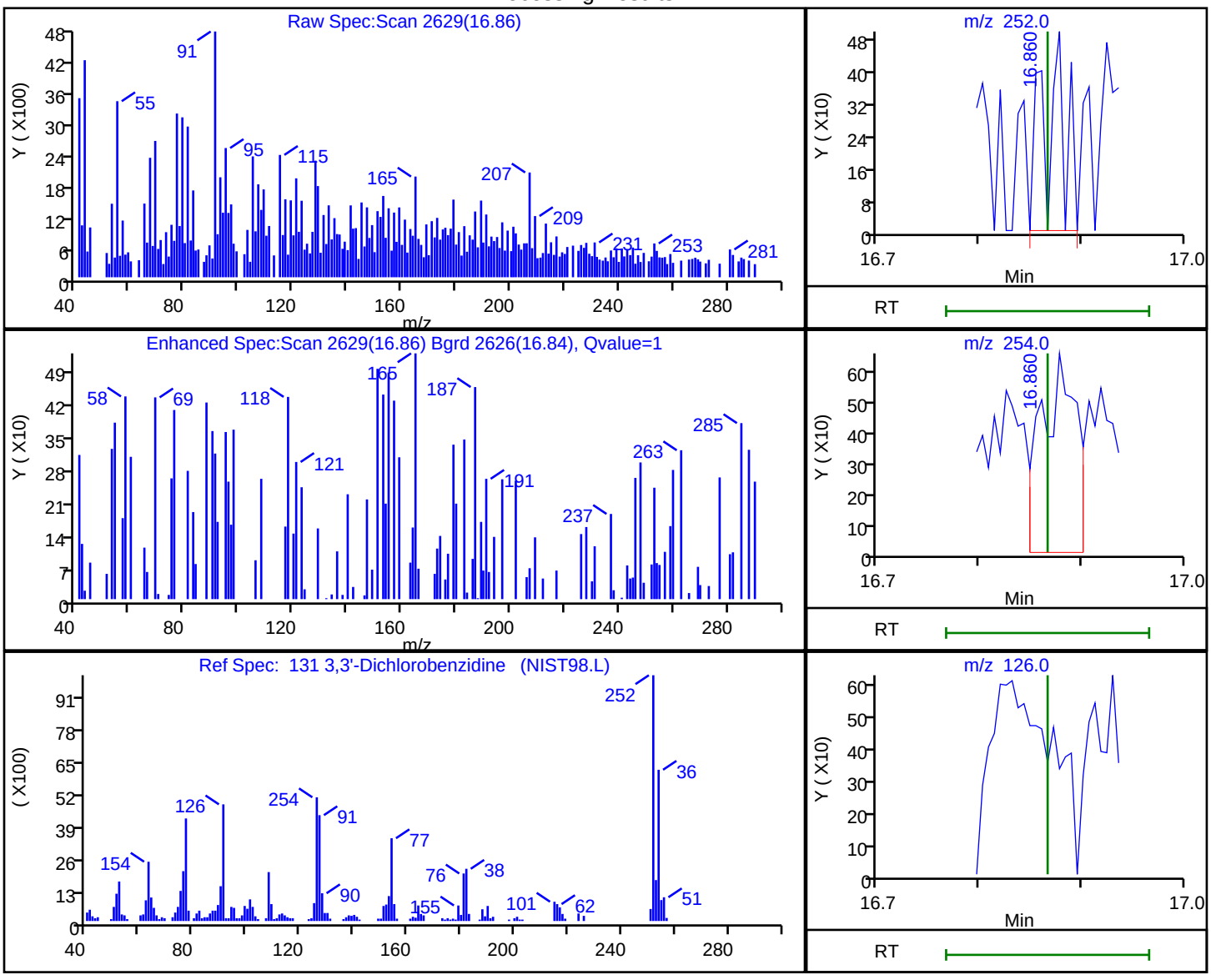
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1013.D				
Injection Date:	18-Aug-2020 15:46:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-1-A	Lab Sample ID:	410-10696-1		
Client ID:	MW-01				
Operator ID:	em10340	ALS Bottle#:	14	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

131 3,3'-Dichlorobenzidine, CAS: 91-94-1

Processing Results



RT	Mass	Response	Amount
16.86	252.00	714	0.777071
16.86	254.00	1477	
16.87	126.00	0	

Reviewer: monbornee, 19-Aug-2020 09:24:38

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

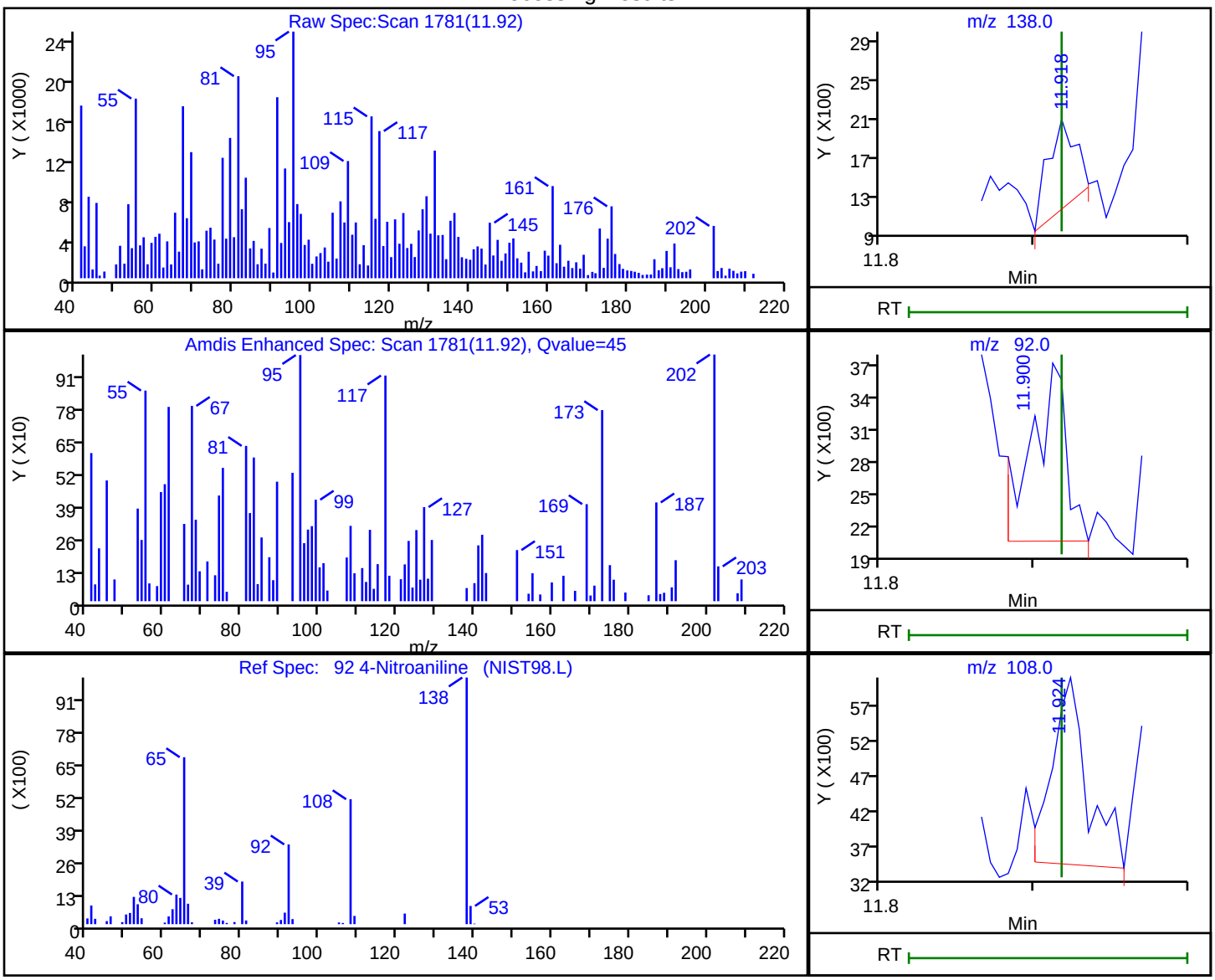
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1013.D				
Injection Date:	18-Aug-2020 15:46:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-1-A	Lab Sample ID:	410-10696-1		
Client ID:	MW-01				
Operator ID:	em10340	ALS Bottle#:	14	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

92 4-Nitroaniline, CAS: 100-01-6

Processing Results



RT	Mass	Response	Amount
11.92	138.00	1146	0.220749
11.90	92.00	2407	
11.92	108.00	4082	
11.92	65.00	2994	

Reviewer: monbornee, 19-Aug-2020 09:24:26

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

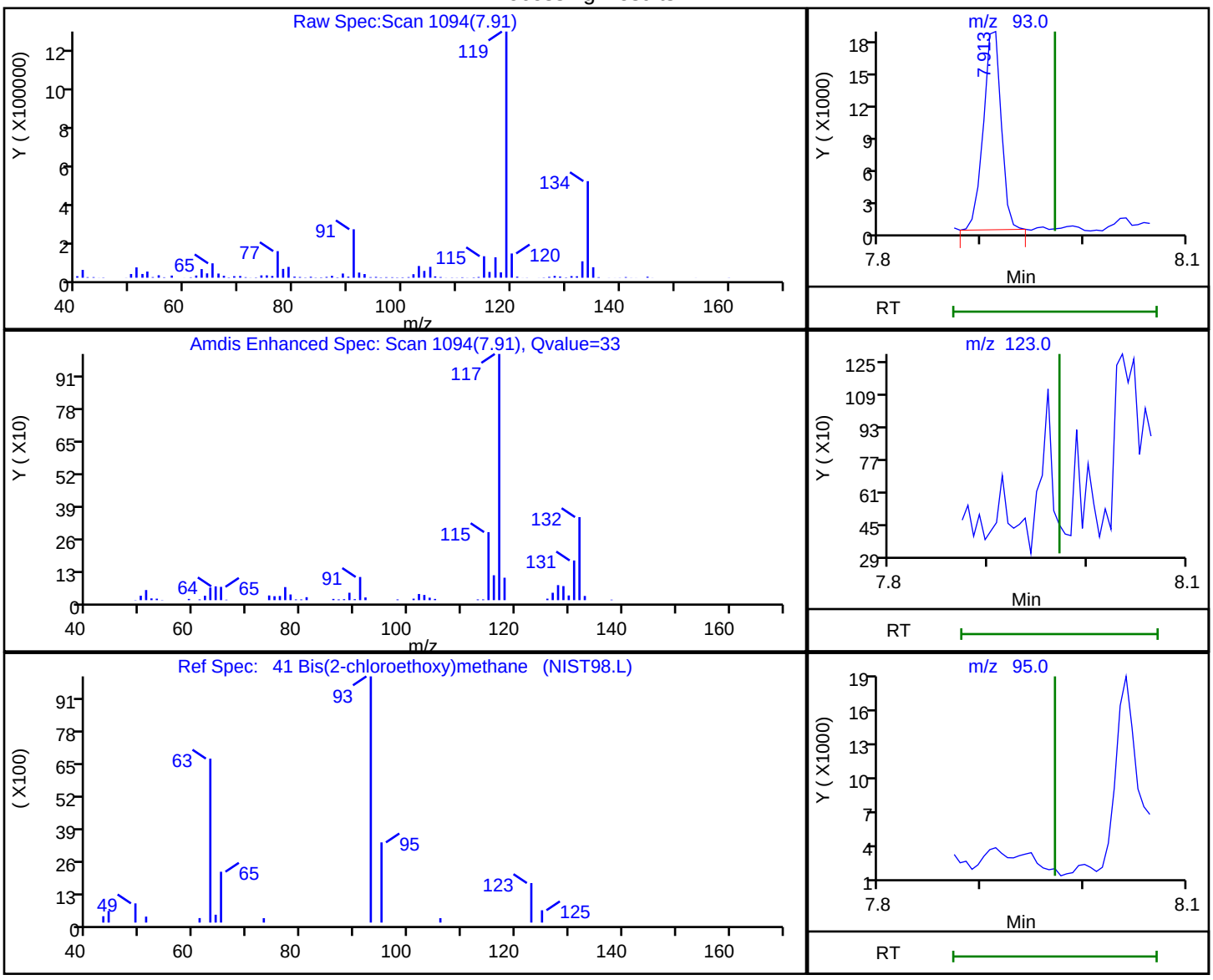
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1013.D				
Injection Date:	18-Aug-2020 15:46:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-1-A	Lab Sample ID:	410-10696-1		
Client ID:	MW-01				
Operator ID:	em10340	ALS Bottle#:	14	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

41 Bis(2-chloroethoxy)methane, CAS: 111-91-1

Processing Results



RT	Mass	Response	Amount
7.91	93.00	22140	0.270646
7.97	123.00	0	
7.97	95.00	0	

Reviewer: monbornee, 19-Aug-2020 09:24:01

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

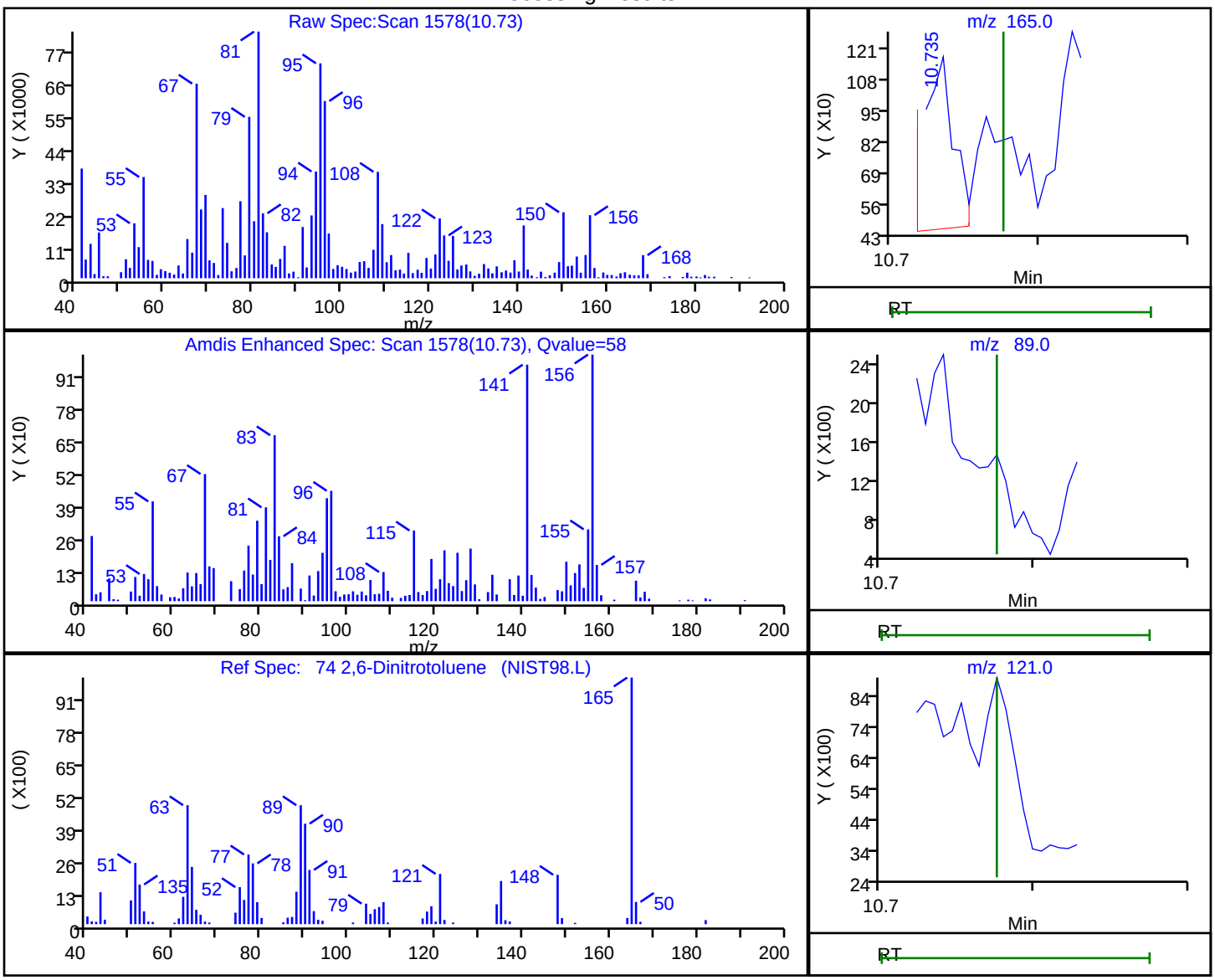
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1013.D				
Injection Date:	18-Aug-2020 15:46:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-1-A	Lab Sample ID:	410-10696-1		
Client ID:	MW-01				
Operator ID:	em10340	ALS Bottle#:	14	Worklist Smp#:	13
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

74 2,6-Dinitrotoluene, CAS: 606-20-2

Processing Results



RT	Mass	Response	Amount
10.73	165.00	909	0.226525
10.72	89.00	4772	
10.73	121.00	7882	
10.72	63.00	14585	

Reviewer: monbornee, 19-Aug-2020 09:24:11

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-04 Lab Sample ID: 410-10696-3

Matrix: Water Lab File ID: DH1014.D

Analysis Method: 8270D Date Collected: 08/11/2020 13:40

Extract. Method: 3510C Date Extracted: 08/17/2020 08:45

Sample wt/vol: 247(mL) Date Analyzed: 08/18/2020 16:14

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34301 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
92-52-4	1,1'-Biphenyl	ND	*	10	3.0
120-83-2	2,4-Dichlorophenol	ND	*	2.0	0.51
105-67-9	2,4-Dimethylphenol	6.6	J *	10	3.0
51-28-5	2,4-Dinitrophenol	ND		30	14
121-14-2	2,4-Dinitrotoluene	ND	*	5.1	1.0
95-95-4	2,4,5-Trichlorophenol	ND		2.0	0.51
88-06-2	2,4,6-Trichlorophenol	ND	*	2.0	0.51
108-60-1	2,2'-oxybis[1-chloropropane]	ND		2.0	0.51
84-74-2	Di-n-butyl phthalate	ND		5.1	2.0
117-84-0	Di-n-octyl phthalate	ND		11	5.1
56-55-3	Benzo[a]anthracene	0.68	*	0.51	0.10
50-32-8	Benzo[a]pyrene	0.47	J *	0.51	0.10
205-99-2	Benzo[b]fluoranthene	ND	*	0.51	0.10
191-24-2	Benzo[g,h,i]perylene	ND	*	0.51	0.10
207-08-9	Benzo[k]fluoranthene	ND	*	0.51	0.10
83-32-9	Acenaphthene	ND		0.51	0.10
208-96-8	Acenaphthylene	ND		0.51	0.10
98-86-2	Acetophenone	ND	*	10	4.0
120-12-7	Anthracene	ND	*	0.51	0.10
1912-24-9	Atrazine	ND		5.1	2.0
100-52-7	Benzaldehyde	ND	*	10	3.0
85-68-7	Butylbenzylphthalate	ND		5.1	2.0
105-60-2	Caprolactam	ND		11	5.1
86-74-8	Carbazole	1.6	J	2.0	0.51
218-01-9	Chrysene	0.46	J	0.51	0.10
53-70-3	Dibenz(a,h)anthracene	ND	*	0.51	0.10
132-64-9	Dibenzofuran	ND	*	2.0	0.51
84-66-2	Diethyl phthalate	ND		5.1	2.0
131-11-3	Dimethyl phthalate	ND		5.1	2.0
118-74-1	Hexachlorobenzene	ND	*	0.51	0.10
87-68-3	Hexachlorobutadiene	ND		2.0	0.51
77-47-4	Hexachlorocyclopentadiene	ND		11	5.1
67-72-1	Hexachloroethane	ND		5.1	1.0
206-44-0	Fluoranthene	0.19	J	0.51	0.10

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-04 Lab Sample ID: 410-10696-3

Matrix: Water Lab File ID: DH1014.D

Analysis Method: 8270D Date Collected: 08/11/2020 13:40

Extract. Method: 3510C Date Extracted: 08/17/2020 08:45

Sample wt/vol: 247(mL) Date Analyzed: 08/18/2020 16:14

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34301 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
86-73-7	Fluorene	1.1		0.51	0.10
193-39-5	Indeno[1,2,3-cd]pyrene	ND	*	0.51	0.10
78-59-1	Isophorone	ND	*	2.0	0.51
621-64-7	N-Nitrosodi-n-propylamine	ND		3.0	0.71
86-30-6	N-Nitrosodiphenylamine	ND		3.0	0.71
98-95-3	Nitrobenzene	ND		2.0	0.51
87-86-5	Pentachlorophenol	ND		5.1	1.0
85-01-8	Phenanthrene	3.1	*	0.51	0.10
108-95-2	Phenol	ND		2.0	0.51
129-00-0	Pyrene	0.64	*	0.51	0.10
91-58-7	2-Chloronaphthalene	ND		1.0	0.40
95-57-8	2-Chlorophenol	ND		2.0	0.51
91-57-6	2-Methylnaphthalene	41		0.51	0.10
95-48-7	2-Methylphenol	ND		2.0	0.51
88-74-4	2-Nitroaniline	ND	*	5.1	2.0
88-75-5	2-Nitrophenol	ND		10	3.0
91-94-1	3,3'-Dichlorobenzidine	ND		10	3.0
99-09-2	3-Nitroaniline	ND		7.1	3.0
534-52-1	4,6-Dinitro-2-methylphenol	ND		21	8.1
101-55-3	4-Bromophenyl-phenylether	ND	*	2.0	0.51
106-44-5	4-Methylphenol	1.1	J	2.0	0.51
100-01-6	4-Nitroaniline	ND		3.0	0.91
100-02-7	4-Nitrophenol	ND		30	10
111-91-1	Bis(2-chloroethoxy)methane	ND	*	2.0	0.51
111-44-4	Bis(2-chloroethyl)ether	ND	*	2.0	0.51
117-81-7	Bis(2-ethylhexyl) phthalate	ND		11	5.1
606-20-2	2,6-Dinitrotoluene	ND	*	2.0	0.51
59-50-7	4-Chloro-3-methylphenol	ND		3.5	1.6
106-47-8	4-Chloroaniline	ND		10	4.0
7005-72-3	4-Chlorophenyl-phenyl ether	ND	*	2.0	0.51

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-04 Lab Sample ID: 410-10696-3

Matrix: Water Lab File ID: DH1014.D

Analysis Method: 8270D Date Collected: 08/11/2020 13:40

Extract. Method: 3510C Date Extracted: 08/17/2020 08:45

Sample wt/vol: 247(mL) Date Analyzed: 08/18/2020 16:14

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34301 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	47		18-141
321-60-8	2-Fluorobiphenyl (Surr)	47		44-102
367-12-4	2-Fluorophenol (Surr)	22		10-84
4165-60-0	Nitrobenzene-d5 (Surr)	54		38-113
1718-51-0	p-Terphenyl-d14 (Surr)	46		34-128
4165-62-2	Phenol-d5 (Surr)	21		10-67

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D
Lims ID: 410-10696-B-3-A
Client ID: MW-04
Sample Type: Client
Inject. Date: 18-Aug-2020 16:14:30 ALS Bottle#: 15 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 410-10696-B-3-A
Misc. Info.: 410-0008313-014
Operator ID: em10340 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 30-Aug-2020 14:40:51 Calib Date: 14-Aug-2020 02:06:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200813-8022.b\DH0756.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1014

First Level Reviewer: monbornee Date: 19-Aug-2020 09:25:53

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
$ 8 2-Fluorophenol	112	4.445	4.434	0.011	91	721496	11.2	
12 Benzaldehyde	77		5.693				ND	U
$ 13 Phenol-d5	99	5.862	5.844	0.018	97	838637	10.3	
14 Phenol	94		5.868				ND	MU
16 Bis(2-chloroethyl)ether	93		5.984				ND	
17 2-Chlorophenol	128		6.019				ND	
* 19 1,4-Dichlorobenzene-d4	152	6.340	6.340	0.000	96	205456	5.00	
23 2-Methylphenol	108		6.765				ND	
25 2,2'-oxybis[1-chloropropane]	45		6.789				ND	
27 Acetophenone	105		6.963				ND	U
29 N-Nitrosodi-n-propylamine	70		6.987				ND	U
28 4-Methylphenol	108	7.016	7.004	0.012	95	18992	0.2749	
32 Hexachloroethane	117		7.091				ND	U
$ 33 Nitrobenzene-d5	82	7.179	7.173	0.006	85	1041973	13.6	
34 Nitrobenzene	77		7.202				ND	Ua
36 Isophorone	82		7.587				ND	U
37 2-Nitrophenol	139		7.698				ND	
38 2,4-Dimethylphenol	107	7.826	7.820	0.006	95	102712	1.62	
41 Bis(2-chloroethoxy)methane	93		7.972				ND	
42 2,4-Dichlorophenol	162		8.071				ND	
* 44 Naphthalene-d8	136	8.275	8.269	0.006	98	780890	5.00	
45 Naphthalene	128	8.316	8.304	0.012	98	6180944	36.1	E
46 4-Chloroaniline	127		8.426				ND	
49 Hexachlorobutadiene	225		8.537				ND	
52 Caprolactam	113		8.962				ND	
54 4-Chloro-3-methylphenol	107		9.236				ND	
56 2-Methylnaphthalene	142	9.411	9.406	0.005	91	1087292	10.2	
58 Hexachlorocyclopentadiene	237		9.674				ND	
61 2,4,6-Trichlorophenol	196		9.878				ND	
62 2,4,5-Trichlorophenol	196		9.924				ND	
$ 63 2-Fluorobiphenyl (Surr)	172	10.029	10.023	0.006	99	1585857	11.8	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
66 2-Chloronaphthalene	162		10.169				ND	U
65 1,1'-Biphenyl	154		10.175				ND	
69 2-Nitroaniline	138		10.356				ND	U
72 Dimethyl phthalate	163		10.711				ND	
74 2,6-Dinitrotoluene	165		10.775				ND	U
75 Acenaphthylene	152		10.822				ND	Ua
76 3-Nitroaniline	138		11.026				ND	
* 77 Acenaphthene-d10	164	11.061	11.055	0.006	97	408433	5.00	
78 Acenaphthene	153		11.108				ND	U
79 2,4-Dinitrophenol	184		11.201				ND	
80 4-Nitrophenol	109		11.352				ND	
83 Dibenzofuran	168		11.387				ND	
82 2,4-Dinitrotoluene	165		11.416				ND	
87 Diethyl phthalate	149		11.819				ND	
89 Fluorene	166	11.883	11.883	0.000	93	31713	0.2690	
91 4-Chlorophenyl phenyl ether	204		11.918				ND	
92 4-Nitroaniline	138		11.918				ND	U
93 4,6-Dinitro-2-methylphenol	198		11.982				ND	
94 N-Nitrosodiphenylamine	169		12.075				ND	U
$ 96 2,4,6-Tribromophenol	330	12.198	12.186	0.012	90	355025	23.4	
101 4-Bromophenyl phenyl ether	248		12.506				ND	
103 Hexachlorobenzene	284		12.541				ND	
105 Atrazine	200		12.739				ND	
106 Pentachlorophenol	266		12.792				ND	U
* 110 Phenanthrene-d10	188	13.002	13.002	0.000	98	785783	5.00	
112 Phenanthrene	178	13.031	13.025	0.006	99	139256	0.7671	
113 Anthracene	178		13.089				ND	U
114 Carbazole	167	13.311	13.305	0.006	97	63075	0.3994	
116 Di-n-butyl phthalate	149		13.818				ND	
121 Fluoranthene	202	14.587	14.587	0.000	94	8523	0.0465	a
* 123 Pyrene-d10 (IS)	212	14.885	14.879	0.006	100	847509	5.00	
124 Pyrene	202	14.914	14.908	0.006	97	35792	0.1593	
$ 125 p-Terphenyl-d14	244	15.211	15.199	0.012	99	1859701	11.4	
129 Butyl benzyl phthalate	149		16.050				ND	
132 Benzo[a]anthracene	228	16.855	16.849	0.006	96	11093	0.1675	
131 3,3'-Dichlorobenzidine	252		16.866				ND	U
134 Chrysene	228	16.913	16.907	0.006	96	21966	0.1135	
135 Bis(2-ethylhexyl) phthalate	149		17.105				ND	
137 Di-n-octyl phthalate	149		18.248				ND	U
138 Benzo[b]fluoranthene	252		18.667				ND	U
140 Benzo[k]fluoranthene	252		18.714				ND	
141 Benzo[a]pyrene	252	19.192	19.186	0.006	76	3683	0.1160	a
* 142 Perylene-d12	264	19.285	19.279	0.006	98	806397	5.00	
146 Indeno[1,2,3-cd]pyrene	276		20.859				ND	U
147 Dibenz(a,h)anthracene	278		20.906				ND	U
148 Benzo[g,h,i]perylene	276		21.209				ND	U

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

Review Flags
M - Manually Integrated
U - Marked Undetected
a - User Assigned ID

Reagents:

MSS_RV8270_IS_00012 Amount Added: 20.00 Units: uL Run Reagent

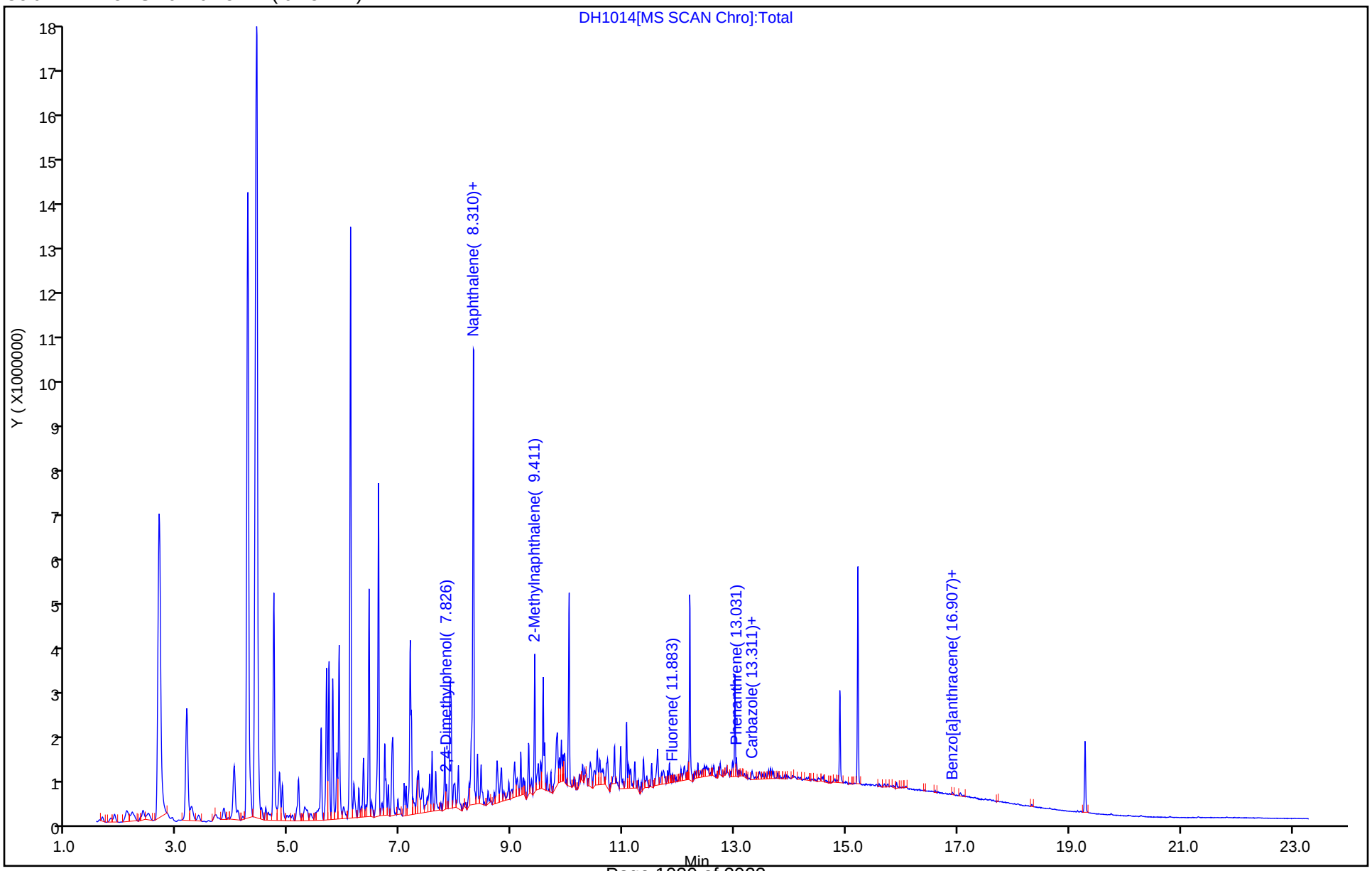
Report Date: 30-Aug-2020 14:40:54 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D

Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760	Operator ID:	em10340
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3	Worklist Smp#:	14
Client ID:	MW-04				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	15
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D
Lims ID: 410-10696-B-3-A
Client ID: MW-04
Sample Type: Client
Inject. Date: 18-Aug-2020 16:14:30 ALS Bottle#: 15 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 410-10696-B-3-A
Misc. Info.: 410-0008313-014
Operator ID: em10340 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 30-Aug-2020 14:40:51 Calib Date: 14-Aug-2020 02:06:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200813-8022.b\DH0756.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1014

First Level Reviewer: monbornee Date: 19-Aug-2020 09:25:53

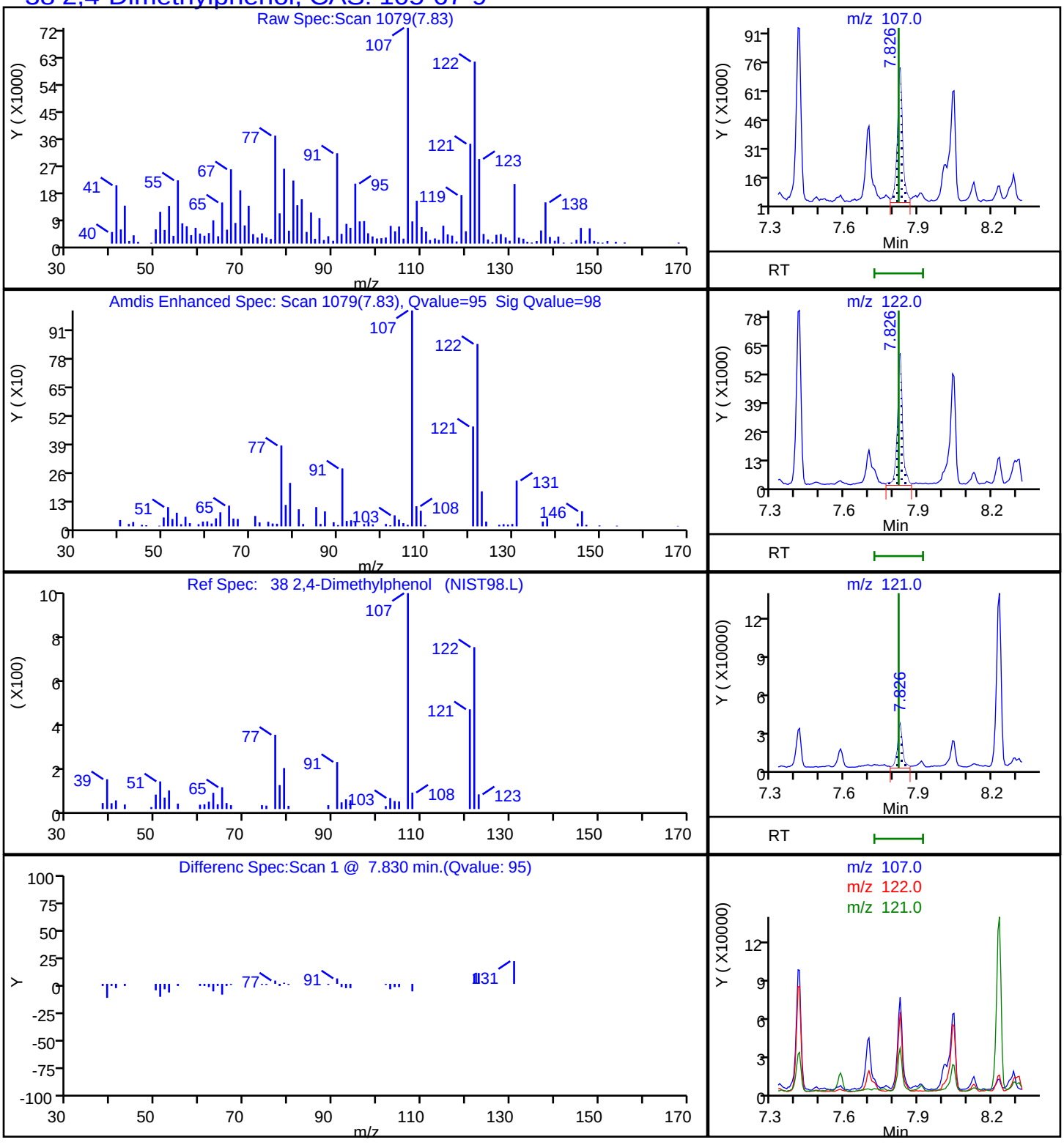
Compound	Amount Added	Amount Recovered	% Rec.
$ 8 2-Fluorophenol	50.2	11.2	22.38
$ 13 Phenol-d5	50.2	10.3	20.51
$ 33 Nitrobenzene-d5	25.1	13.6	54.35
$ 63 2-Fluorobiphenyl (Surr)	25.1	11.8	47.13
$ 96 2,4,6-Tribromophenol	50.1	23.4	46.73
$ 125 p-Terphenyl-d14	25.1	11.4	45.67

Report Date: 30-Aug-2020 14:40:54 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D		
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	em10340	ALS Bottle#:	15 Worklist Smp#: 14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

38 2,4-Dimethylphenol, CAS: 105-67-9

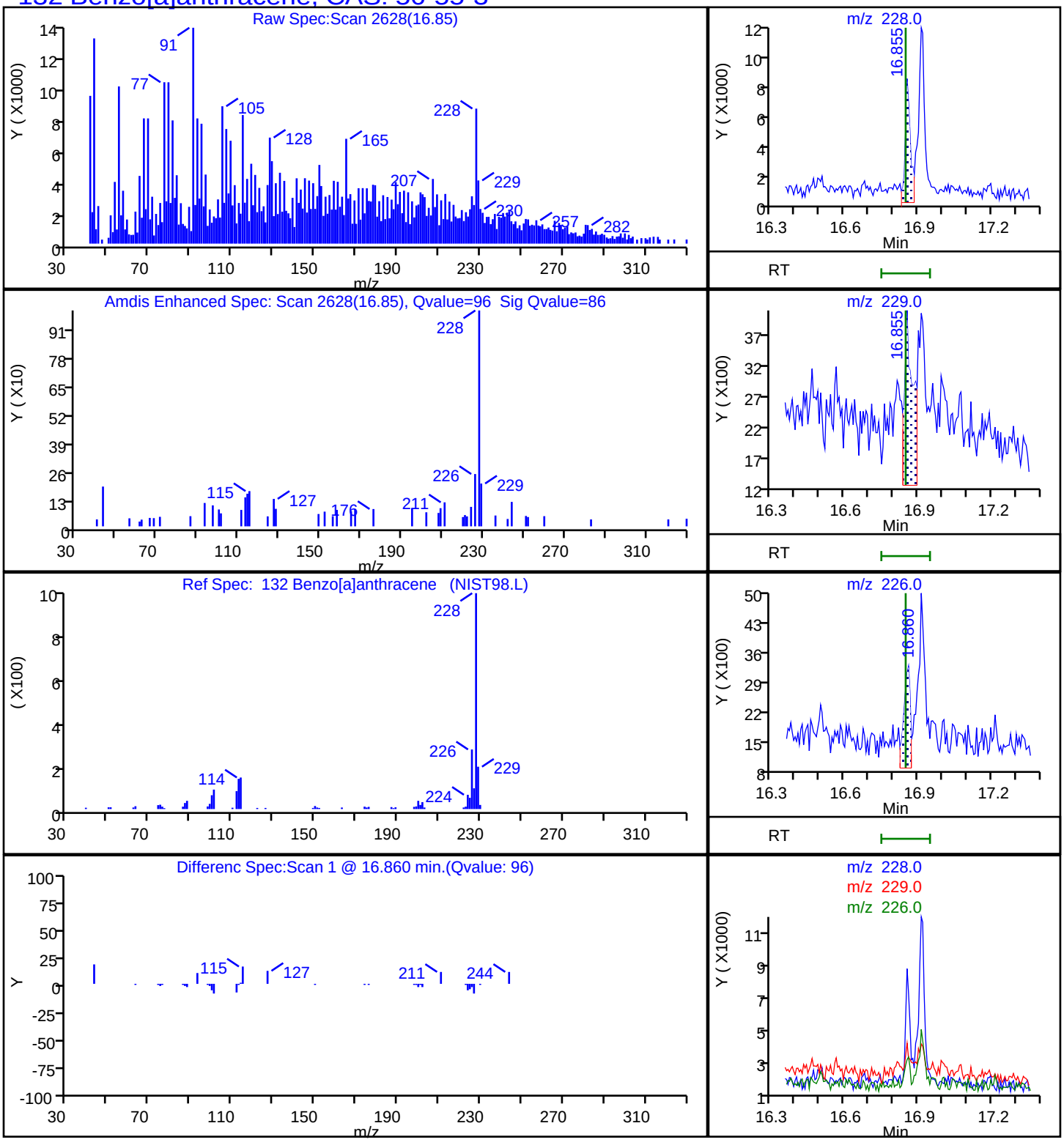


Report Date: 30-Aug-2020 14:40:54 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D		
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	em10340	ALS Bottle#:	15 Worklist Smp#: 14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

132 Benzo[a]anthracene, CAS: 56-55-3

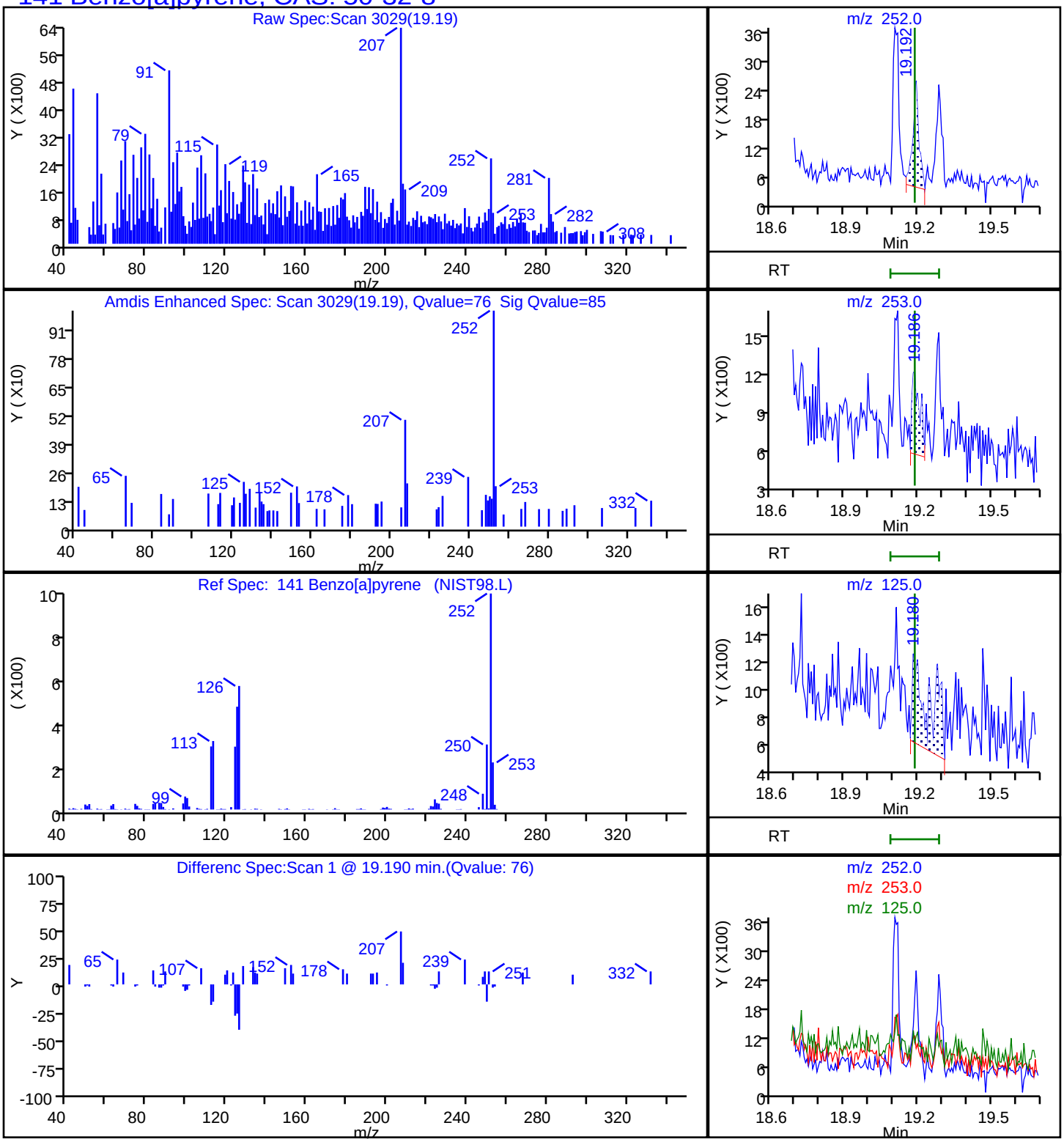


Report Date: 30-Aug-2020 14:40:54 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D		
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	em10340	ALS Bottle#:	15 Worklist Smp#: 14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

141 Benzo[a]pyrene, CAS: 50-32-8



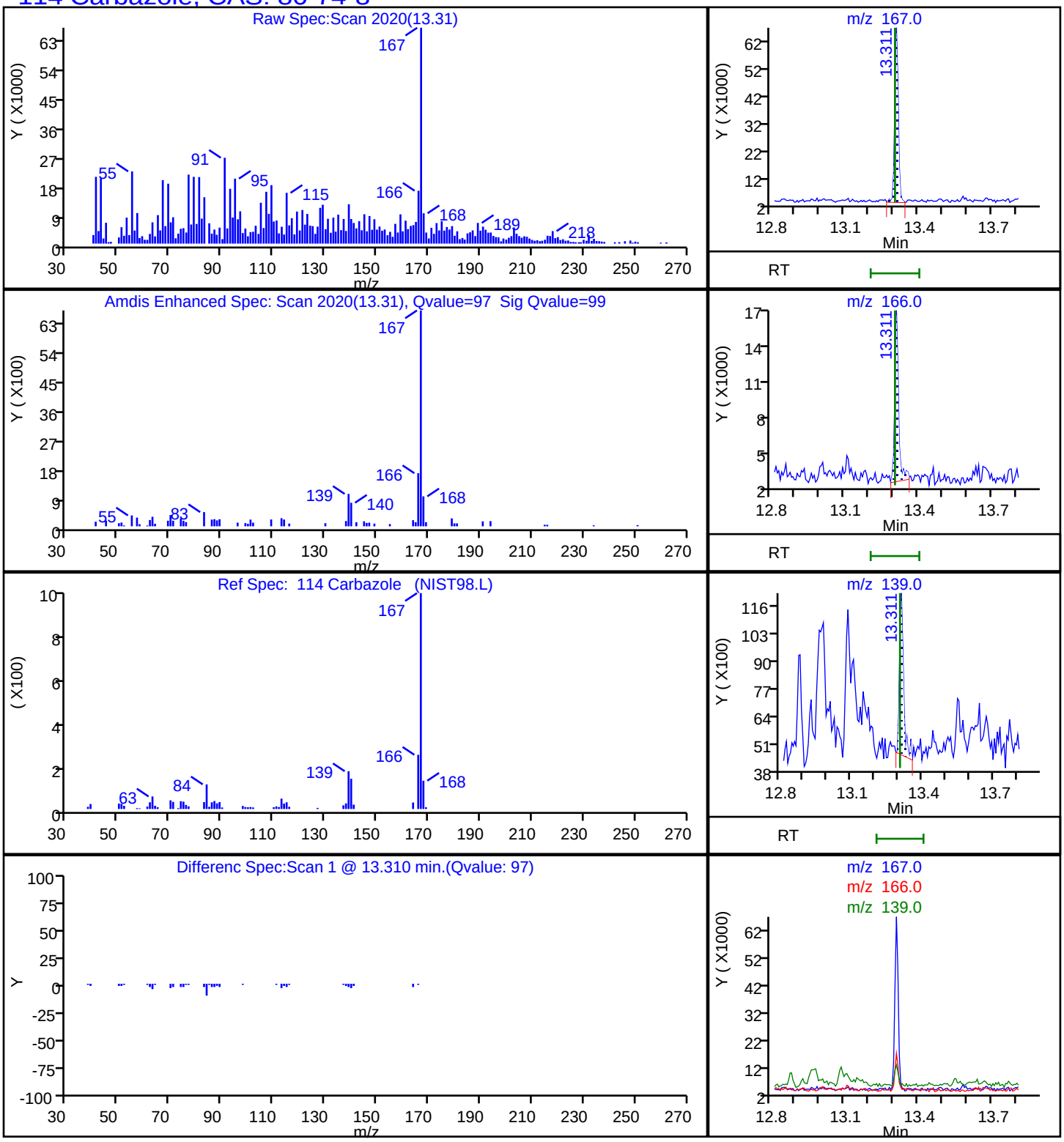
Report Date: 30-Aug-2020 14:40:54 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D

Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	em10340	ALS Bottle#:	15 Worklist Smp#: 14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

114 Carbazole, CAS: 86-74-8

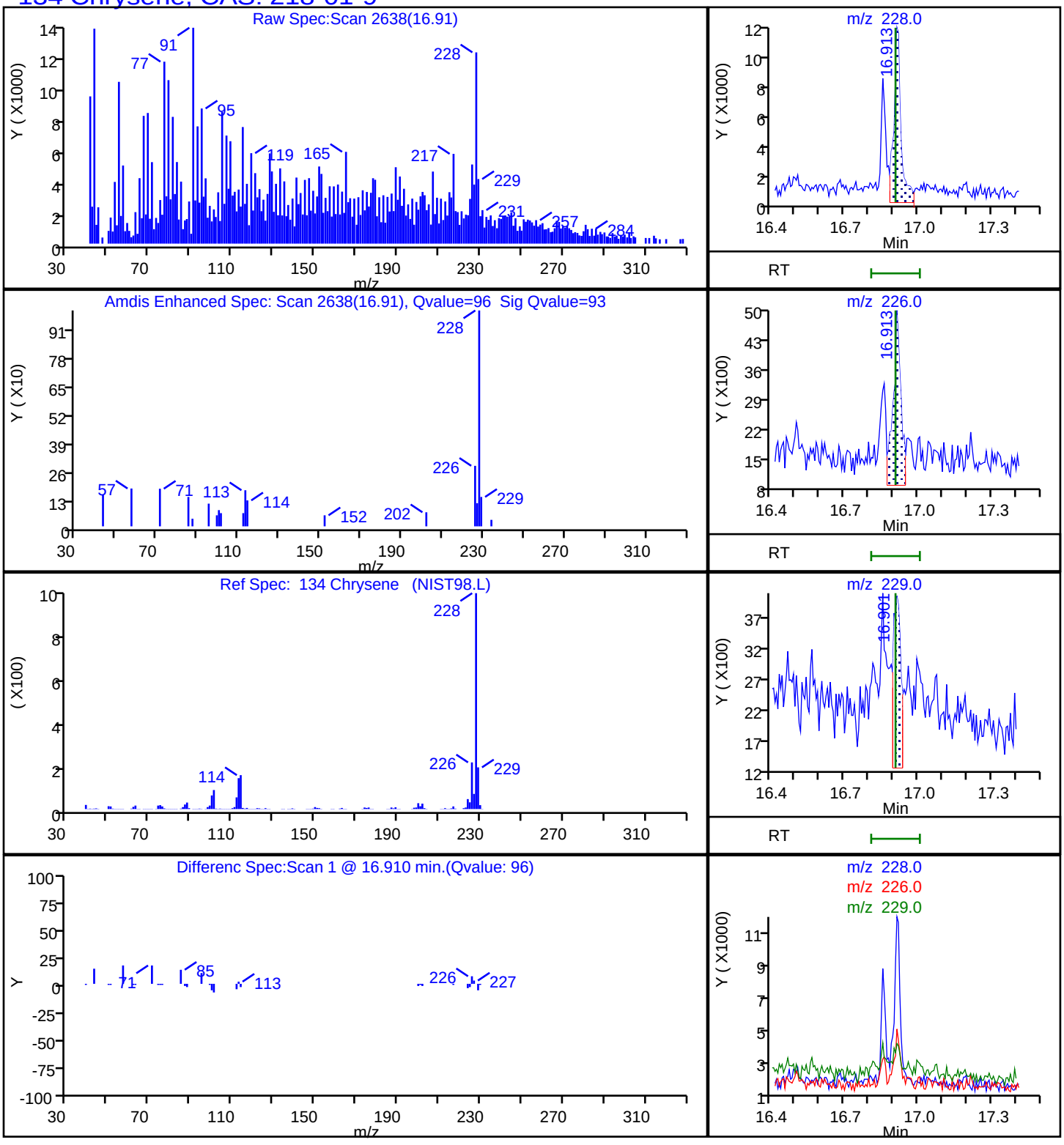


Report Date: 30-Aug-2020 14:40:54 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D		
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	em10340	ALS Bottle#:	15 Worklist Smp#: 14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

134 Chrysene, CAS: 218-01-9

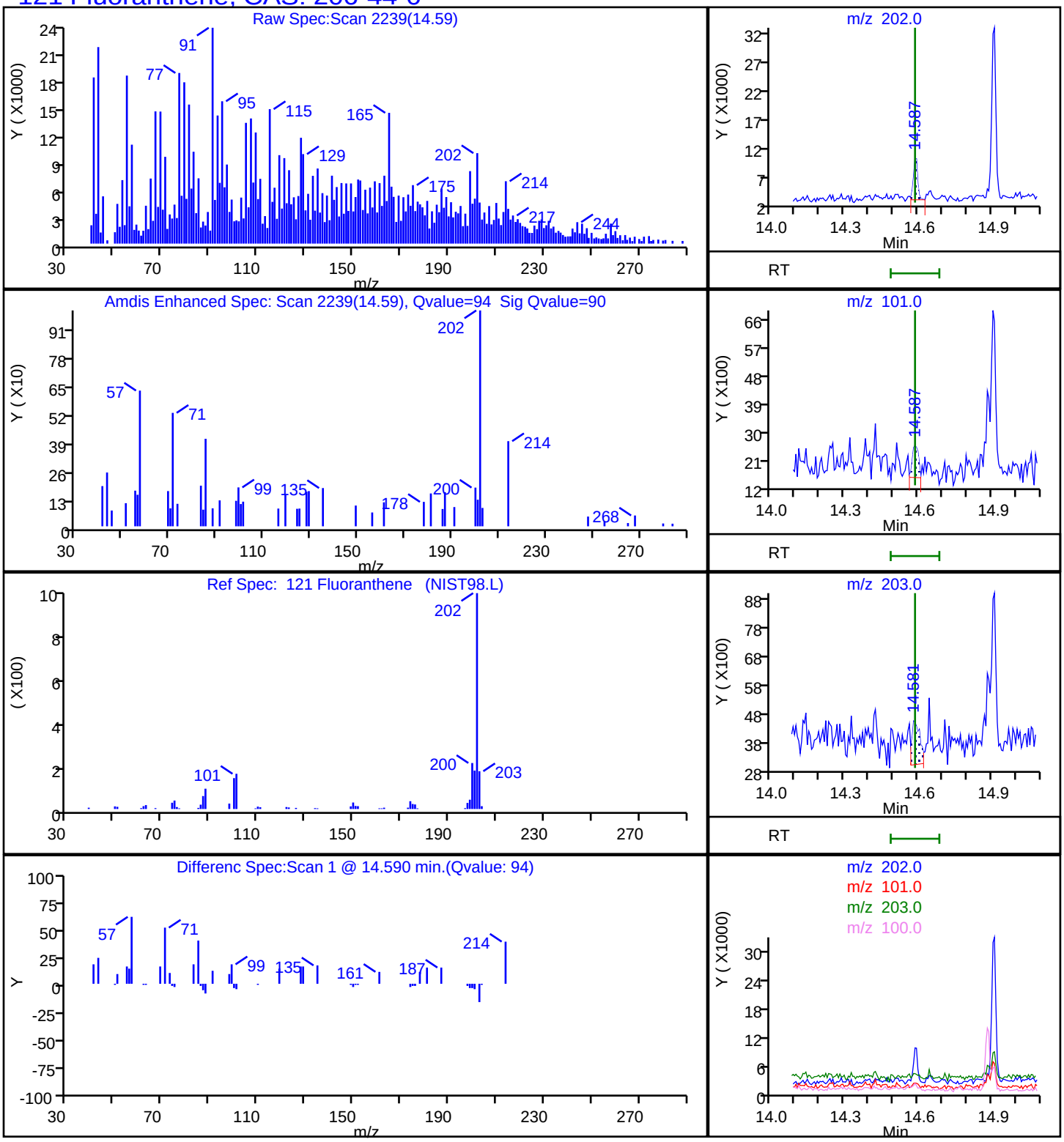


Report Date: 30-Aug-2020 14:40:54 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D		
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	em10340	ALS Bottle#:	15 Worklist Smp#: 14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

121 Fluoranthene, CAS: 206-44-0

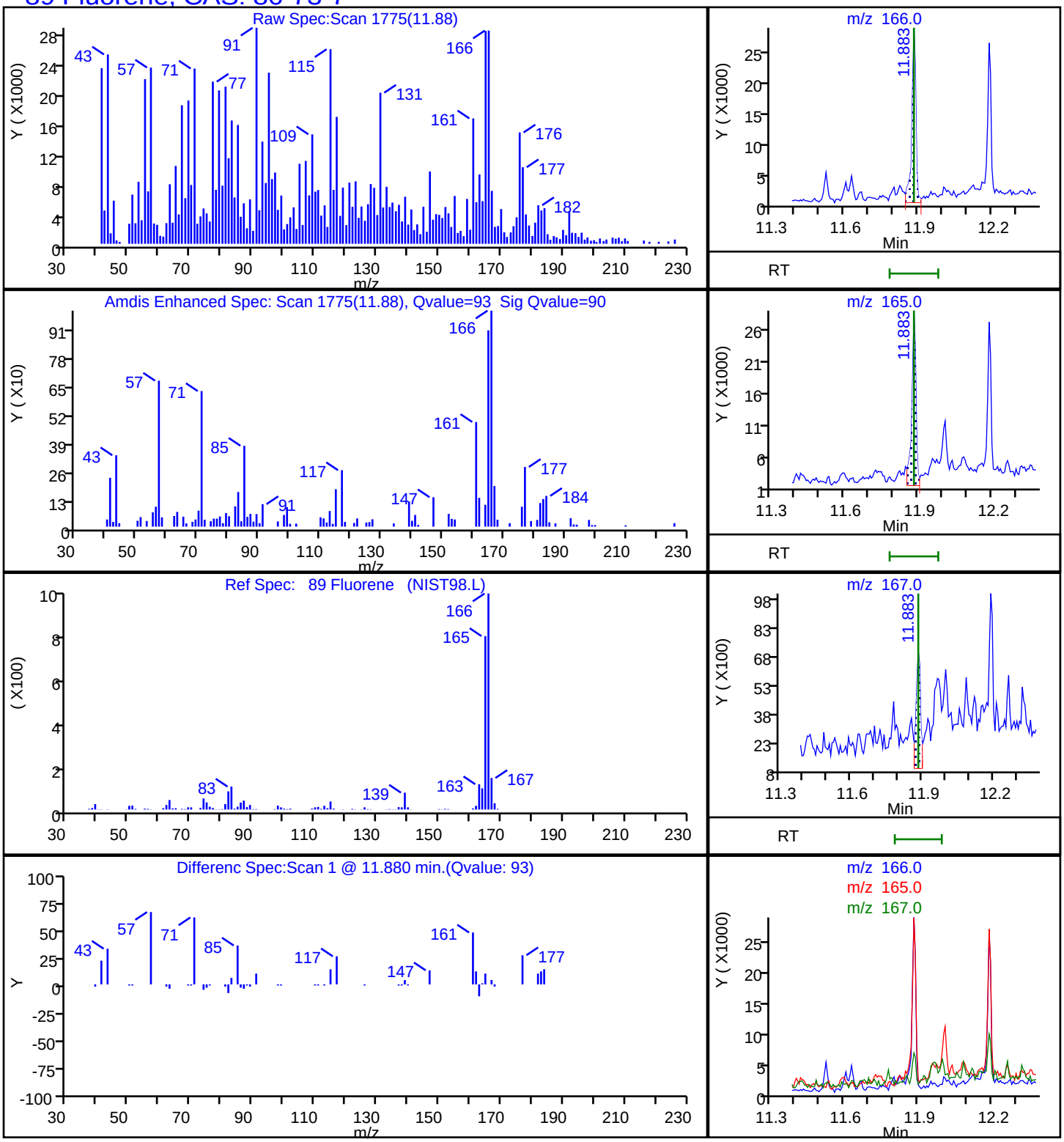


Report Date: 30-Aug-2020 14:40:54 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

89 Fluorene, CAS: 86-73-7



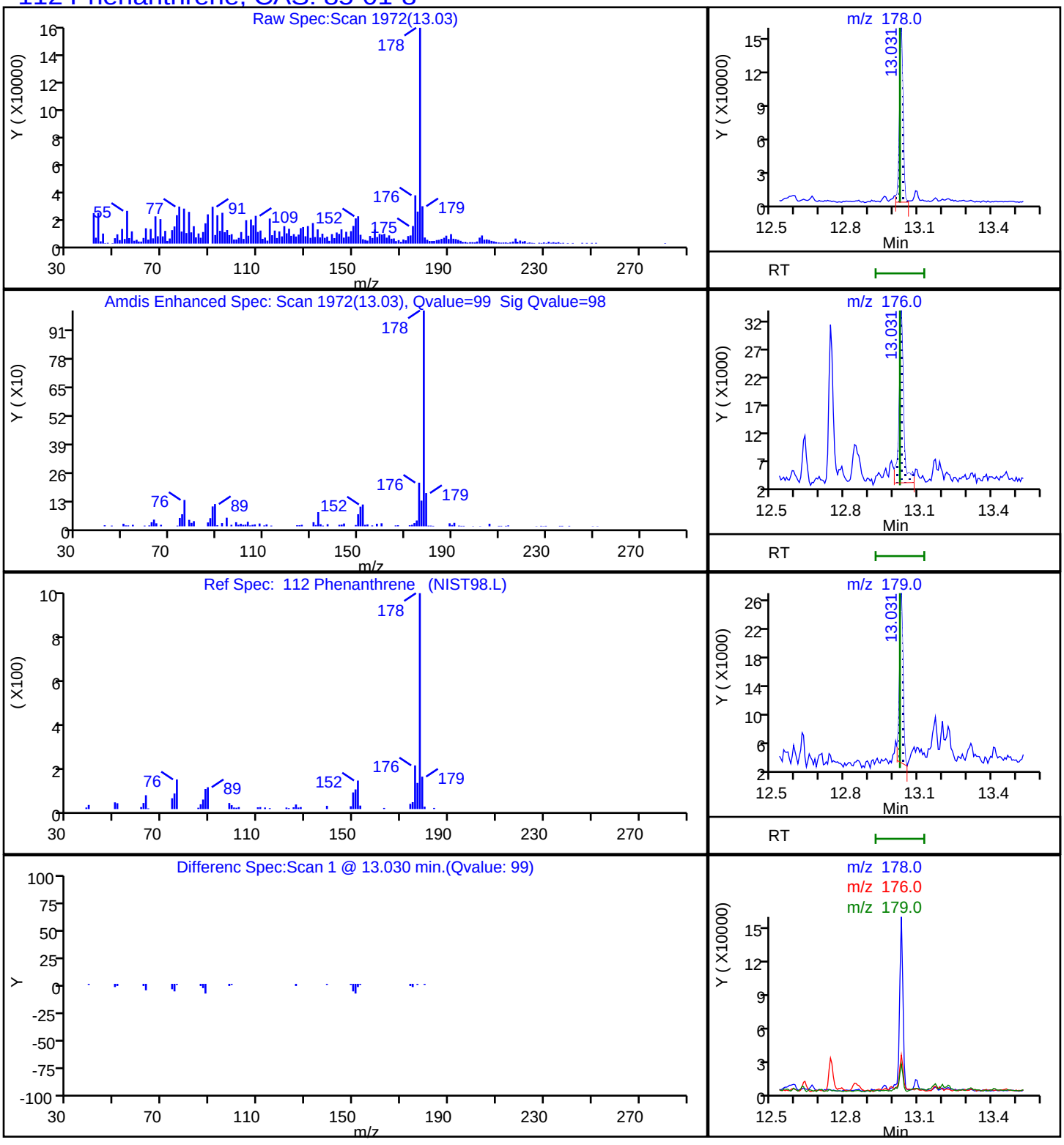
Report Date: 30-Aug-2020 14:40:54 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D

Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	em10340	ALS Bottle#:	15 Worklist Smp#: 14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

112 Phenanthrene, CAS: 85-01-8



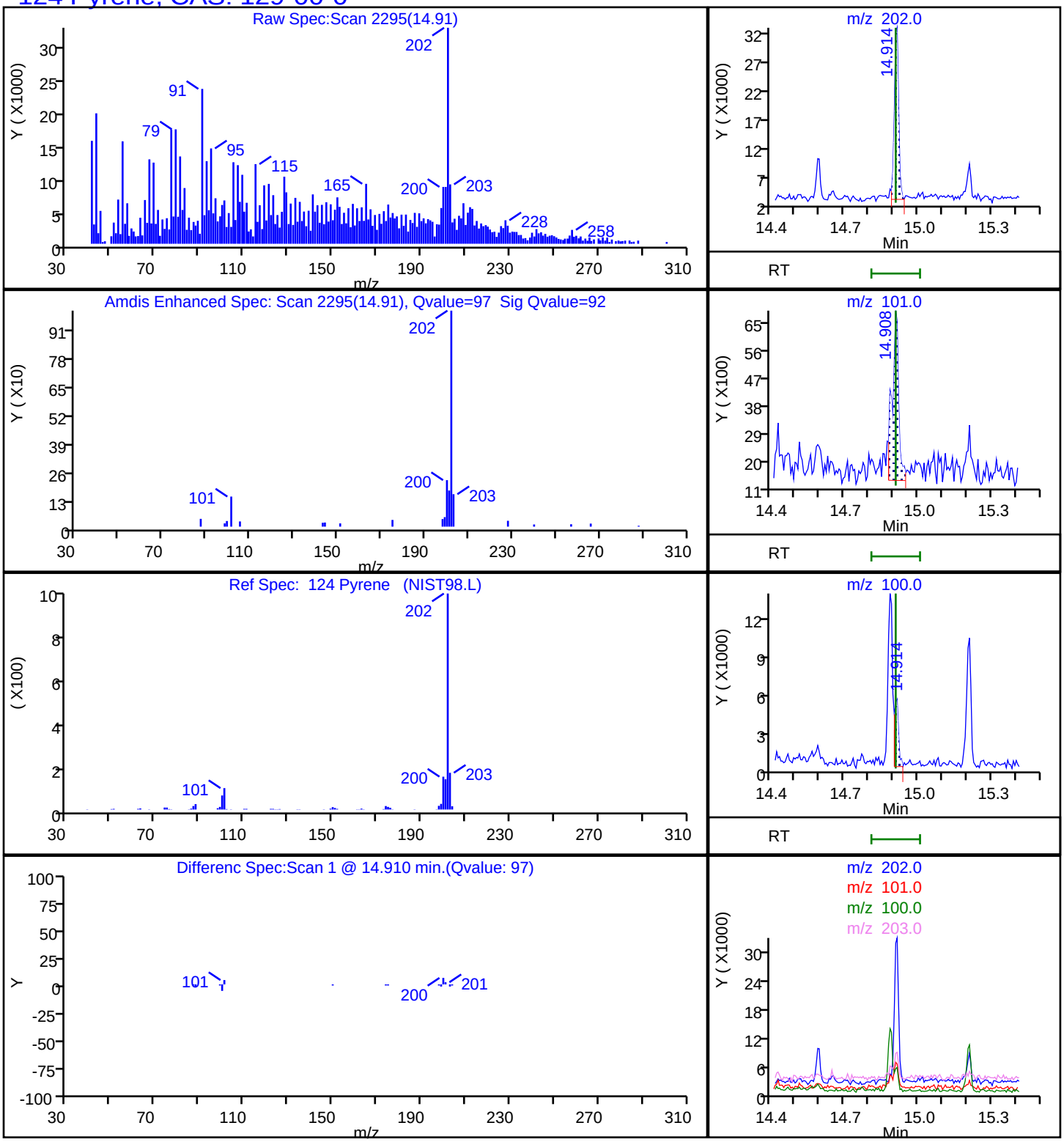
Report Date: 30-Aug-2020 14:40:54 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D

Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	em10340	ALS Bottle#:	15 Worklist Smp#: 14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

124 Pyrene, CAS: 129-00-0



Report Date: 30-Aug-2020 14:40:54 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D

Injection Date: 18-Aug-2020 16:14:30 Instrument ID: HP19760

Lims ID: 410-10696-B-3-A Lab Sample ID: 410-10696-3

Client ID: MW-04

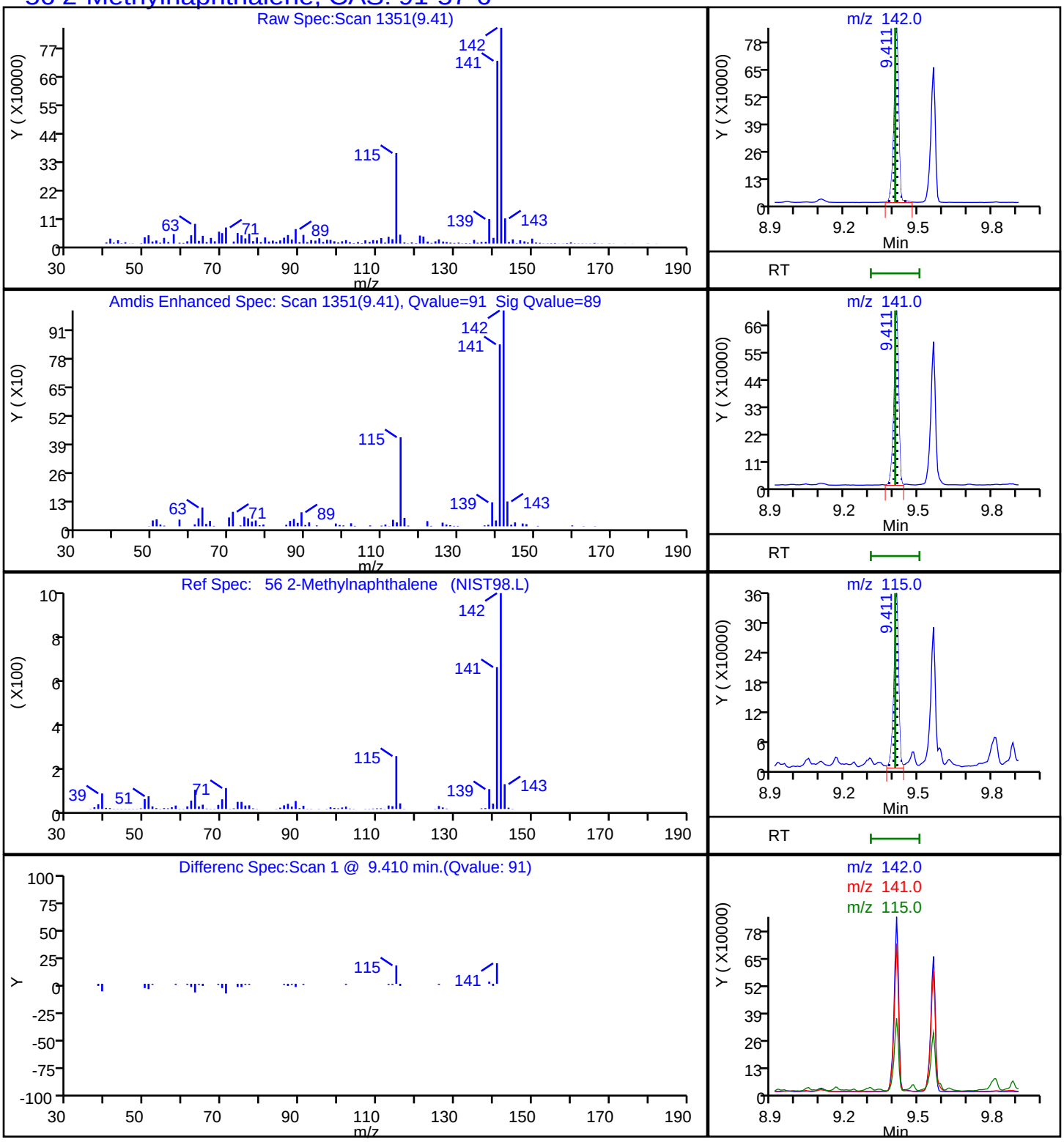
Operator ID: em10340 ALS Bottle#: 15 Worklist Smp#: 14

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI

Column: DB-5MS 20m 0.25mm (0.25 mm) Detector MS SCAN

56 2-Methylnaphthalene, CAS: 91-57-6

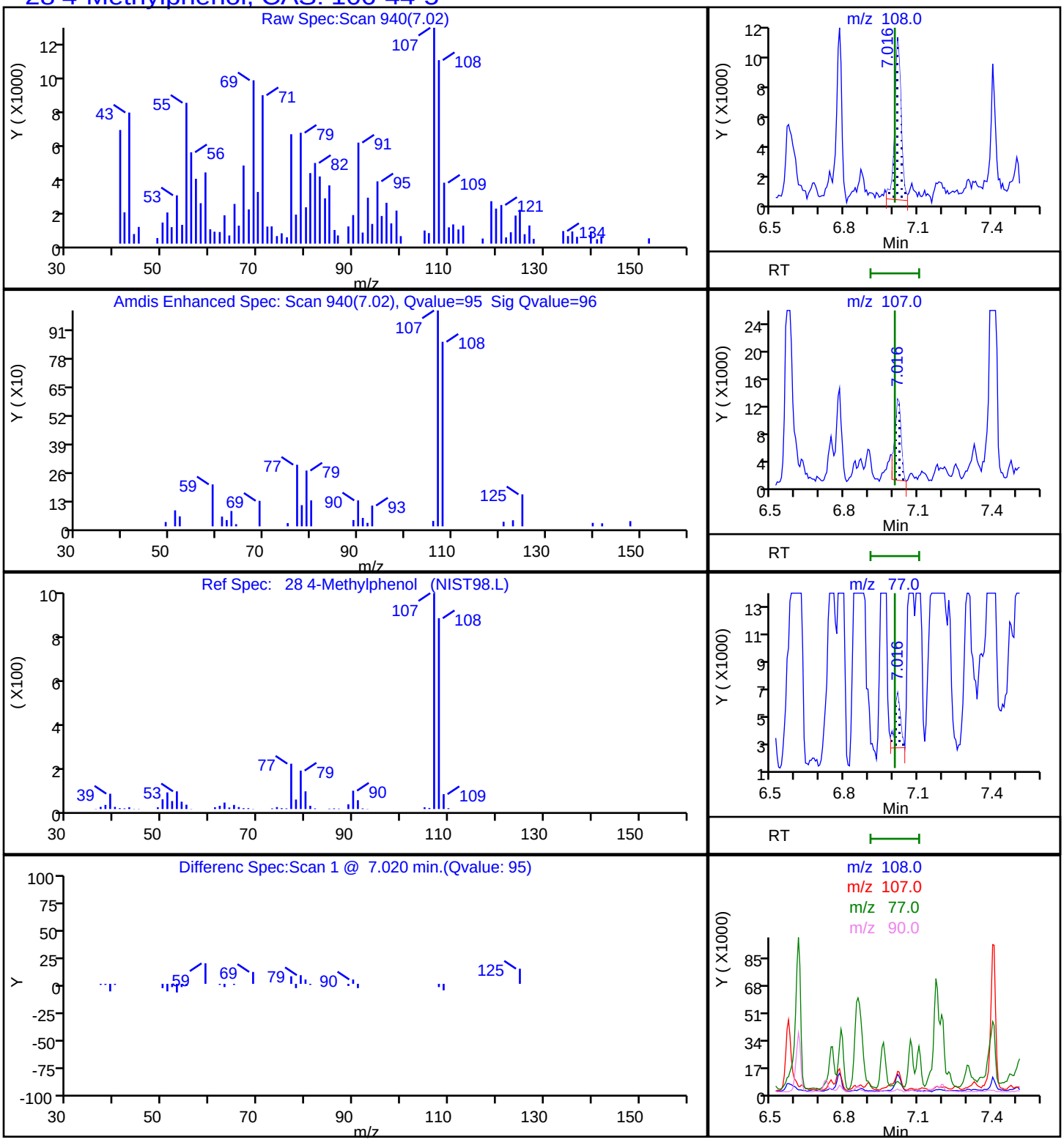


Report Date: 30-Aug-2020 14:40:54 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D		
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	em10340	ALS Bottle#:	15 Worklist Smp#: 14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

28 4-Methylphenol, CAS: 106-44-5



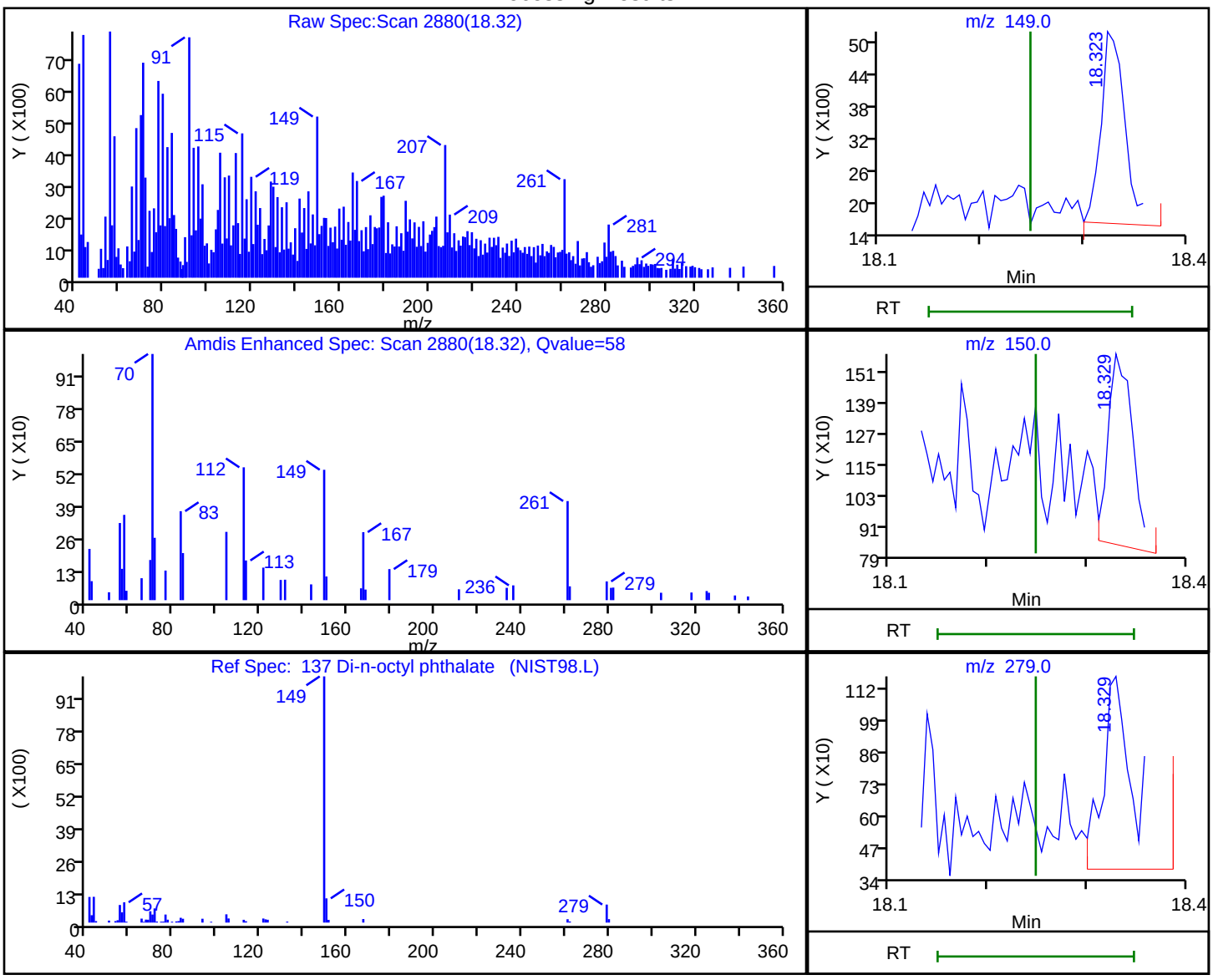
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

137 Di-n-octyl phthalate, CAS: 117-84-0

Processing Results



RT	Mass	Response	Amount
18.32	149.00	6100	0.985410
18.33	150.00	1408	
18.33	279.00	1910	

Reviewer: monbornee, 19-Aug-2020 09:25:39

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

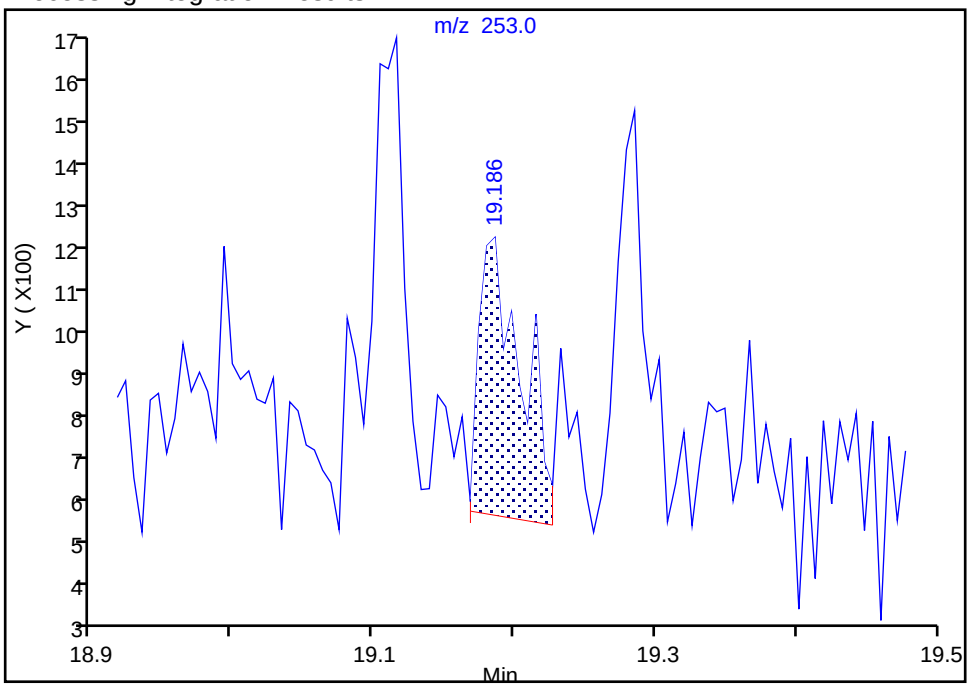
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D		
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	em10340	ALS Bottle#:	15 Worklist Smp#: 14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

141 Benzo[a]pyrene, CAS: 50-32-8

Signal: 2

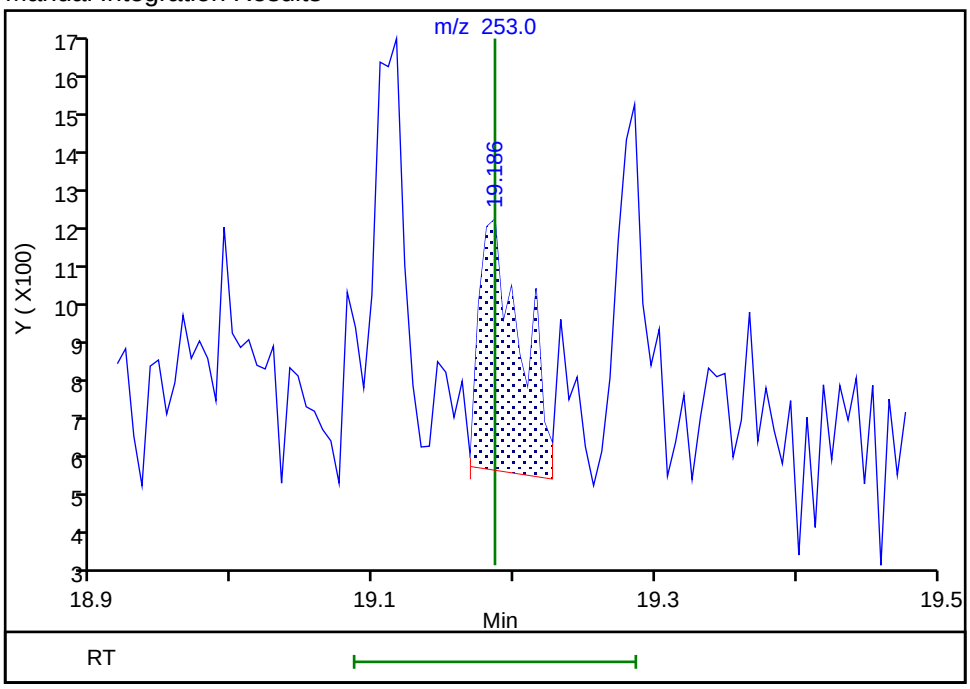
Processing Integration Results

RT: 19.19
Area: 1260
Amount: 0.116009
Amount Units: ug/ml



Manual Integration Results

RT: 19.19
Area: 1260
Amount: 0.116009
Amount Units: ug/ml



Reviewer: monbornee, 19-Aug-2020 09:25:45
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

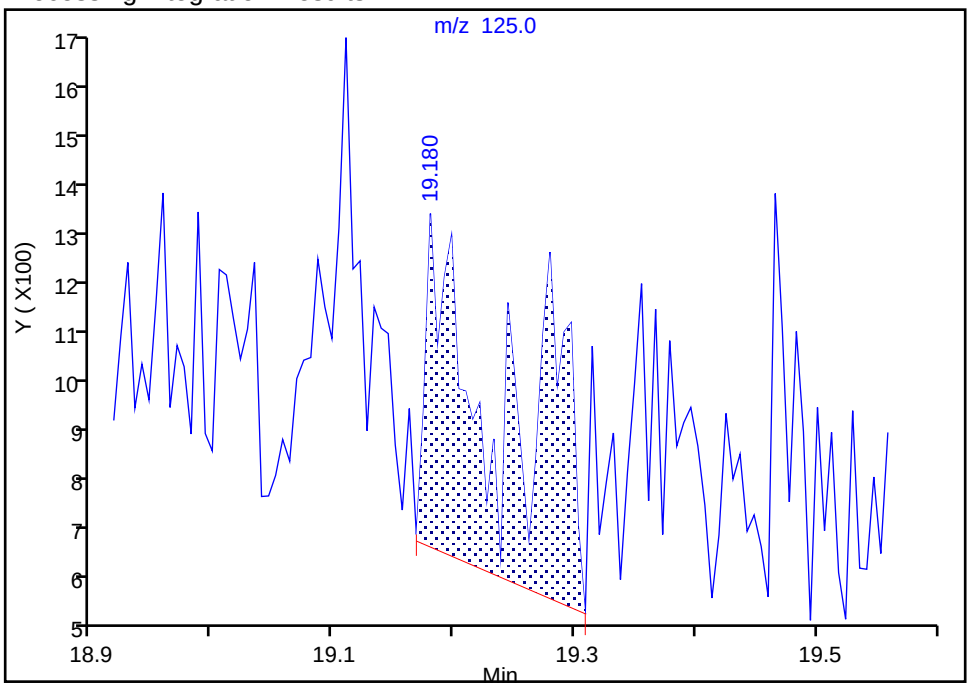
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

141 Benzo[a]pyrene, CAS: 50-32-8

Signal: 3

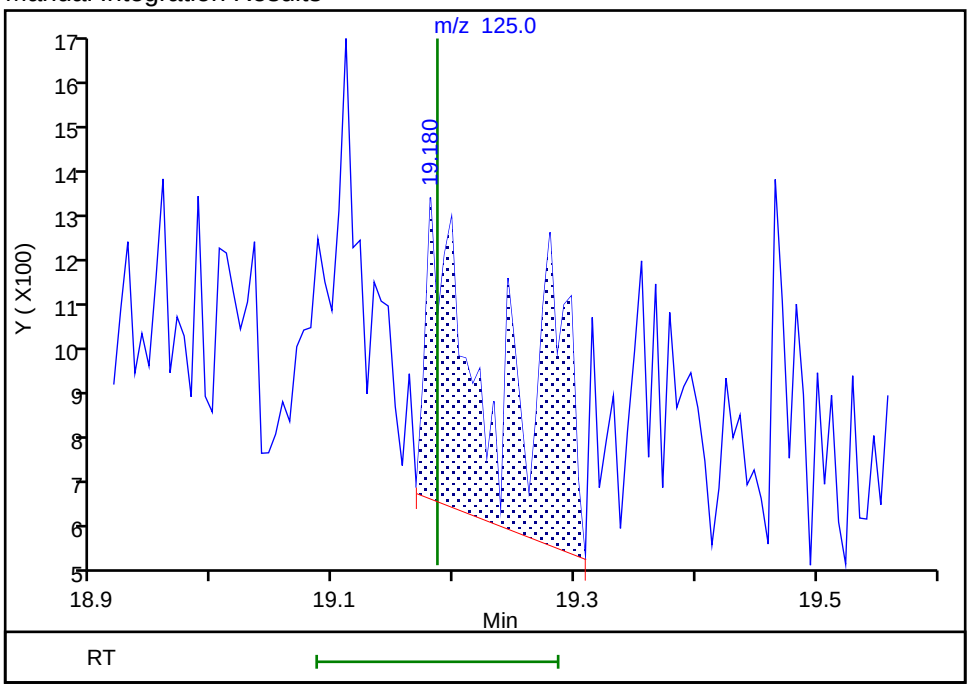
Processing Integration Results

RT: 19.18
Area: 2813
Amount: 0.116009
Amount Units: ug/ml



Manual Integration Results

RT: 19.18
Area: 2813
Amount: 0.116009
Amount Units: ug/ml



Reviewer: monbornee, 19-Aug-2020 09:25:45
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

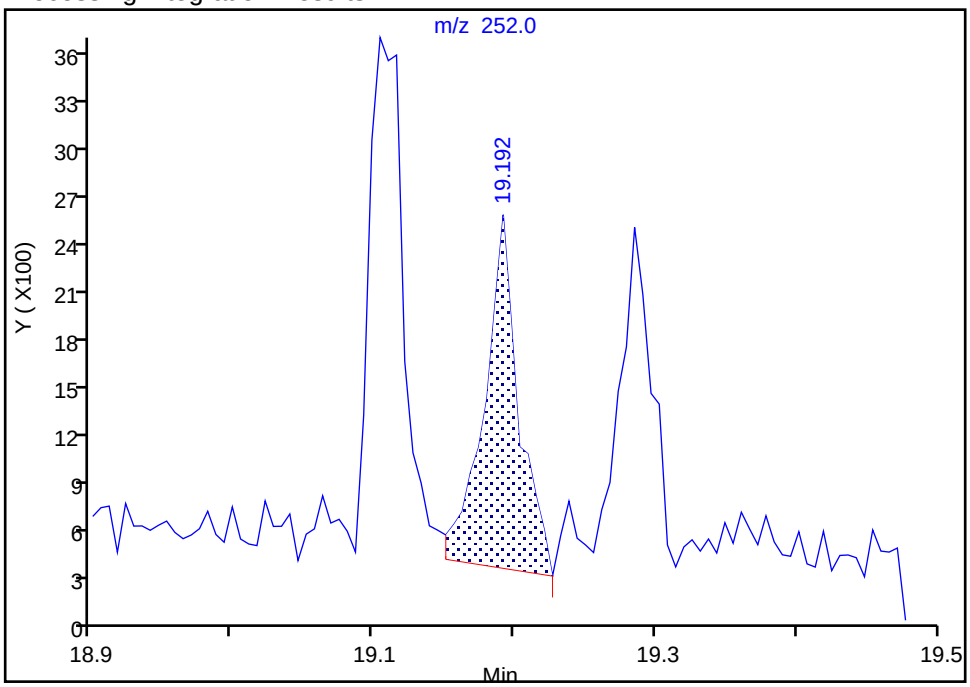
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

141 Benzo[a]pyrene, CAS: 50-32-8

Signal: 1

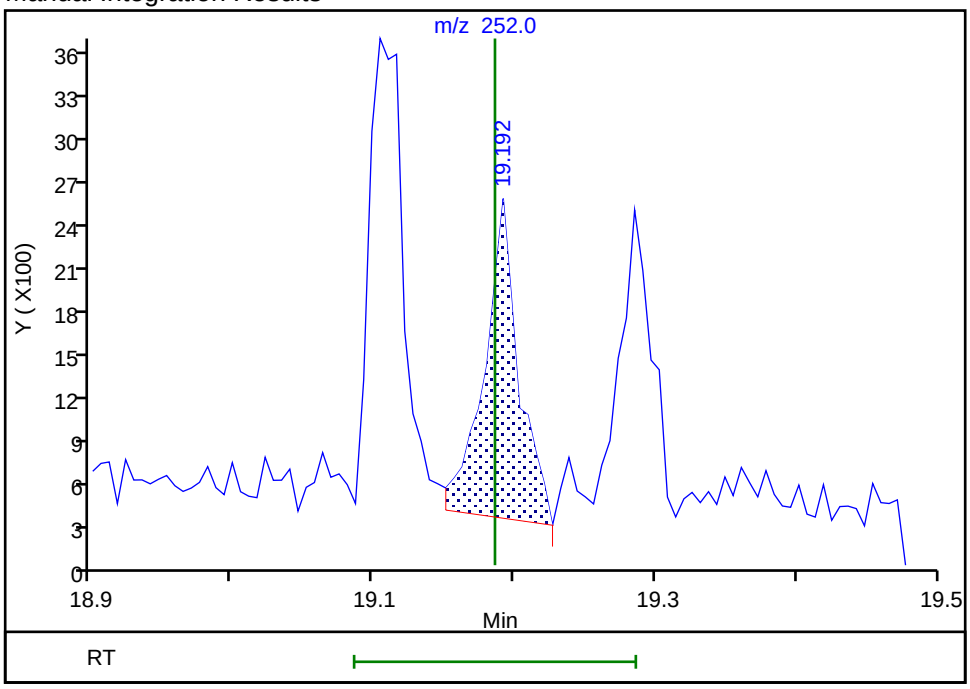
Processing Integration Results

RT: 19.19
Area: 3683
Amount: 0.116009
Amount Units: ug/ml



Manual Integration Results

RT: 19.19
Area: 3683
Amount: 0.116009
Amount Units: ug/ml



Reviewer: monbornee, 30-Aug-2020 14:35:47
Audit Action: Assigned Compound ID Audit Reason: Split Peak

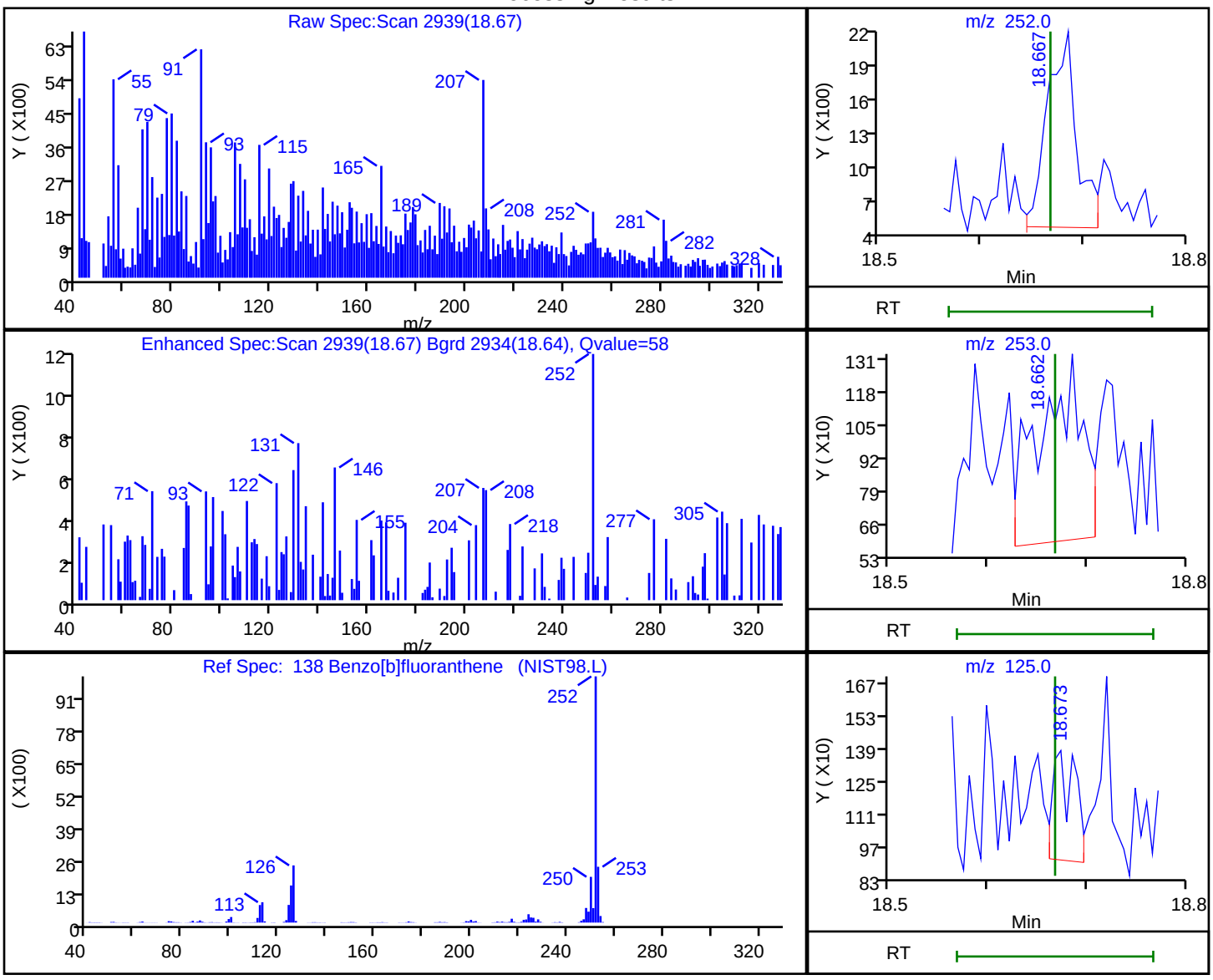
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

138 Benzo[b]fluoranthene, CAS: 205-99-2

Processing Results



RT	Mass	Response	Amount
18.67	252.00	3255	0.110985
18.66	253.00	2199	
18.67	125.00	710	

Reviewer: monbornee, 19-Aug-2020 09:25:42

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

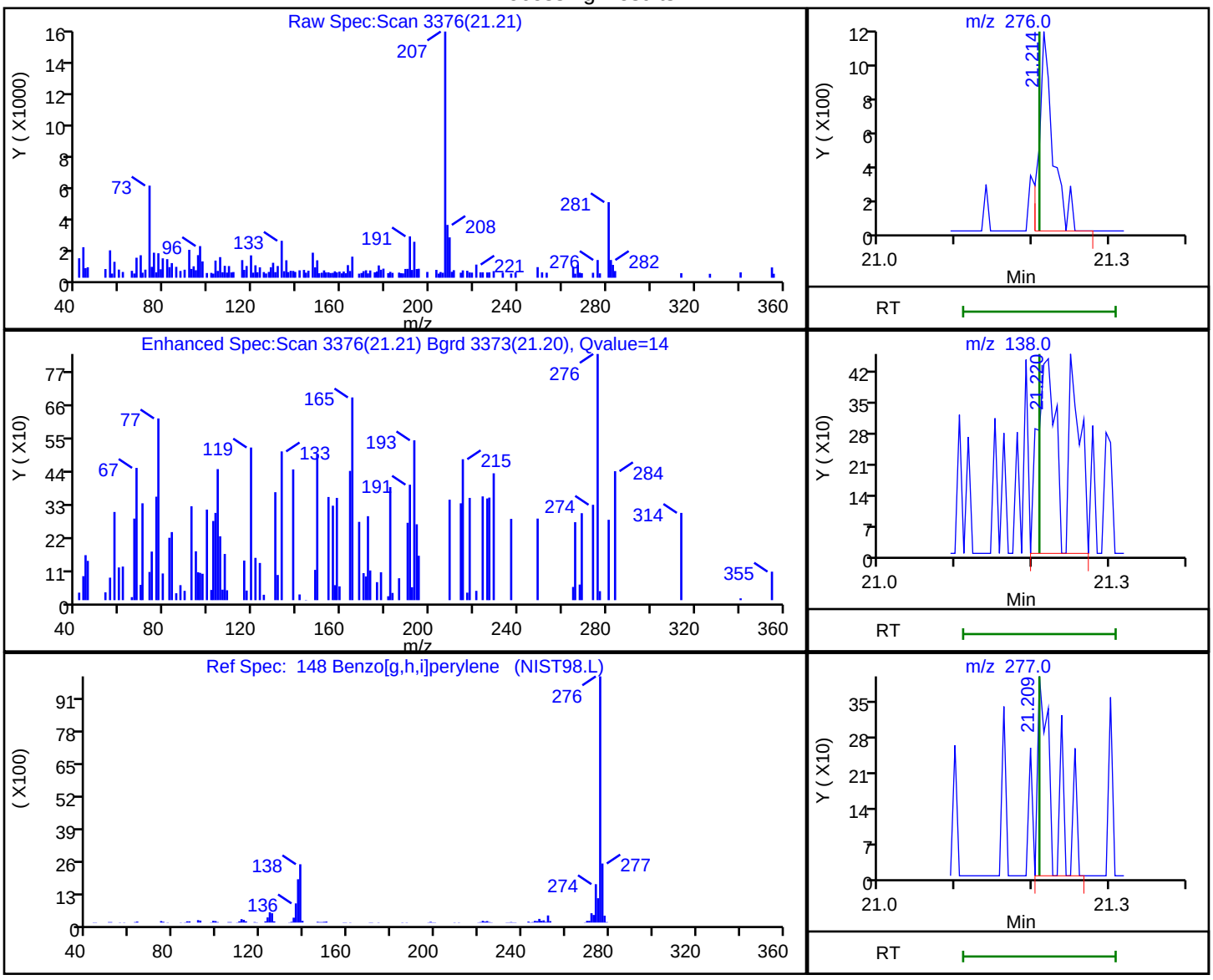
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

148 Benzo[g,h,i]perylene, CAS: 191-24-2

Processing Results



RT	Mass	Response	Amount
21.21	276.00	1351	0.096835
21.22	138.00	1204	
21.21	277.00	547	

Reviewer: monbornee, 19-Aug-2020 09:25:51

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

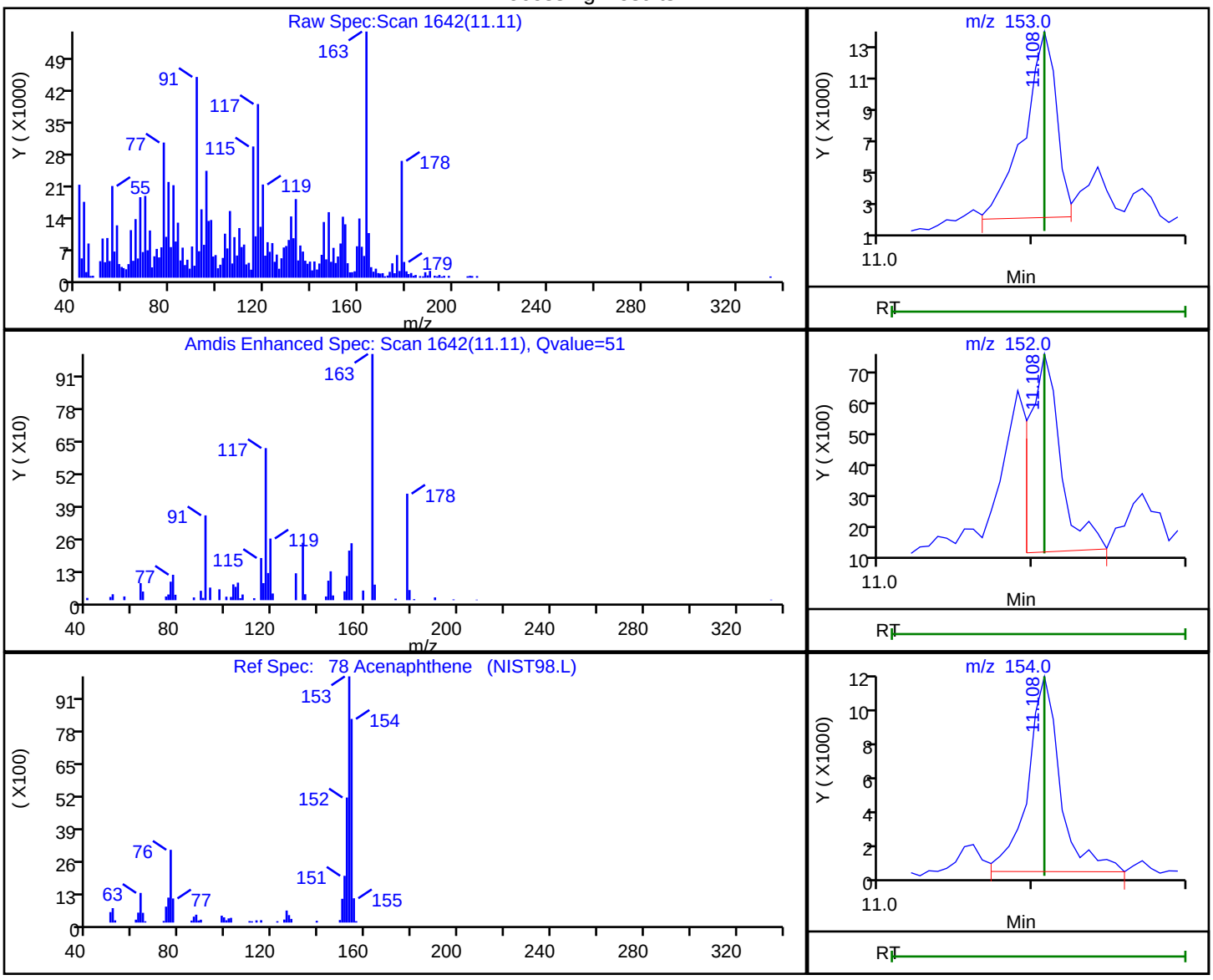
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

78 Acenaphthene, CAS: 83-32-9

Processing Results



RT	Mass	Response	Amount
11.11	153.00	16036	0.142603
11.11	152.00	8375	
11.11	154.00	15591	

Reviewer: monbornee, 30-Aug-2020 14:35:13

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

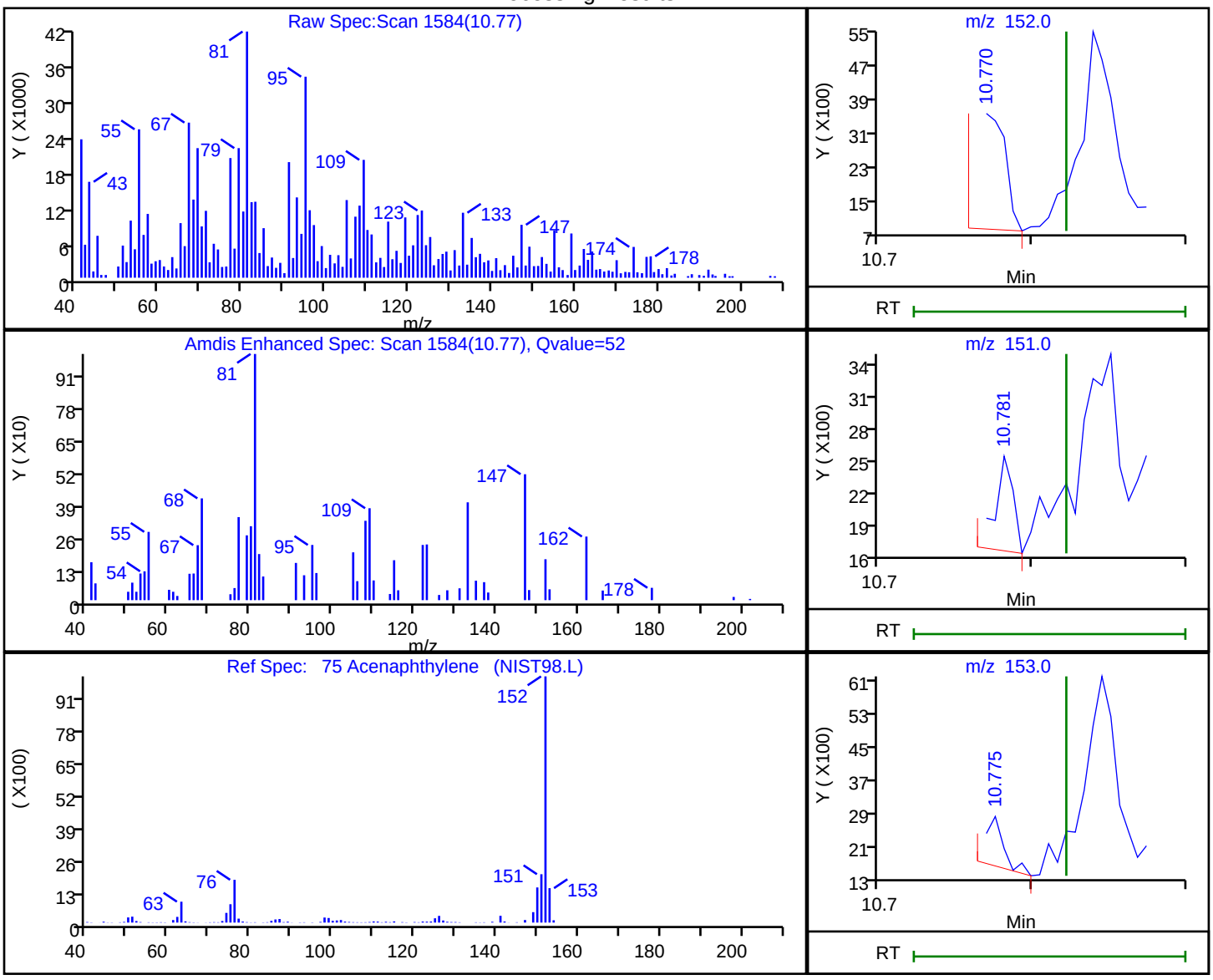
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

75 Acenaphthylene, CAS: 208-96-8

Processing Results



RT	Mass	Response	Amount
10.77	152.00	3345	0.022540
10.78	151.00	705	
10.78	153.00	982	

Reviewer: monbornee, 30-Aug-2020 14:35:08

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

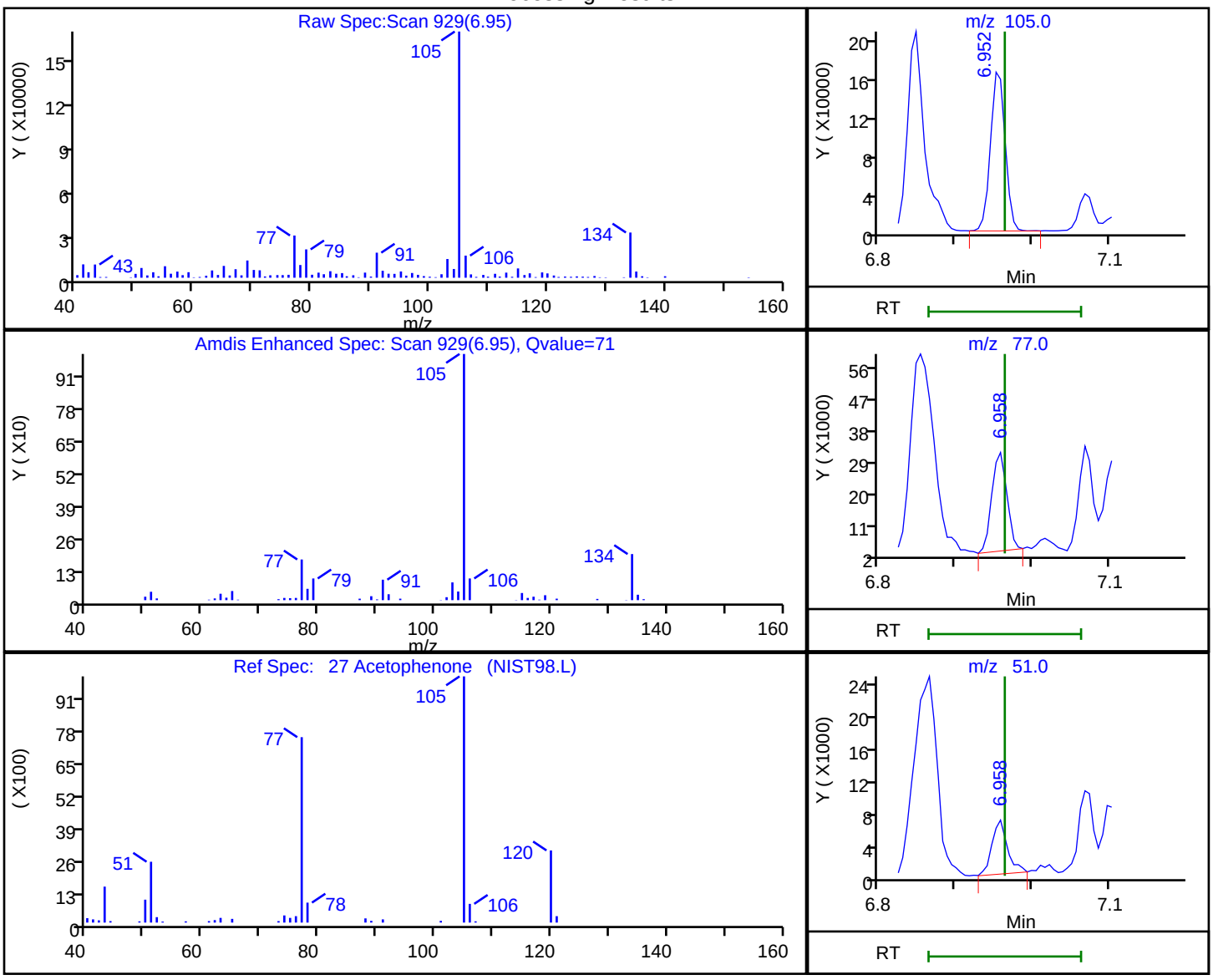
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D		
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	em10340	ALS Bottle#:	15 Worklist Smp#: 14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

27 Acetophenone, CAS: 98-86-2

Processing Results



RT	Mass	Response	Amount
6.95	105.00	220992	2.554146
6.96	77.00	38815	
6.96	51.00	9030	

Reviewer: monbornee, 30-Aug-2020 14:34:29

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 30-Aug-2020 14:40:54 Chrom Revision: 2.3 20-Aug-2020 13:57:12

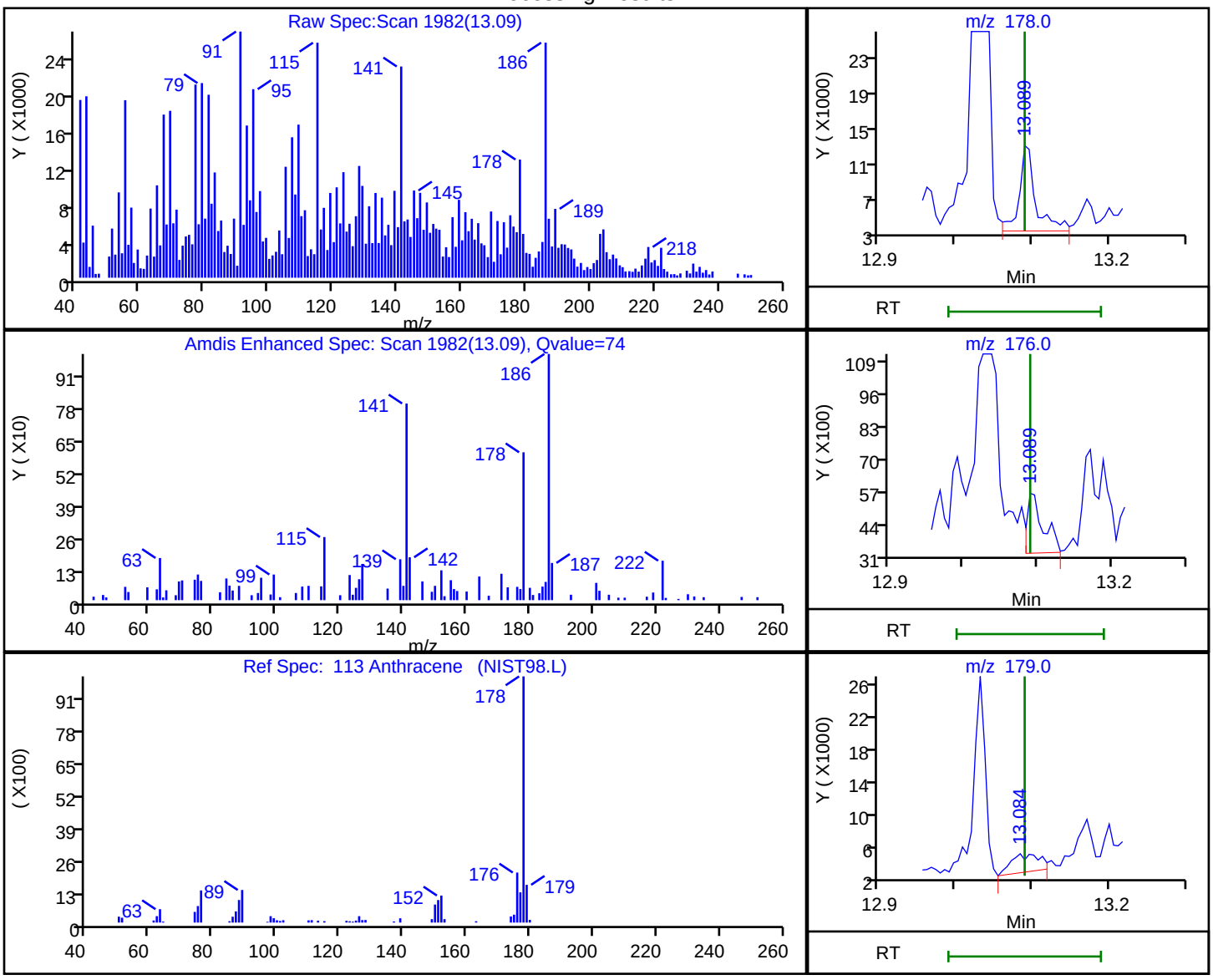
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

113 Anthracene, CAS: 120-12-7

Processing Results



RT	Mass	Response	Amount
13.09	178.00	14247	0.081991
13.09	176.00	3449	
13.08	179.00	5404	

Reviewer: monbornee, 19-Aug-2020 09:25:24

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

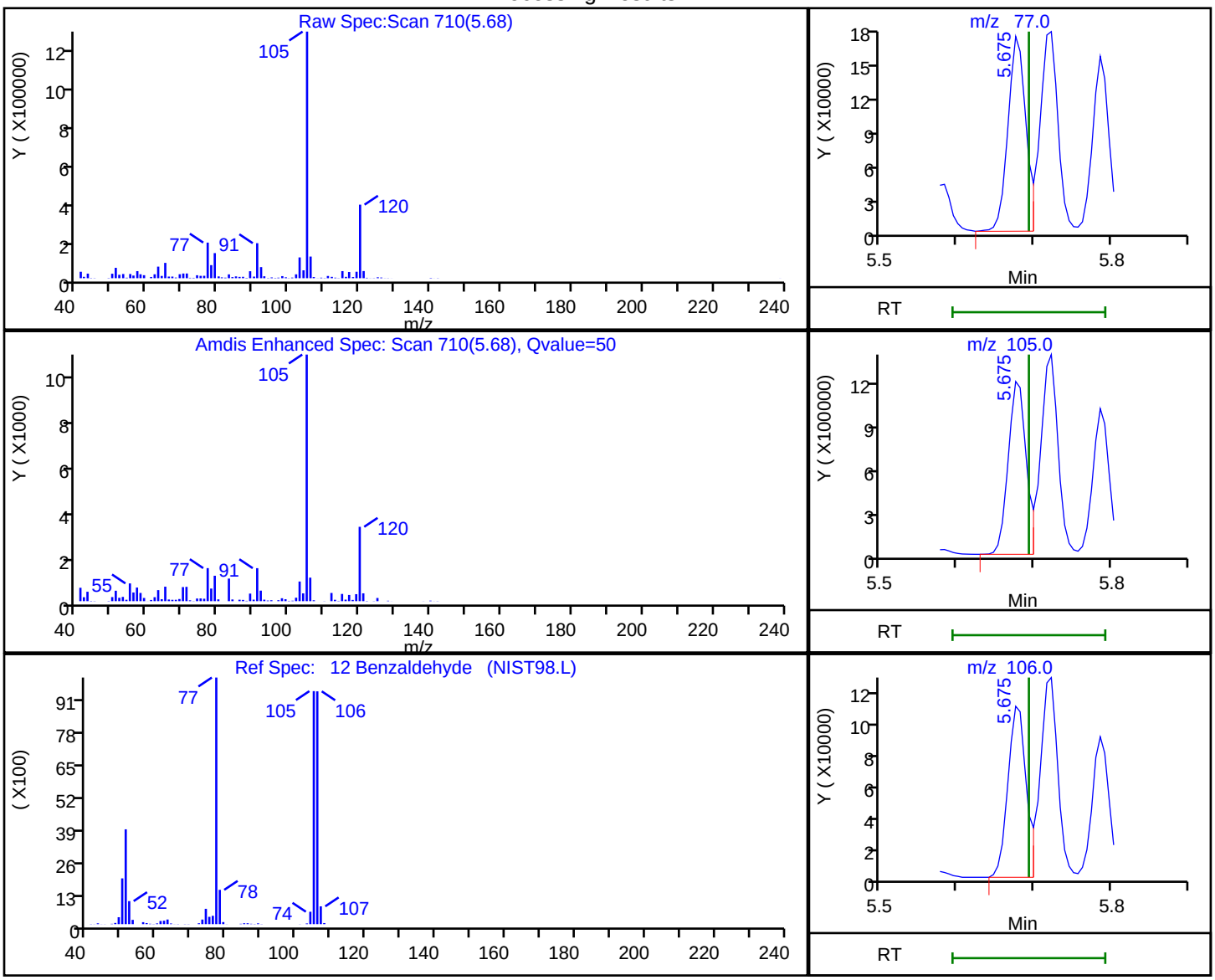
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

12 Benzaldehyde, CAS: 100-52-7

Processing Results



RT	Mass	Response	Amount
5.68	77.00	277767	4.792016
5.68	105.00	1946539	
5.68	106.00	173778	

Reviewer: monbornee, 30-Aug-2020 14:34:06

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 30-Aug-2020 14:40:55 Chrom Revision: 2.3 20-Aug-2020 13:57:12

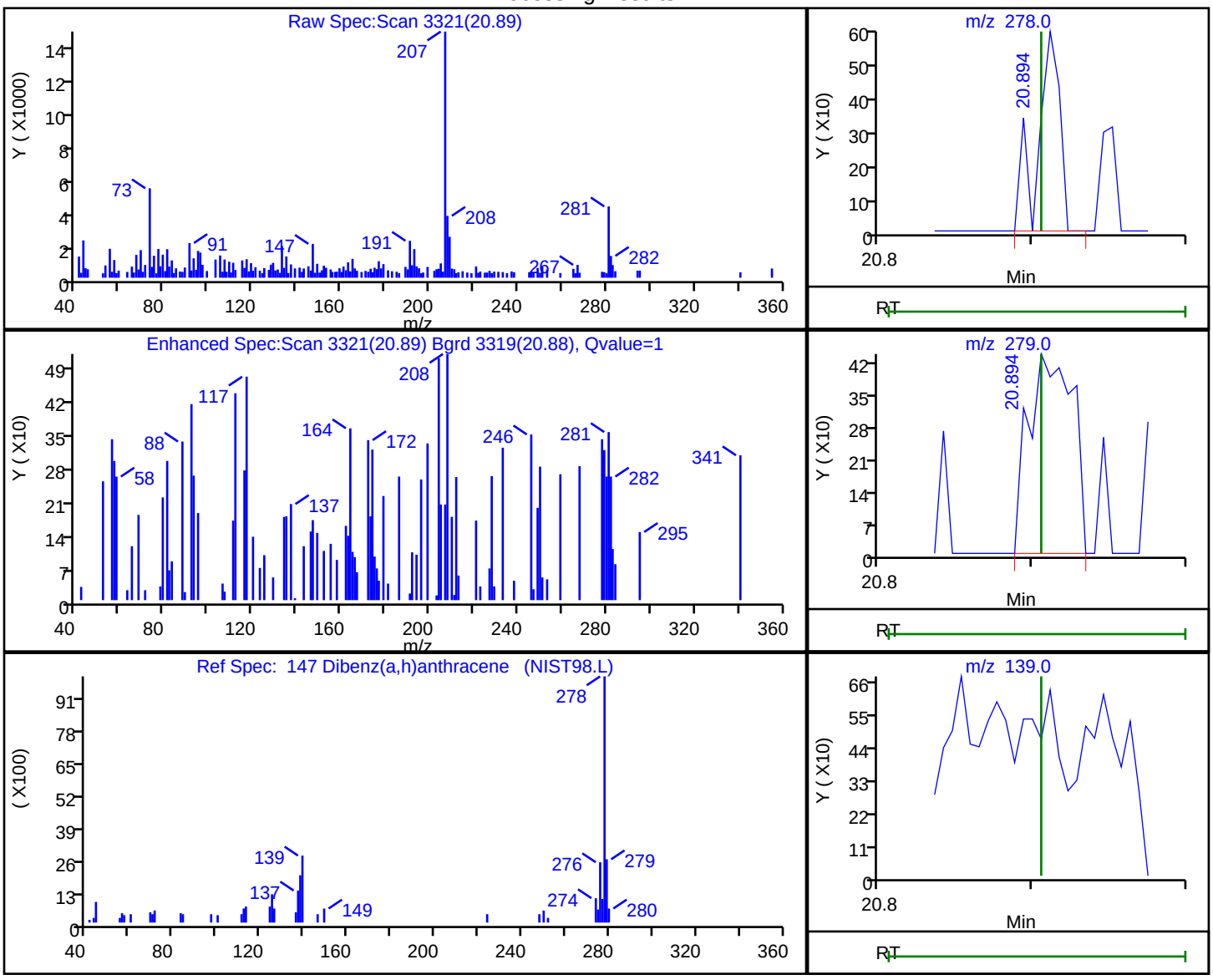
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

147 Dibenz(a,h)anthracene, CAS: 53-70-3

Processing Results



RT	Mass	Response	Amount
20.89	278.00	602	0.111911
20.89	279.00	876	
20.91	139.00	0	

Reviewer: monbornee, 19-Aug-2020 09:25:49

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

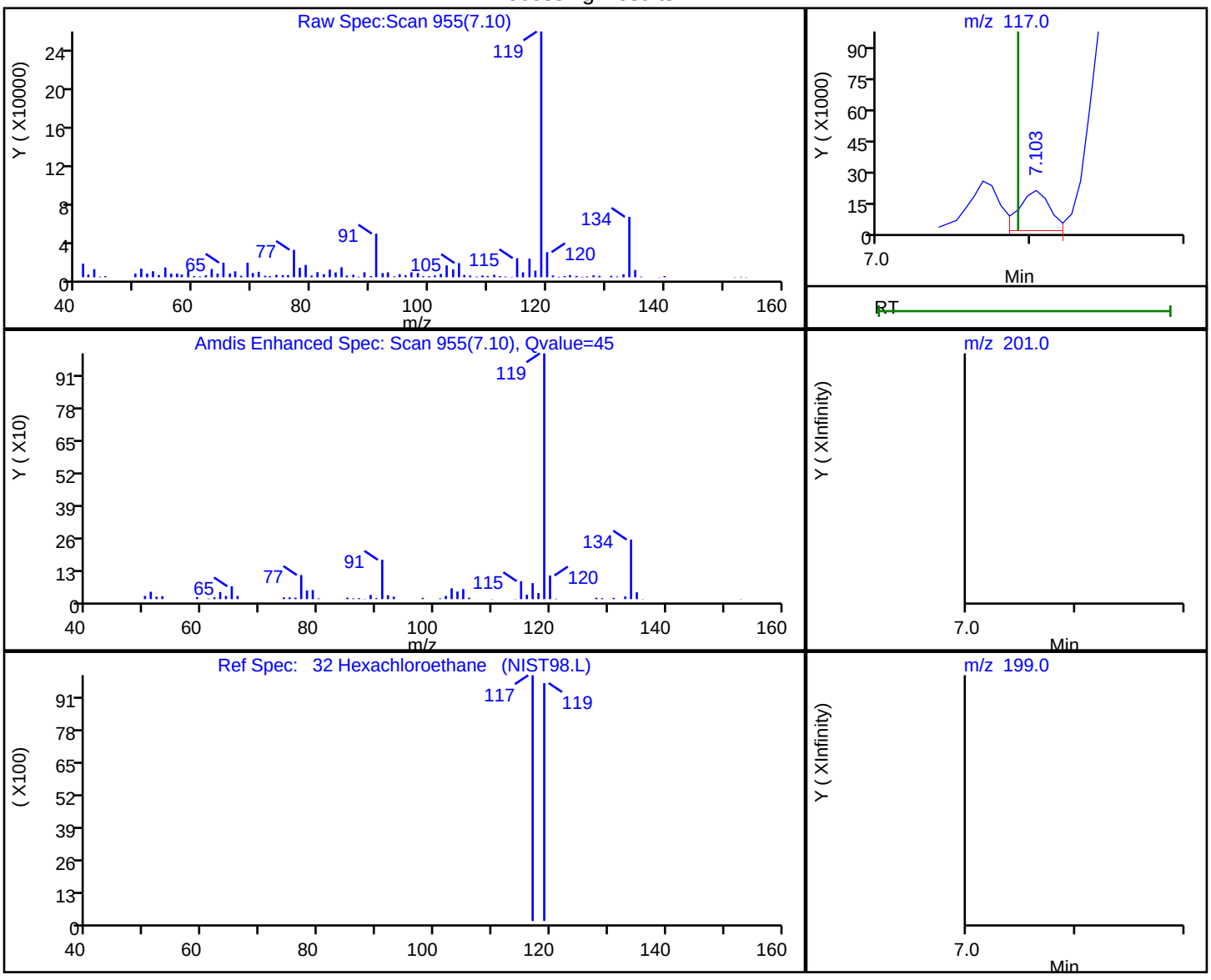
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

32 Hexachloroethane, CAS: 67-72-1

Processing Results



RT	Mass	Response	Amount
7.10	117.00	26315	0.859663
7.09	201.00	0	
7.09	199.00	0	

Reviewer: monbornee, 30-Aug-2020 14:34:35

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

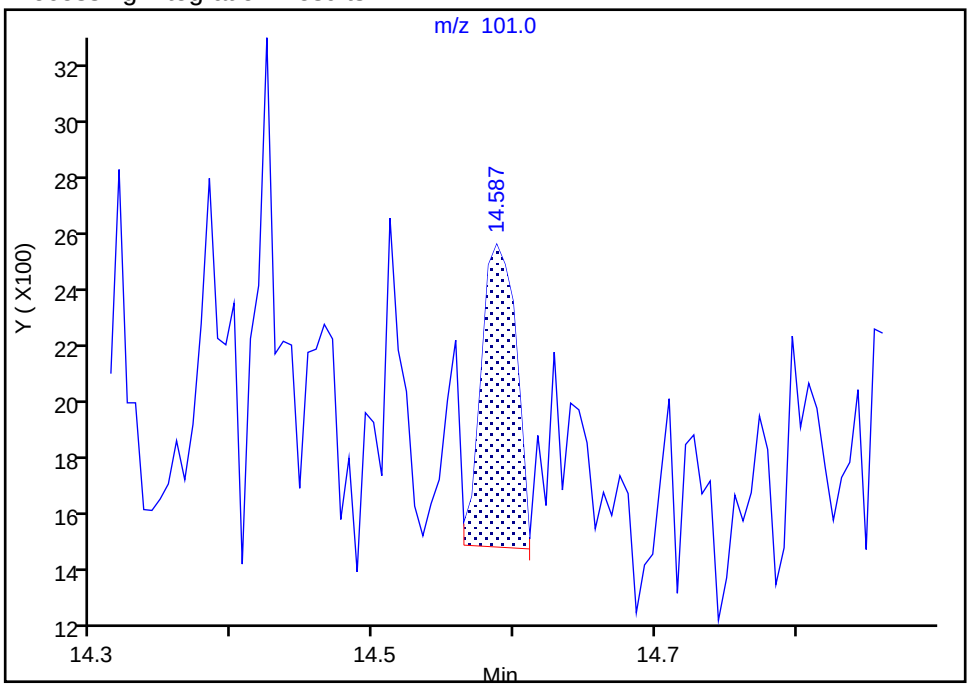
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D		
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	em10340	ALS Bottle#:	15 Worklist Smp#: 14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

121 Fluoranthene, CAS: 206-44-0

Signal: 2

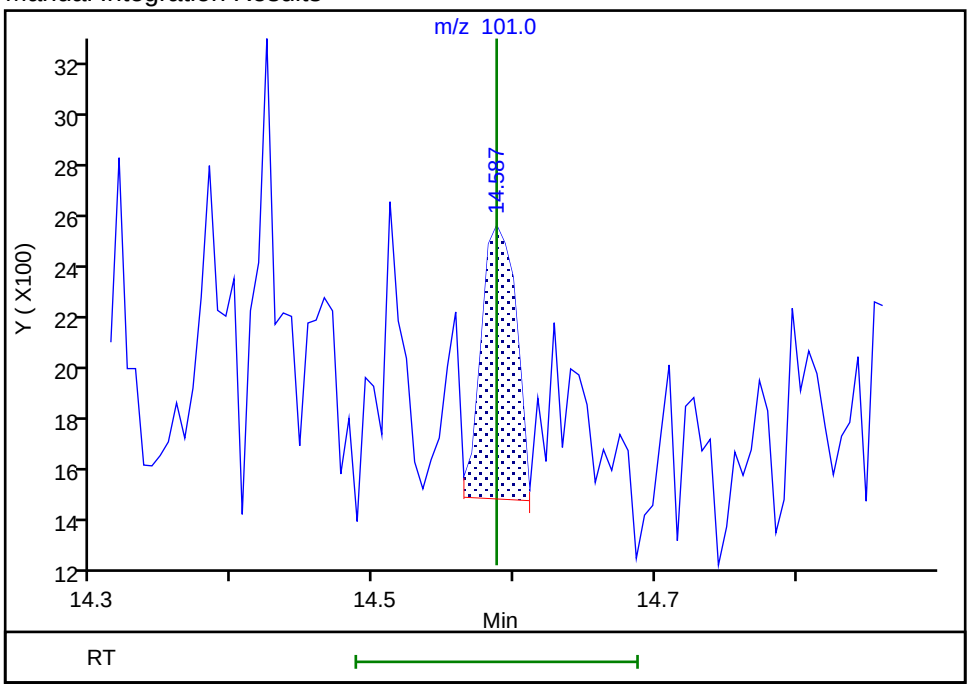
Processing Integration Results

RT: 14.59
Area: 1766
Amount: 0.046472
Amount Units: ug/ml



Manual Integration Results

RT: 14.59
Area: 1766
Amount: 0.046472
Amount Units: ug/ml



Reviewer: monbornee, 19-Aug-2020 09:25:30
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

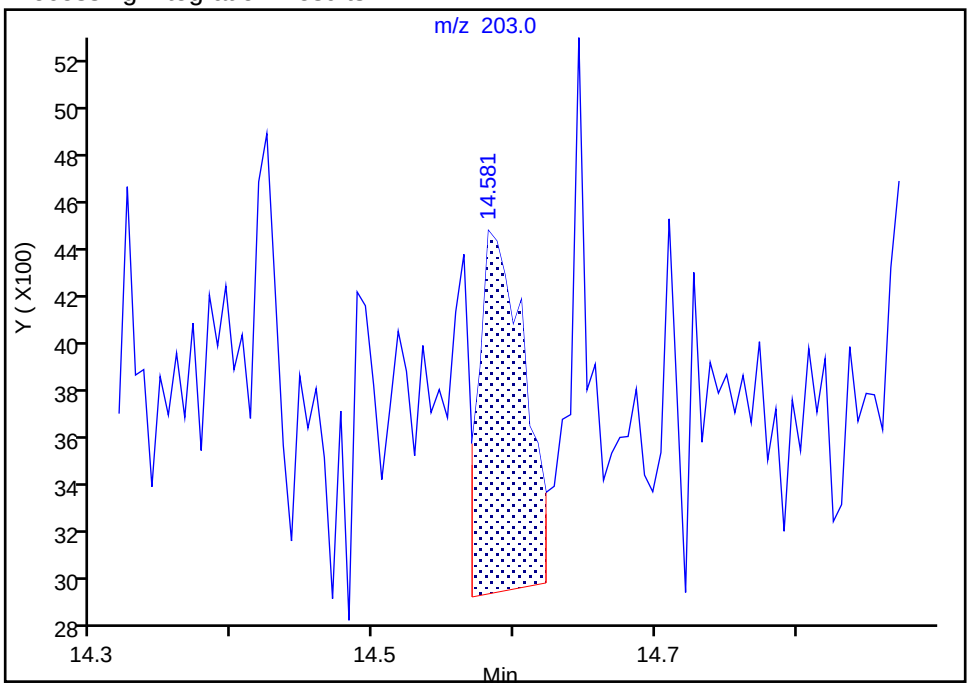
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

121 Fluoranthene, CAS: 206-44-0

Signal: 3

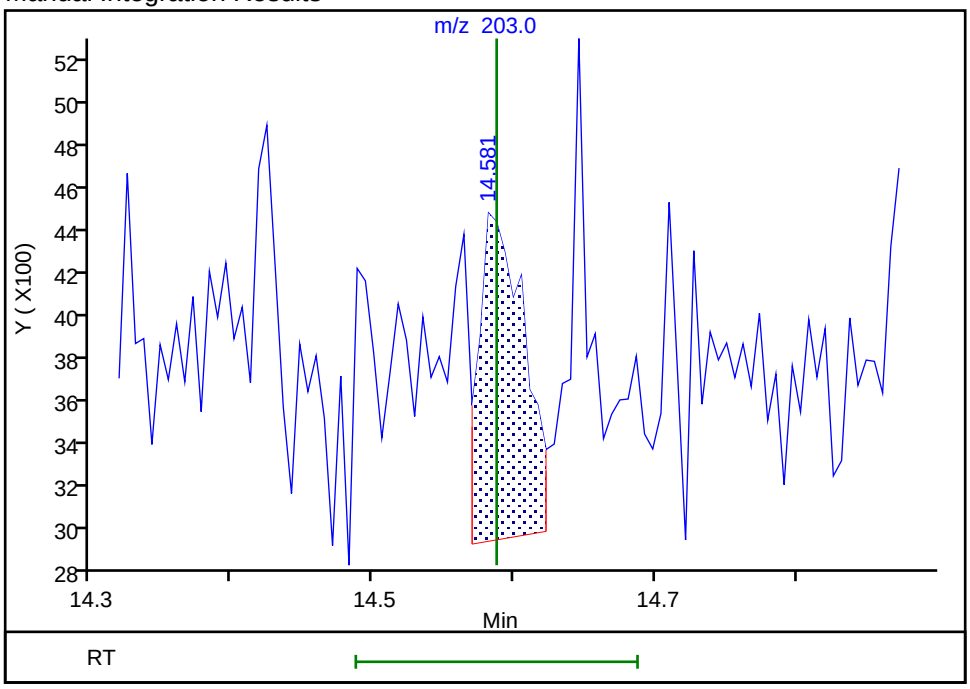
Processing Integration Results

RT: 14.58
Area: 3279
Amount: 0.046472
Amount Units: ug/ml



Manual Integration Results

RT: 14.58
Area: 3279
Amount: 0.046472
Amount Units: ug/ml



Reviewer: monbornee, 19-Aug-2020 09:25:30
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

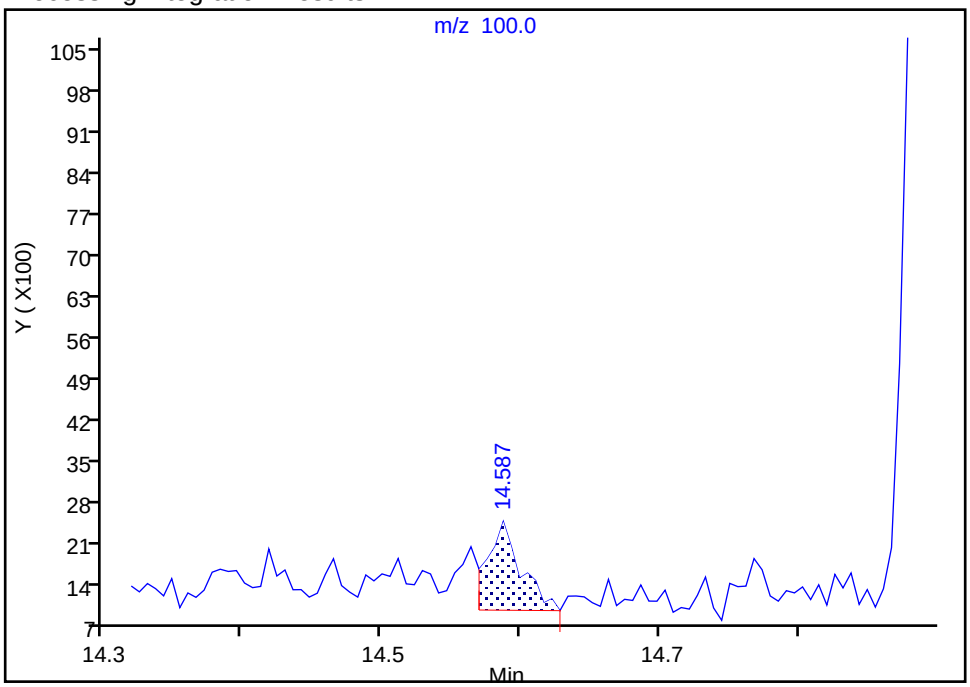
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

121 Fluoranthene, CAS: 206-44-0

Signal: 4

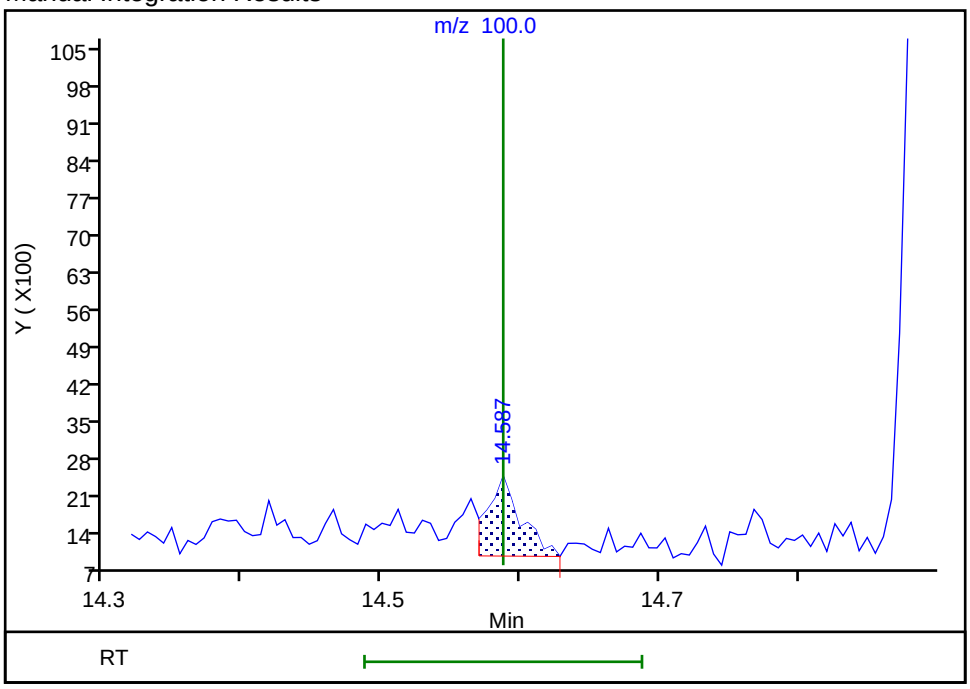
Processing Integration Results

RT: 14.59
Area: 2424
Amount: 0.046472
Amount Units: ug/ml



Manual Integration Results

RT: 14.59
Area: 2424
Amount: 0.046472
Amount Units: ug/ml



Reviewer: monbornee, 19-Aug-2020 09:25:30
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

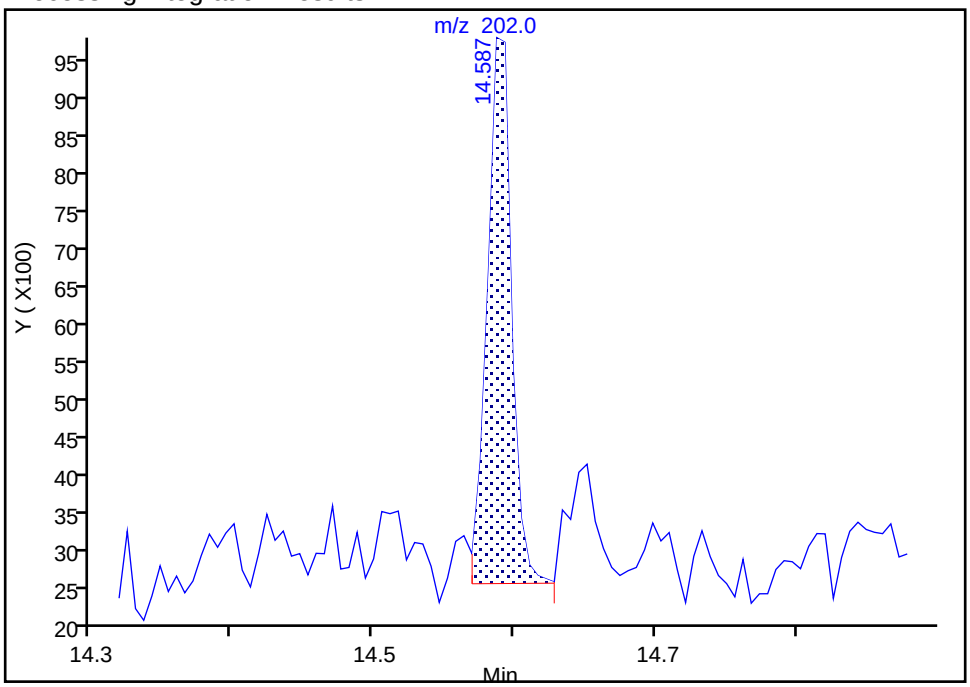
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

121 Fluoranthene, CAS: 206-44-0

Signal: 1

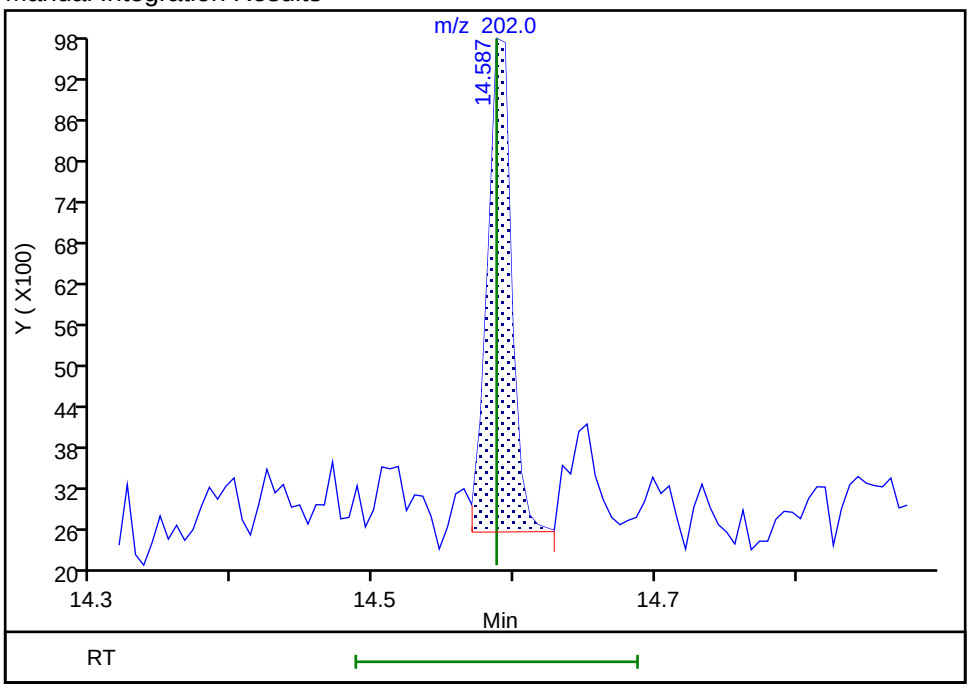
Processing Integration Results

RT: 14.59
Area: 8523
Amount: 0.046472
Amount Units: ug/ml



Manual Integration Results

RT: 14.59
Area: 8523
Amount: 0.046472
Amount Units: ug/ml



Reviewer: monbornee, 30-Aug-2020 14:35:34
Audit Action: Assigned Compound ID Audit Reason: Split Peak

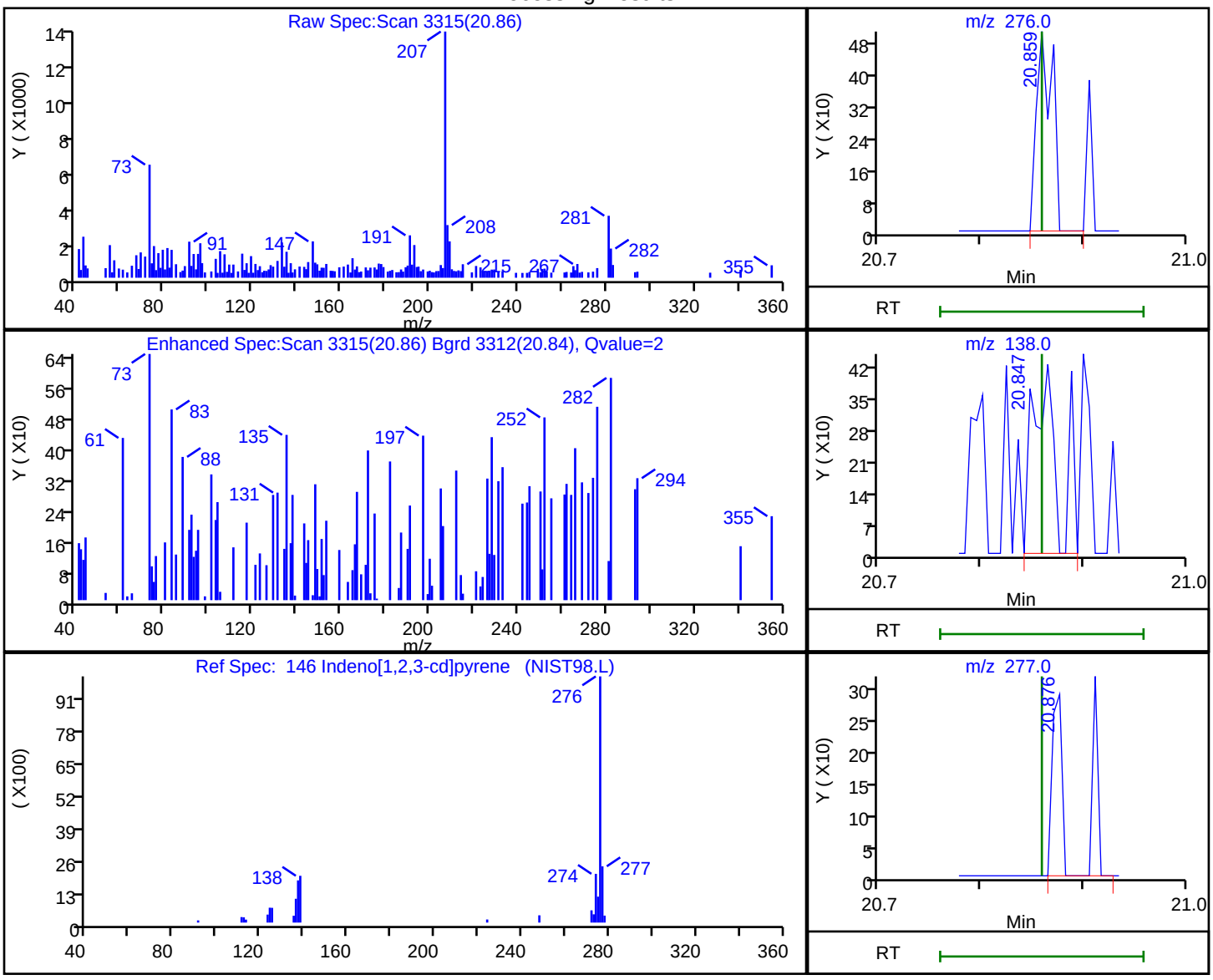
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

146 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Processing Results



RT	Mass	Response	Amount
20.86	276.00	550	0.125811
20.85	138.00	706	
20.88	277.00	296	

Reviewer: monbornee, 19-Aug-2020 09:25:48

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

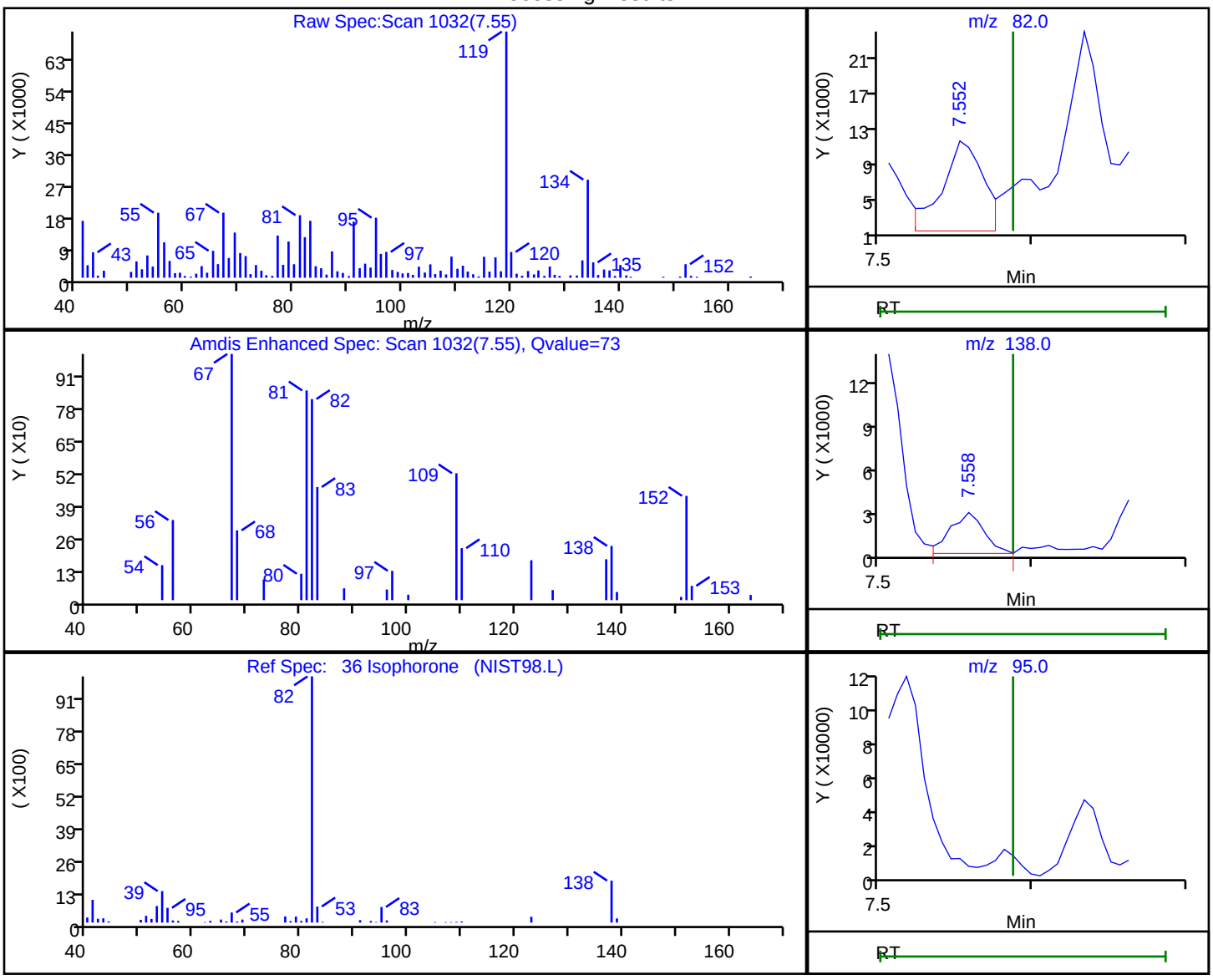
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D		
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	em10340	ALS Bottle#:	15 Worklist Smp#: 14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

36 Isophorone, CAS: 78-59-1

Processing Results



RT	Mass	Response	Amount
7.55	82.00	17756	0.135388
7.56	138.00	4195	
7.59	95.00	0	

Reviewer: monbornee, 30-Aug-2020 14:34:43

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

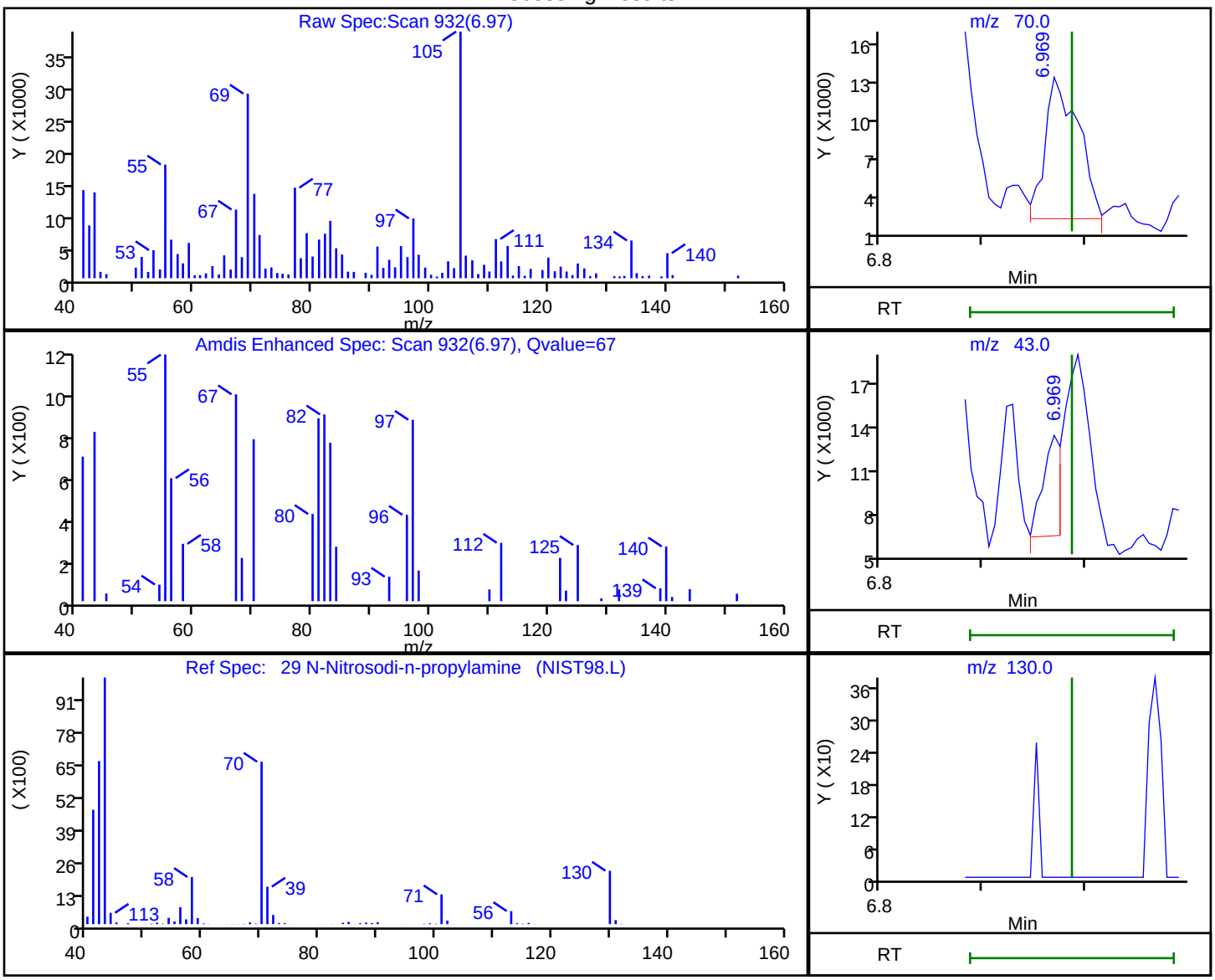
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

29 N-Nitrosodi-n-propylamine, CAS: 621-64-7

Processing Results



RT	Mass	Response	Amount
6.97	70.00	22864	0.459447
6.97	43.00	7047	
6.99	130.00	0	

Reviewer: monbornee, 30-Aug-2020 14:34:30

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

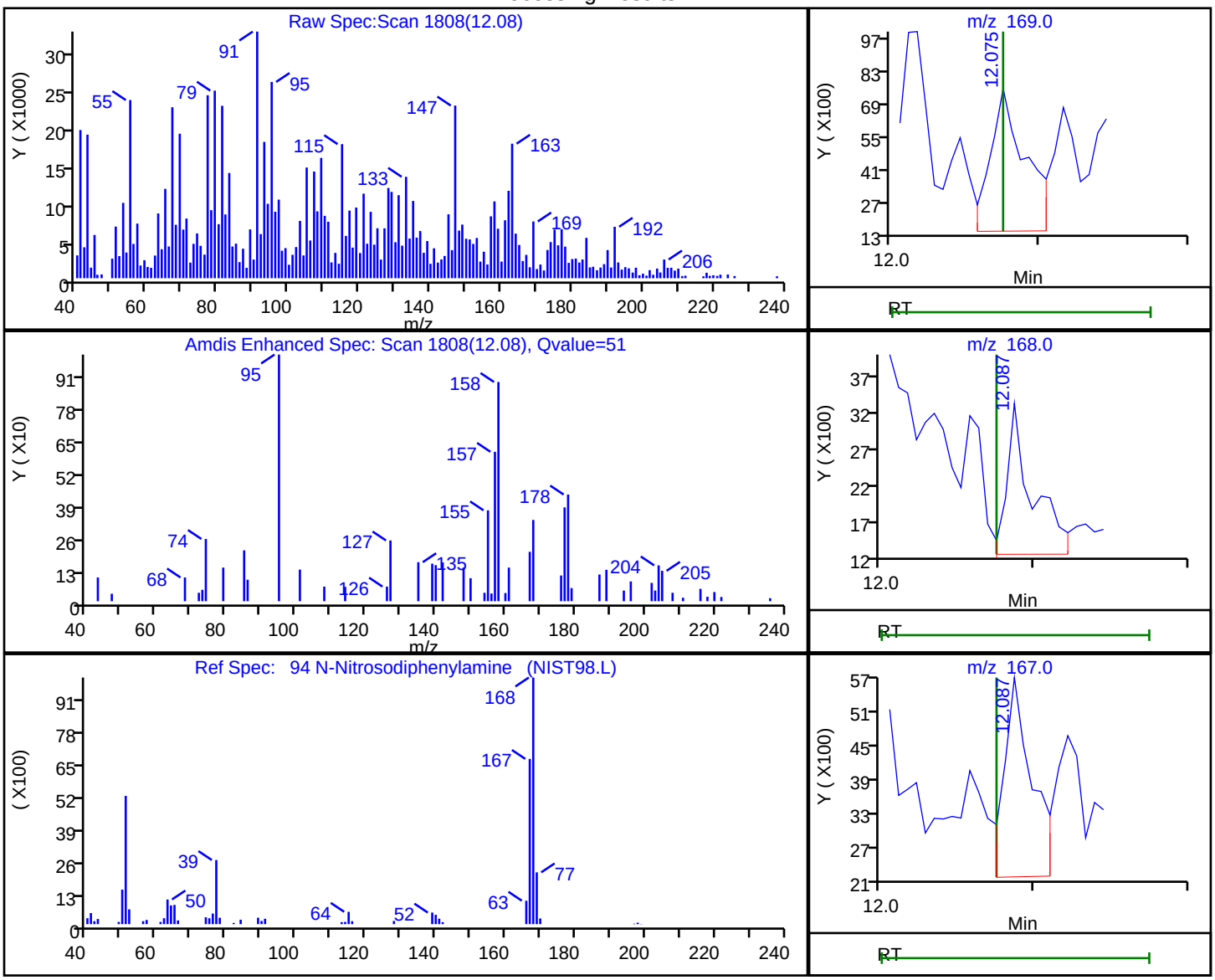
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

94 N-Nitrosodiphenylamine, CAS: 86-30-6

Processing Results



RT	Mass	Response	Amount
12.08	169.00	9698	0.090561
12.09	168.00	2260	
12.09	167.00	4157	

Reviewer: monbornee, 30-Aug-2020 14:35:21

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

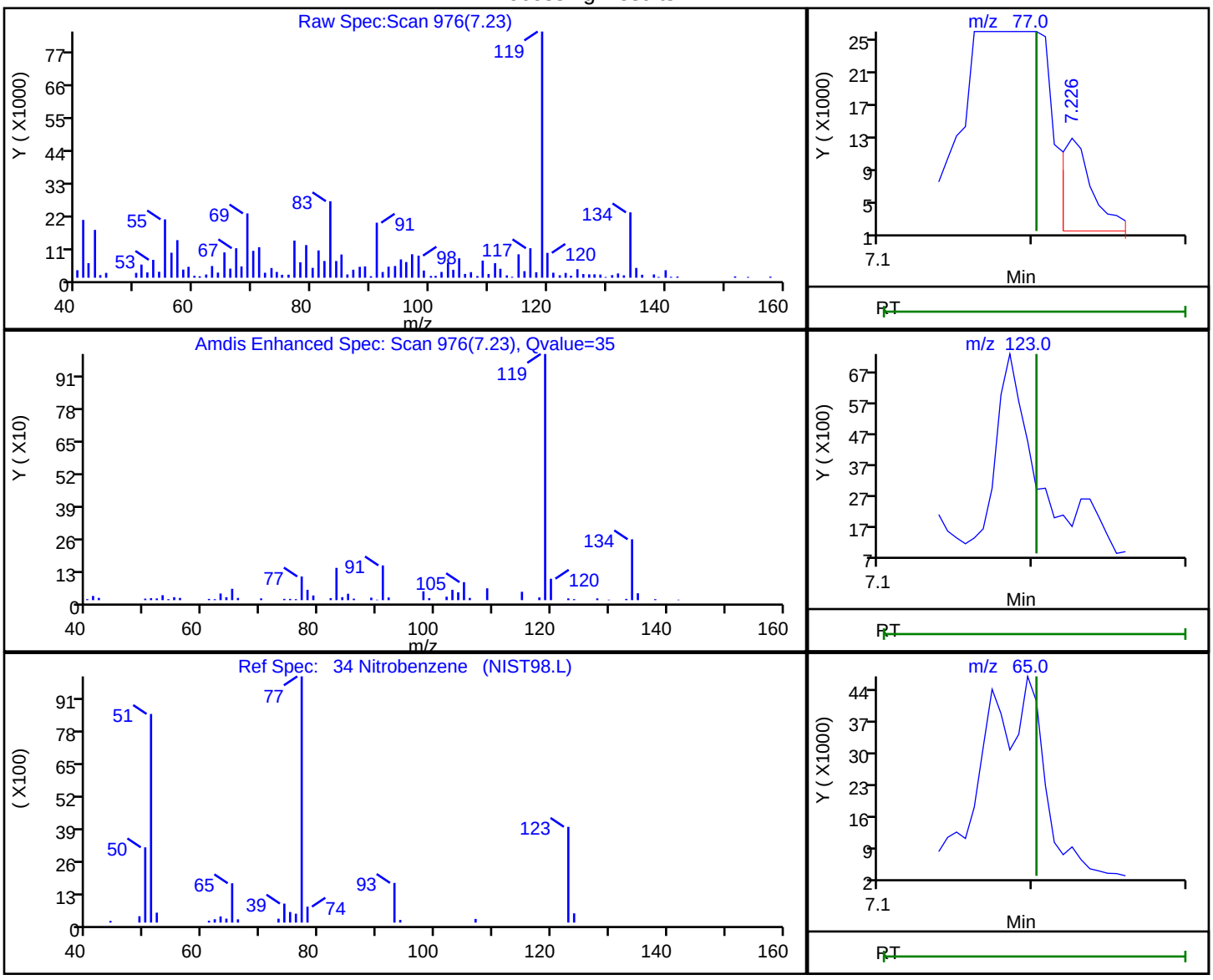
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

34 Nitrobenzene, CAS: 98-95-3

Processing Results



RT	Mass	Response	Amount
7.23	77.00	13368	0.173802
7.20	123.00	0	
7.20	65.00	0	

Reviewer: monbornee, 30-Aug-2020 14:34:41

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

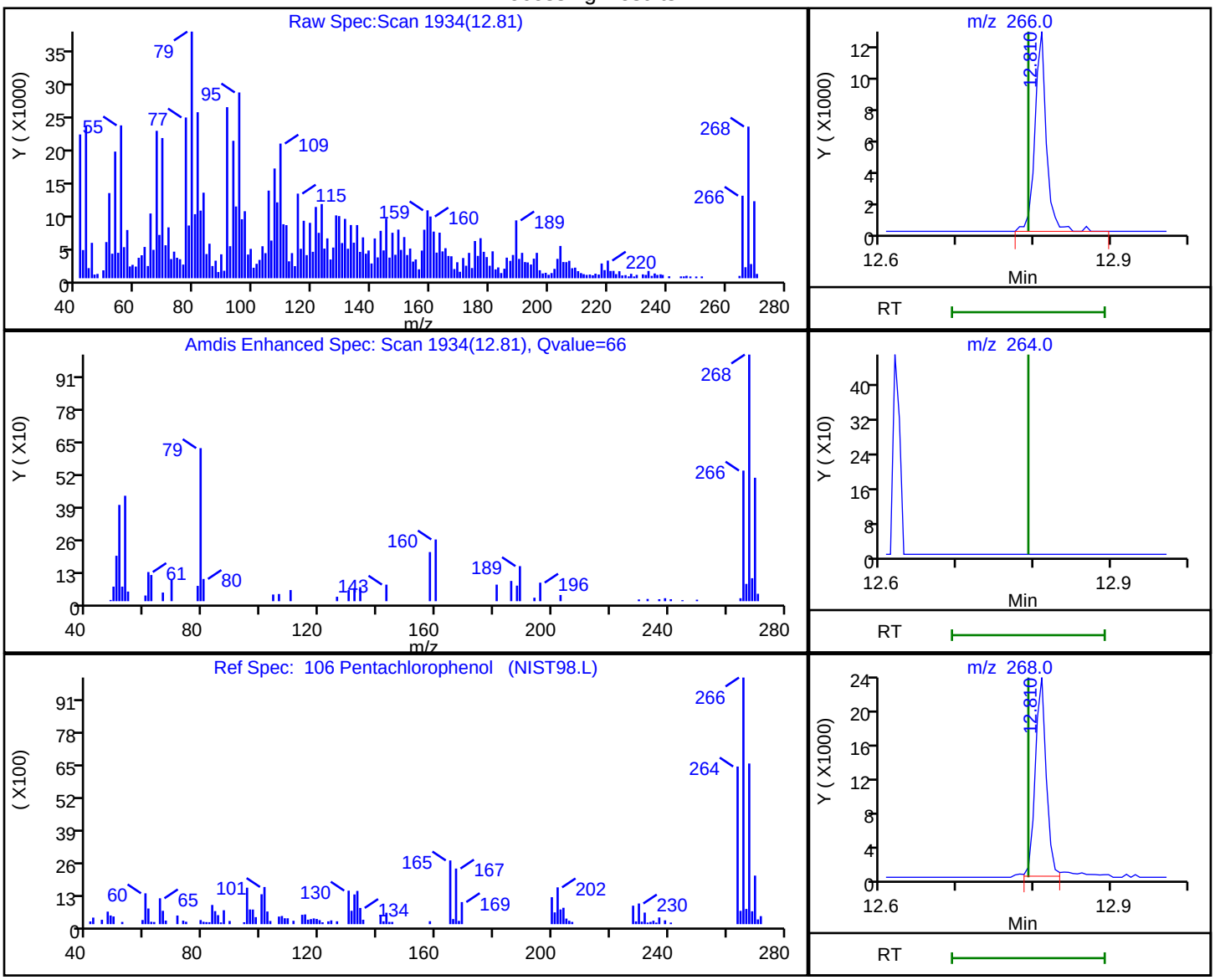
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

106 Pentachlorophenol, CAS: 87-86-5

Processing Results



RT	Mass	Response	Amount
12.81	266.00	12984	0.554319
12.79	264.00	0	
12.81	268.00	22612	

Reviewer: monbornee, 19-Aug-2020 09:25:19

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

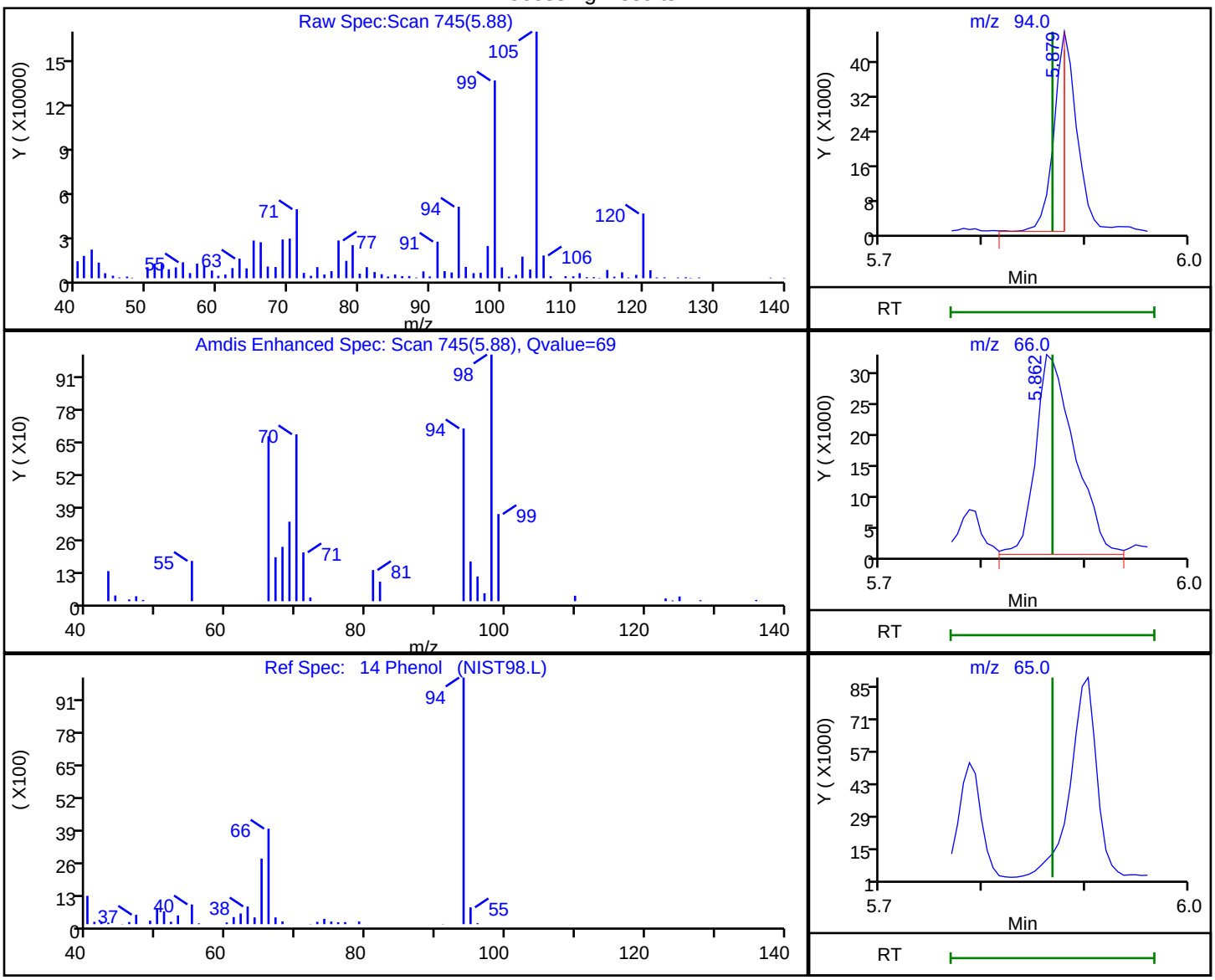
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

14 Phenol, CAS: 108-95-2

Processing Results



RT	Mass	Response	Amount
5.88	94.00	32586	0.339331
5.86	66.00	83353	
5.87	65.00	0	

Reviewer: monbornee, 30-Aug-2020 14:34:24

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

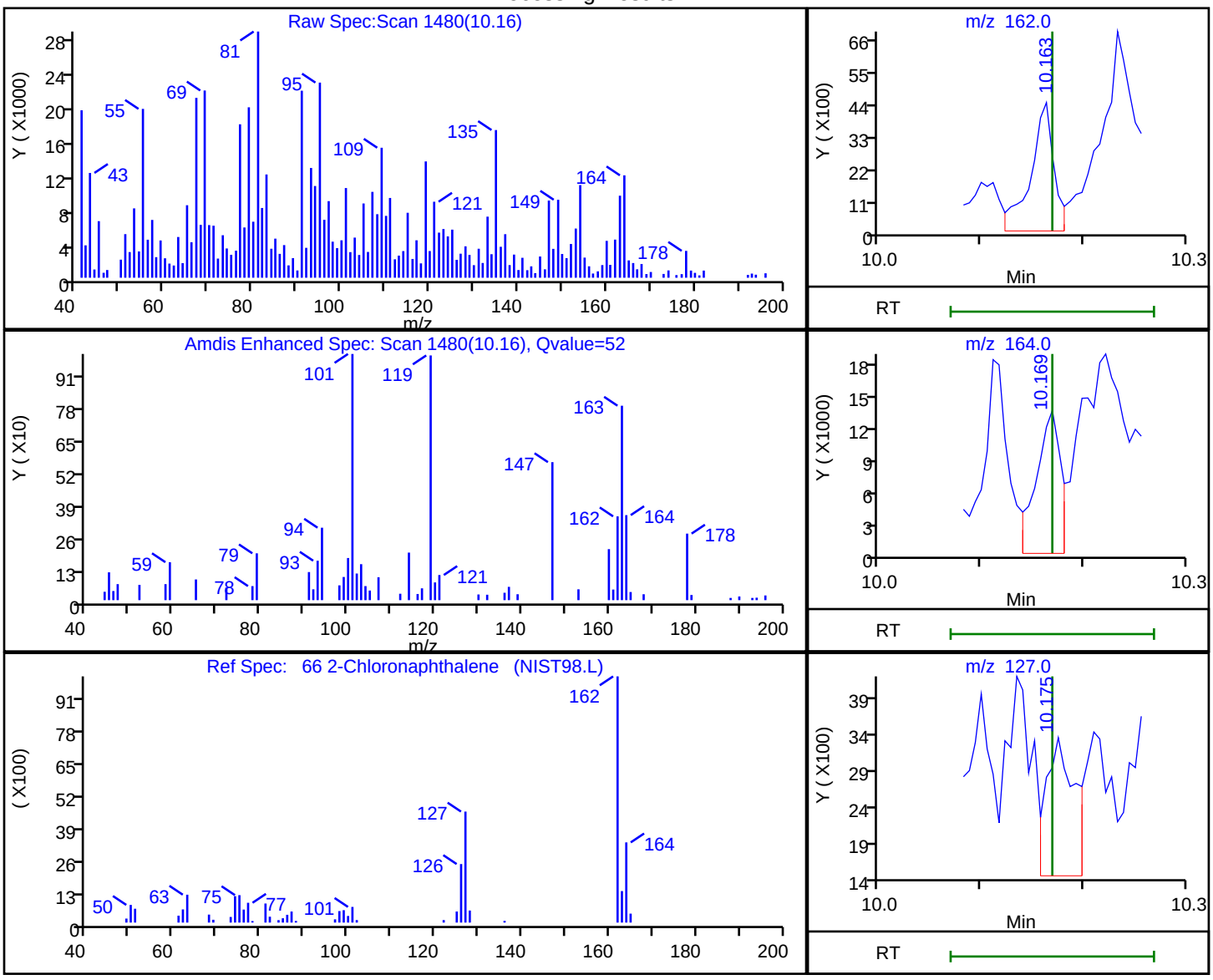
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

66 2-Chloronaphthalene, CAS: 91-58-7

Processing Results



RT	Mass	Response	Amount
10.16	162.00	6792	0.056953
10.17	164.00	20856	
10.18	127.00	3312	

Reviewer: monbornee, 30-Aug-2020 14:34:57

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

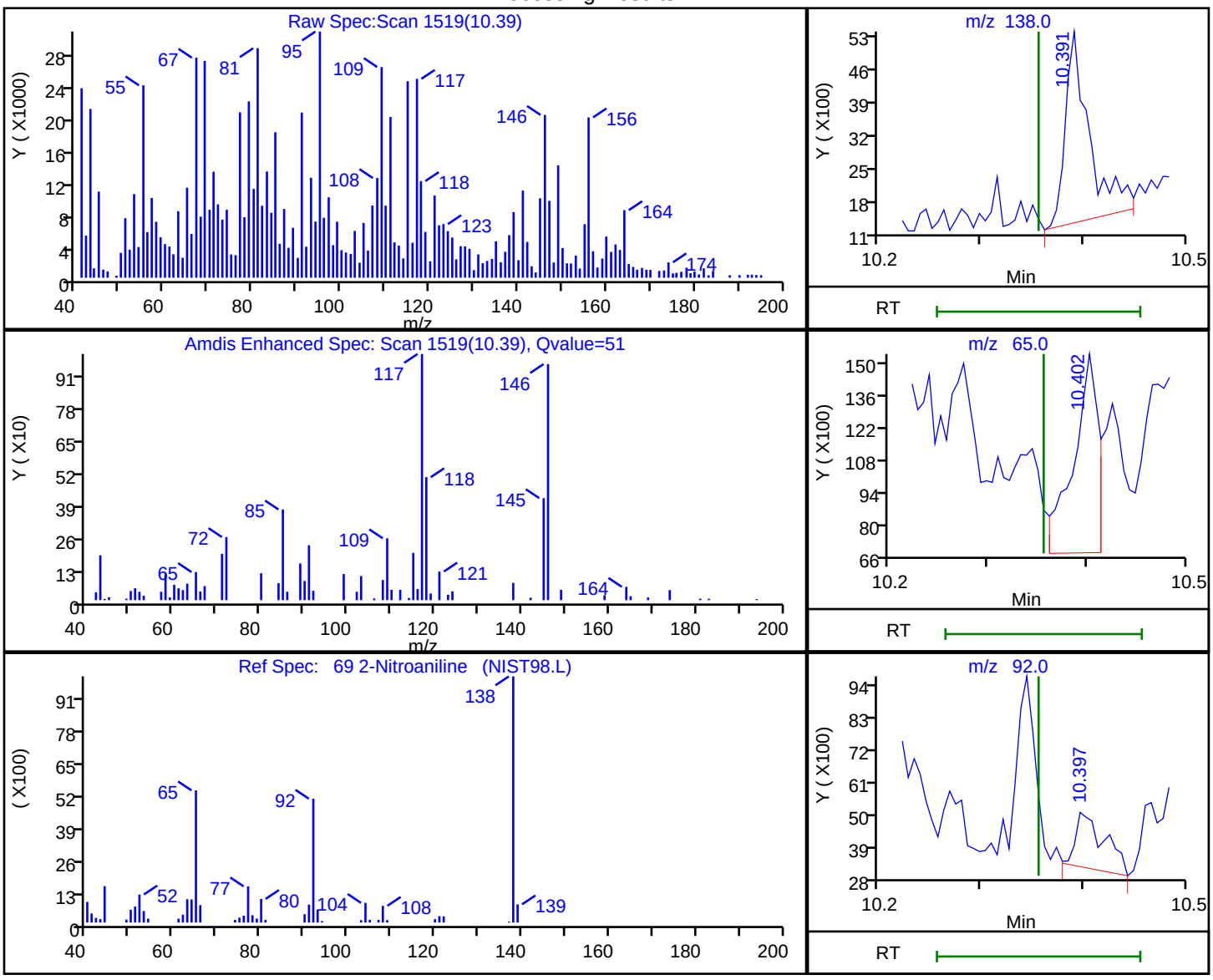
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

69 2-Nitroaniline, CAS: 88-74-4

Processing Results



RT	Mass	Response	Amount
10.39	138.00	6551	0.410205
10.40	65.00	14302	
10.40	92.00	3707	

Reviewer: monbornee, 30-Aug-2020 14:35:01

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

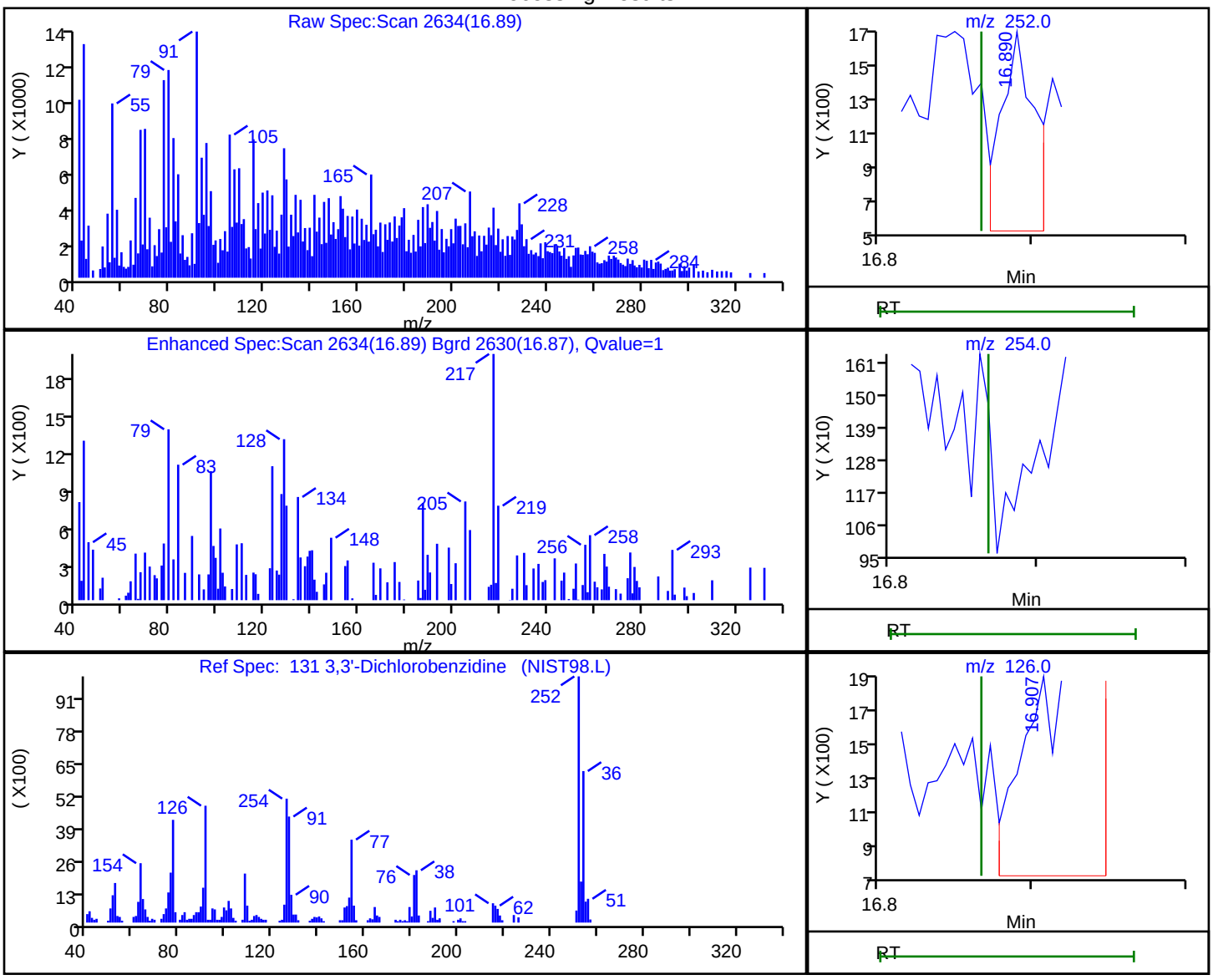
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

131 3,3'-Dichlorobenzidine, CAS: 91-94-1

Processing Results



RT	Mass	Response	Amount
16.89	252.00	1554	0.785598
16.87	254.00	0	
16.91	126.00	2912	

Reviewer: monbornee, 19-Aug-2020 09:25:36

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

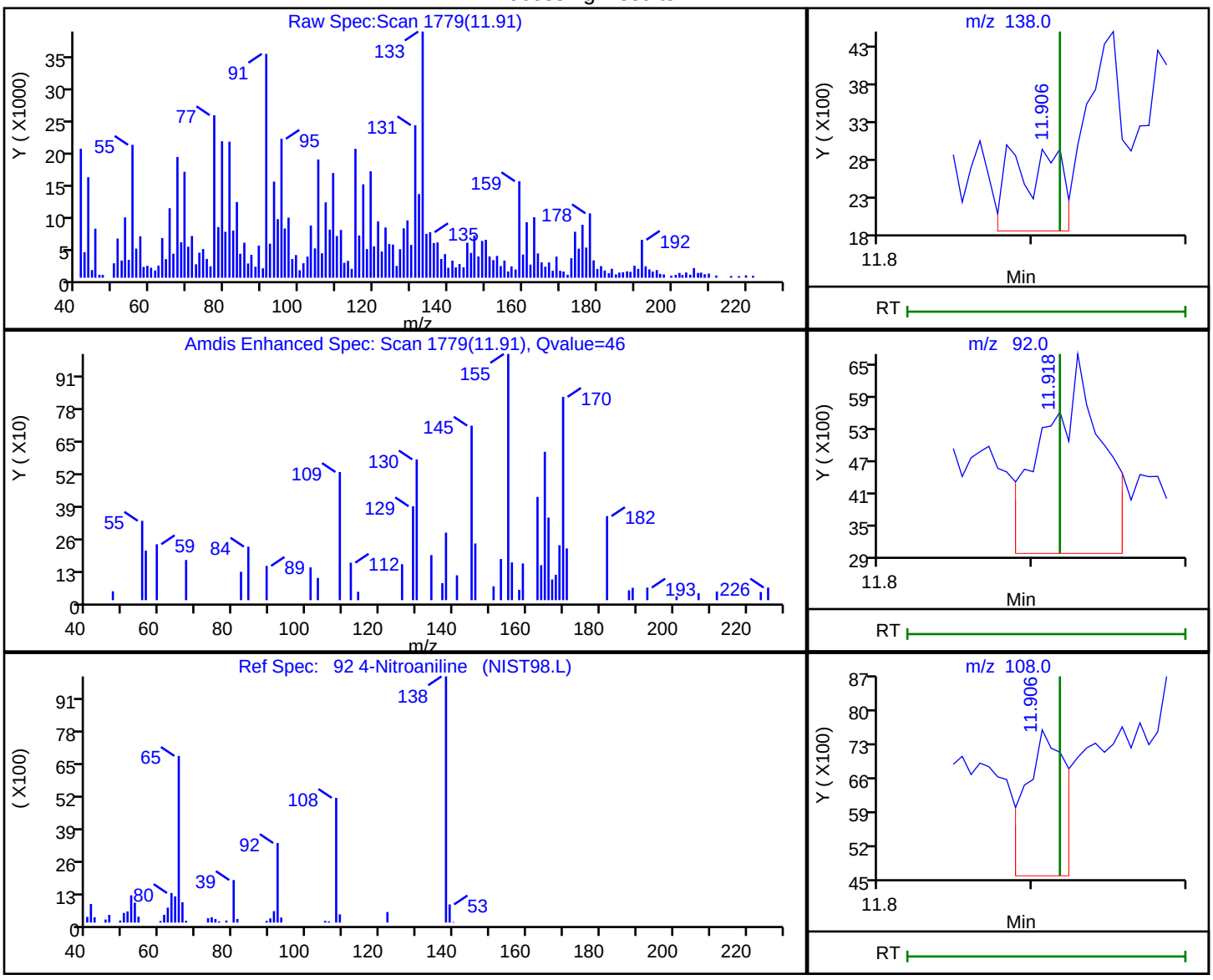
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

92 4-Nitroaniline, CAS: 100-01-6

Processing Results



RT	Mass	Response	Amount
11.91	138.00	2246	0.251838
11.92	92.00	9257	
11.91	108.00	4836	
11.92	65.00	10841	

Reviewer: monbornee, 30-Aug-2020 14:35:19

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

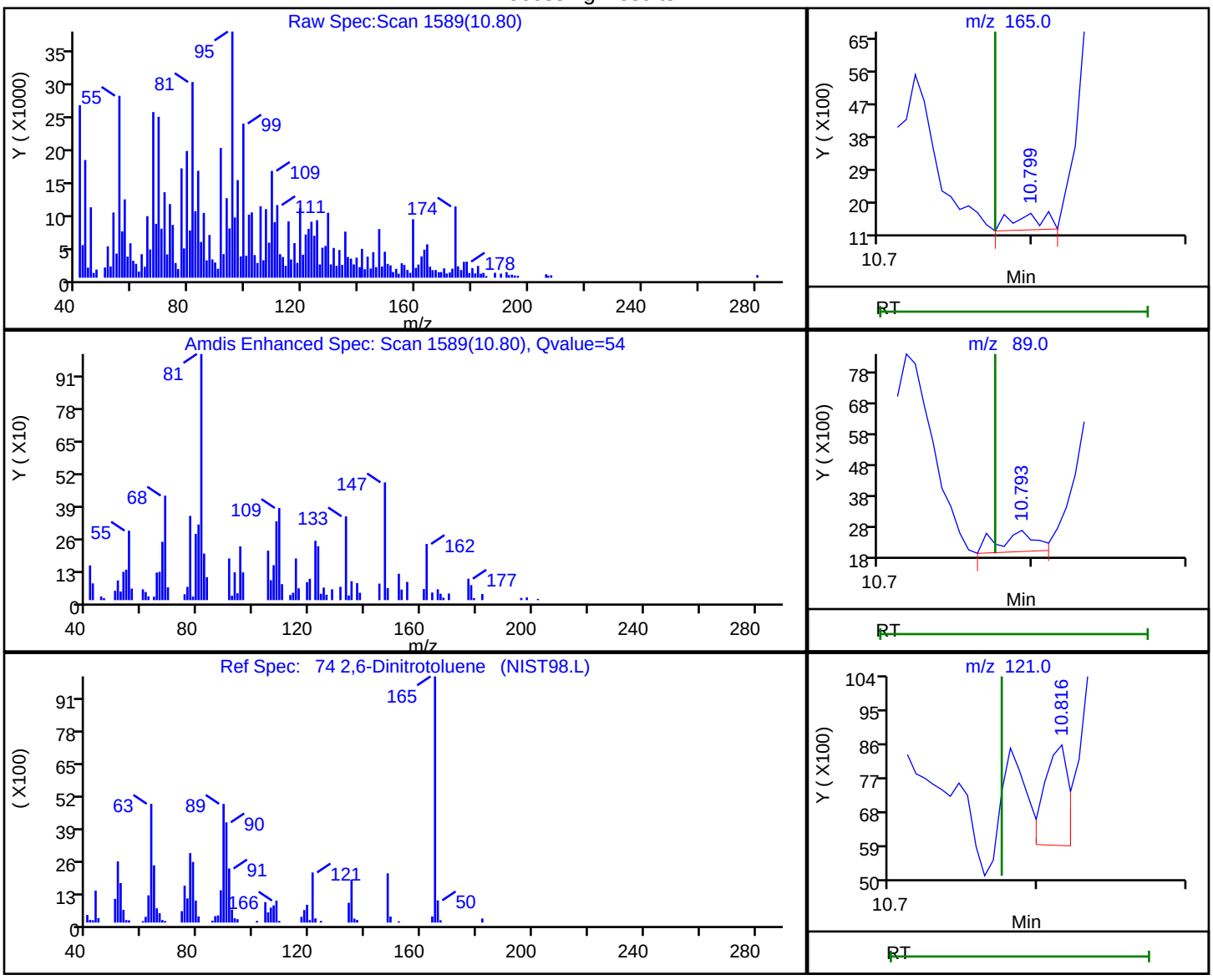
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1014.D				
Injection Date:	18-Aug-2020 16:14:30	Instrument ID:	HP19760		
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	15	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

74 2,6-Dinitrotoluene, CAS: 606-20-2

Processing Results



RT	Mass	Response	Amount
10.80	165.00	694	0.218214
10.79	89.00	1095	
10.82	121.00	2699	
10.80	63.00	345	

Reviewer: monbornee, 30-Aug-2020 14:35:02

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-04 RE Lab Sample ID: 410-10696-3 RE

Matrix: Water Lab File ID: DH1457.D

Analysis Method: 8270D Date Collected: 08/11/2020 13:40

Extract. Method: 3510C Date Extracted: 08/21/2020 08:45

Sample wt/vol: 235(mL) Date Analyzed: 08/25/2020 13:45

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 36891 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
92-52-4	1,1'-Biphenyl	ND	H	11	3.2
120-83-2	2,4-Dichlorophenol	ND	H	2.1	0.53
105-67-9	2,4-Dimethylphenol	8.7	J H	11	3.2
51-28-5	2,4-Dinitrophenol	ND	H	32	15
121-14-2	2,4-Dinitrotoluene	ND	H	5.3	1.1
95-95-4	2,4,5-Trichlorophenol	ND	H	2.1	0.53
88-06-2	2,4,6-Trichlorophenol	ND	H	2.1	0.53
108-60-1	2,2'-oxybis[1-chloropropane]	ND	H	2.1	0.53
84-74-2	Di-n-butyl phthalate	ND	H	5.3	2.1
117-84-0	Di-n-octyl phthalate	ND	H	12	5.3
56-55-3	Benzo[a]anthracene	0.79	H	0.53	0.11
50-32-8	Benzo[a]pyrene	0.52	J H	0.53	0.11
205-99-2	Benzo[b]fluoranthene	ND	H	0.53	0.11
191-24-2	Benzo[g,h,i]perylene	ND	H	0.53	0.11
207-08-9	Benzo[k]fluoranthene	ND	H	0.53	0.11
83-32-9	Acenaphthene	ND	H	0.53	0.11
208-96-8	Acenaphthylene	ND	H	0.53	0.11
98-86-2	Acetophenone	ND	H	11	4.3
120-12-7	Anthracene	ND	H	0.53	0.11
1912-24-9	Atrazine	ND	H	5.3	2.1
100-52-7	Benzaldehyde	ND	H	11	3.2
85-68-7	Butylbenzylphthalate	ND	H	5.3	2.1
105-60-2	Caprolactam	ND	H	12	5.3
86-74-8	Carbazole	ND	H	2.1	0.53
218-01-9	Chrysene	0.71	H	0.53	0.11
53-70-3	Dibenz(a,h)anthracene	ND	H	0.53	0.11
132-64-9	Dibenzofuran	ND	H	2.1	0.53
84-66-2	Diethyl phthalate	ND	H	5.3	2.1
131-11-3	Dimethyl phthalate	ND	H	5.3	2.1
118-74-1	Hexachlorobenzene	ND	H	0.53	0.11
87-68-3	Hexachlorobutadiene	ND	H	2.1	0.53
77-47-4	Hexachlorocyclopentadiene	ND	H	12	5.3
67-72-1	Hexachloroethane	ND	H	5.3	1.1
206-44-0	Fluoranthene	0.42	J H	0.53	0.11

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-04 RE Lab Sample ID: 410-10696-3 RE

Matrix: Water Lab File ID: DH1457.D

Analysis Method: 8270D Date Collected: 08/11/2020 13:40

Extract. Method: 3510C Date Extracted: 08/21/2020 08:45

Sample wt/vol: 235(mL) Date Analyzed: 08/25/2020 13:45

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 36891 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
86-73-7	Fluorene	1.6	H	0.53	0.11
193-39-5	Indeno[1,2,3-cd]pyrene	ND	H	0.53	0.11
78-59-1	Isophorone	ND	H	2.1	0.53
621-64-7	N-Nitrosodi-n-propylamine	ND	H	3.2	0.74
86-30-6	N-Nitrosodiphenylamine	ND	H	3.2	0.74
98-95-3	Nitrobenzene	ND	H	2.1	0.53
87-86-5	Pentachlorophenol	ND	H	5.3	1.1
85-01-8	Phenanthrene	5.3	H	0.53	0.11
108-95-2	Phenol	ND	H	2.1	0.53
129-00-0	Pyrene	1.2	H	0.53	0.11
91-58-7	2-Chloronaphthalene	ND	H	1.1	0.43
95-57-8	2-Chlorophenol	ND	H	2.1	0.53
91-57-6	2-Methylnaphthalene	58	H	0.53	0.11
95-48-7	2-Methylphenol	ND	H	2.1	0.53
88-74-4	2-Nitroaniline	ND	H	5.3	2.1
88-75-5	2-Nitrophenol	ND	H	11	3.2
91-94-1	3,3'-Dichlorobenzidine	ND	H	11	3.2
99-09-2	3-Nitroaniline	ND	H	7.4	3.2
534-52-1	4,6-Dinitro-2-methylphenol	ND	H	22	8.5
101-55-3	4-Bromophenyl-phenylether	ND	H	2.1	0.53
106-44-5	4-Methylphenol	2.1	H	2.1	0.53
100-01-6	4-Nitroaniline	ND	H	3.2	0.96
100-02-7	4-Nitrophenol	ND	H	32	11
111-91-1	Bis(2-chloroethoxy)methane	ND	H	2.1	0.53
111-44-4	Bis(2-chloroethyl)ether	ND	H	2.1	0.53
117-81-7	Bis(2-ethylhexyl) phthalate	ND	H	12	5.3
606-20-2	2,6-Dinitrotoluene	ND	H	2.1	0.53
59-50-7	4-Chloro-3-methylphenol	ND	H	3.7	1.7
106-47-8	4-Chloroaniline	ND	H	11	4.3
7005-72-3	4-Chlorophenyl-phenyl ether	ND	H	2.1	0.53

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-04 RE Lab Sample ID: 410-10696-3 RE

Matrix: Water Lab File ID: DH1457.D

Analysis Method: 8270D Date Collected: 08/11/2020 13:40

Extract. Method: 3510C Date Extracted: 08/21/2020 08:45

Sample wt/vol: 235(mL) Date Analyzed: 08/25/2020 13:45

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 36891 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	76		18-141
321-60-8	2-Fluorobiphenyl (Surr)	60		44-102
367-12-4	2-Fluorophenol (Surr)	40		10-84
4165-60-0	Nitrobenzene-d5 (Surr)	69		38-113
1718-51-0	p-Terphenyl-d14 (Surr)	38		34-128
4165-62-2	Phenol-d5 (Surr)	32		10-67

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D
Lims ID: 410-10696-C-3-A
Client ID: MW-04
Sample Type: Client
Inject. Date: 25-Aug-2020 13:45:30 ALS Bottle#: 8 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 410-10696-C-3-A
Misc. Info.: 410-0008884-006
Operator ID: em10340 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 26-Aug-2020 08:21:24 Calib Date: 25-Aug-2020 02:23:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1408.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1050

First Level Reviewer: monbornee Date: 25-Aug-2020 14:49:20

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
$ 8 2-Fluorophenol	112	4.365	4.354	0.011	91	942856	19.9	
12 Benzaldehyde	77		5.618				ND	U
$ 13 Phenol-d5	99	5.787	5.782	0.005	97	950990	15.9	
14 Phenol	94		5.799				ND	U
16 Bis(2-chloroethyl)ether	93		5.916				ND	
17 2-Chlorophenol	128		5.951				ND	
* 19 1,4-Dichlorobenzene-d4	152	6.271	6.265	0.006	96	151026	5.00	
23 2-Methylphenol	108		6.703				ND	U
25 2,2'-oxybis[1-chloropropane]	45		6.732				ND	
27 Acetophenone	105		6.895				ND	U
29 N-Nitrosodi-n-propylamine	70		6.924				ND	U
28 4-Methylphenol	108	6.947	6.942	0.005	96	24562	0.4837	
32 Hexachloroethane	117		7.012				ND	U
$ 33 Nitrobenzene-d5	82	7.105	7.105	0.000	85	1005669	17.3	
34 Nitrobenzene	77		7.134				ND	U
36 Isophorone	82		7.524				ND	U
37 2-Nitrophenol	139		7.624				ND	
38 2,4-Dimethylphenol	107	7.758	7.746	0.006	94	97997	2.04	
41 Bis(2-chloroethoxy)methane	93		7.903				ND	U
42 2,4-Dichlorophenol	162		8.008				ND	
* 44 Naphthalene-d8	136	8.201	8.201	0.000	99	592506	5.00	
45 Naphthalene	128	8.241	8.230	0.005	98	5842428	45.0	E
46 4-Chloroaniline	127		8.352				ND	
49 Hexachlorobutadiene	225		8.469				ND	
52 Caprolactam	113		8.900				ND	
54 4-Chloro-3-methylphenol	107		9.168				ND	U
56 2-Methylnaphthalene	142	9.337	9.330	0.000	91	1106711	13.7	
58 Hexachlorocyclopentadiene	237		9.605				ND	
61 2,4,6-Trichlorophenol	196		9.809				ND	
62 2,4,5-Trichlorophenol	196		9.862				ND	
$ 63 2-Fluorobiphenyl (Surr)	172	9.955	9.950	0.000	99	1538238	15.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
65 1,1'-Biphenyl	154		10.101				ND	
66 2-Chloronaphthalene	162		10.101				ND	U
69 2-Nitroaniline	138		10.293				ND	U
72 Dimethyl phthalate	163		10.643				ND	
74 2,6-Dinitrotoluene	165		10.713				ND	U
75 Acenaphthylene	152		10.754				ND	U
76 3-Nitroaniline	138		10.952				ND	
* 77 Acenaphthene-d10	164	10.981	10.987	-0.006	96	310159	5.00	
78 Acenaphthene	153		11.033				ND	U
79 2,4-Dinitrophenol	184		11.132				ND	
80 4-Nitrophenol	109		11.284				ND	
83 Dibenzofuran	168		11.319				ND	U
82 2,4-Dinitrotoluene	165		11.348				ND	
87 Diethyl phthalate	149		11.762				ND	
89 Fluorene	166	11.820	11.814	0.000	97	33230	0.3711	
91 4-Chlorophenyl phenyl ether	204		11.861				ND	
92 4-Nitroaniline	138		11.873				ND	U
93 4,6-Dinitro-2-methylphenol	198		11.919				ND	
94 N-Nitrosodiphenylamine	169		12.018				ND	U
$ 96 2,4,6-Tribromophenol	330	12.135	12.128	0.000	90	438625	38.1	
101 4-Bromophenyl phenyl ether	248		12.455				ND	
103 Hexachlorobenzene	284		12.490				ND	
105 Atrazine	200		12.689				ND	
106 Pentachlorophenol	266		12.735				ND	
* 110 Phenanthrene-d10	188	12.939	12.945	-0.006	99	553931	5.00	
112 Phenanthrene	178	12.968	12.968	-0.006	99	158624	1.24	
113 Anthracene	178		13.033				ND	U
114 Carbazole	167		13.248				ND	
116 Di-n-butyl phthalate	149		13.755				ND	
121 Fluoranthene	202	14.513	14.512	-0.006	71	12781	0.0989	
* 123 Pyrene-d10 (IS)	212	14.810	14.810	0.000	99	611701	5.00	
124 Pyrene	202	14.834	14.833	-0.005	97	45047	0.2778	
$ 125 p-Terphenyl-d14	244	15.131	15.125	0.000	99	1117273	9.52	
129 Butyl benzyl phthalate	149		15.970				ND	
132 Benzo[a]anthracene	228	16.769	16.768	-0.005	94	10989	0.1866	
131 3,3'-Dichlorobenzidine	252		16.786				ND	U
134 Chrysene	228	16.827	16.826	-0.006	96	23166	0.1659	
135 Bis(2-ethylhexyl) phthalate	149		17.025				ND	
137 Di-n-octyl phthalate	149		18.168				ND	U
138 Benzo[b]fluoranthene	252		18.587				ND	U
140 Benzo[k]fluoranthene	252		18.640				ND	
141 Benzo[a]pyrene	252	19.088	19.083	-0.012	78	3718	0.1221	M
* 142 Perylene-d12	264	19.188	19.193	-0.005	98	600258	5.00	
146 Indeno[1,2,3-cd]pyrene	276		20.779				ND	U
147 Dibenz(a,h)anthracene	278		20.825				ND	U
148 Benzo[g,h,i]perylene	276		21.134				ND	U

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

Review Flags
M - Manually Integrated
U - Marked Undetected

Reagents:

MSS_RV8270_IS_00012 Amount Added: 20.00 Units: uL Run Reagent

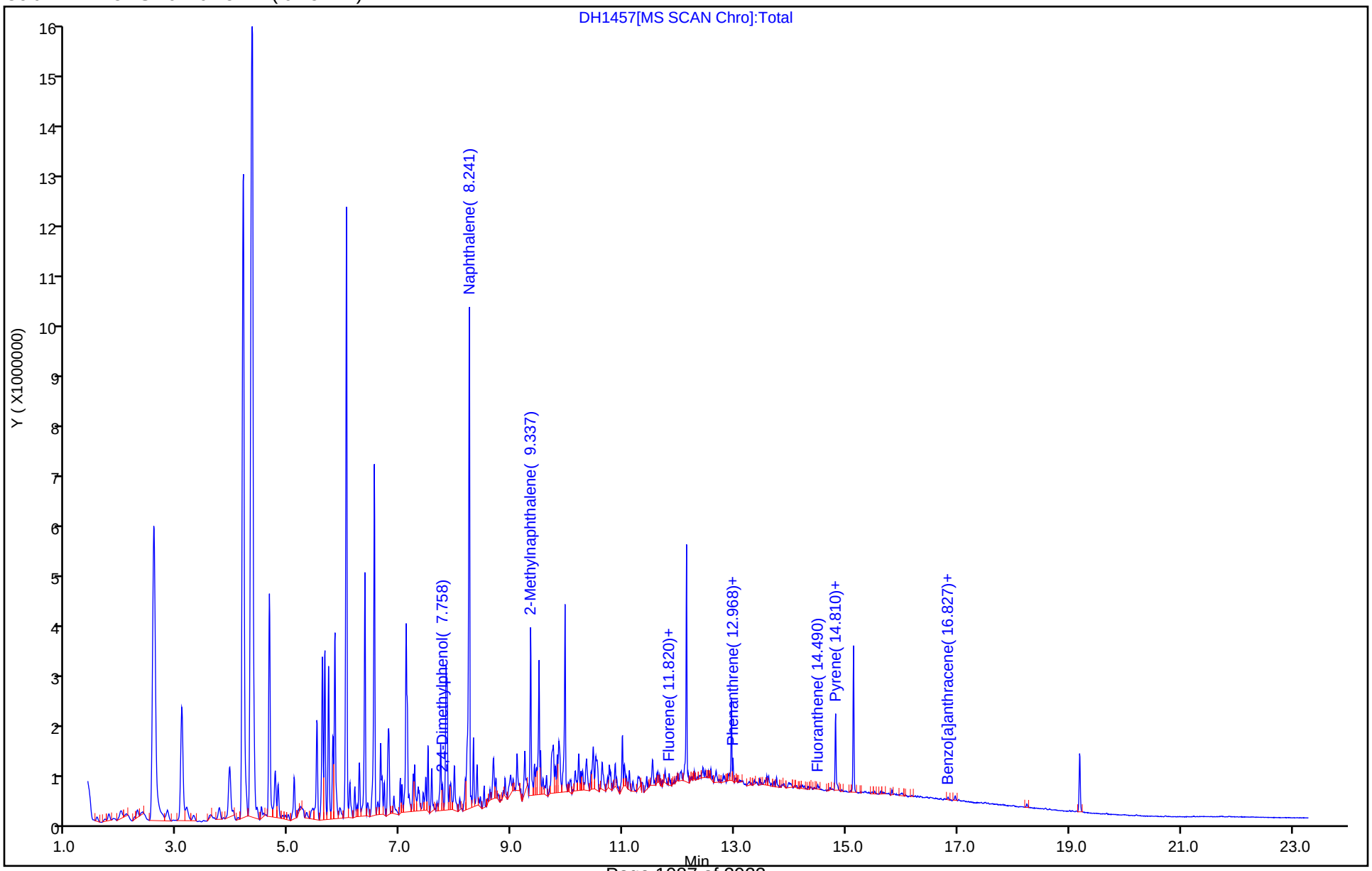
Report Date: 26-Aug-2020 08:22:59 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D

Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760	Operator ID:	em10340
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3	Worklist Smp#:	6
Client ID:	MW-04				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D
Lims ID: 410-10696-C-3-A
Client ID: MW-04
Sample Type: Client
Inject. Date: 25-Aug-2020 13:45:30 ALS Bottle#: 8 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 410-10696-C-3-A
Misc. Info.: 410-0008884-006
Operator ID: em10340 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 26-Aug-2020 08:21:24 Calib Date: 25-Aug-2020 02:23:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1408.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1050

First Level Reviewer: monbornee Date: 25-Aug-2020 14:49:20

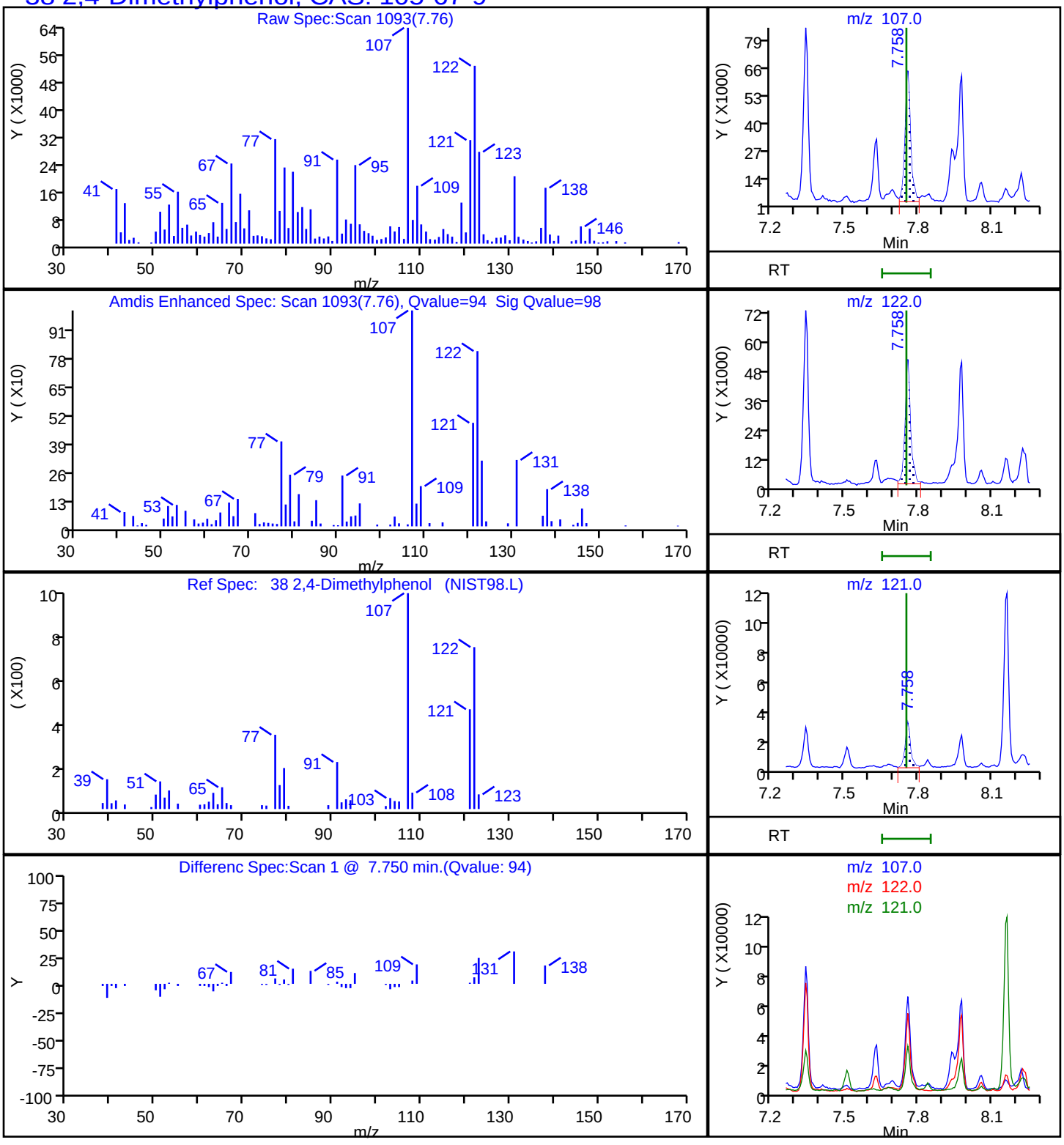
Compound	Amount Added	Amount Recovered	% Rec.
$ 8 2-Fluorophenol	50.2	19.9	39.78
$ 13 Phenol-d5	50.2	15.9	31.64
$ 33 Nitrobenzene-d5	25.1	17.3	69.14
$ 63 2-Fluorobiphenyl (Surr)	25.1	15.1	60.20
$ 96 2,4,6-Tribromophenol	50.1	38.1	76.02
$ 125 p-Terphenyl-d14	25.1	9.52	38.01

Report Date: 26-Aug-2020 08:23:00 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D		
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	em10340	ALS Bottle#:	8 Worklist Smp#: 6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

38 2,4-Dimethylphenol, CAS: 105-67-9

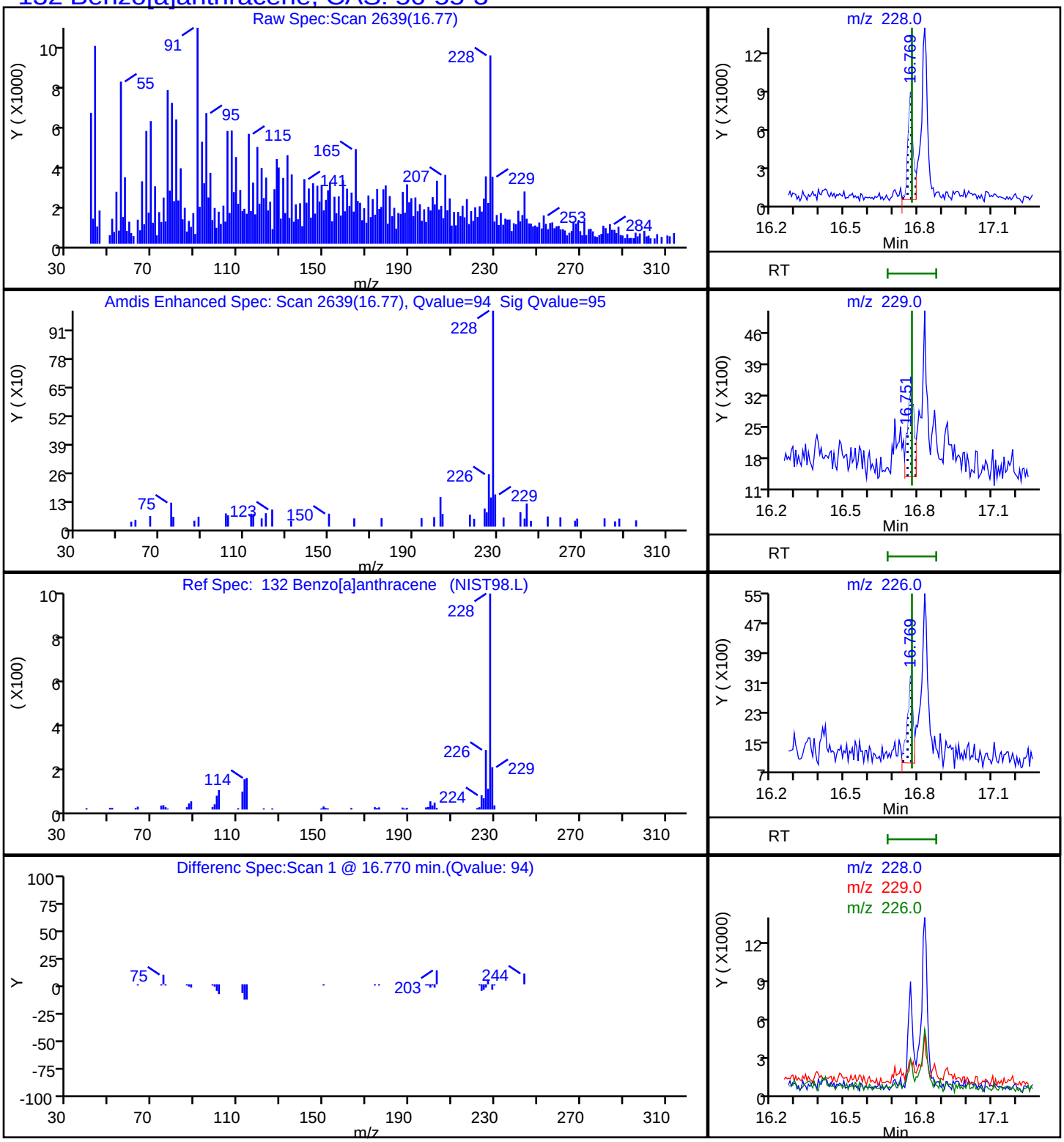


Report Date: 26-Aug-2020 08:23:00 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D		
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	em10340	ALS Bottle#:	8 Worklist Smp#: 6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

132 Benzo[a]anthracene, CAS: 56-55-3



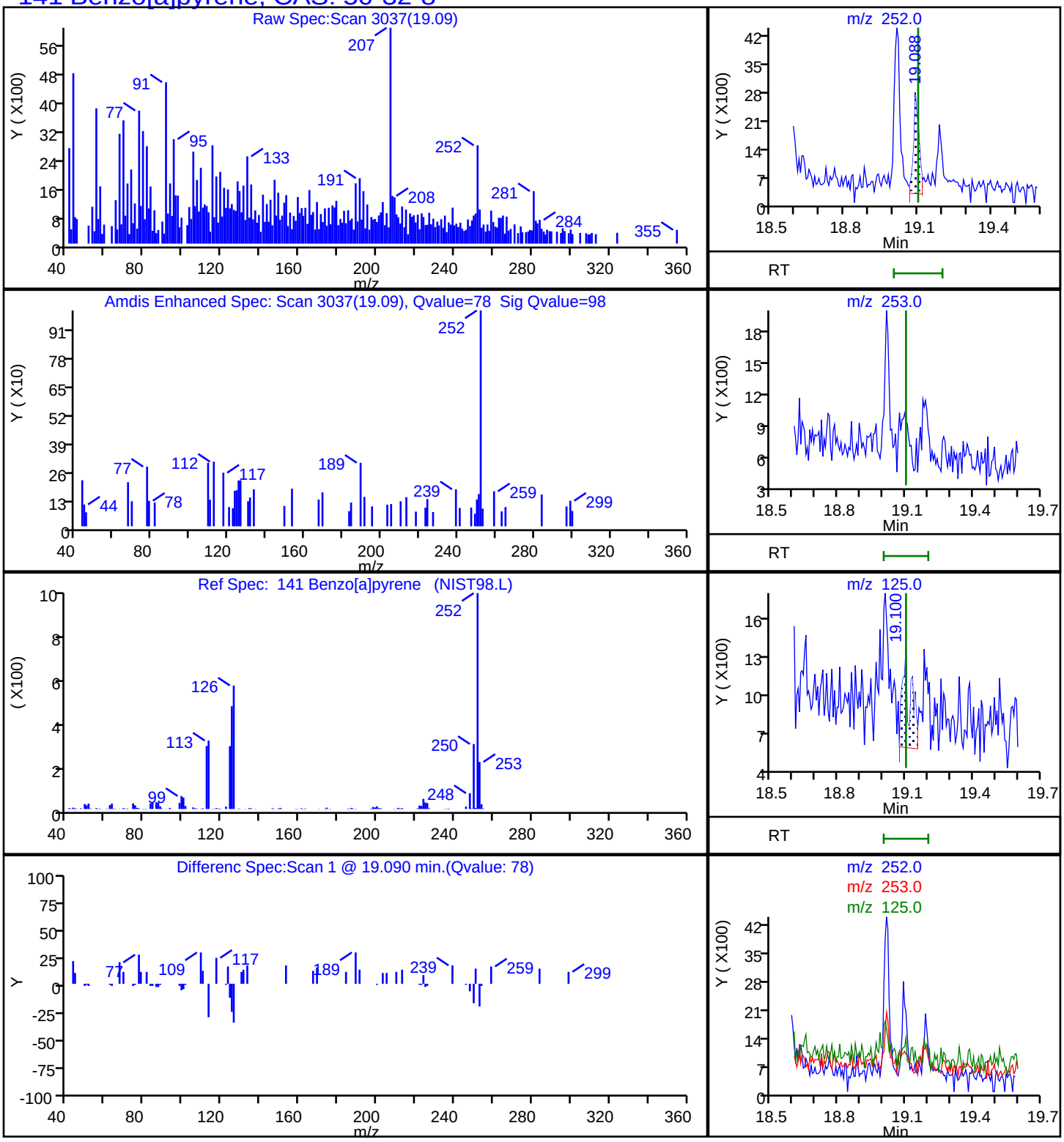
Report Date: 26-Aug-2020 08:23:01 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D

Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	em10340	ALS Bottle#:	8 Worklist Smp#: 6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

141 Benzo[a]pyrene, CAS: 50-32-8

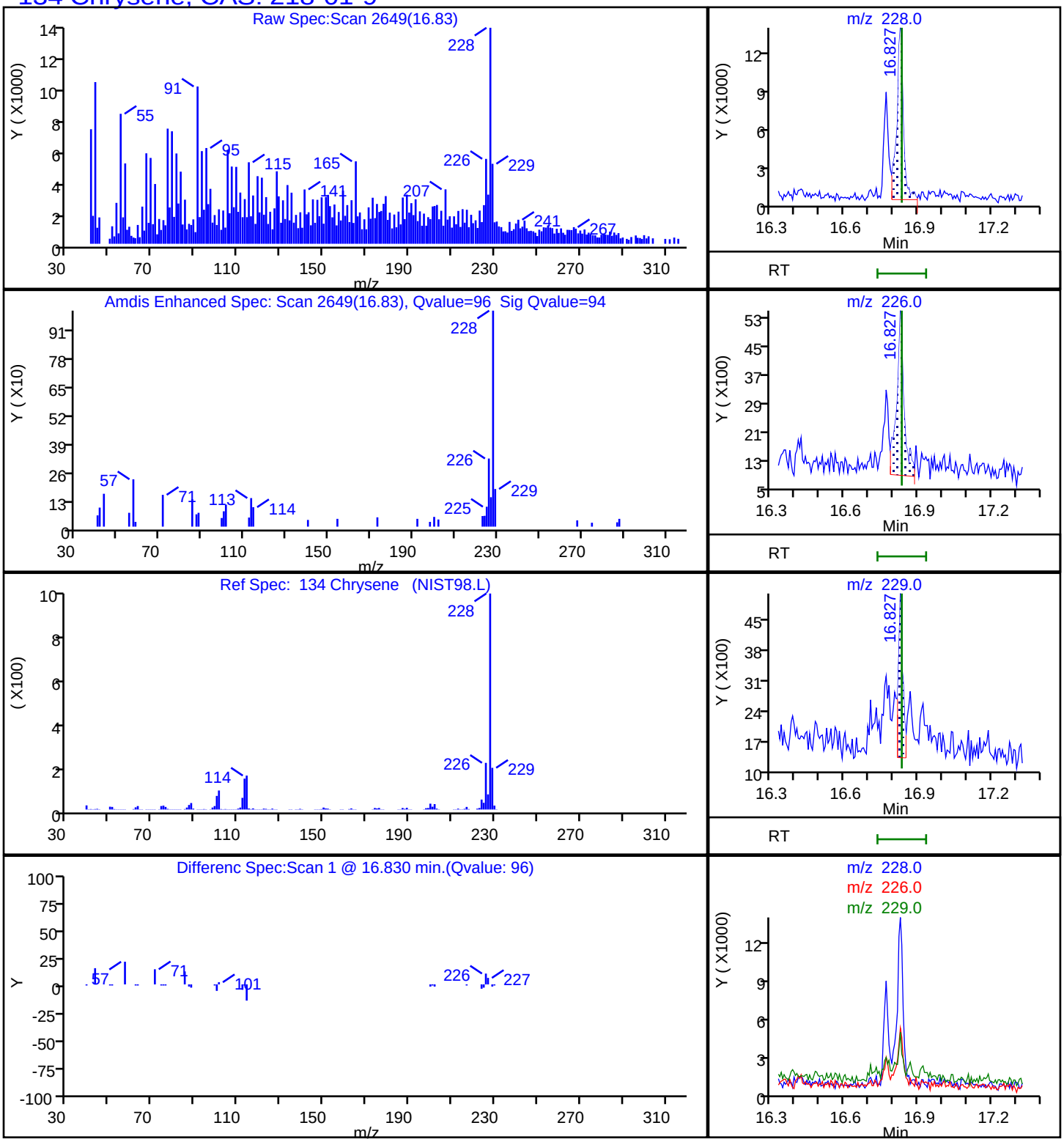


Report Date: 26-Aug-2020 08:23:00 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D		
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	em10340	ALS Bottle#:	8 Worklist Smp#: 6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

134 Chrysene, CAS: 218-01-9

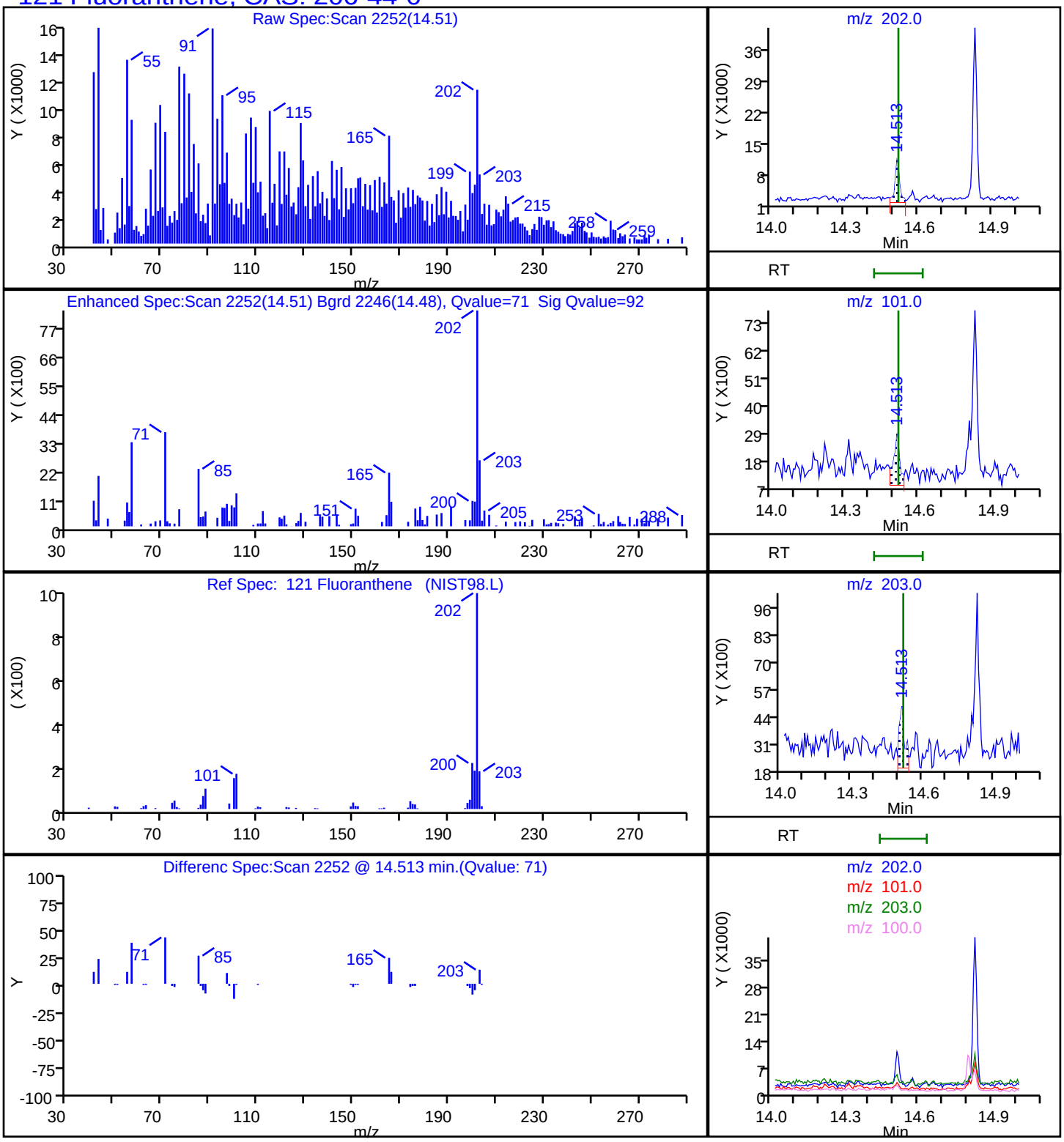


Report Date: 26-Aug-2020 08:23:00 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D		
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	em10340	ALS Bottle#:	8 Worklist Smp#: 6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

121 Fluoranthene, CAS: 206-44-0

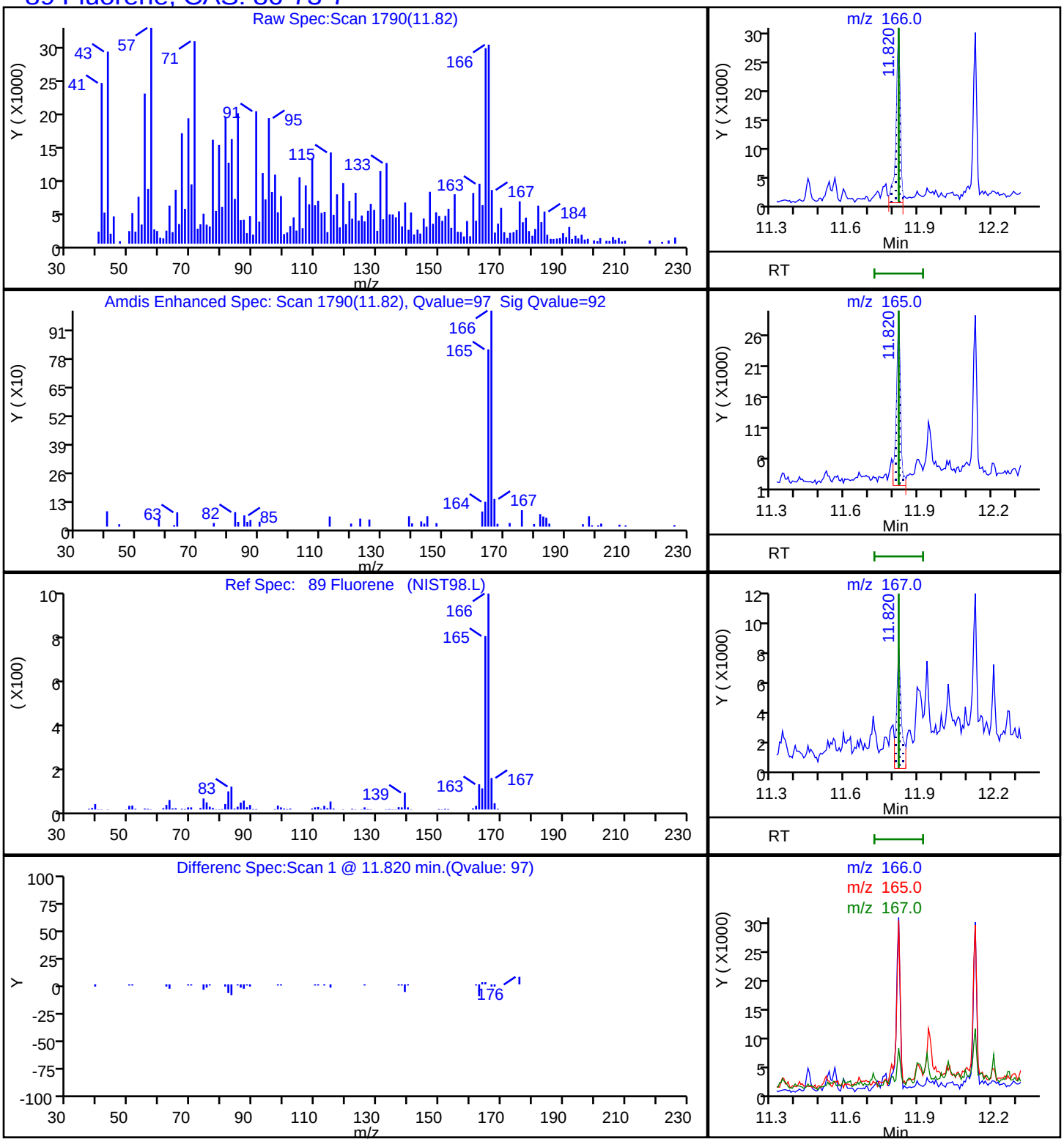


Report Date: 26-Aug-2020 08:23:00 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D		
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	em10340	ALS Bottle#:	8 Worklist Smp#: 6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

89 Fluorene, CAS: 86-73-7



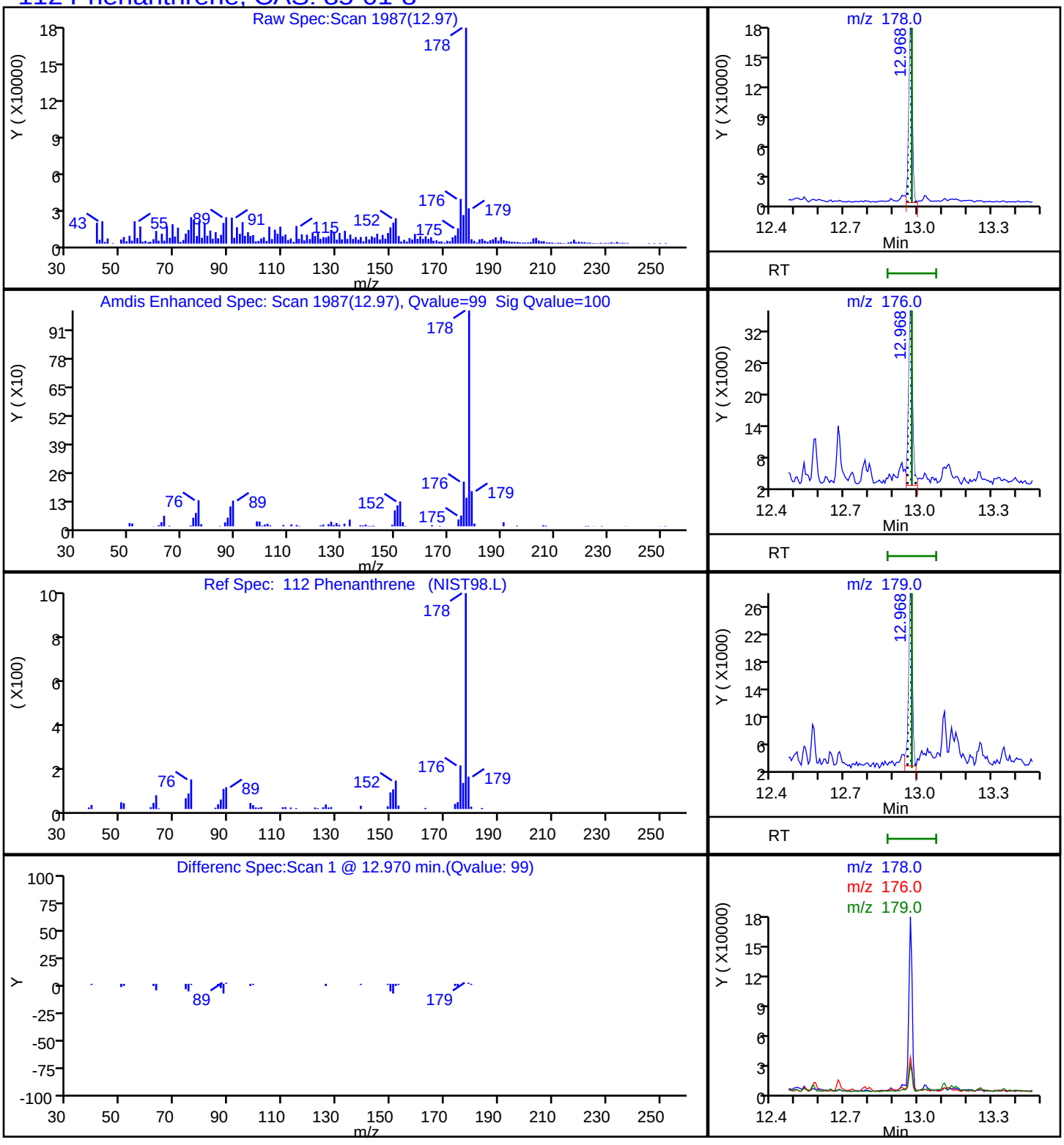
Report Date: 26-Aug-2020 08:23:00 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D

Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	em10340	ALS Bottle#:	8 Worklist Smp#: 6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

112 Phenanthrene, CAS: 85-01-8

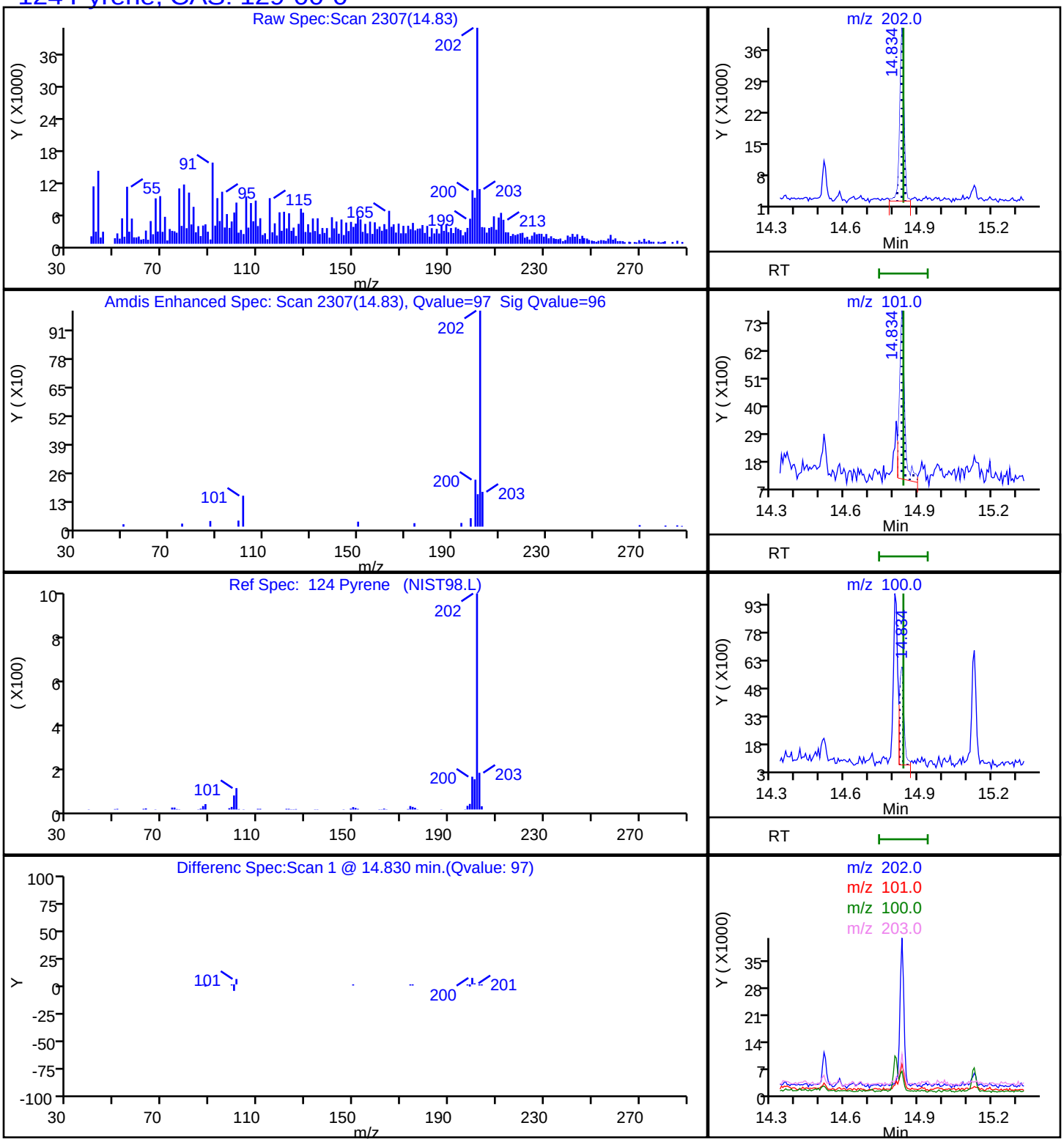


Report Date: 26-Aug-2020 08:23:00 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D		
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	em10340	ALS Bottle#:	8 Worklist Smp#: 6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

124 Pyrene, CAS: 129-00-0



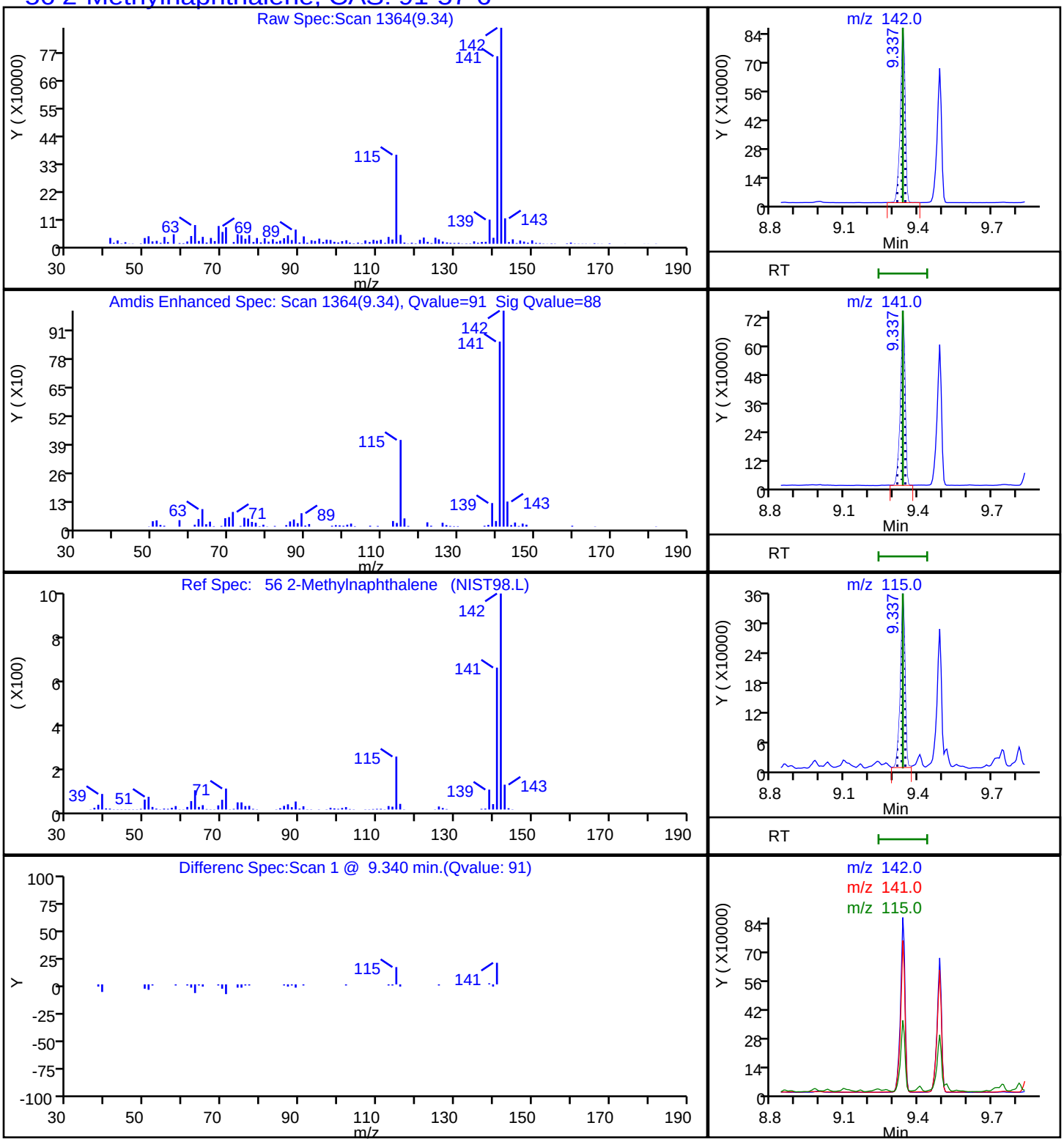
Report Date: 26-Aug-2020 08:23:00 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D

Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

56 2-Methylnaphthalene, CAS: 91-57-6



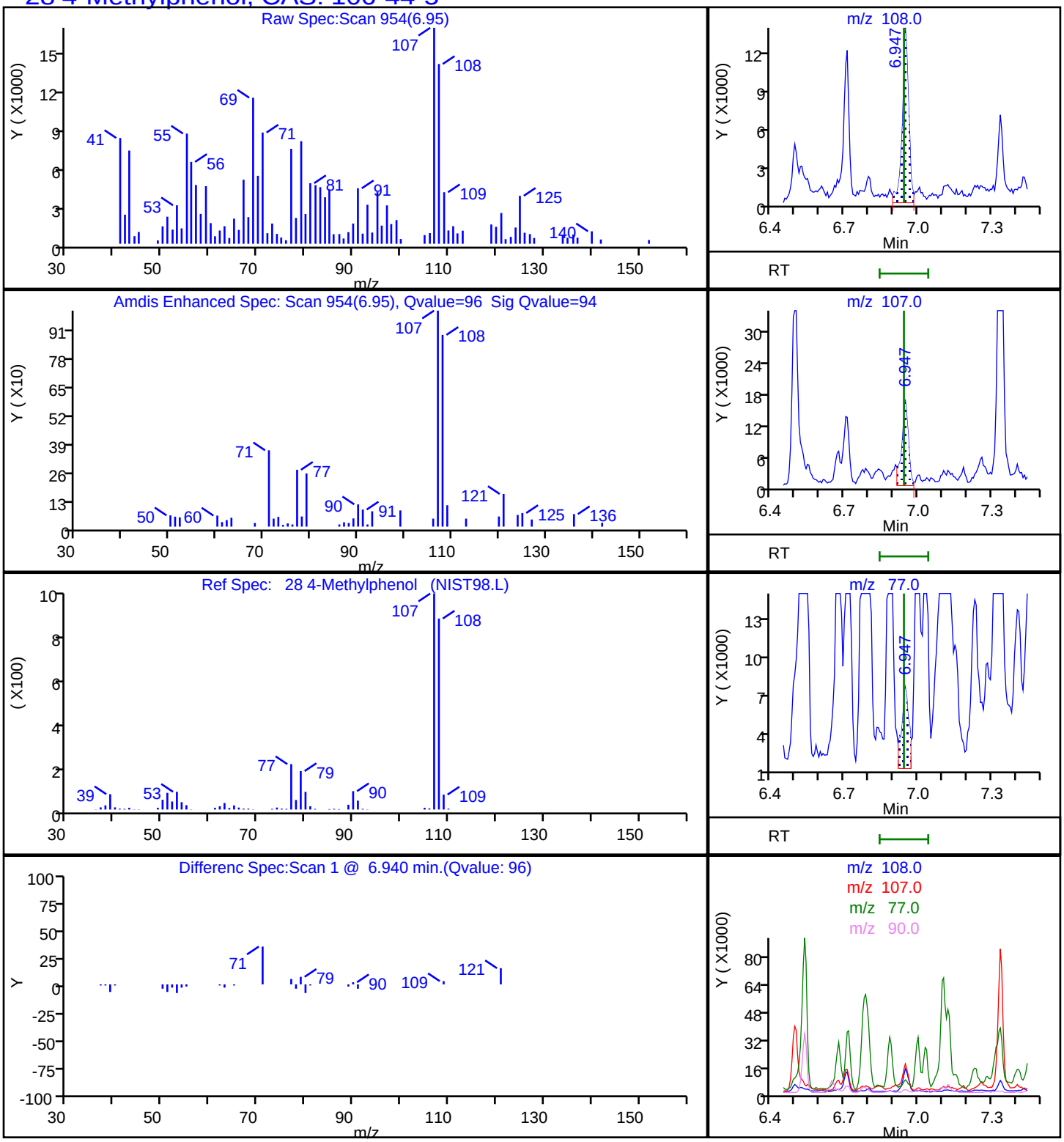
Report Date: 26-Aug-2020 08:23:00 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D

Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	em10340	ALS Bottle#:	8 Worklist Smp#: 6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

28 4-Methylphenol, CAS: 106-44-5



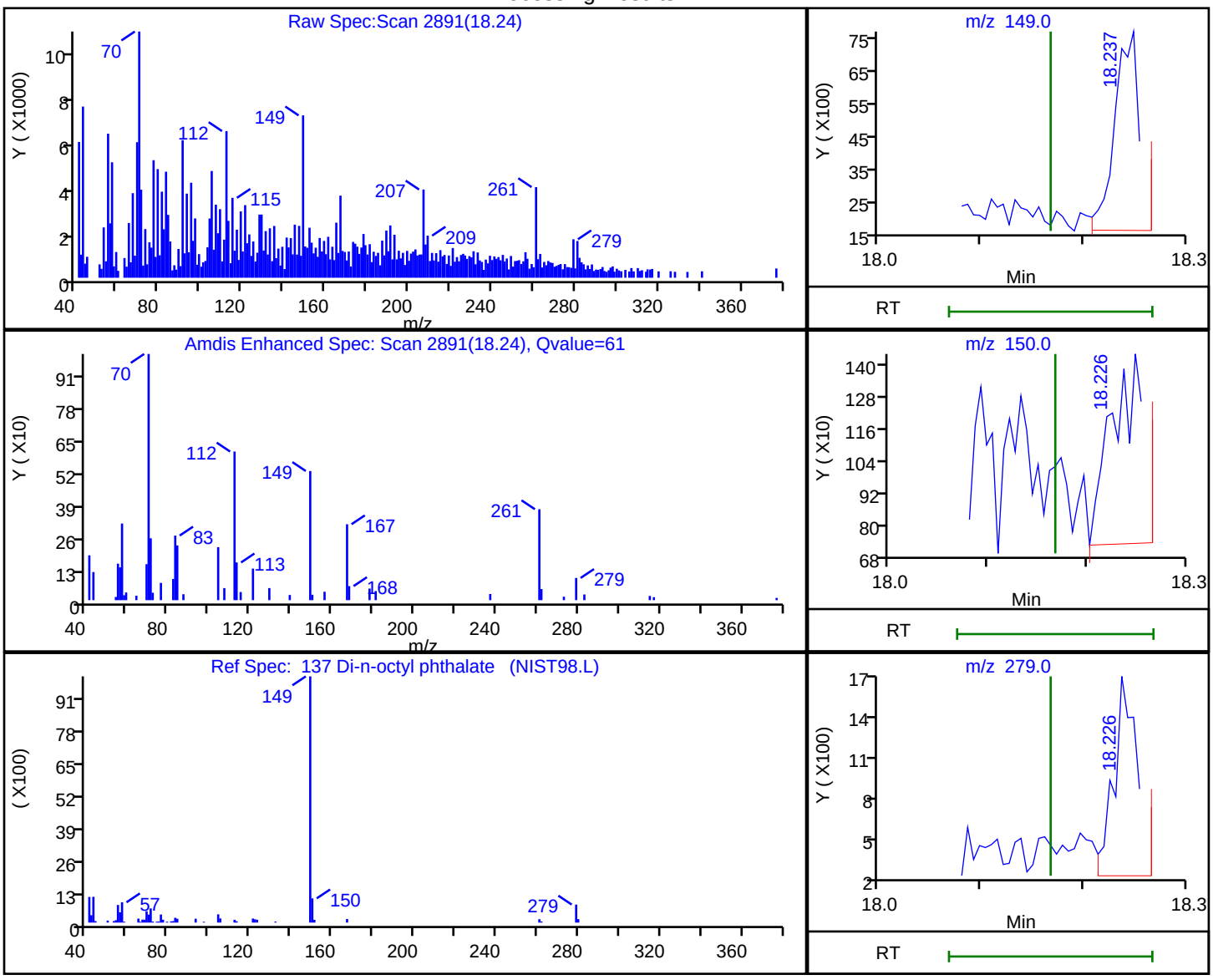
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

137 Di-n-octyl phthalate, CAS: 117-84-0

Processing Results



RT	Mass	Response	Amount
18.24	149.00	10130	1.014309
18.23	150.00	1567	
18.23	279.00	2276	

Reviewer: monbornee, 26-Aug-2020 08:06:34

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

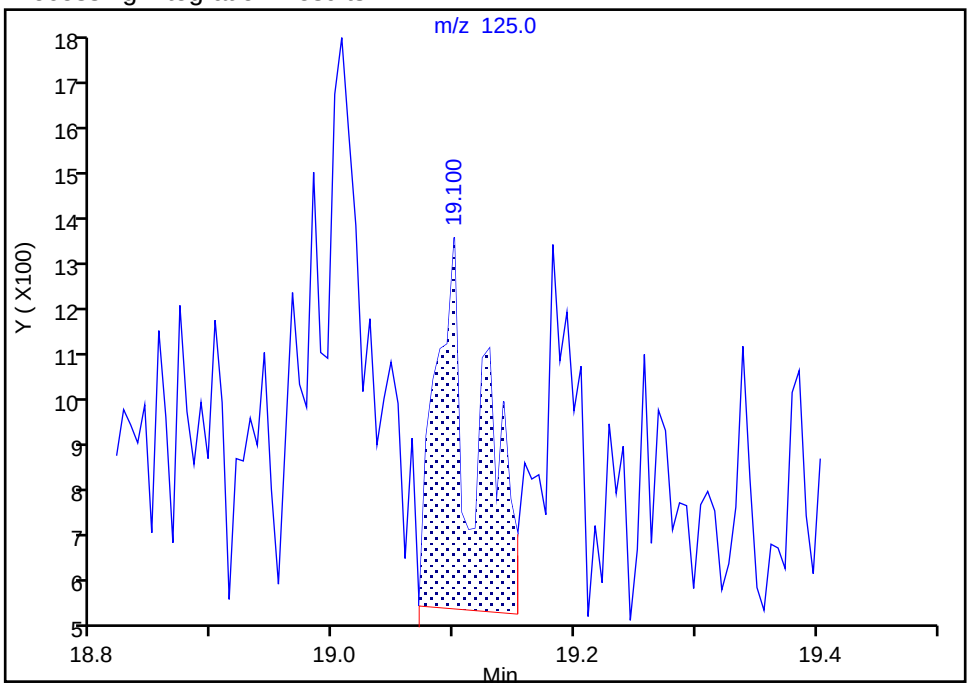
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

141 Benzo[a]pyrene, CAS: 50-32-8

Signal: 3

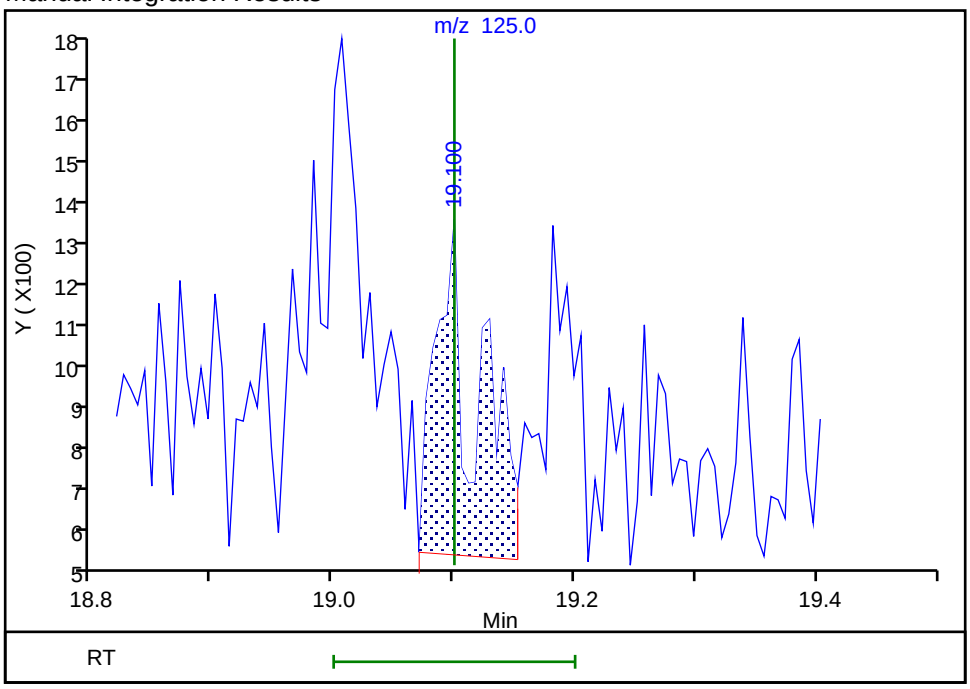
Processing Integration Results

RT: 19.10
Area: 1869
Amount: 0.126820
Amount Units: ug/ml



Manual Integration Results

RT: 19.10
Area: 1869
Amount: 0.122124
Amount Units: ug/ml



Reviewer: monbornee, 26-Aug-2020 08:07:16
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 26-Aug-2020 08:23:00 Chrom Revision: 2.3 20-Aug-2020 13:57:12

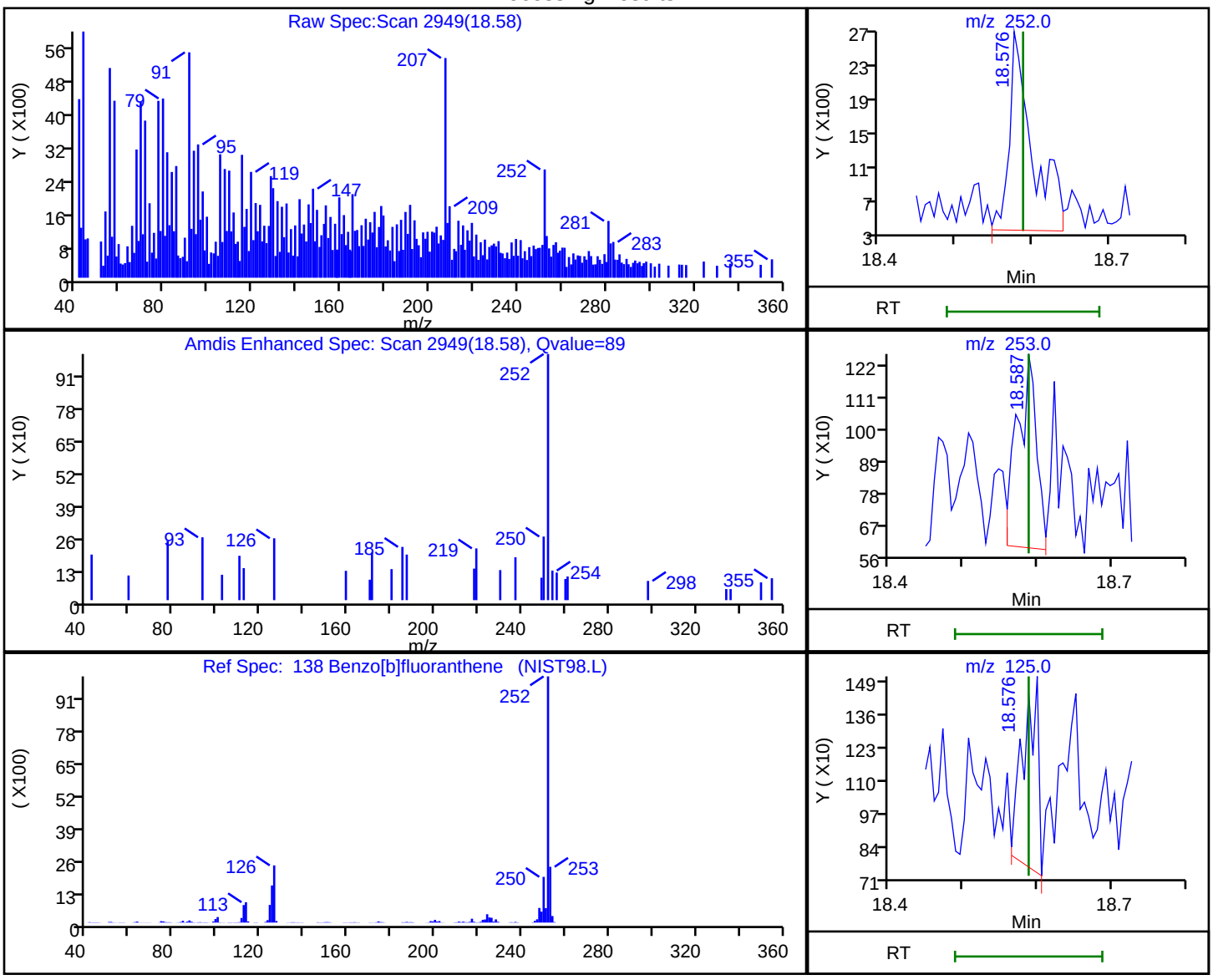
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

138 Benzo[b]fluoranthene, CAS: 205-99-2

Processing Results



RT	Mass	Response	Amount
18.58	252.00	4678	0.124133
18.59	253.00	1192	
18.58	125.00	1070	

Reviewer: monbornee, 26-Aug-2020 08:06:35

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

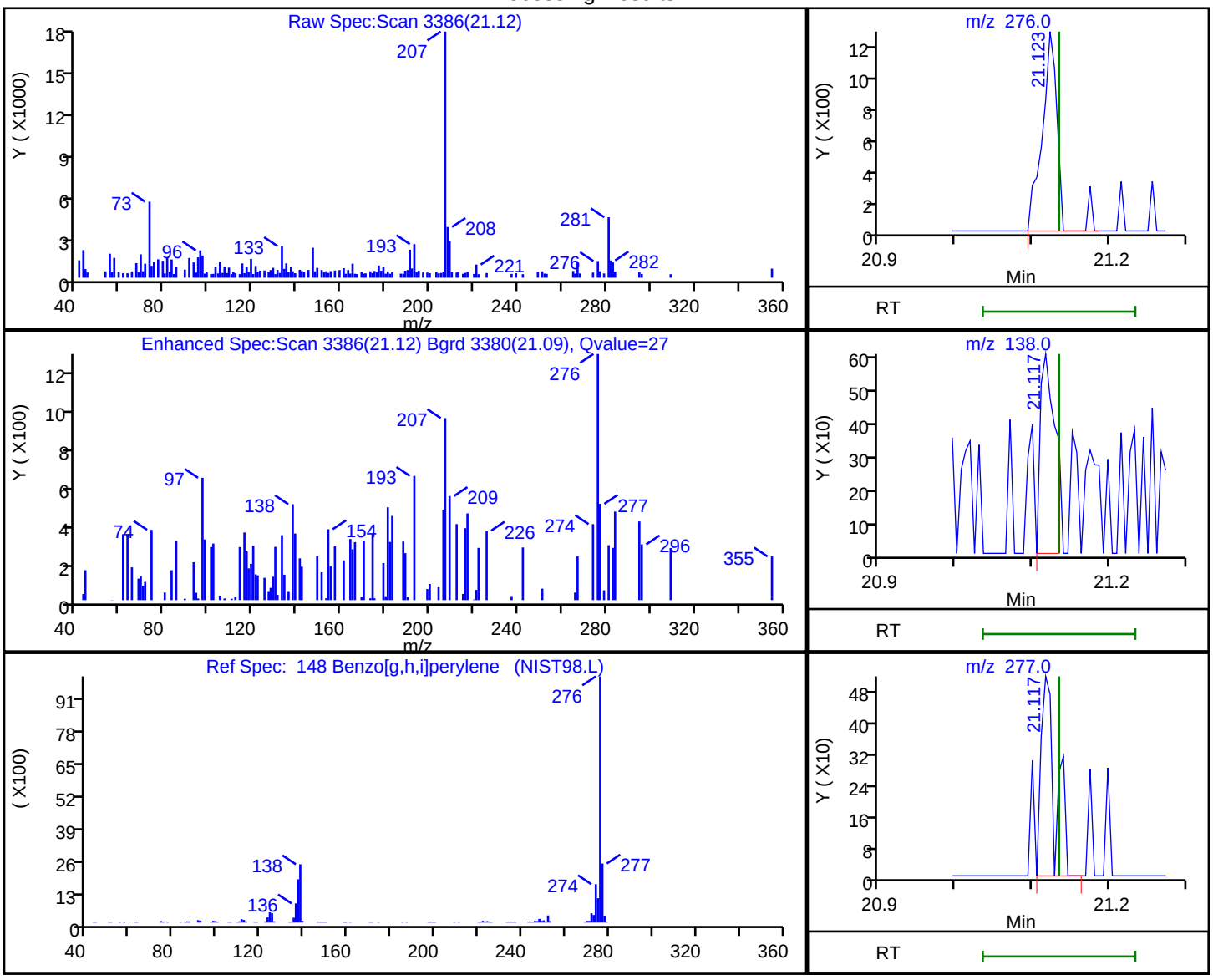
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

148 Benzo[g,h,i]perylene, CAS: 191-24-2

Processing Results



RT	Mass	Response	Amount
21.12	276.00	1680	0.101514
21.12	138.00	747	
21.12	277.00	673	

Reviewer: monbornee, 26-Aug-2020 08:06:55

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

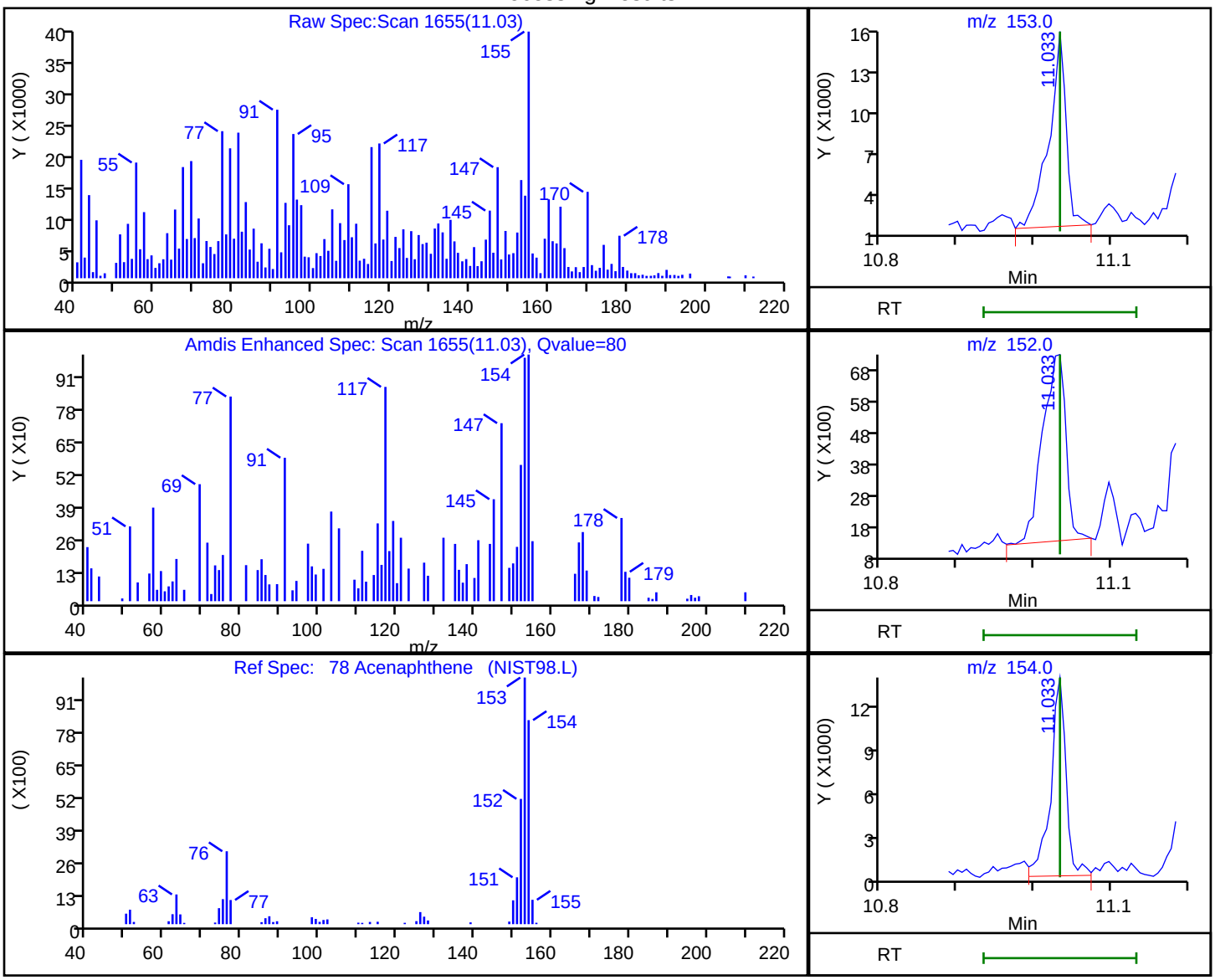
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

78 Acenaphthene, CAS: 83-32-9

Processing Results



RT	Mass	Response	Amount
11.03	153.00	21709	0.254220
11.03	152.00	12522	
11.03	154.00	17051	

Reviewer: monbornee, 26-Aug-2020 08:05:56

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

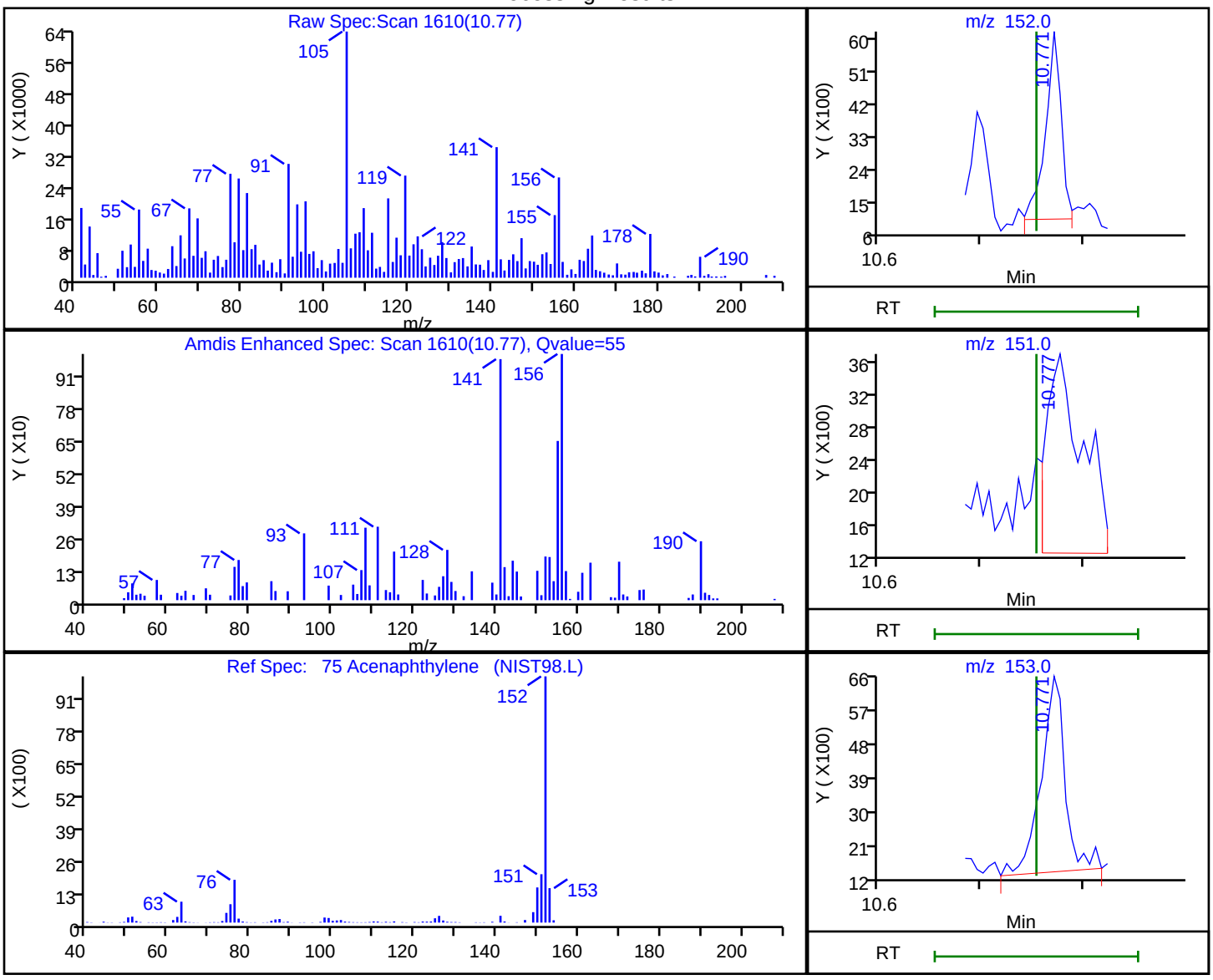
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

75 Acenaphthylene, CAS: 208-96-8

Processing Results



RT	Mass	Response	Amount
10.77	152.00	5385	0.047783
10.78	151.00	5730	
10.77	153.00	8550	

Reviewer: monbornee, 26-Aug-2020 08:05:52

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

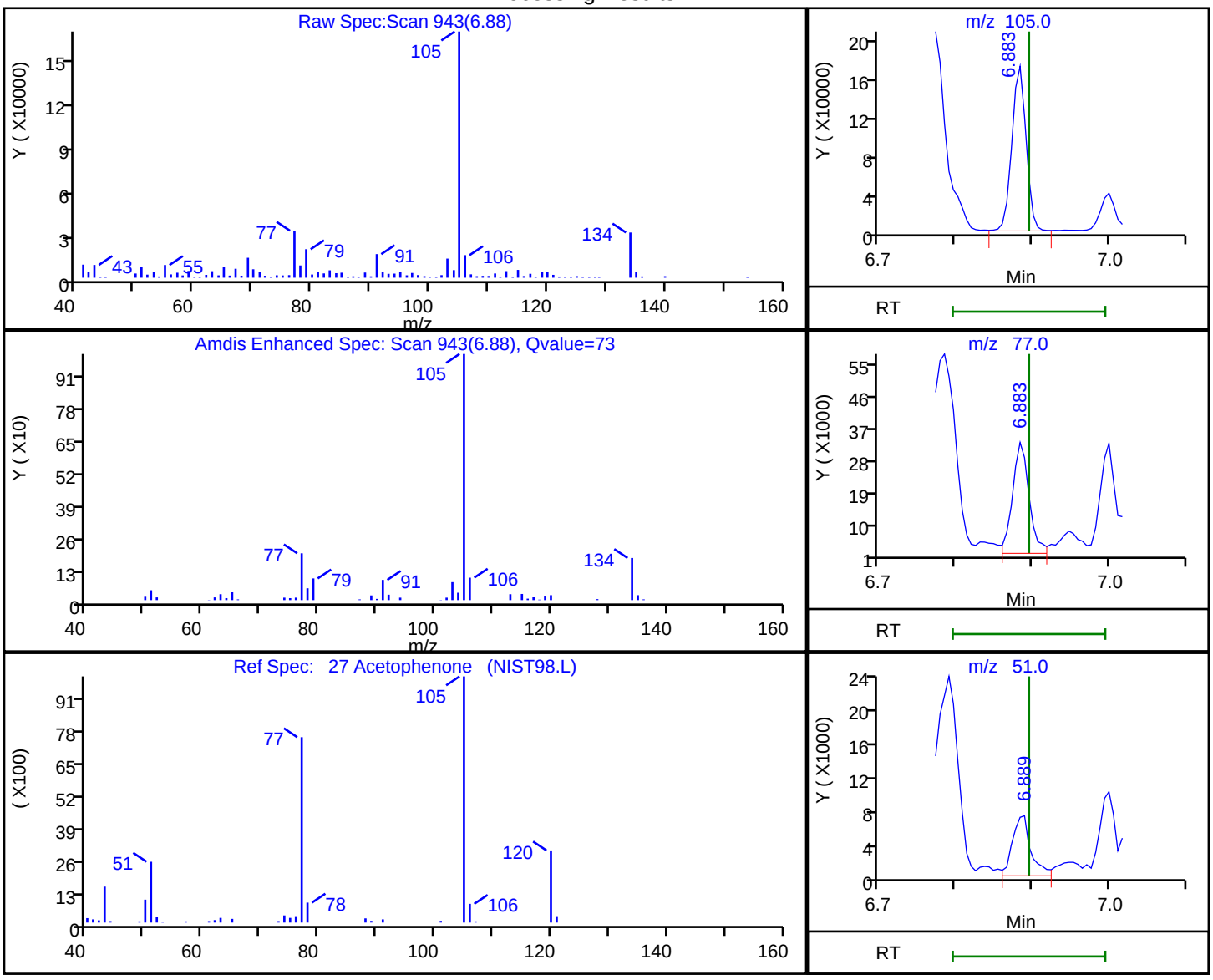
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

27 Acetophenone, CAS: 98-86-2

Processing Results



RT	Mass	Response	Amount
6.88	105.00	220973	3.474365
6.88	77.00	46859	
6.89	51.00	11197	

Reviewer: monbornee, 26-Aug-2020 08:05:17

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

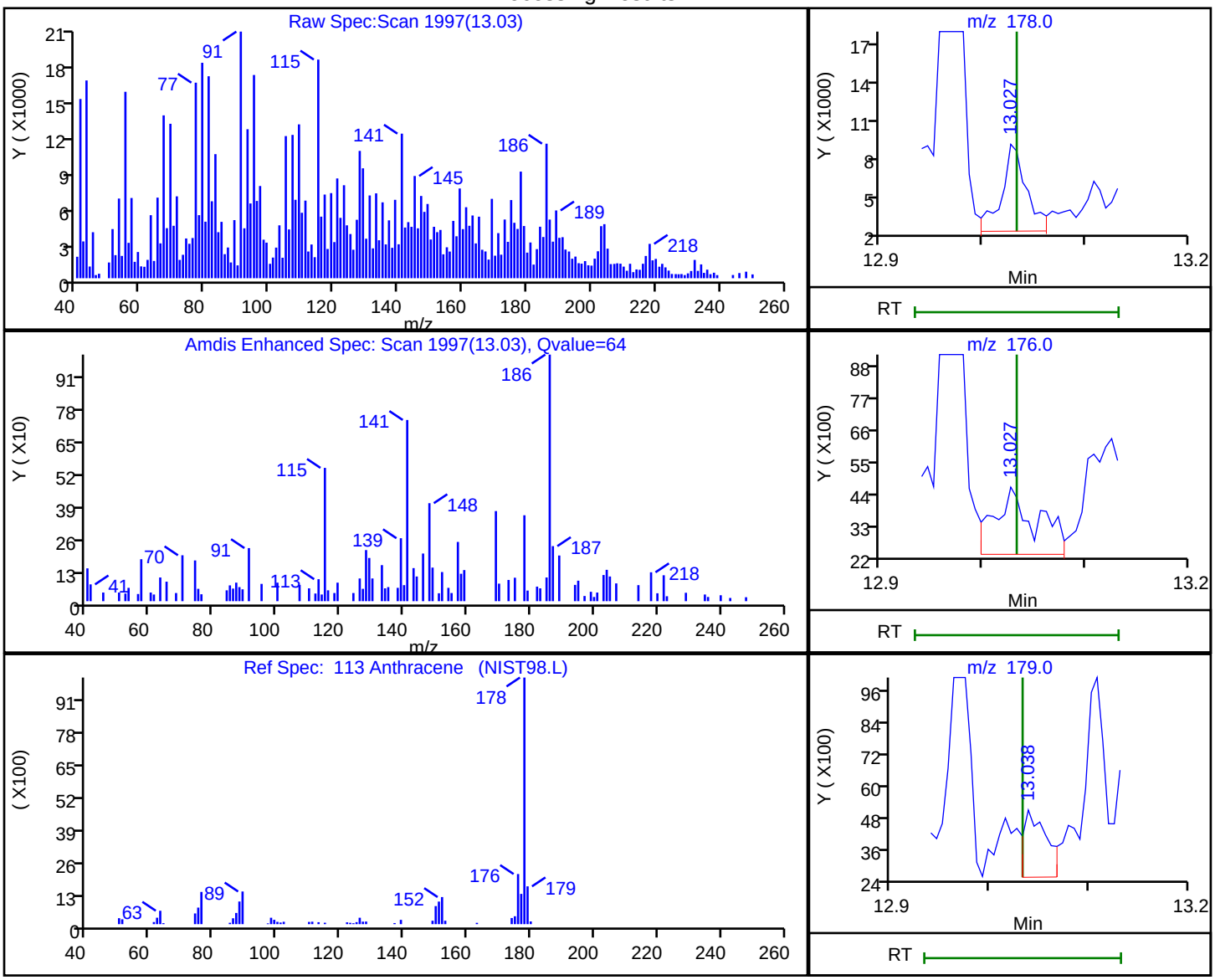
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

113 Anthracene, CAS: 120-12-7

Processing Results



RT	Mass	Response	Amount
13.03	178.00	11200	0.091434
13.03	176.00	6405	
13.04	179.00	3733	

Reviewer: monbornee, 26-Aug-2020 08:06:19

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

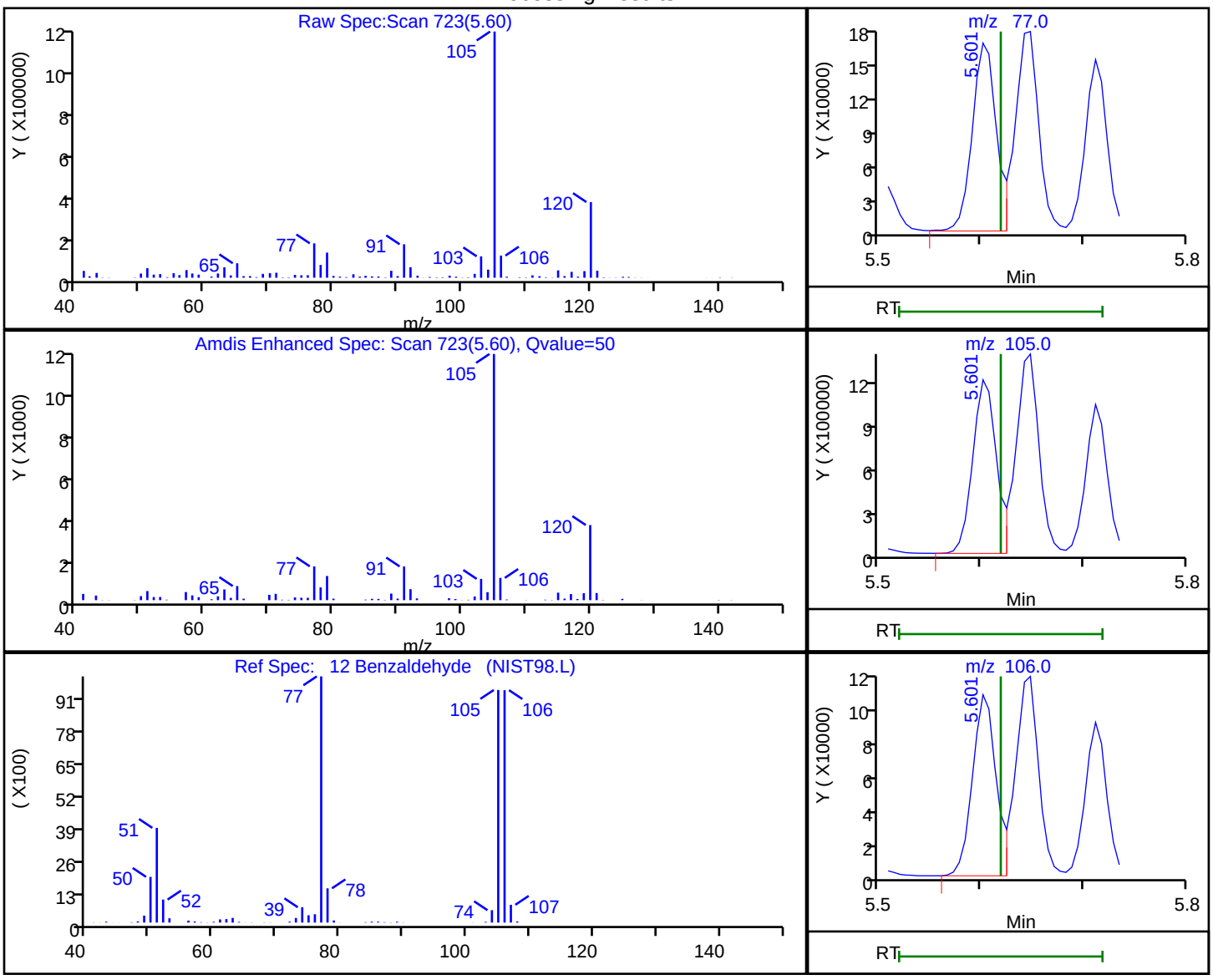
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

12 Benzaldehyde, CAS: 100-52-7

Processing Results



RT	Mass	Response	Amount
5.60	77.00	258431	6.065258
5.60	105.00	1829283	
5.60	106.00	164523	

Reviewer: monbornee, 26-Aug-2020 08:05:08

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 26-Aug-2020 08:23:01 Chrom Revision: 2.3 20-Aug-2020 13:57:12

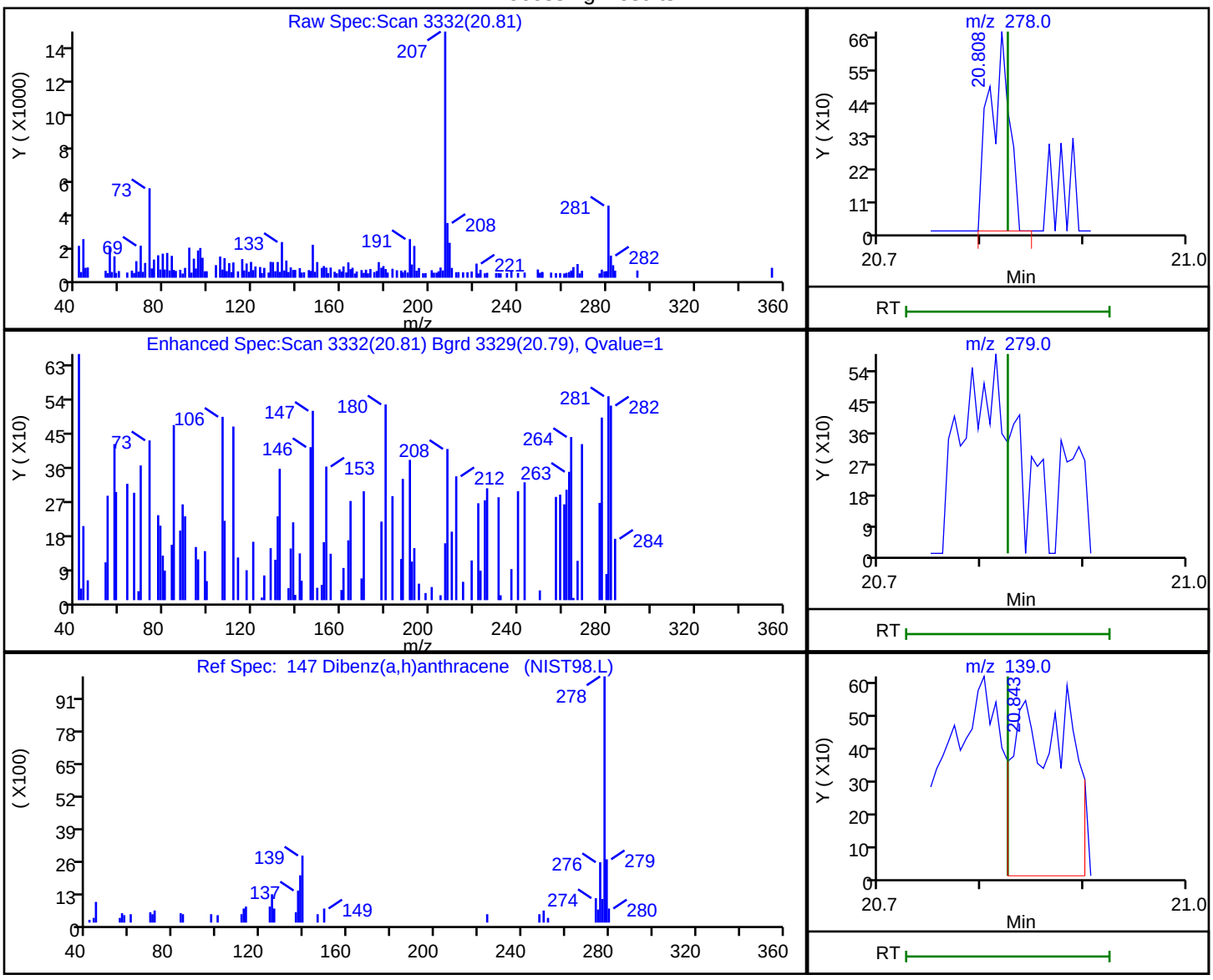
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

147 Dibenz(a,h)anthracene, CAS: 53-70-3

Processing Results



RT	Mass	Response	Amount
20.81	278.00	895	0.115018
20.83	279.00	0	
20.84	139.00	1931	

Reviewer: monbornee, 26-Aug-2020 08:06:53

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

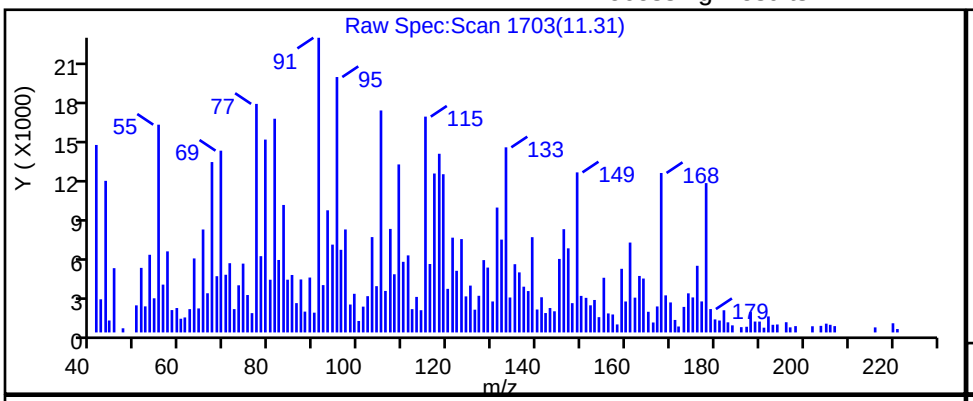
User Disabled Compound Report

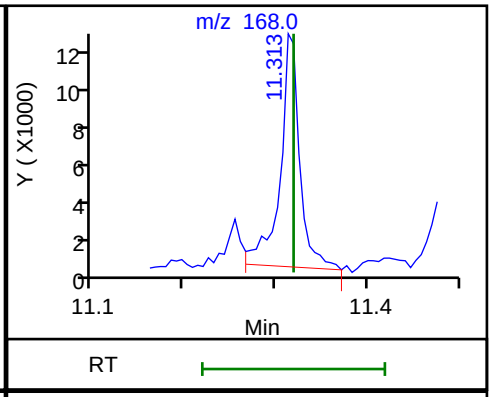
Eurofins Lancaster Laboratories Env, LLC

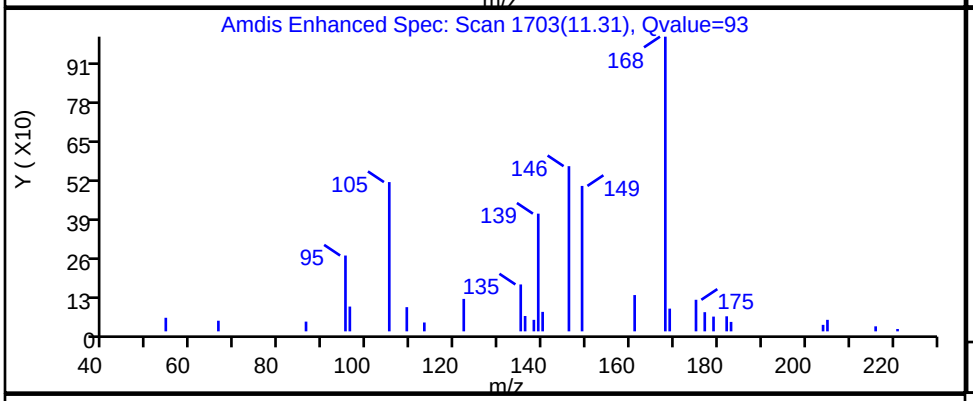
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

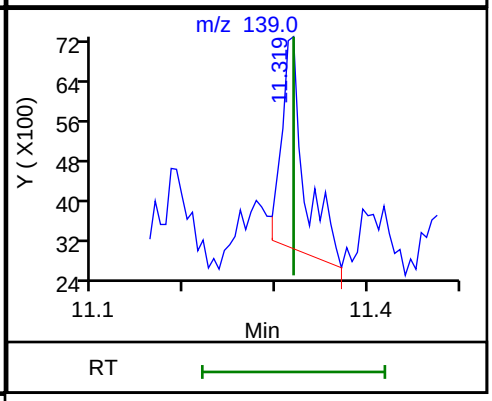
83 Dibenzofuran, CAS: 132-64-9

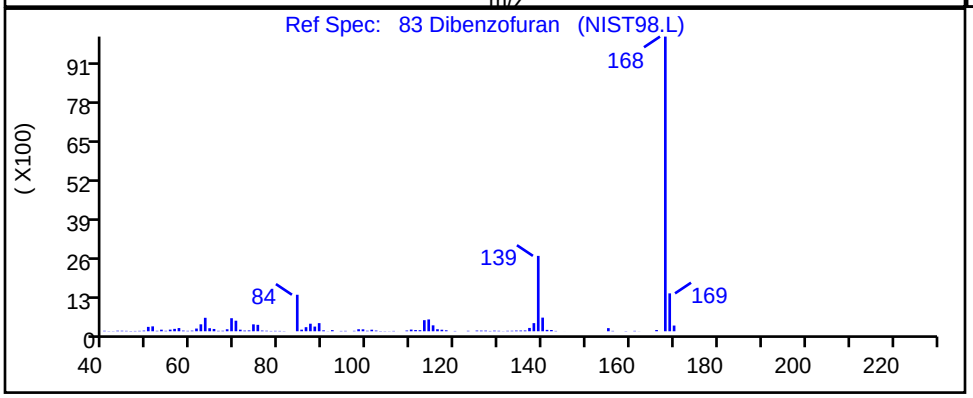
Processing Results











RT	Mass	Response	Amount
11.31	168.00	16777	0.146734
11.32	139.00	7207	

Reviewer: monbornee, 26-Aug-2020 08:06:04

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

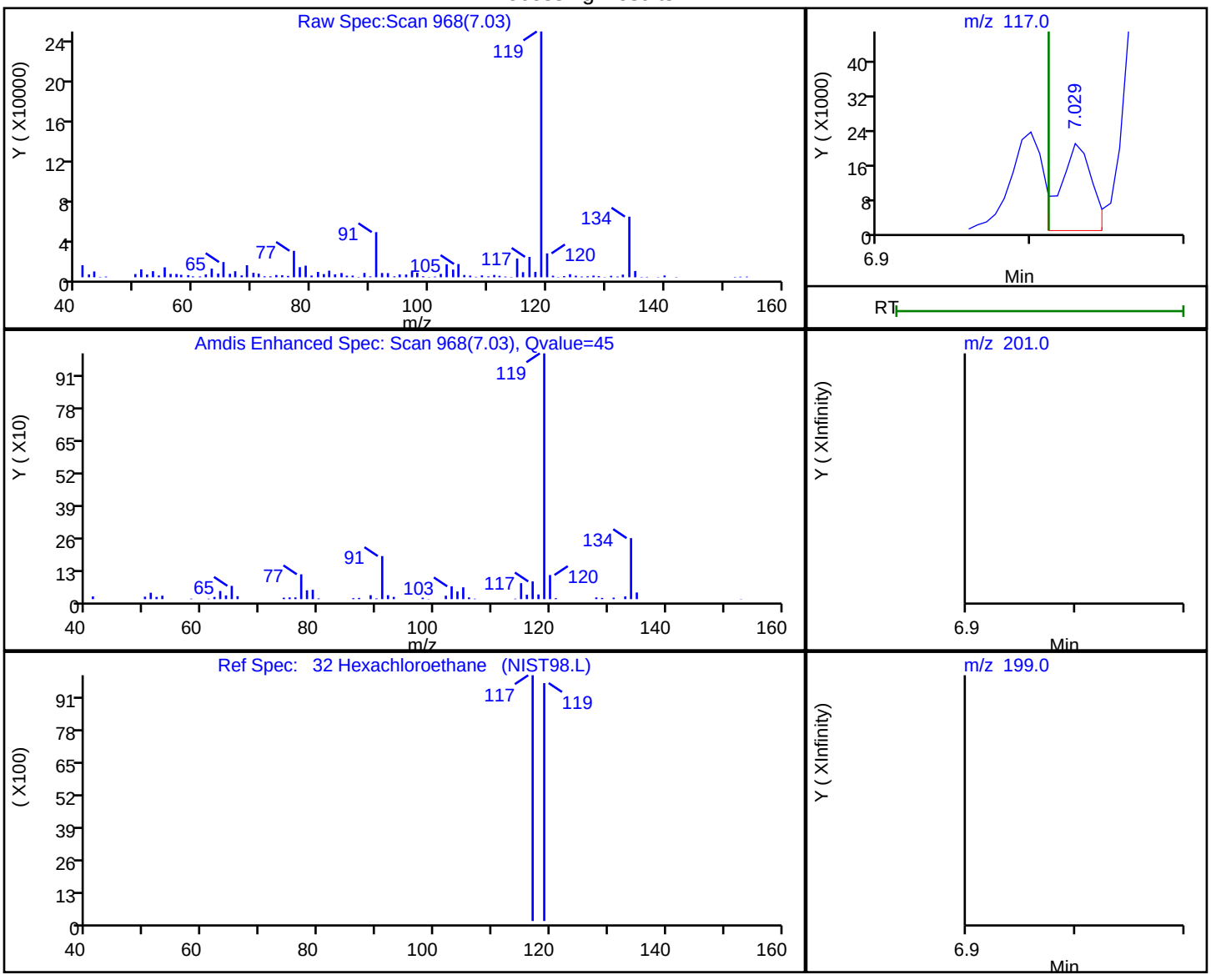
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

32 Hexachloroethane, CAS: 67-72-1

Processing Results



RT	Mass	Response	Amount
7.03	117.00	27143	1.206284
7.01	201.00	0	
7.01	199.00	0	

Reviewer: monbornee, 26-Aug-2020 08:05:24

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

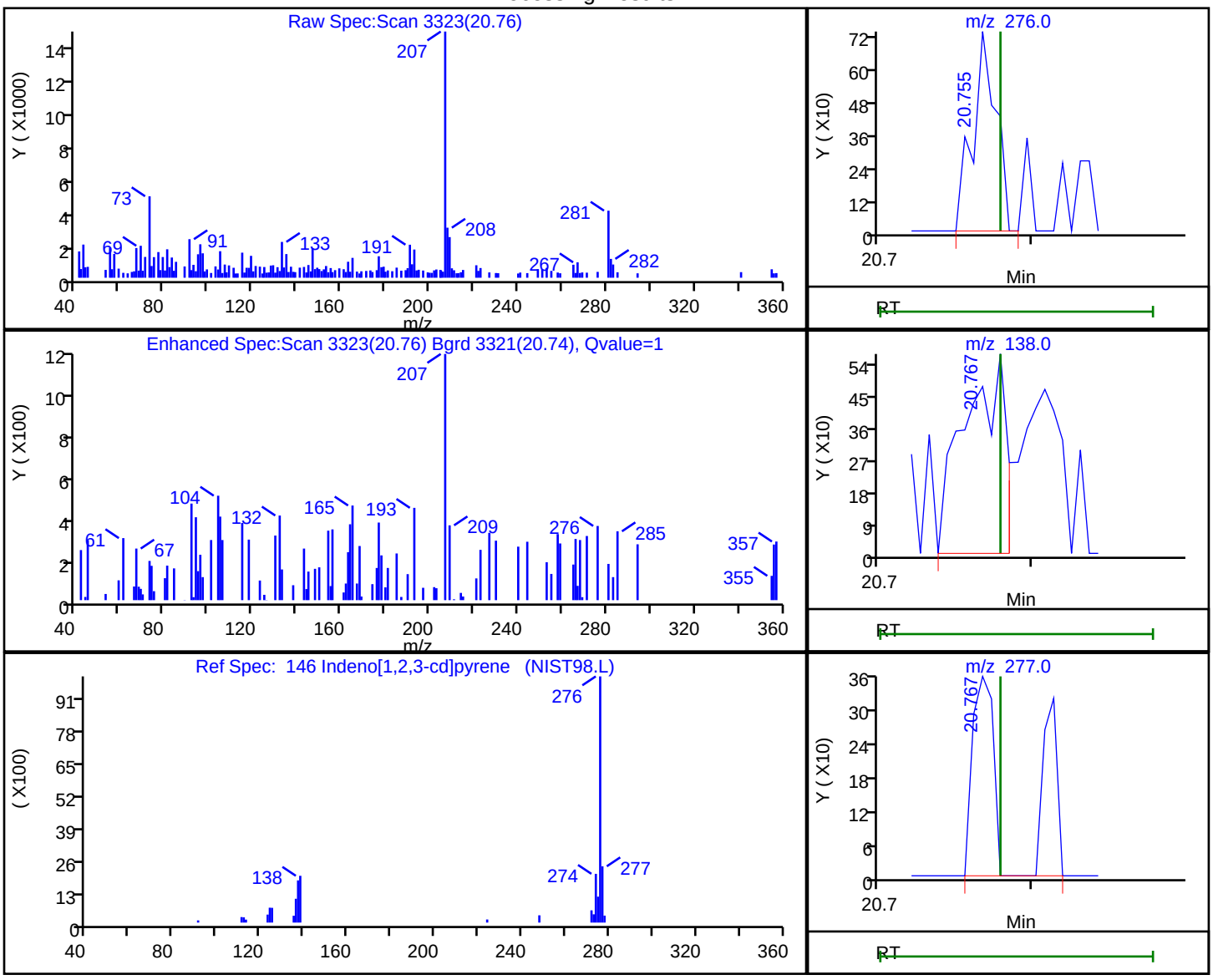
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

146 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Processing Results



RT	Mass	Response	Amount
20.76	276.00	778	0.128627
20.77	138.00	1023	
20.77	277.00	536	

Reviewer: monbornee, 26-Aug-2020 08:06:51

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

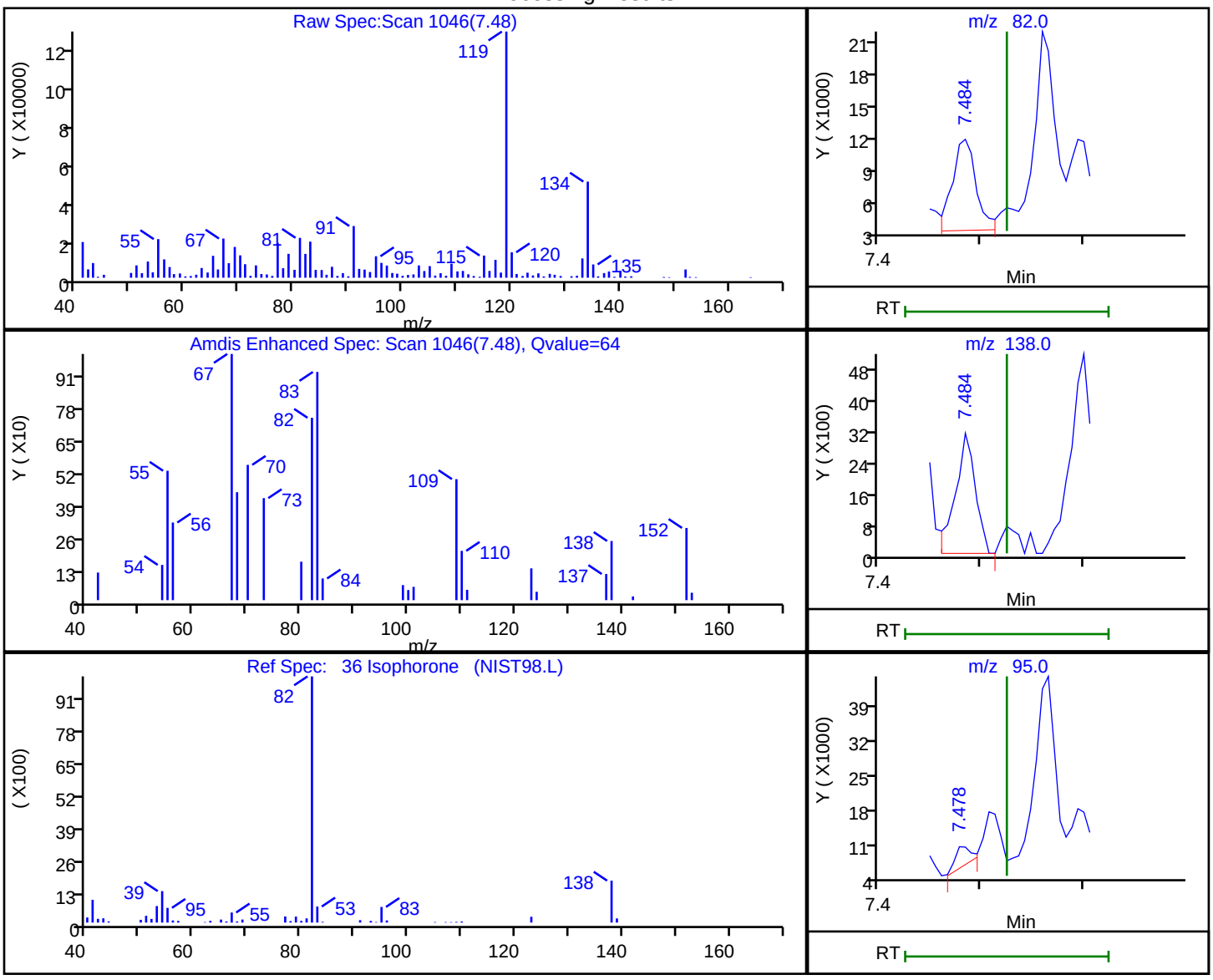
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

36 Isophorone, CAS: 78-59-1

Processing Results



RT	Mass	Response	Amount
7.48	82.00	13781	0.138488
7.48	138.00	4114	
7.48	95.00	4000	

Reviewer: monbornee, 26-Aug-2020 08:05:27

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

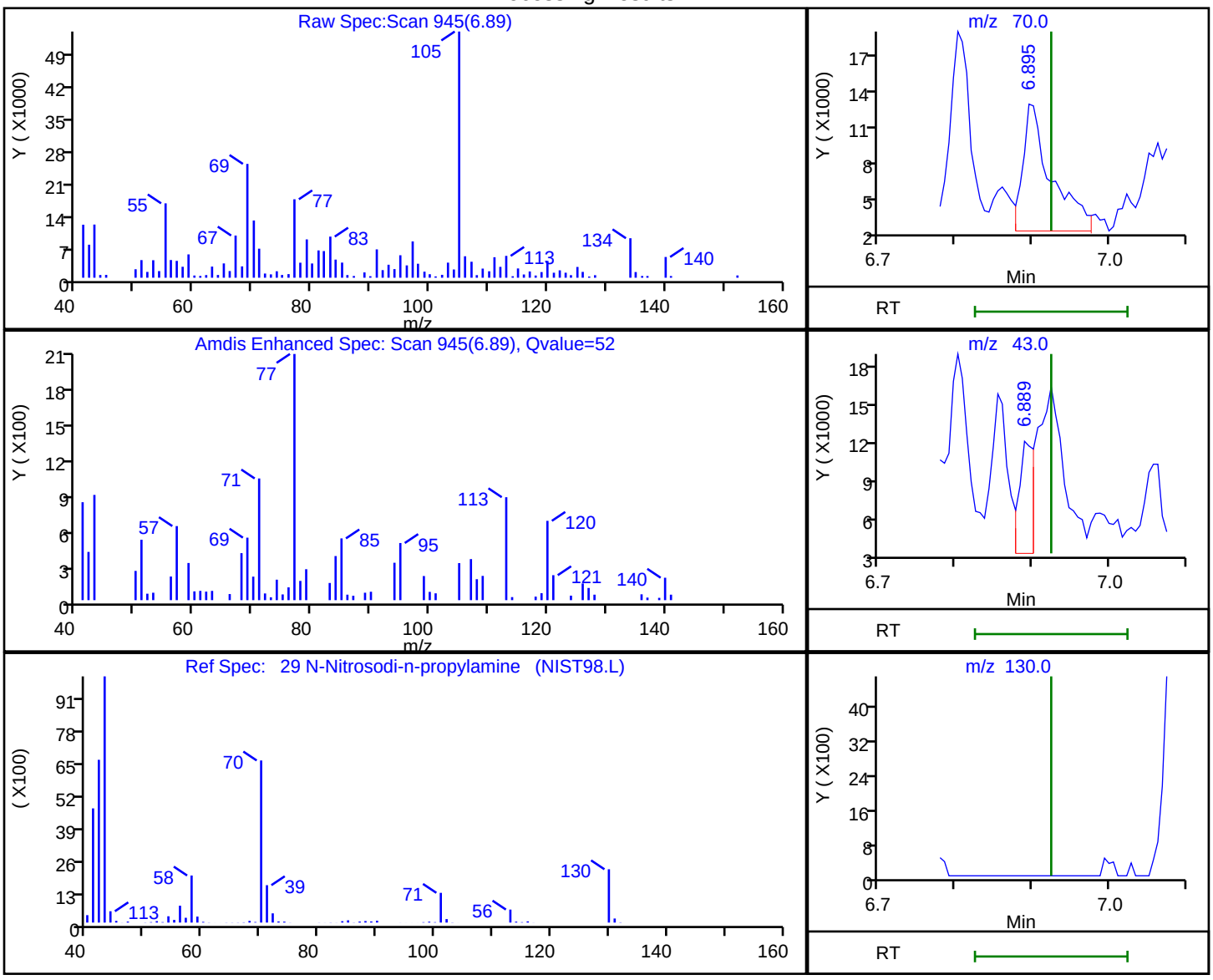
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

29 N-Nitrosodi-n-propylamine, CAS: 621-64-7

Processing Results



RT	Mass	Response	Amount
6.89	70.00	26860	0.734271
6.89	43.00	9073	
6.92	130.00	0	

Reviewer: monbornee, 26-Aug-2020 08:05:20

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

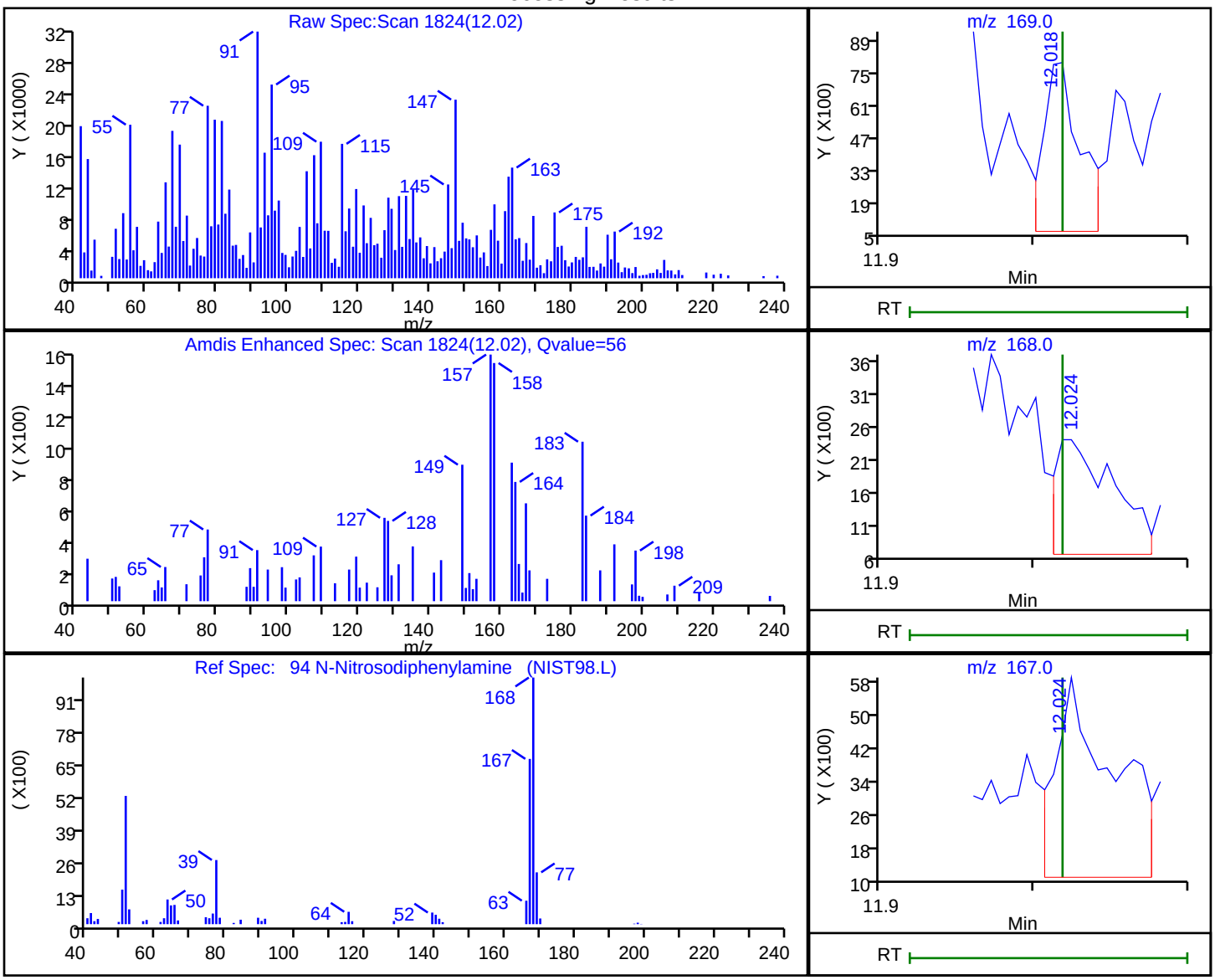
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

94 N-Nitrosodiphenylamine, CAS: 86-30-6

Processing Results



RT	Mass	Response	Amount
12.02	169.00	11537	0.152827
12.02	168.00	4453	
12.02	167.00	12286	

Reviewer: monbornee, 26-Aug-2020 08:06:11

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

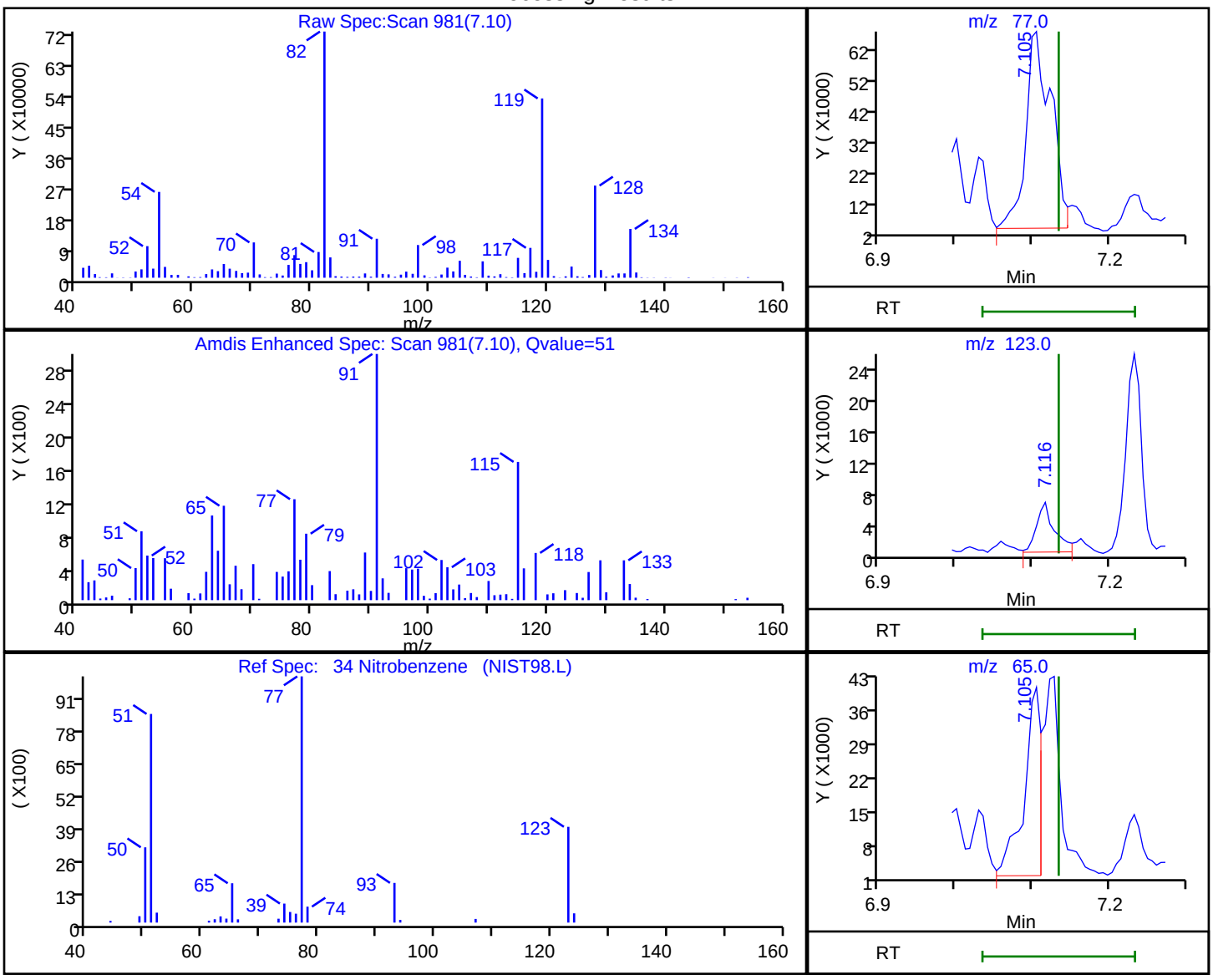
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

34 Nitrobenzene, CAS: 98-95-3

Processing Results



RT	Mass	Response	Amount
7.10	77.00	146238	2.505800
7.12	123.00	9749	
7.10	65.00	55079	

Reviewer: monbornee, 26-Aug-2020 08:05:26

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

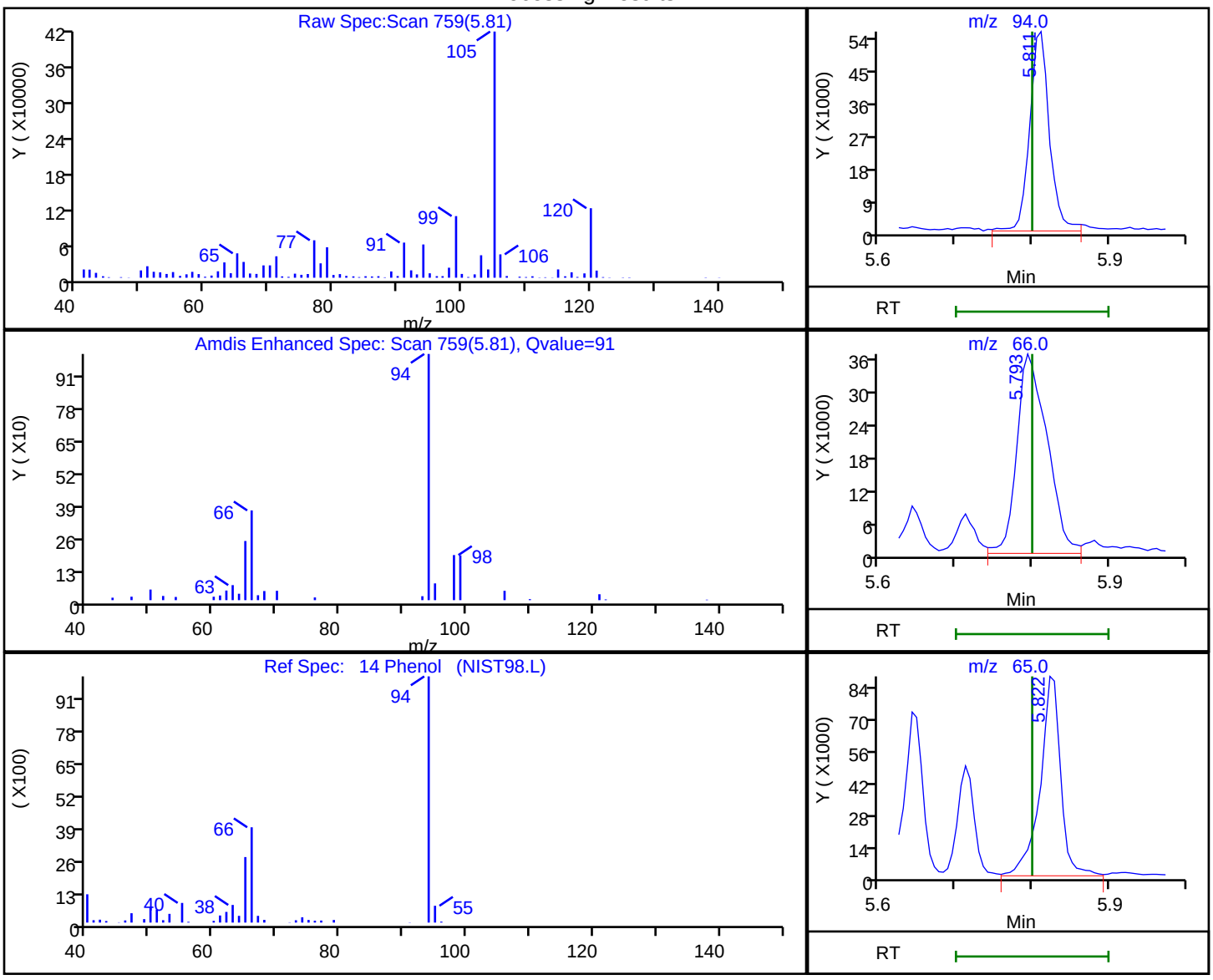
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

14 Phenol, CAS: 108-95-2

Processing Results



RT	Mass	Response	Amount
5.81	94.00	100365	1.421810
5.79	66.00	99725	
5.82	65.00	164342	

Reviewer: monbornee, 26-Aug-2020 08:05:11

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

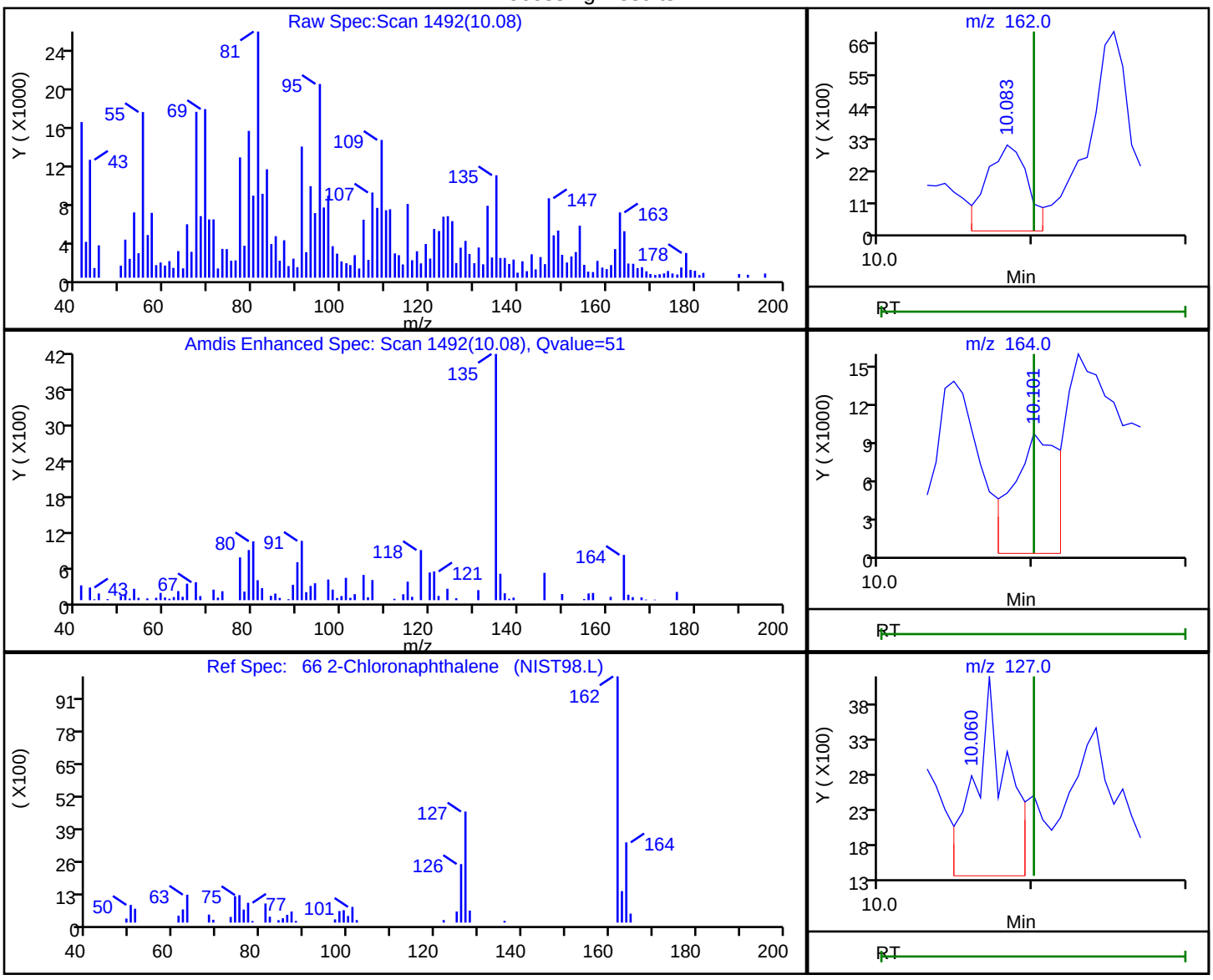
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

66 2-Chloronaphthalene, CAS: 91-58-7

Processing Results



RT	Mass	Response	Amount
10.08	162.00	5441	0.060081
10.10	164.00	17866	
10.06	127.00	3942	

Reviewer: monbornee, 26-Aug-2020 08:05:45

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

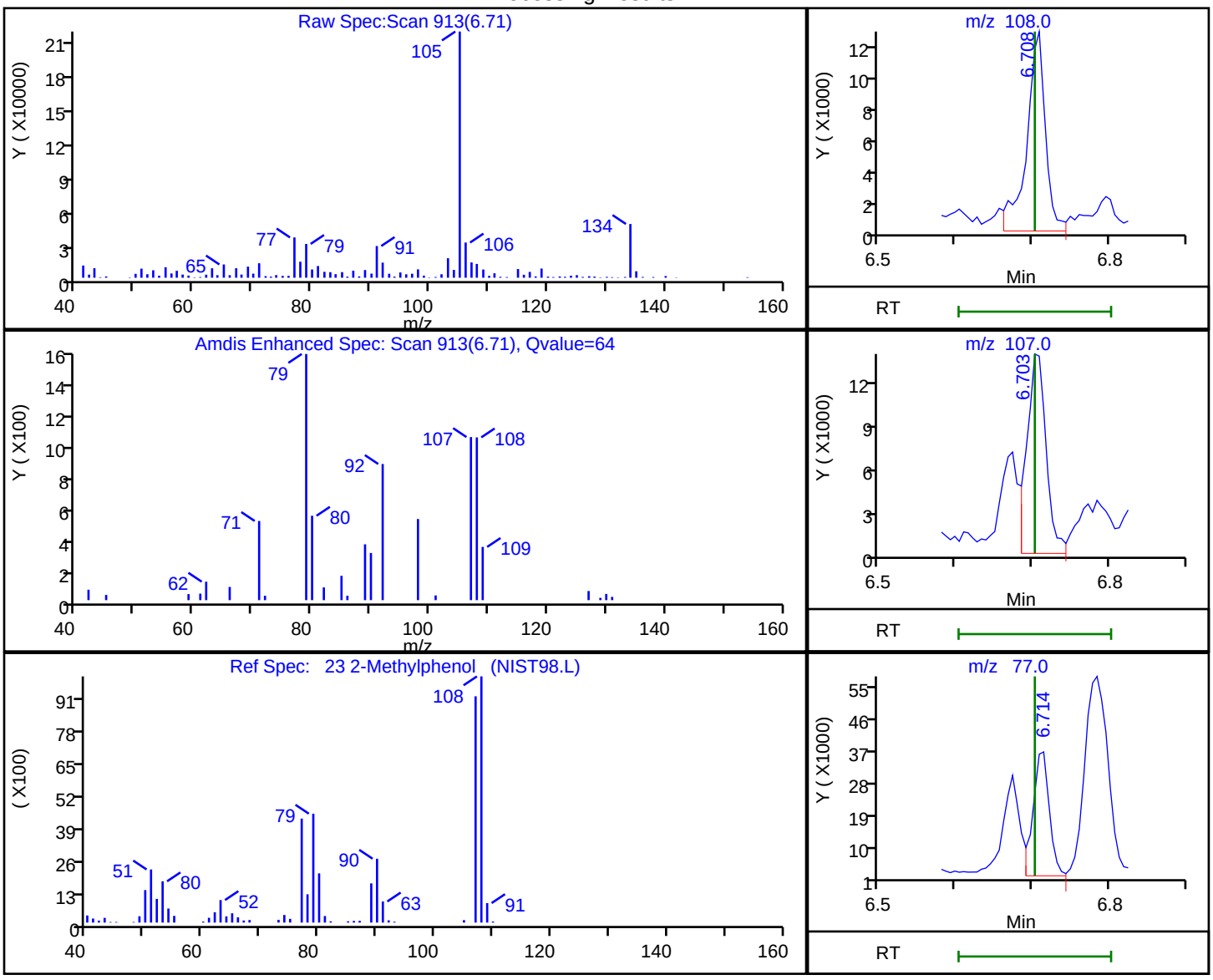
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

23 2-Methylphenol, CAS: 95-48-7

Processing Results



RT	Mass	Response	Amount
6.71	108.00	20486	0.486599
6.70	107.00	22392	
6.71	77.00	51043	
6.70	90.00	5803	

Reviewer: monbornee, 26-Aug-2020 08:05:14

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

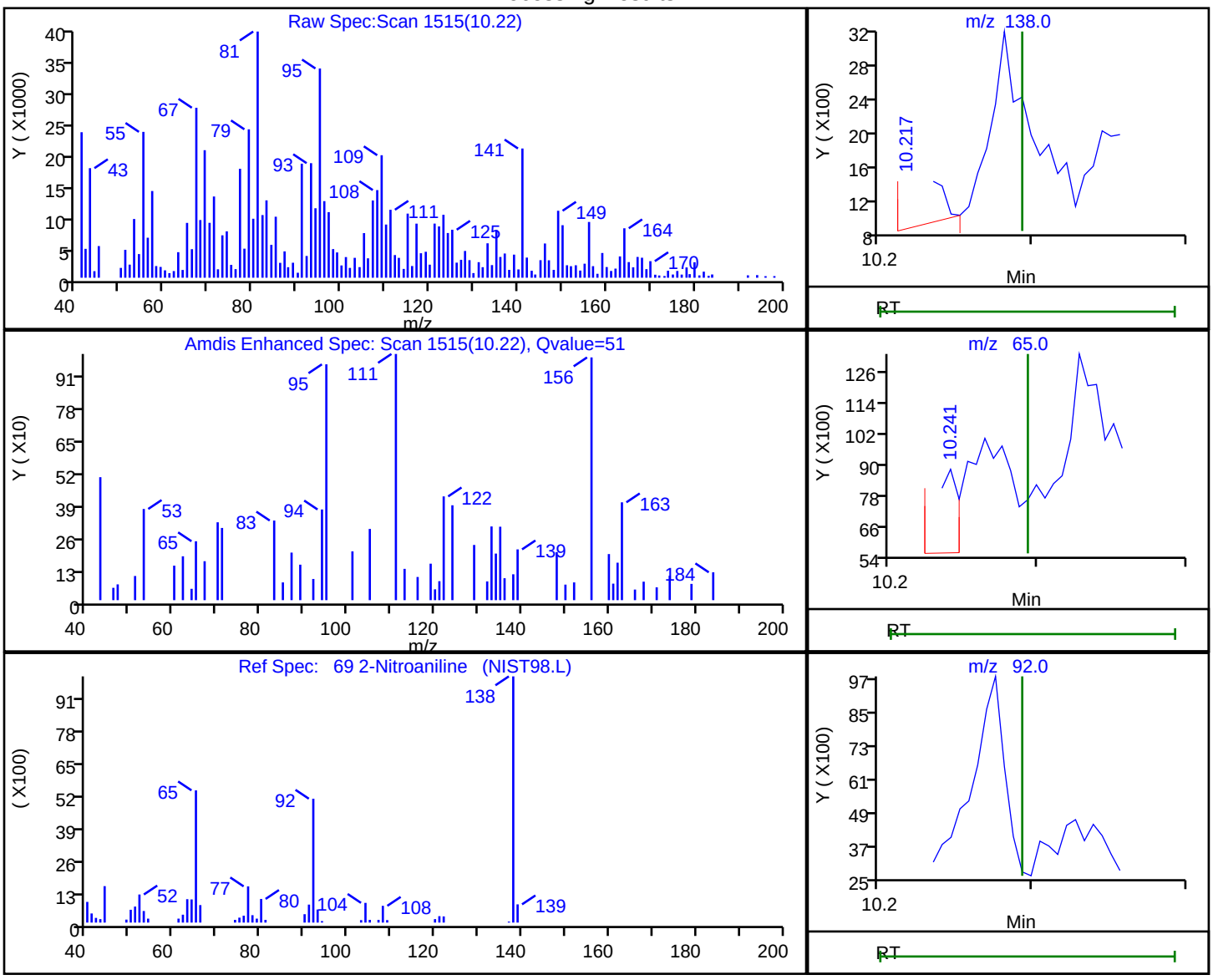
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

69 2-Nitroaniline, CAS: 88-74-4

Processing Results



RT	Mass	Response	Amount
10.22	138.00	718	0.258633
10.24	65.00	3007	
10.29	92.00	0	

Reviewer: monbornee, 26-Aug-2020 08:05:47

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

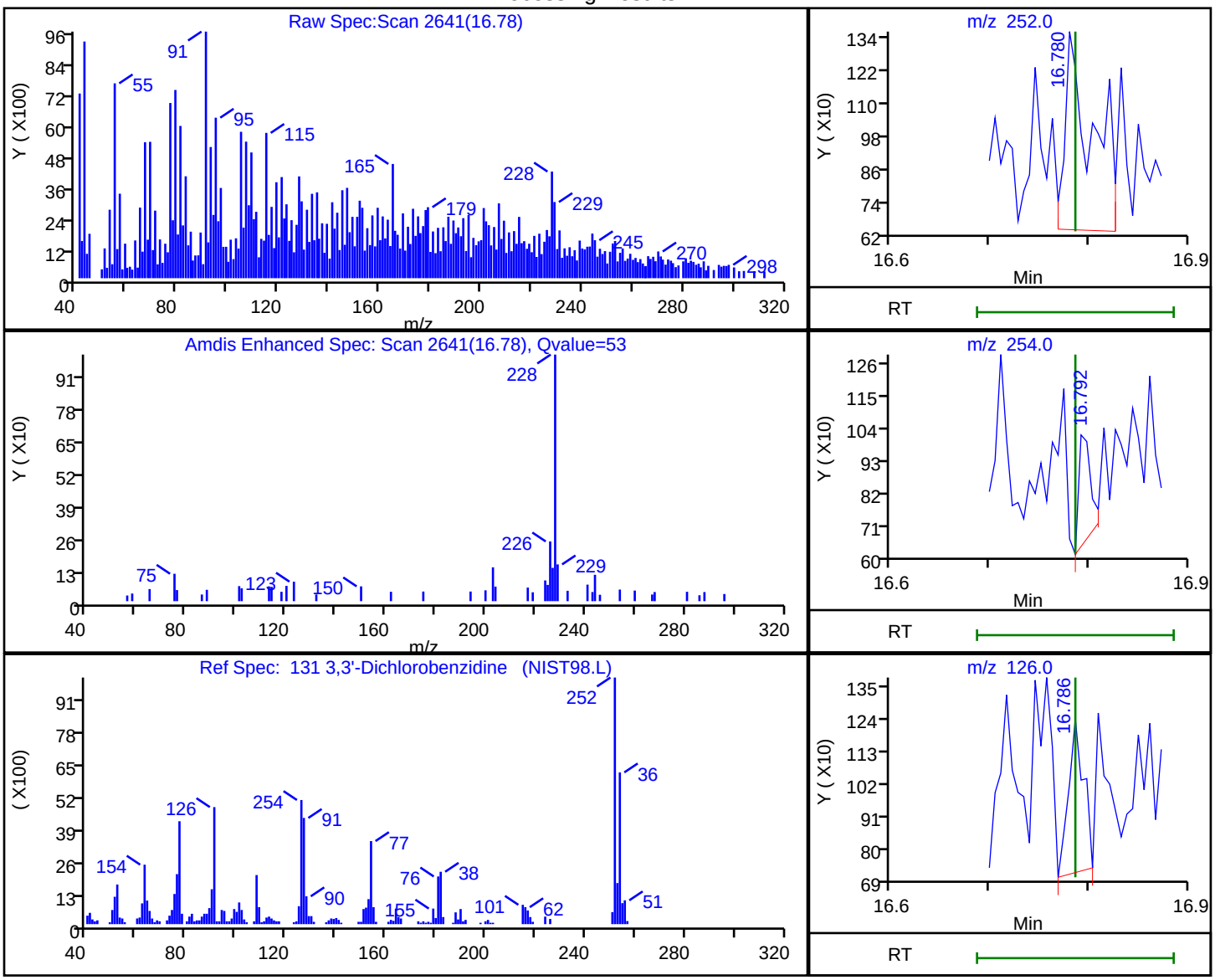
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

131 3,3'-Dichlorobenzidine, CAS: 91-94-1

Processing Results



RT	Mass	Response	Amount
16.78	252.00	1366	0.789337
16.79	254.00	297	
16.79	126.00	555	

Reviewer: monbornee, 26-Aug-2020 08:06:29

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

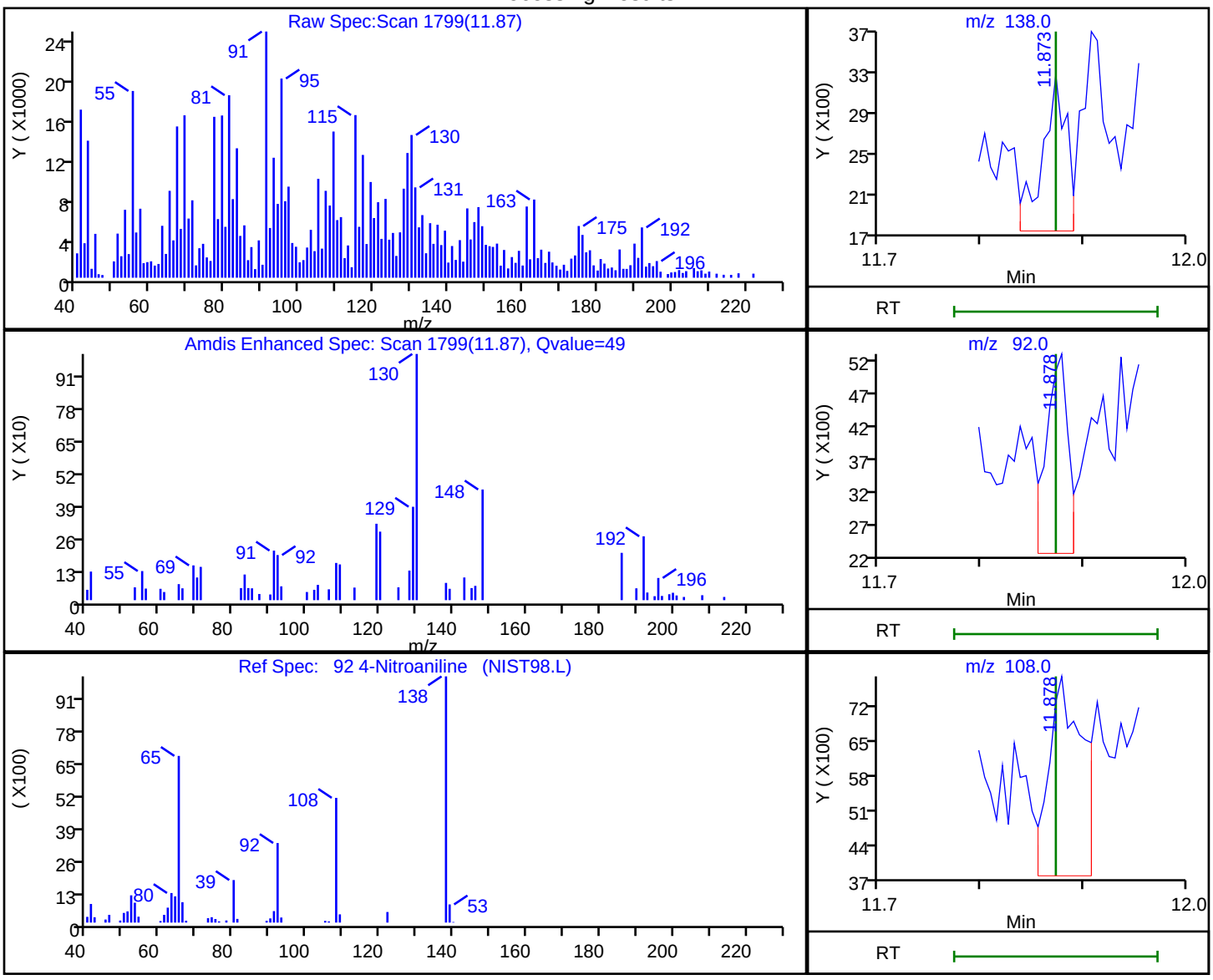
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

92 4-Nitroaniline, CAS: 100-01-6

Processing Results



RT	Mass	Response	Amount
11.87	138.00	2416	0.279332
11.88	92.00	4134	
11.88	108.00	8668	
11.87	65.00	6894	

Reviewer: monbornee, 26-Aug-2020 08:06:09

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

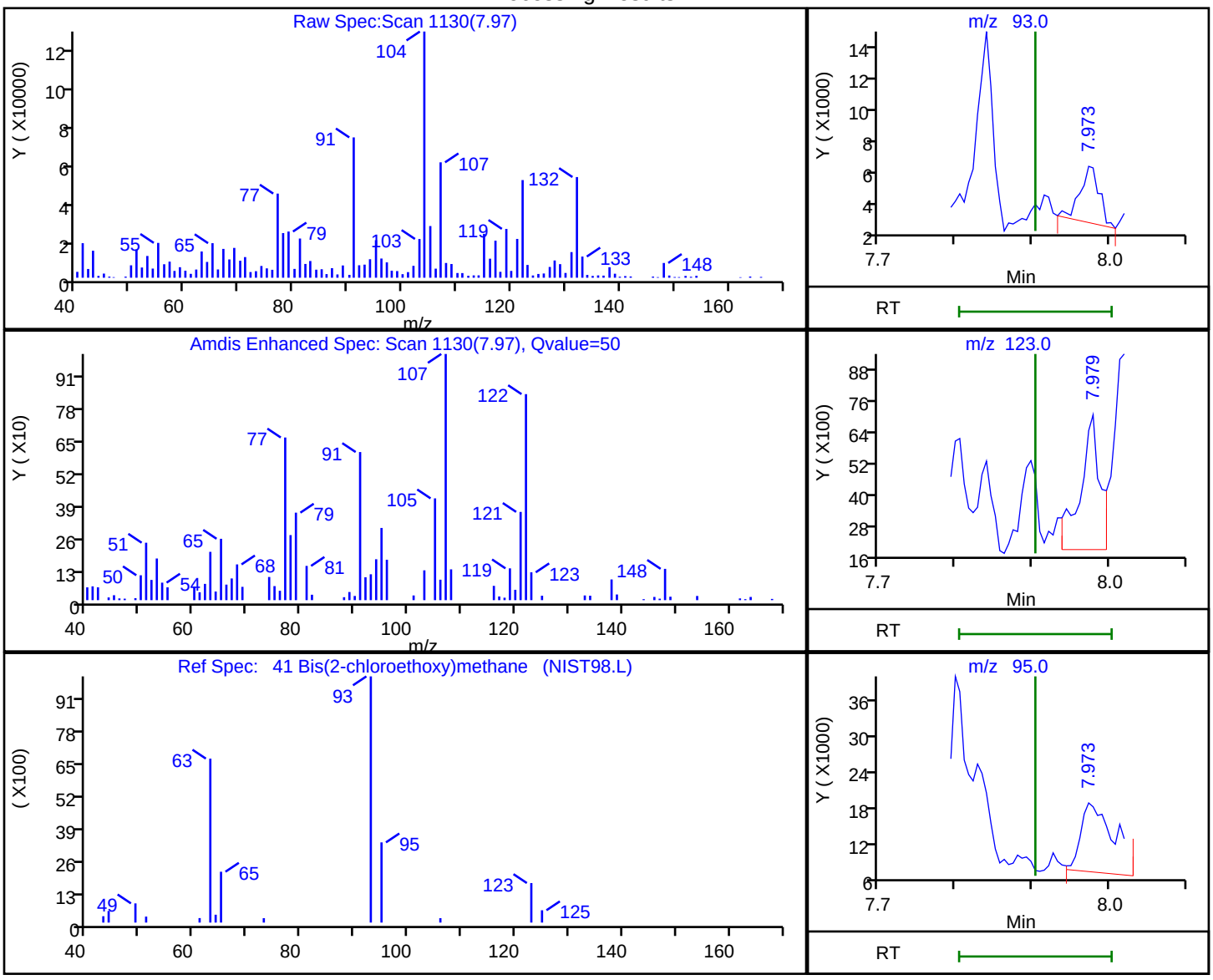
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

41 Bis(2-chloroethoxy)methane, CAS: 111-91-1

Processing Results



RT	Mass	Response	Amount
7.97	93.00	5599	0.088750
7.98	123.00	8938	
7.97	95.00	33087	

Reviewer: monbornee, 26-Aug-2020 08:05:34

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

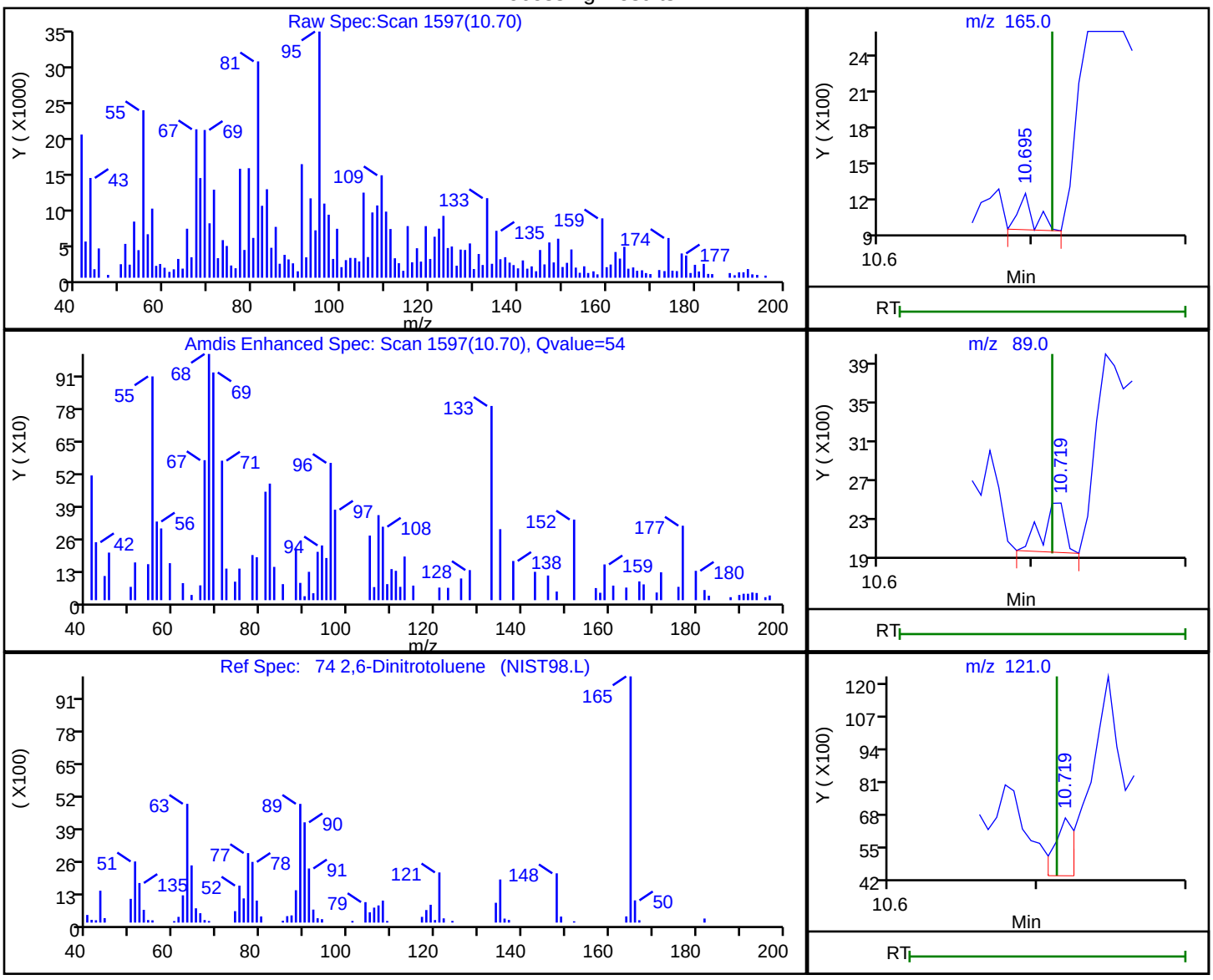
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

74 2,6-Dinitrotoluene, CAS: 606-20-2

Processing Results



RT	Mass	Response	Amount
10.70	165.00	194	0.203544
10.72	89.00	511	
10.72	121.00	1745	
10.72	63.00	1138	

Reviewer: monbornee, 26-Aug-2020 08:05:48

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

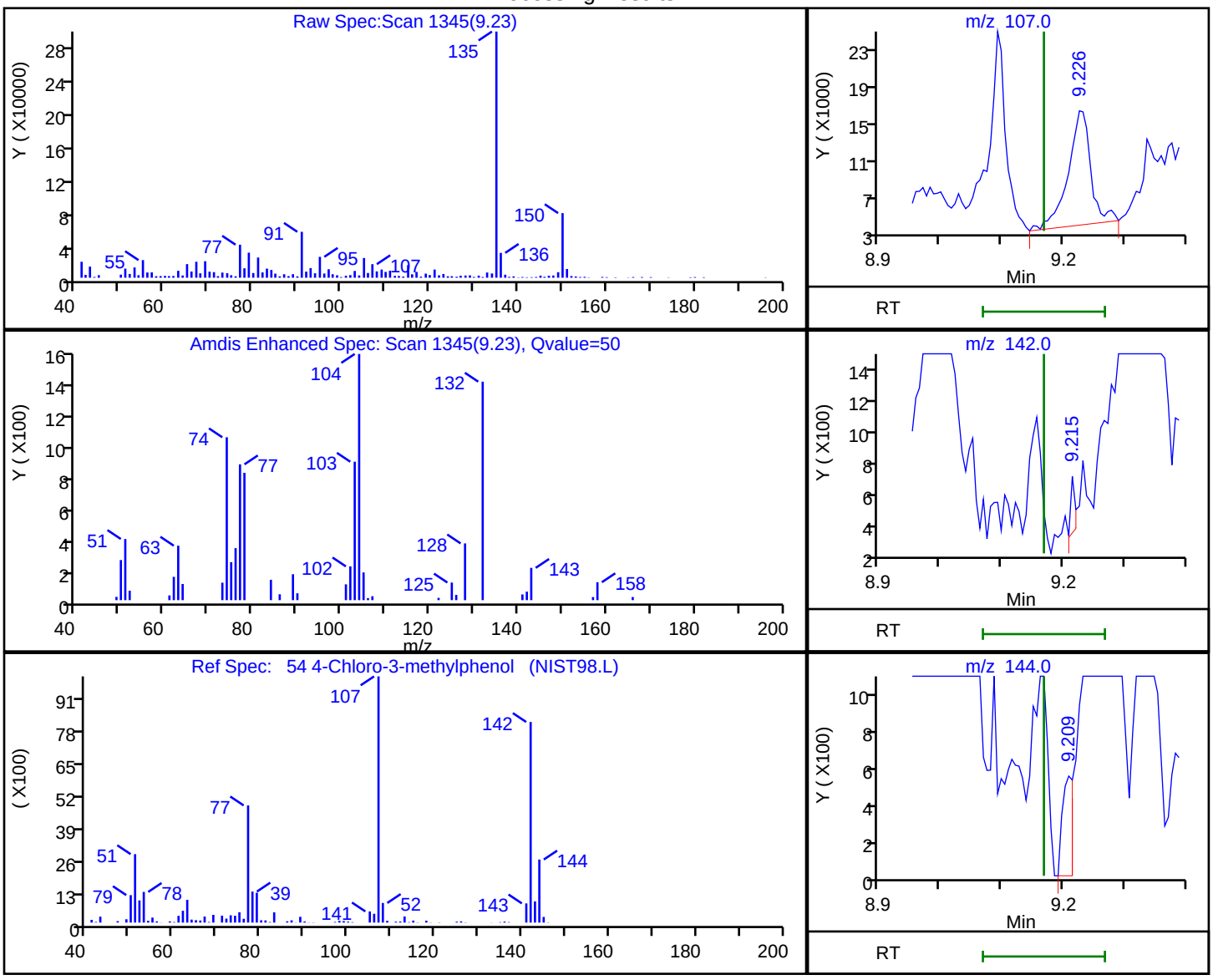
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1457.D				
Injection Date:	25-Aug-2020 13:45:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3		
Client ID:	MW-04				
Operator ID:	em10340	ALS Bottle#:	8	Worklist Smp#:	6
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

54 4-Chloro-3-methylphenol, CAS: 59-50-7

Processing Results



RT	Mass	Response	Amount
9.23	107.00	32368	0.851992
9.21	142.00	137	
9.21	144.00	564	

Reviewer: monbornee, 26-Aug-2020 08:05:39

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-04 DL Lab Sample ID: 410-10696-3 DL

Matrix: Water Lab File ID: DH1078a.D

Analysis Method: 8270D Date Collected: 08/11/2020 13:40

Extract. Method: 3510C Date Extracted: 08/17/2020 08:45

Sample wt/vol: 247(mL) Date Analyzed: 08/19/2020 18:26

Con. Extract Vol.: 1(mL) Dilution Factor: 2

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34776 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
91-20-3	Naphthalene	190		1.0	0.20

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	61		18-141
321-60-8	2-Fluorobiphenyl (Surr)	59		44-102
367-12-4	2-Fluorophenol (Surr)	26		10-84
4165-60-0	Nitrobenzene-d5 (Surr)	66		38-113
1718-51-0	p-Terphenyl-d14 (Surr)	57		34-128
4165-62-2	Phenol-d5 (Surr)	26		10-67

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200819-8418.b\DH1078a.D
Lims ID: 410-10696-B-3-A
Client ID: MW-04
Sample Type: Client
Inject. Date: 19-Aug-2020 18:26:30 ALS Bottle#: 41 Worklist Smp#: 30
Injection Vol: 1.0 ul Dil. Factor: 2.0000
Sample Info: 410-10696-C-3-A
Misc. Info.: 410-0008418-030
Operator ID: em10340 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200819-8418.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 20-Aug-2020 02:20:31 Calib Date: 14-Aug-2020 02:06:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200813-8022.b\DH0756.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1045

First Level Reviewer: williamss Date: 20-Aug-2020 02:20:31

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
$ 8 2-Fluorophenol	112	4.439	4.434	0.005	90	368209	6.63	
12 Benzaldehyde	77	5.675	5.693	-0.018	50	145644	2.91	
$ 13 Phenol-d5	99	5.850	5.850	0.000	97	462647	6.57	
14 Phenol	94	5.873	5.868	0.005	91	40263	0.4857	
16 Bis(2-chloroethyl)ether	93		5.990				ND	
17 2-Chlorophenol	128		6.025				ND	
* 19 1,4-Dichlorobenzene-d4	152	6.340	6.340	0.000	96	177374	5.00	
23 2-Methylphenol	108		6.771				ND	
25 2,2'-oxybis[1-chloropropane]	45		6.806				ND	
27 Acetophenone	105	6.952	6.963	-0.011	71	119034	1.59	
29 N-Nitrosodi-n-propylamine	70		6.998				ND	U
28 4-Methylphenol	108	7.016	7.010	0.006	93	10679	0.1791	
32 Hexachloroethane	117		7.086				ND	U
$ 33 Nitrobenzene-d5	82	7.173	7.174	-0.006	85	554510	8.32	
34 Nitrobenzene	77		7.208				ND	U
36 Isophorone	82		7.593				ND	
37 2-Nitrophenol	139		7.698				ND	
38 2,4-Dimethylphenol	107	7.820	7.815	0.000	97	53730	0.9738	
41 Bis(2-chloroethoxy)methane	93		7.972				ND	U
42 2,4-Dichlorophenol	162		8.077				ND	
* 44 Naphthalene-d8	136	8.275	8.275	0.000	99	680838	5.00	
45 Naphthalene	128	8.310	8.298	0.006	98	3419743	22.9	
46 4-Chloroaniline	127		8.426				ND	
49 Hexachlorobutadiene	225		8.537				ND	
52 Caprolactam	113		8.963				ND	
54 4-Chloro-3-methylphenol	107		9.237				ND	
56 2-Methylnaphthalene	142	9.411	9.405	0.000	92	573930	6.17	
58 Hexachlorocyclopentadiene	237		9.674				ND	
61 2,4,6-Trichlorophenol	196		9.878				ND	
62 2,4,5-Trichlorophenol	196		9.930				ND	
$ 63 2-Fluorobiphenyl (Surr)	172	10.023	10.029	-0.006	100	849354	7.38	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
66 2-Chloronaphthalene	162		10.175				ND	
65 1,1'-Biphenyl	154		10.175				ND	
69 2-Nitroaniline	138		10.367				ND	
72 Dimethyl phthalate	163		10.711				ND	
74 2,6-Dinitrotoluene	165		10.781				ND	U
75 Acenaphthylene	152		10.828				ND	U
76 3-Nitroaniline	138		11.026				ND	
* 77 Acenaphthene-d10	164	11.055	11.055	0.000	98	350166	5.00	
78 Acenaphthene	153		11.108				ND	U
79 2,4-Dinitrophenol	184		11.201				ND	
80 4-Nitrophenol	109		11.352				ND	
83 Dibenzofuran	168		11.393				ND	U
82 2,4-Dinitrotoluene	165		11.416				ND	
87 Diethyl phthalate	149		11.819				ND	
89 Fluorene	166	11.883	11.883	0.000	89	15207	0.1504	
91 4-Chlorophenyl phenyl ether	204		11.924				ND	
92 4-Nitroaniline	138		11.929				ND	U
93 4,6-Dinitro-2-methylphenol	198		11.982				ND	
94 N-Nitrosodiphenylamine	169		12.081				ND	
$ 96 2,4,6-Tribromophenol	330	12.192	12.192	0.000	89	198119	15.2	
101 4-Bromophenyl phenyl ether	248		12.512				ND	
103 Hexachlorobenzene	284		12.547				ND	
105 Atrazine	200		12.740				ND	
106 Pentachlorophenol	266		12.792				ND	U
* 110 Phenanthrene-d10	188	13.002	13.002	0.000	98	665254	5.00	
112 Phenanthrene	178	13.025	13.025	-0.006	98	76765	0.4995	
113 Anthracene	178		13.095				ND	
114 Carbazole	167	13.305	13.305	-0.006	96	32530	0.2433	
116 Di-n-butyl phthalate	149		13.818				ND	
121 Fluoranthene	202		14.587				ND	U
* 123 Pyrene-d10 (IS)	212	14.884	14.885	-0.001	99	713668	5.00	
124 Pyrene	202	14.908	14.908	-0.006	96	20987	0.1109	
$ 125 p-Terphenyl-d14	244	15.205	15.199	0.000	99	975424	7.13	
129 Butyl benzyl phthalate	149		16.050				ND	
132 Benzo[a]anthracene	228	16.854	16.854	-0.006	94	4967	0.1434	
131 3,3'-Dichlorobenzidine	252		16.872				ND	U
134 Chrysene	228	16.913	16.912	-0.006	96	11375	0.0698	
135 Bis(2-ethylhexyl) phthalate	149		17.105				ND	
137 Di-n-octyl phthalate	149		18.253				ND	U
138 Benzo[b]fluoranthene	252		18.679				ND	U
140 Benzo[k]fluoranthene	252		18.726				ND	
141 Benzo[a]pyrene	252		19.192				ND	U
* 142 Perylene-d12	264	19.279	19.285	-0.006	98	631919	5.00	
146 Indeno[1,2,3-cd]pyrene	276		20.871				ND	U
147 Dibenz(a,h)anthracene	278		20.917				ND	
148 Benzo[g,h,i]perylene	276		21.220				ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

MSS_RV8270_IS_00012 Amount Added: 20.00 Units: uL Run Reagent

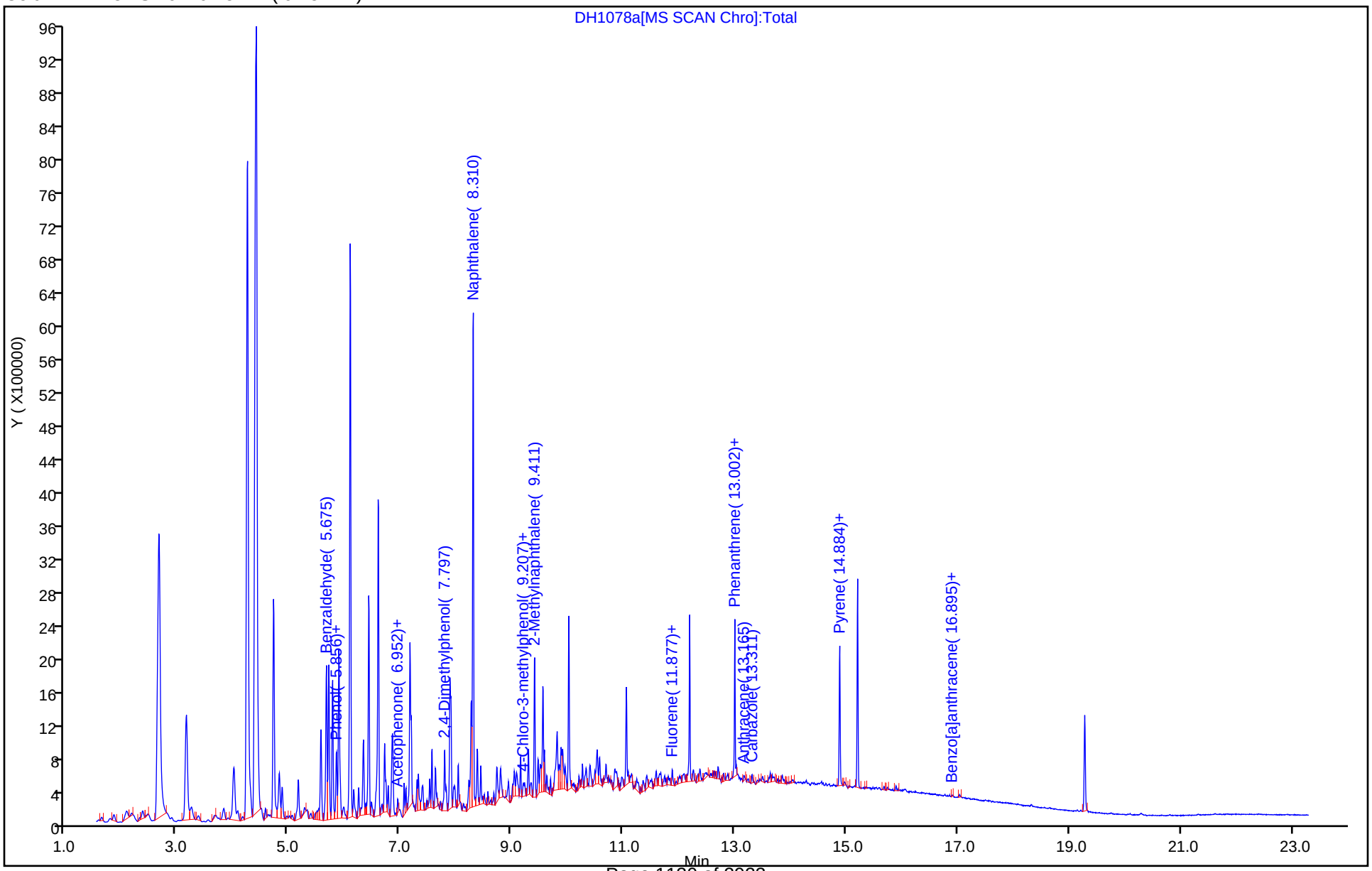
Report Date: 20-Aug-2020 02:21:21 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200819-8418.b\DH1078a.D

Injection Date:	19-Aug-2020 18:26:30	Instrument ID:	HP19760	Operator ID:	em10340
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3	Worklist Smp#:	30
Client ID:	MW-04				
Injection Vol:	1.0 ul	Dil. Factor:	2.0000	ALS Bottle#:	41
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200819-8418.b\DH1078a.D
Lims ID: 410-10696-B-3-A
Client ID: MW-04
Sample Type: Client
Inject. Date: 19-Aug-2020 18:26:30 ALS Bottle#: 41 Worklist Smp#: 30
Injection Vol: 1.0 ul Dil. Factor: 2.0000
Sample Info: 410-10696-C-3-A
Misc. Info.: 410-0008418-030
Operator ID: em10340 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200819-8418.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 20-Aug-2020 02:20:31 Calib Date: 14-Aug-2020 02:06:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200813-8022.b\DH0756.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1045

First Level Reviewer: williamss Date: 20-Aug-2020 02:20:31

Compound	Amount Added	Amount Recovered	% Rec.
$ 8 2-Fluorophenol	50.2	6.63	26.45
$ 13 Phenol-d5	50.2	6.57	26.21
$ 33 Nitrobenzene-d5	25.1	8.32	66.35
$ 63 2-Fluorobiphenyl (Surr)	25.1	7.38	58.89
$ 96 2,4,6-Tribromophenol	50.1	15.2	60.83
$ 125 p-Terphenyl-d14	25.1	7.13	56.89

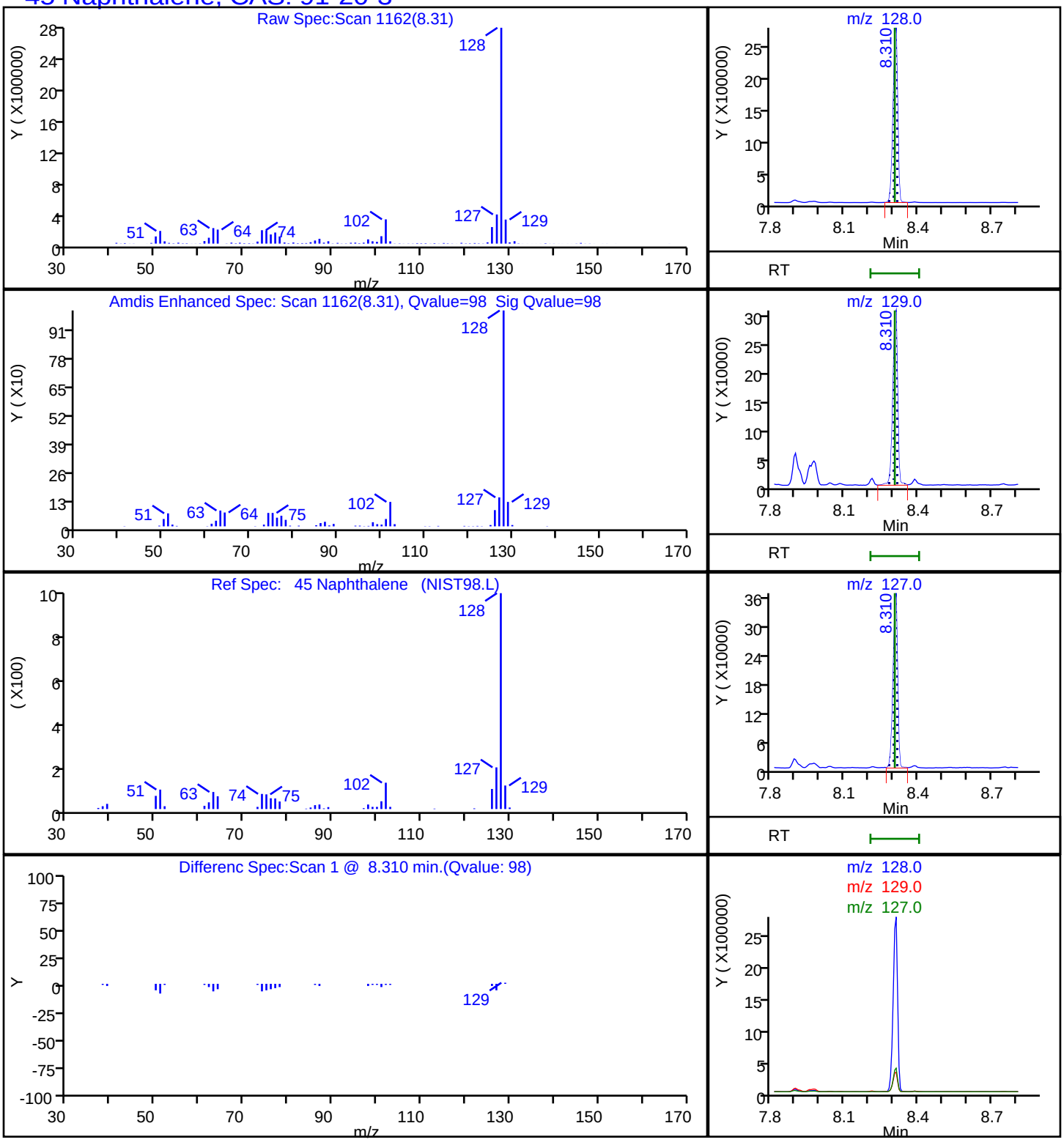
Report Date: 20-Aug-2020 02:21:21 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200819-8418.b\DH1078a.D

Injection Date:	19-Aug-2020 18:26:30	Instrument ID:	HP19760
Lims ID:	410-10696-B-3-A	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	em10340	ALS Bottle#:	41 Worklist Smp#: 30
Injection Vol:	1.0 ul	Dil. Factor:	2.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

45 Naphthalene, CAS: 91-20-3



FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-04 REDL Lab Sample ID: 410-10696-3 REDL

Matrix: Water Lab File ID: DH1517.D

Analysis Method: 8270D Date Collected: 08/11/2020 13:40

Extract. Method: 3510C Date Extracted: 08/21/2020 08:45

Sample wt/vol: 235(mL) Date Analyzed: 08/26/2020 15:28

Con. Extract Vol.: 1(mL) Dilution Factor: 5

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 37350 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
91-20-3	*Naphthalene*	*260*	*H*	*2.7*	*0.53*

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	99		18-141
321-60-8	2-Fluorobiphenyl (Surr)	77		44-102
367-12-4	2-Fluorophenol (Surr)	49		10-84
4165-60-0	Nitrobenzene-d5 (Surr)	83		38-113
1718-51-0	p-Terphenyl-d14 (Surr)	46		34-128
4165-62-2	Phenol-d5 (Surr)	37		10-67

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200826-8979.b\DH1517.D
Lims ID: 410-10696-C-3-A
Client ID: MW-04
Sample Type: Client
Inject. Date: 26-Aug-2020 15:28:30 ALS Bottle#: 8 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 5.0000
Sample Info: 410-10696-C-3-A
Misc. Info.: 410-0008979-010
Operator ID: em10340 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200826-8979.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 26-Aug-2020 17:05:59 Calib Date: 25-Aug-2020 02:23:30
Integrator: Falcon ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1408.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1047

First Level Reviewer: saadehw Date: 26-Aug-2020 17:05:59

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
$ 8 2-Fluorophenol	112	4.319	4.319	0.000	89	216981	4.88	
12 Benzaldehyde	77		5.584				ND	U
$ 13 Phenol-d5	99	5.741	5.747	-0.006	97	208592	3.70	
14 Phenol	94	5.764	5.764	0.000	91	23360	0.3521	
16 Bis(2-chloroethyl)ether	93		5.887				ND	
17 2-Chlorophenol	128		5.916				ND	
* 19 1,4-Dichlorobenzene-d4	152	6.230	6.231	-0.001	96	141944	5.00	
23 2-Methylphenol	108		6.668				ND	
25 2,2'-oxybis[1-chloropropane]	45		6.703				ND	
27 Acetophenone	105		6.860				ND	U
29 N-Nitrosodi-n-propylamine	70		6.889				ND	
28 4-Methylphenol	108	6.907	6.907	0.000	74	5196	0.1089	
32 Hexachloroethane	117		6.977				ND	U
$ 33 Nitrobenzene-d5	82	7.064	7.070	-0.006	86	219172	4.15	
34 Nitrobenzene	77		7.099				ND	U
36 Isophorone	82		7.490				ND	U
37 2-Nitrophenol	139		7.589				ND	
38 2,4-Dimethylphenol	107	7.717	7.717	0.000	94	21958	0.5020	
41 Bis(2-chloroethoxy)methane	93		7.868				ND	U
42 2,4-Dichlorophenol	162		7.973				ND	
* 44 Naphthalene-d8	136	8.166	8.166	0.000	99	539773	5.00	
45 Naphthalene	128	8.195	8.201	-0.006	98	1442624	12.2	
46 4-Chloroaniline	127		8.317				ND	
49 Hexachlorobutadiene	225		8.434				ND	
52 Caprolactam	113		8.865				ND	
54 4-Chloro-3-methylphenol	107		9.139				ND	
56 2-Methylnaphthalene	142	9.296	9.302	-0.006	91	254434	3.45	
58 Hexachlorocyclopentadiene	237		9.570				ND	
61 2,4,6-Trichlorophenol	196		9.774				ND	
62 2,4,5-Trichlorophenol	196		9.827				ND	
$ 63 2-Fluorobiphenyl (Surr)	172	9.914	9.920	-0.006	100	358070	3.89	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
65 1,1'-Biphenyl	154		10.066				ND	
66 2-Chloronaphthalene	162		10.066				ND	
69 2-Nitroaniline	138		10.258				ND	U
72 Dimethyl phthalate	163		10.608				ND	
74 2,6-Dinitrotoluene	165		10.678				ND	U
75 Acenaphthylene	152		10.713				ND	U
76 3-Nitroaniline	138		10.917				ND	
* 77 Acenaphthene-d10	164	10.946	10.952	-0.006	97	280522	5.00	
78 Acenaphthene	153		10.998				ND	U
79 2,4-Dinitrophenol	184		11.092				ND	
80 4-Nitrophenol	109		11.249				ND	
83 Dibenzofuran	168		11.284				ND	
82 2,4-Dinitrotoluene	165		11.313				ND	
87 Diethyl phthalate	149		11.733				ND	
89 Fluorene	166		11.791				ND	U
91 4-Chlorophenyl phenyl ether	204		11.832				ND	
92 4-Nitroaniline	138		11.843				ND	U
93 4,6-Dinitro-2-methylphenol	198		11.890				ND	
94 N-Nitrosodiphenylamine	169		11.989				ND	
$ 96 2,4,6-Tribromophenol	330	12.100	12.106	-0.006	89	102891	9.87	
101 4-Bromophenyl phenyl ether	248		12.432				ND	
103 Hexachlorobenzene	284		12.461				ND	
105 Atrazine	200		12.660				ND	
106 Pentachlorophenol	266		12.706				ND	
* 110 Phenanthrene-d10	188	12.910	12.910	0.000	98	540796	5.00	
112 Phenanthrene	178	12.933	12.939	-0.006	99	38156	0.3054	
113 Anthracene	178		13.003				ND	U
114 Carbazole	167		13.219				ND	
116 Di-n-butyl phthalate	149		13.726				ND	
121 Fluoranthene	202	14.472	14.472	-0.006	60	2873	0.0228	M
* 123 Pyrene-d10 (IS)	212	14.769	14.769	0.000	98	553487	5.00	
124 Pyrene	202	14.793	14.793	-0.006	91	10489	0.0715	M
$ 125 p-Terphenyl-d14	244	15.090	15.096	-0.006	98	243796	2.30	
129 Butyl benzyl phthalate	149		15.929				ND	U
132 Benzo[a]anthracene	228	16.728	16.734	-0.006	88	2176	0.1315	
131 3,3'-Dichlorobenzidine	252		16.745				ND	
134 Chrysene	228	16.780	16.792	-0.012	95	5315	0.0421	
135 Bis(2-ethylhexyl) phthalate	149		16.984				ND	
137 Di-n-octyl phthalate	149		18.127				ND	U
138 Benzo[b]fluoranthene	252		18.541				ND	U
140 Benzo[k]fluoranthene	252		18.593				ND	
141 Benzo[a]pyrene	252		19.054				ND	U
* 142 Perylene-d12	264	19.141	19.147	-0.006	98	516540	5.00	
146 Indeno[1,2,3-cd]pyrene	276		20.732				ND	
147 Dibenz(a,h)anthracene	278		20.779				ND	
148 Benzo[g,h,i]perylene	276		21.088				ND	U

QC Flag Legend

Review Flags

M - Manually Integrated

U - Marked Undetected

Reagents:

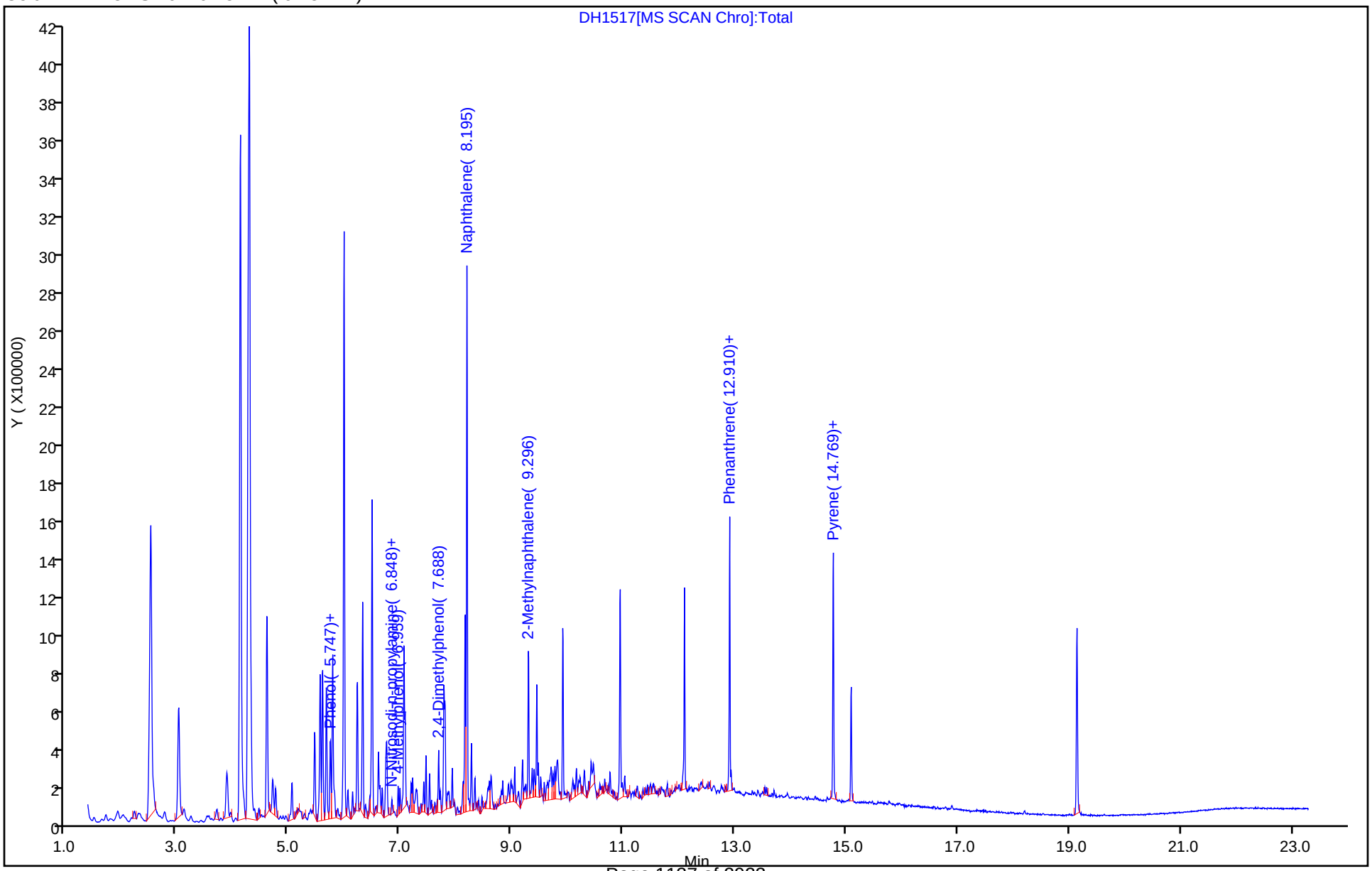
MSS_RV8270_IS_00012 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 26-Aug-2020 17:06:13 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200826-8979.b\DH1517.D				
Injection Date:	26-Aug-2020 15:28:30	Instrument ID:	HP19760	Operator ID:	em10340
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3	Worklist Smp#:	10
Client ID:	MW-04				
Injection Vol:	1.0 ul	Dil. Factor:	5.0000	ALS Bottle#:	8
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200826-8979.b\DH1517.D
Lims ID: 410-10696-C-3-A
Client ID: MW-04
Sample Type: Client
Inject. Date: 26-Aug-2020 15:28:30 ALS Bottle#: 8 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 5.0000
Sample Info: 410-10696-C-3-A
Misc. Info.: 410-0008979-010
Operator ID: em10340 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200826-8979.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 26-Aug-2020 17:05:59 Calib Date: 25-Aug-2020 02:23:30
Integrator: Falcon ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1408.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1047

First Level Reviewer: saadehw Date: 26-Aug-2020 17:05:59

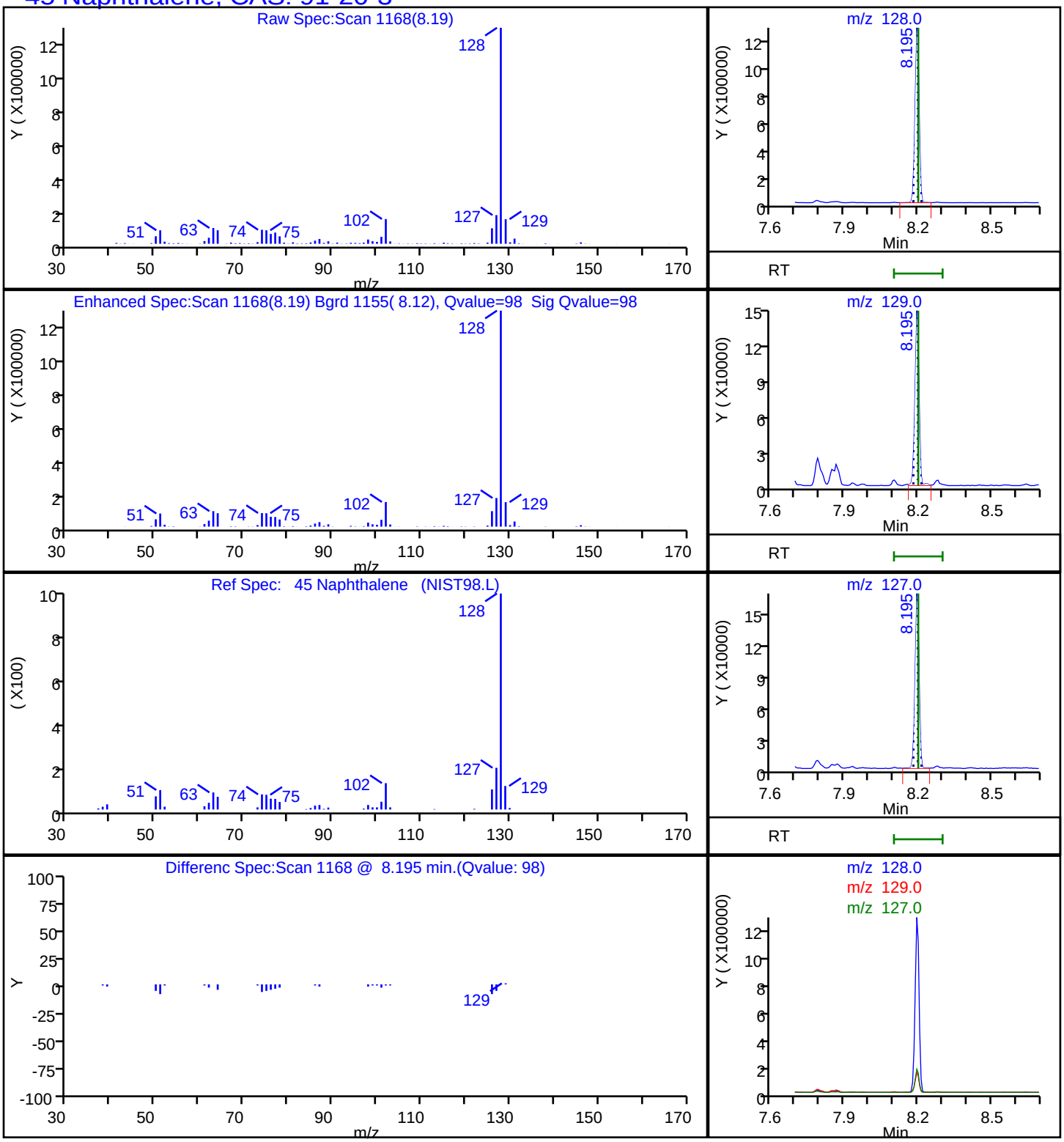
Compound	Amount Added	Amount Recovered	% Rec.
$ 8 2-Fluorophenol	50.2	4.88	48.70
$ 13 Phenol-d5	50.2	3.70	36.92
$ 33 Nitrobenzene-d5	25.1	4.15	82.70
$ 63 2-Fluorobiphenyl (Surr)	25.1	3.89	77.47
$ 96 2,4,6-Tribromophenol	50.1	9.87	98.58
$ 125 p-Terphenyl-d14	25.1	2.30	45.84

Report Date: 26-Aug-2020 17:06:13 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200826-8979.b\DH1517.D		
Injection Date:	26-Aug-2020 15:28:30	Instrument ID:	HP19760
Lims ID:	410-10696-C-3-A	Lab Sample ID:	410-10696-3
Client ID:	MW-04		
Operator ID:	em10340	ALS Bottle#:	8 Worklist Smp#: 10
Injection Vol:	1.0 ul	Dil. Factor:	5.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

45 Naphthalene, CAS: 91-20-3



FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: WPA-GW-02 Lab Sample ID: 410-10696-6

Matrix: Water Lab File ID: DH1015.D

Analysis Method: 8270D Date Collected: 08/11/2020 14:15

Extract. Method: 3510C Date Extracted: 08/17/2020 08:45

Sample wt/vol: 234(mL) Date Analyzed: 08/18/2020 16:43

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34301 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
92-52-4	1,1'-Biphenyl	ND	*	11	3.2
120-83-2	2,4-Dichlorophenol	ND	*	2.1	0.53
105-67-9	2,4-Dimethylphenol	ND	*	11	3.2
51-28-5	2,4-Dinitrophenol	ND		32	15
121-14-2	2,4-Dinitrotoluene	ND	*	5.3	1.1
95-95-4	2,4,5-Trichlorophenol	ND		2.1	0.53
88-06-2	2,4,6-Trichlorophenol	ND	*	2.1	0.53
108-60-1	2,2'-oxybis[1-chloropropane]	ND		2.1	0.53
84-74-2	Di-n-butyl phthalate	ND		5.3	2.1
117-84-0	Di-n-octyl phthalate	ND		12	5.3
56-55-3	Benzo[a]anthracene	0.95	*	0.53	0.11
50-32-8	Benzo[a]pyrene	0.62	*	0.53	0.11
205-99-2	Benzo[b]fluoranthene	0.53	*	0.53	0.11
191-24-2	Benzo[g,h,i]perylene	0.53	*	0.53	0.11
207-08-9	Benzo[k]fluoranthene	ND	*	0.53	0.11
83-32-9	Acenaphthene	ND		0.53	0.11
208-96-8	Acenaphthylene	ND		0.53	0.11
98-86-2	Acetophenone	ND	*	11	4.3
120-12-7	Anthracene	0.50	J *	0.53	0.11
1912-24-9	Atrazine	ND		5.3	2.1
100-52-7	Benzaldehyde	ND	*	11	3.2
85-68-7	Butylbenzylphthalate	ND		5.3	2.1
105-60-2	Caprolactam	ND		12	5.3
86-74-8	Carbazole	7.1		2.1	0.53
218-01-9	Chrysene	1.1		0.53	0.11
53-70-3	Dibenz(a,h)anthracene	ND	*	0.53	0.11
132-64-9	Dibenzofuran	ND	*	2.1	0.53
84-66-2	Diethyl phthalate	ND		5.3	2.1
131-11-3	Dimethyl phthalate	ND		5.3	2.1
118-74-1	Hexachlorobenzene	ND	*	0.53	0.11
87-68-3	Hexachlorobutadiene	ND		2.1	0.53
77-47-4	Hexachlorocyclopentadiene	ND		12	5.3
67-72-1	Hexachloroethane	ND		5.3	1.1
206-44-0	Fluoranthene	0.47	J	0.53	0.11

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: WPA-GW-02 Lab Sample ID: 410-10696-6

Matrix: Water Lab File ID: DH1015.D

Analysis Method: 8270D Date Collected: 08/11/2020 14:15

Extract. Method: 3510C Date Extracted: 08/17/2020 08:45

Sample wt/vol: 234(mL) Date Analyzed: 08/18/2020 16:43

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34301 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
86-73-7	Fluorene	1.3		0.53	0.11
193-39-5	Indeno[1,2,3-cd]pyrene	ND	*	0.53	0.11
78-59-1	Isophorone	ND	*	2.1	0.53
621-64-7	N-Nitrosodi-n-propylamine	ND		3.2	0.75
86-30-6	N-Nitrosodiphenylamine	ND		3.2	0.75
91-20-3	Naphthalene	41		0.53	0.11
98-95-3	Nitrobenzene	ND		2.1	0.53
87-86-5	Pentachlorophenol	ND		5.3	1.1
85-01-8	Phenanthrene	9.7	*	0.53	0.11
108-95-2	Phenol	2.4		2.1	0.53
129-00-0	Pyrene	1.6	*	0.53	0.11
91-58-7	2-Chloronaphthalene	ND		1.1	0.43
95-57-8	2-Chlorophenol	ND		2.1	0.53
91-57-6	2-Methylnaphthalene	17		0.53	0.11
95-48-7	2-Methylphenol	ND		2.1	0.53
88-74-4	2-Nitroaniline	ND	*	5.3	2.1
88-75-5	2-Nitrophenol	ND		11	3.2
91-94-1	3,3'-Dichlorobenzidine	ND		11	3.2
99-09-2	3-Nitroaniline	ND		7.5	3.2
534-52-1	4,6-Dinitro-2-methylphenol	ND		22	8.5
101-55-3	4-Bromophenyl-phenylether	ND	*	2.1	0.53
106-44-5	4-Methylphenol	ND		2.1	0.53
100-01-6	4-Nitroaniline	ND		3.2	0.96
100-02-7	4-Nitrophenol	ND		32	11
111-91-1	Bis(2-chloroethoxy)methane	ND	*	2.1	0.53
111-44-4	Bis(2-chloroethyl)ether	ND	*	2.1	0.53
117-81-7	Bis(2-ethylhexyl) phthalate	ND		12	5.3
606-20-2	2,6-Dinitrotoluene	ND	*	2.1	0.53
59-50-7	4-Chloro-3-methylphenol	ND		3.7	1.7
106-47-8	4-Chloroaniline	ND		11	4.3
7005-72-3	4-Chlorophenyl-phenyl ether	ND	*	2.1	0.53

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: WPA-GW-02 Lab Sample ID: 410-10696-6

Matrix: Water Lab File ID: DH1015.D

Analysis Method: 8270D Date Collected: 08/11/2020 14:15

Extract. Method: 3510C Date Extracted: 08/17/2020 08:45

Sample wt/vol: 234(mL) Date Analyzed: 08/18/2020 16:43

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34301 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	35		18-141
321-60-8	2-Fluorobiphenyl (Surr)	46		44-102
367-12-4	2-Fluorophenol (Surr)	16		10-84
4165-60-0	Nitrobenzene-d5 (Surr)	54		38-113
1718-51-0	p-Terphenyl-d14 (Surr)	39		34-128
4165-62-2	Phenol-d5 (Surr)	14		10-67

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D
Lims ID: 410-10696-C-6-A
Client ID: WPA-GW-02
Sample Type: Client
Inject. Date: 18-Aug-2020 16:43:30 ALS Bottle#: 16 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 410-10696-C-6-A
Misc. Info.: 410-0008313-015
Operator ID: em10340 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 19-Aug-2020 09:41:10 Calib Date: 14-Aug-2020 02:06:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200813-8022.b\DH0756.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1035

First Level Reviewer: monbornee Date: 19-Aug-2020 09:28:21

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
$ 8 2-Fluorophenol	112	4.445	4.434	0.011	91	606785	8.20	
12 Benzaldehyde	77		5.693				ND	U
$ 13 Phenol-d5	99	5.856	5.843	0.012	97	645354	6.88	
14 Phenol	94	5.873	5.867	0.005	91	63129	0.5715	
16 Bis(2-chloroethyl)ether	93		5.984				ND	
17 2-Chlorophenol	128		6.019				ND	U
* 19 1,4-Dichlorobenzene-d4	152	6.340	6.340	0.000	96	236342	5.00	
23 2-Methylphenol	108		6.765				ND	
25 2,2'-oxybis[1-chloropropane]	45		6.789				ND	
27 Acetophenone	105		6.963				ND	U
29 N-Nitrosodi-n-propylamine	70		6.987				ND	
28 4-Methylphenol	108		7.004				ND	
32 Hexachloroethane	117		7.091				ND	U
$ 33 Nitrobenzene-d5	82	7.179	7.173	0.006	85	1182818	13.4	
34 Nitrobenzene	77		7.202				ND	U
36 Isophorone	82		7.587				ND	U
37 2-Nitrophenol	139		7.698				ND	
38 2,4-Dimethylphenol	107		7.820				ND	
41 Bis(2-chloroethoxy)methane	93		7.972				ND	U
42 2,4-Dichlorophenol	162		8.071				ND	
* 44 Naphthalene-d8	136	8.275	8.269	0.006	99	898515	5.00	
45 Naphthalene	128	8.304	8.409	0.000	98	1874366	9.52	
46 4-Chloroaniline	127		8.426				ND	
49 Hexachlorobutadiene	225		8.537				ND	
52 Caprolactam	113		8.962				ND	
54 4-Chloro-3-methylphenol	107		9.236				ND	
56 2-Methylnaphthalene	142	9.411	9.406	0.005	91	481486	3.92	
58 Hexachlorocyclopentadiene	237		9.674				ND	
61 2,4,6-Trichlorophenol	196		9.878				ND	
62 2,4,5-Trichlorophenol	196		9.924				ND	
$ 63 2-Fluorobiphenyl (Surr)	172	10.023	10.023	0.000	100	1765699	11.6	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
66 2-Chloronaphthalene	162		10.169				ND	
65 1,1'-Biphenyl	154		10.175				ND	
69 2-Nitroaniline	138		10.356				ND	U
72 Dimethyl phthalate	163		10.711				ND	
74 2,6-Dinitrotoluene	165		10.775				ND	U
75 Acenaphthylene	152		10.822				ND	U
76 3-Nitroaniline	138		11.026				ND	
* 77 Acenaphthene-d10	164	11.055	11.055	0.000	98	463085	5.00	
78 Acenaphthene	153		11.108				ND	U
79 2,4-Dinitrophenol	184		11.201				ND	
80 4-Nitrophenol	109		11.352				ND	
83 Dibenzofuran	168	11.387	11.387	0.000	95	12248	0.0717	
82 2,4-Dinitrotoluene	165		11.416				ND	
87 Diethyl phthalate	149		11.819				ND	
89 Fluorene	166	11.883	11.883	0.000	93	41647	0.3115	
91 4-Chlorophenyl phenyl ether	204		11.918				ND	
92 4-Nitroaniline	138		11.918				ND	U
93 4,6-Dinitro-2-methylphenol	198		11.982				ND	
94 N-Nitrosodiphenylamine	169		12.075				ND	
$ 96 2,4,6-Tribromophenol	330	12.192	12.186	0.006	88	302713	17.6	
101 4-Bromophenyl phenyl ether	248		12.506				ND	
103 Hexachlorobenzene	284		12.541				ND	
105 Atrazine	200		12.739				ND	
106 Pentachlorophenol	266		12.792				ND	U
* 110 Phenanthrene-d10	188	13.002	13.002	0.000	98	864196	5.00	
112 Phenanthrene	178	13.031	13.025	0.006	98	451735	2.26	
113 Anthracene	178	13.089	13.078	0.000	92	22231	0.1163	M
114 Carbazole	167	13.311	13.305	0.006	96	287128	1.65	
116 Di-n-butyl phthalate	149		13.818				ND	
121 Fluoranthene	202	14.587	14.587	0.000	96	21950	0.1088	
* 123 Pyrene-d10 (IS)	212	14.884	14.879	0.005	99	917645	5.00	
124 Pyrene	202	14.914	14.908	0.006	97	90167	0.3706	
$ 125 p-Terphenyl-d14	244	15.211	15.199	0.012	99	1732444	9.84	
129 Butyl benzyl phthalate	149		16.050				ND	
132 Benzo[a]anthracene	228	16.855	16.849	0.006	98	24844	0.2223	
131 3,3'-Dichlorobenzidine	252		16.866				ND	U
134 Chrysene	228	16.913	16.913	0.006	97	52710	0.2516	
135 Bis(2-ethylhexyl) phthalate	149		17.105				ND	
137 Di-n-octyl phthalate	149		18.248				ND	U
138 Benzo[b]fluoranthene	252	18.673	18.667	0.006	92	7059	0.1244	
140 Benzo[k]fluoranthene	252		18.714				ND	
141 Benzo[a]pyrene	252	19.186	19.186	0.000	77	11222	0.1459	a
* 142 Perylene-d12	264	19.285	19.279	0.006	98	896812	5.00	
146 Indeno[1,2,3-cd]pyrene	276		20.859				ND	U
147 Dibenz(a,h)anthracene	278		20.906				ND	U
148 Benzo[g,h,i]perylene	276	21.209	21.209	0.000	98	7387	0.1242	

QC Flag Legend

Review Flags

M - Manually Integrated

U - Marked Undetected

a - User Assigned ID

Reagents:

MSS_RV8270_IS_00012 Amount Added: 20.00 Units: uL Run Reagent

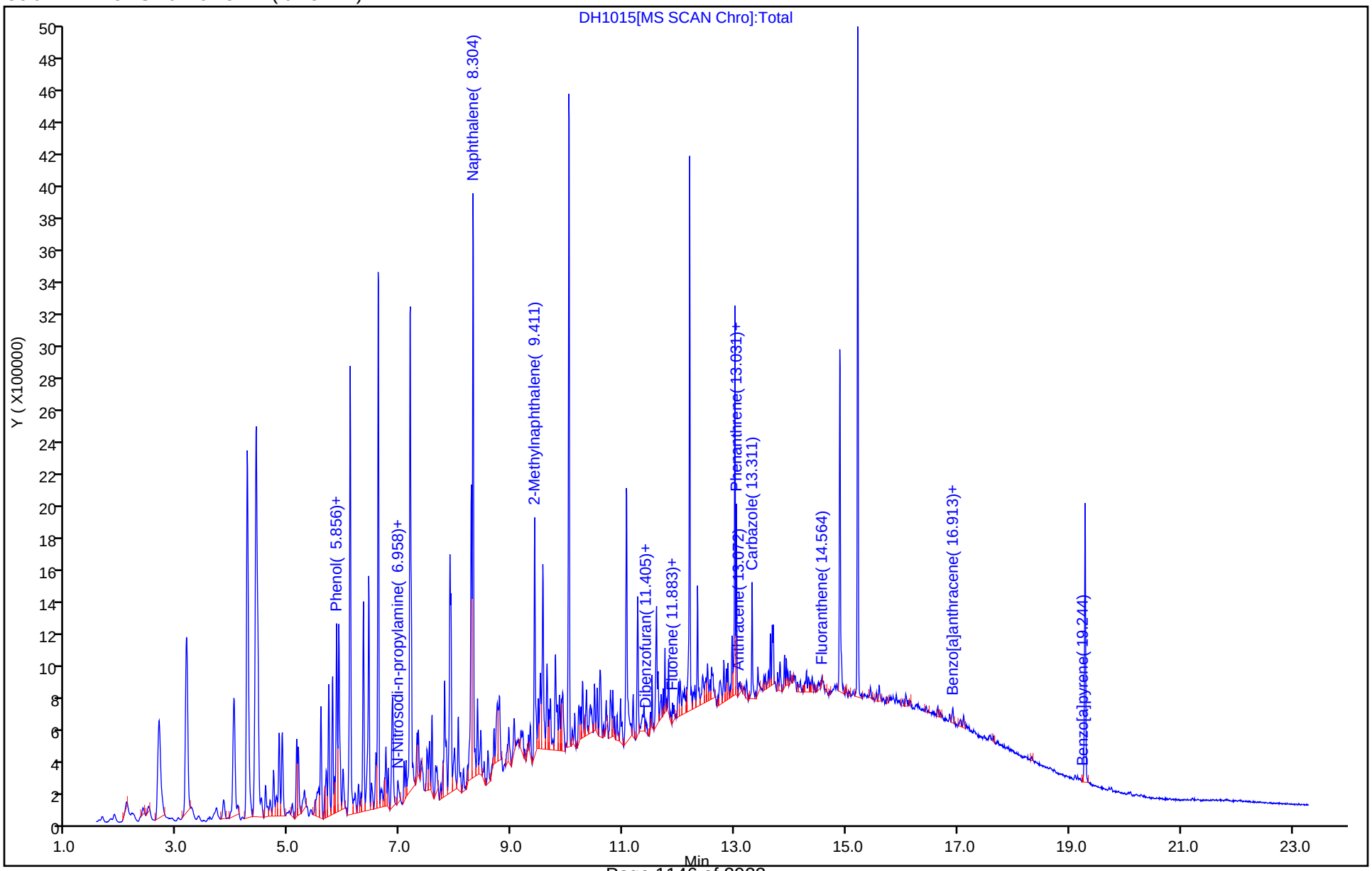
Report Date: 19-Aug-2020 13:58:11 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D

Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760	Operator ID:	em10340
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6	Worklist Smp#:	15
Client ID:	WPA-GW-02				
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	16
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D
Lims ID: 410-10696-C-6-A
Client ID: WPA-GW-02
Sample Type: Client
Inject. Date: 18-Aug-2020 16:43:30 ALS Bottle#: 16 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 410-10696-C-6-A
Misc. Info.: 410-0008313-015
Operator ID: em10340 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 19-Aug-2020 09:41:10 Calib Date: 14-Aug-2020 02:06:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200813-8022.b\DH0756.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1035

First Level Reviewer: monbornee Date: 19-Aug-2020 09:28:21

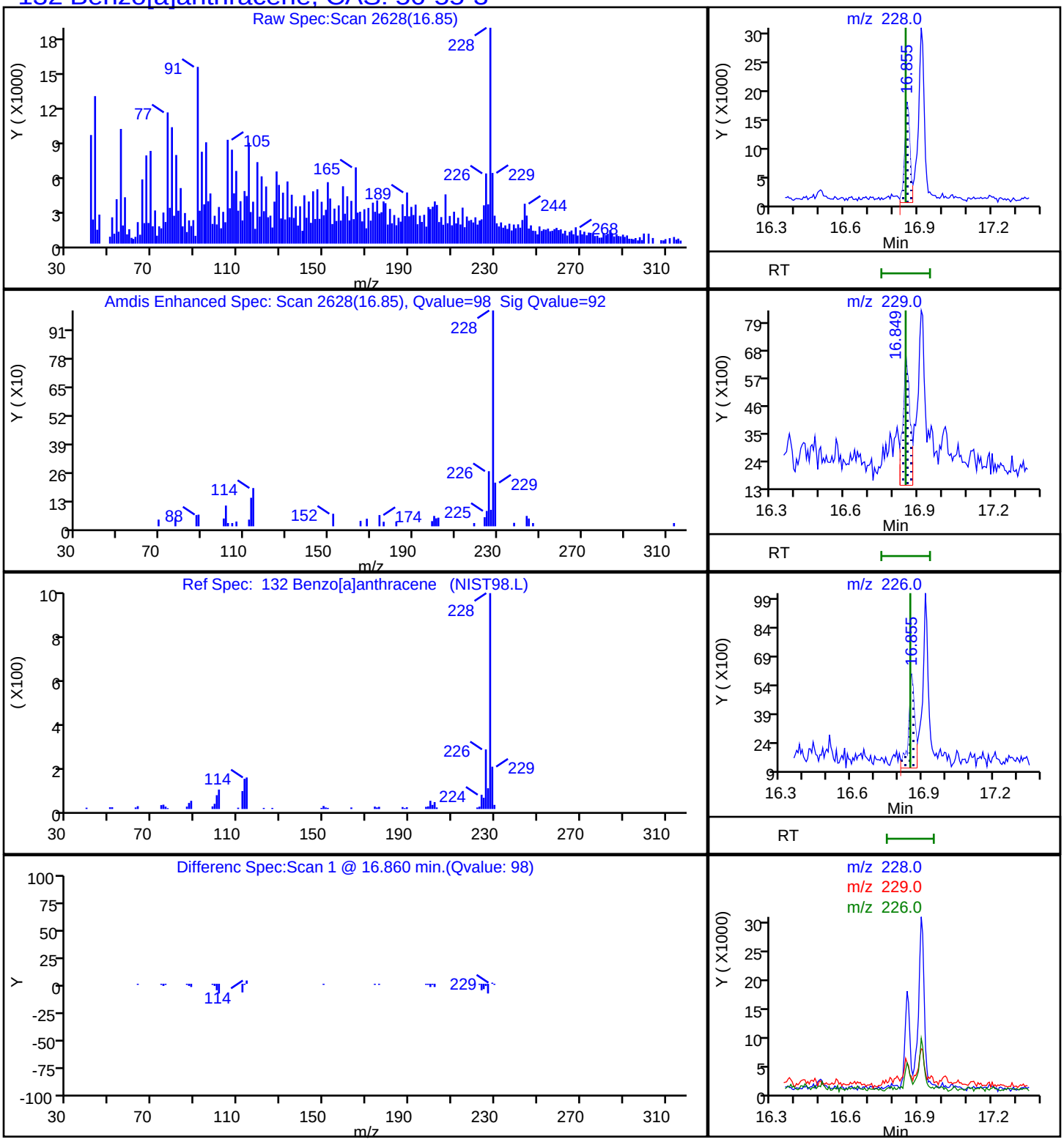
Compound	Amount Added	Amount Recovered	% Rec.
$ 8 2-Fluorophenol	50.2	8.20	16.36
$ 13 Phenol-d5	50.2	6.88	13.72
$ 33 Nitrobenzene-d5	25.1	13.4	53.62
$ 63 2-Fluorobiphenyl (Surr)	25.1	11.6	46.28
$ 96 2,4,6-Tribromophenol	50.1	17.6	35.14
$ 125 p-Terphenyl-d14	25.1	9.84	39.29

Report Date: 19-Aug-2020 13:58:12 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D		
Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6
Client ID:	WPA-GW-02		
Operator ID:	em10340	ALS Bottle#:	16 Worklist Smp#: 15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

132 Benzo[a]anthracene, CAS: 56-55-3



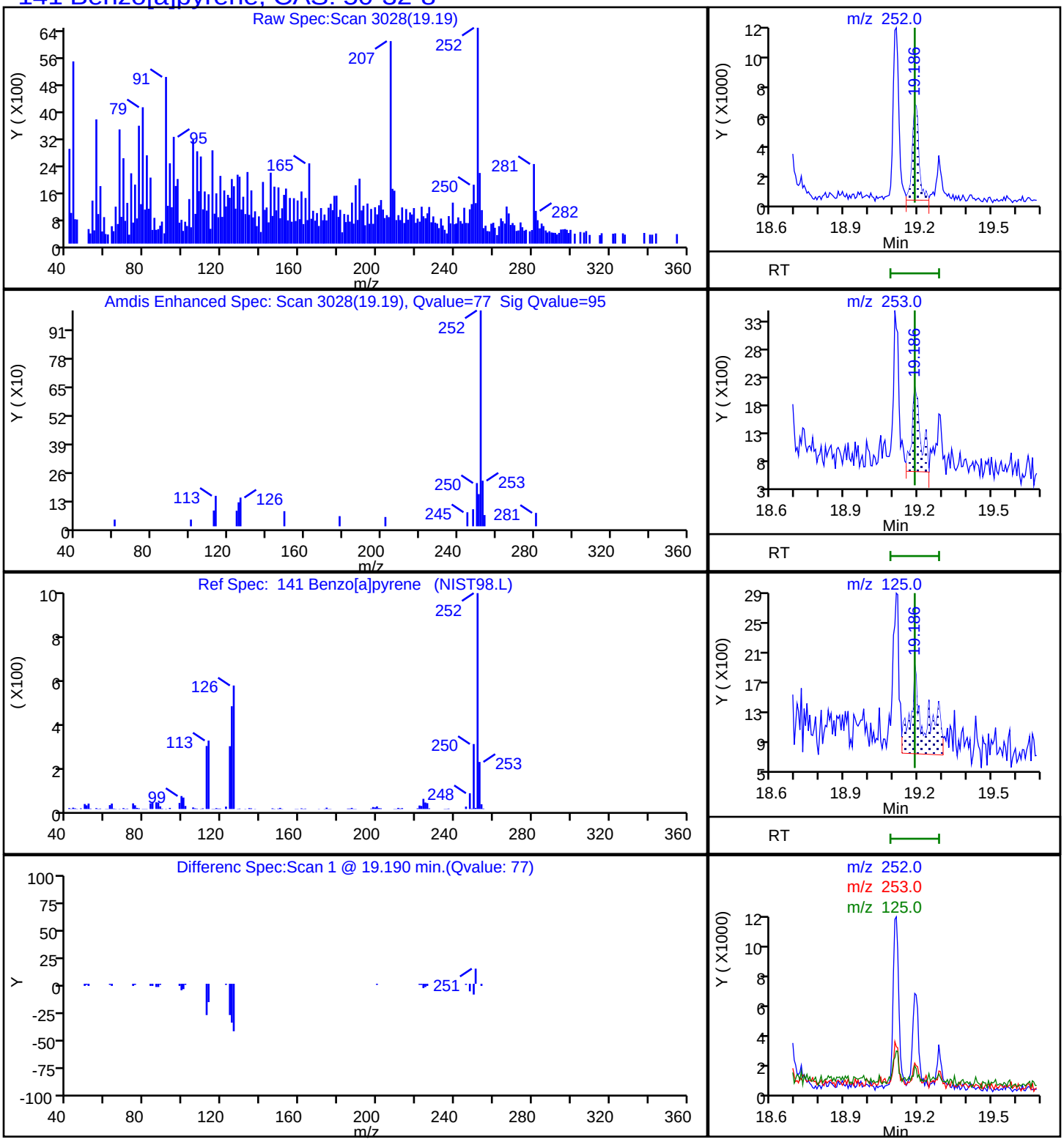
Report Date: 19-Aug-2020 13:58:12 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D

Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6
Client ID:	WPA-GW-02		
Operator ID:	em10340	ALS Bottle#:	16 Worklist Smp#: 15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

141 Benzo[a]pyrene, CAS: 50-32-8



Report Date: 19-Aug-2020 13:58:12 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D

Injection Date: 18-Aug-2020 16:43:30 Instrument ID: HP19760

Lims ID: 410-10696-C-6-A Lab Sample ID: 410-10696-6

Client ID: WPA-GW-02

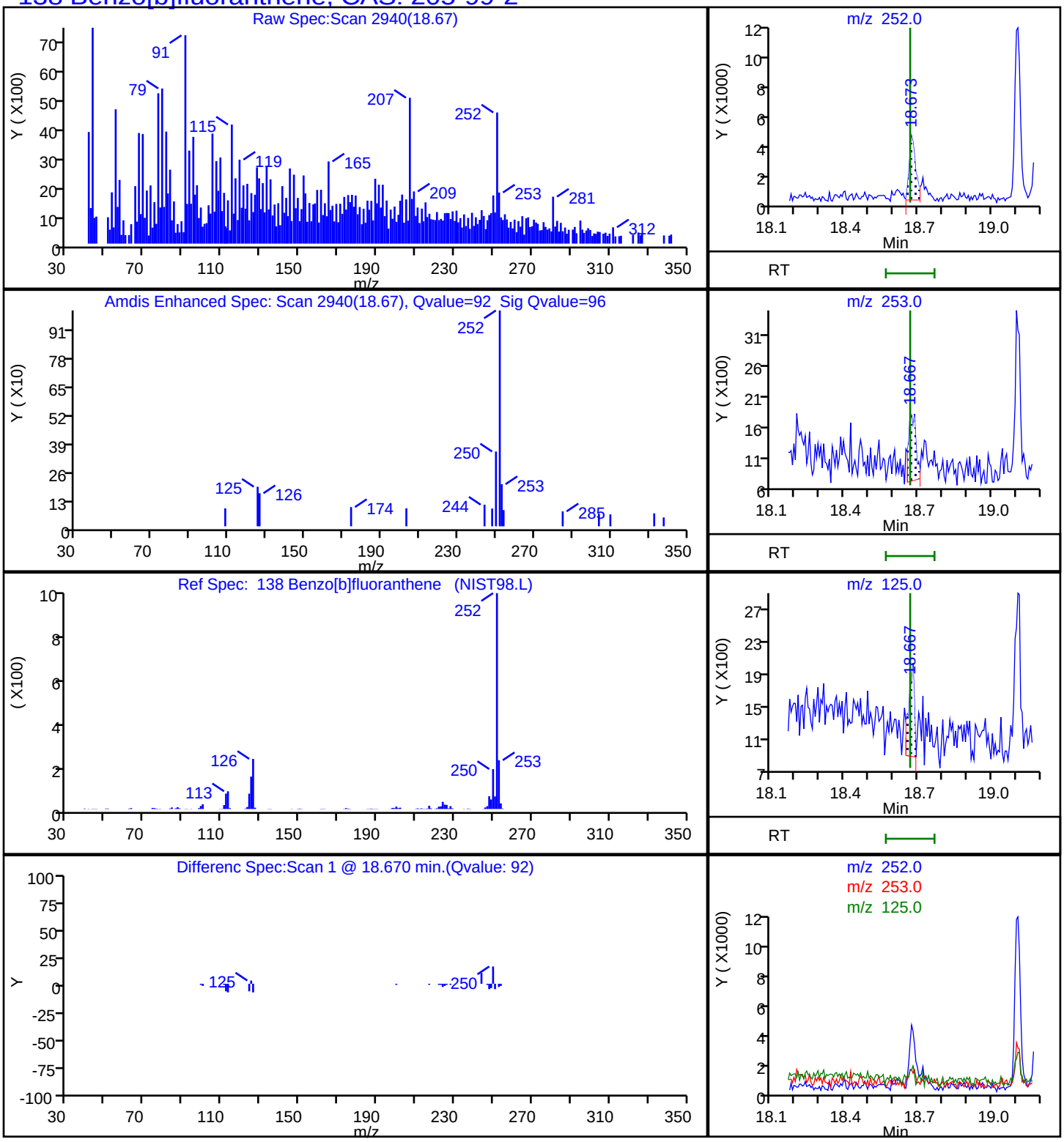
Operator ID: em10340 ALS Bottle#: 16 Worklist Smp#: 15

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI

Column: DB-5MS 20m 0.25mm (0.25 mm) Detector MS SCAN

138 Benzo[b]fluoranthene, CAS: 205-99-2

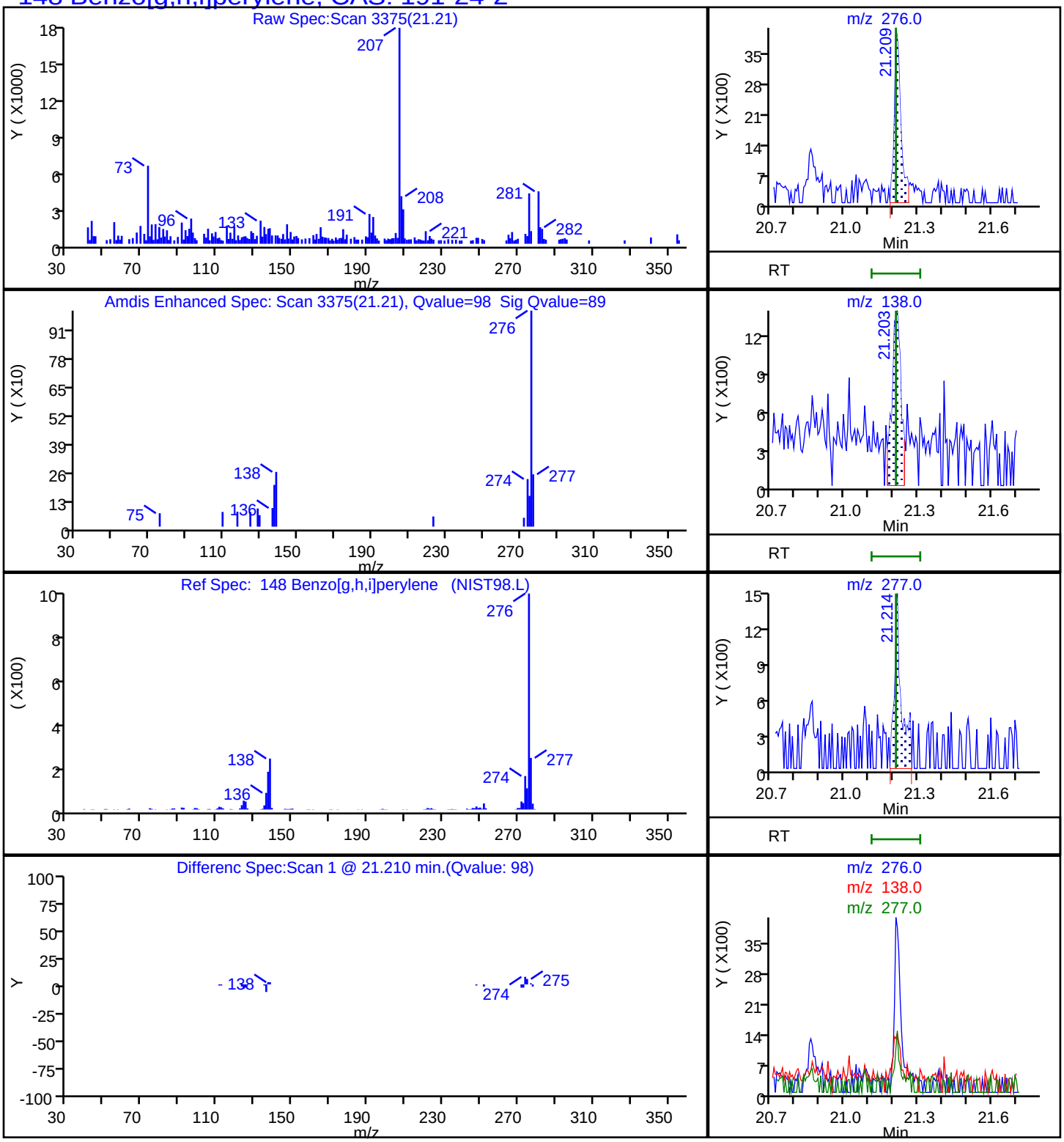


Report Date: 19-Aug-2020 13:58:12 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D				
Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	em10340	ALS Bottle#:	16	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

148 Benzo[g,h,i]perylene, CAS: 191-24-2



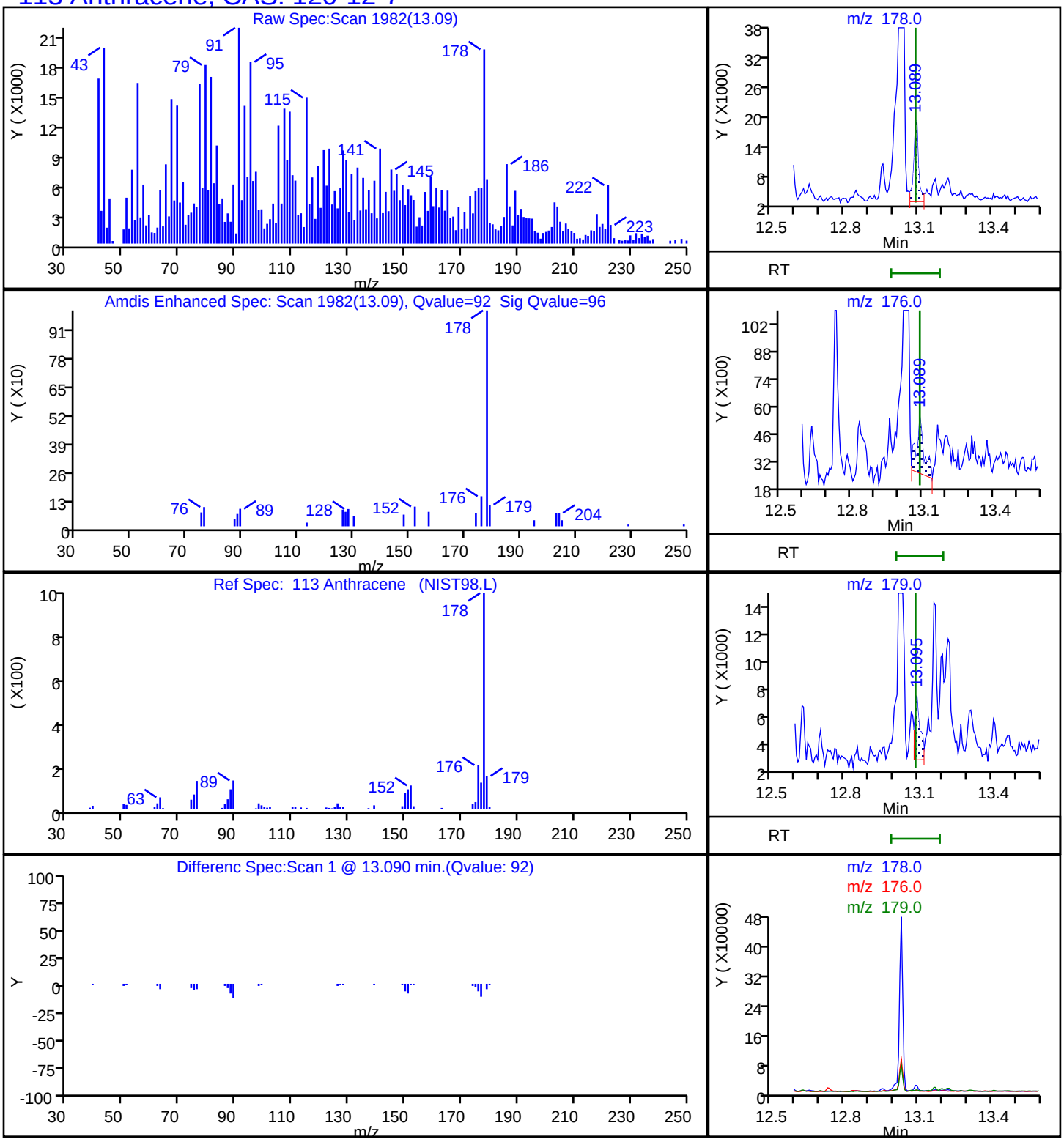
Report Date: 19-Aug-2020 13:58:12 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D

Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	em10340	ALS Bottle#:	16	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

113 Anthracene, CAS: 120-12-7



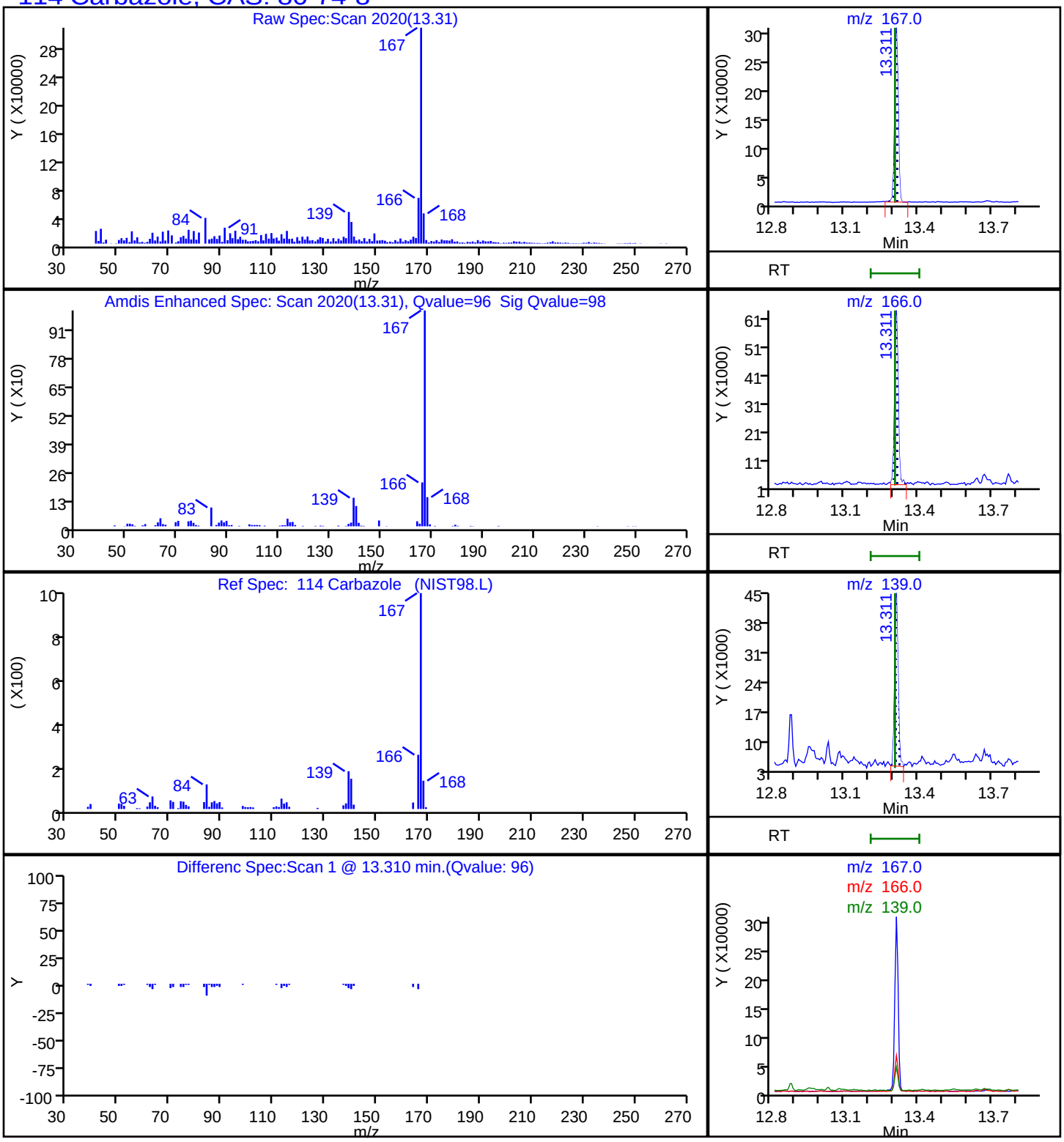
Report Date: 19-Aug-2020 13:58:12 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D

Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6
Client ID:	WPA-GW-02		
Operator ID:	em10340	ALS Bottle#:	16 Worklist Smp#: 15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

114 Carbazole, CAS: 86-74-8



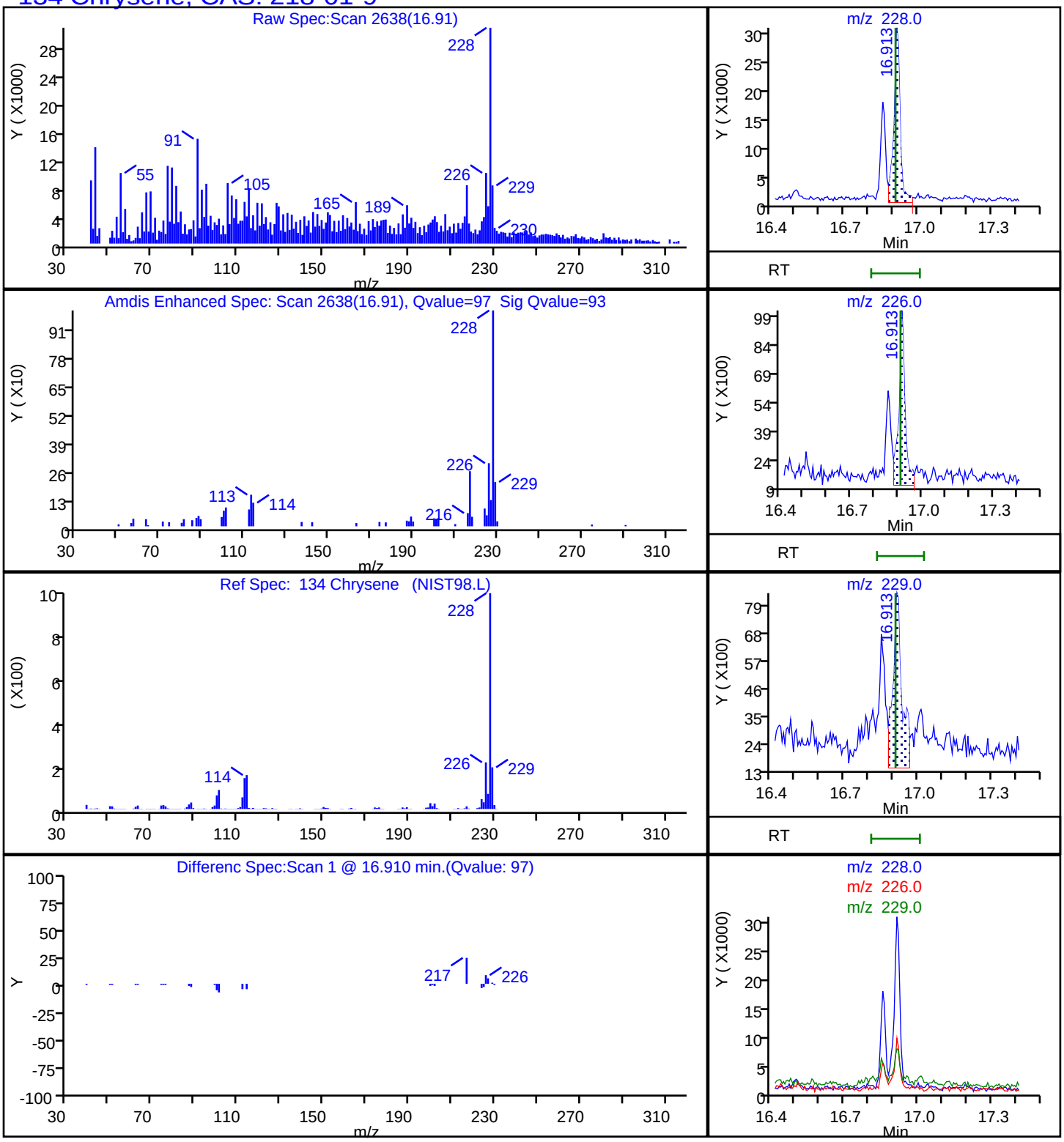
Report Date: 19-Aug-2020 13:58:12 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D

Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6
Client ID:	WPA-GW-02		
Operator ID:	em10340	ALS Bottle#:	16 Worklist Smp#: 15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

134 Chrysene, CAS: 218-01-9



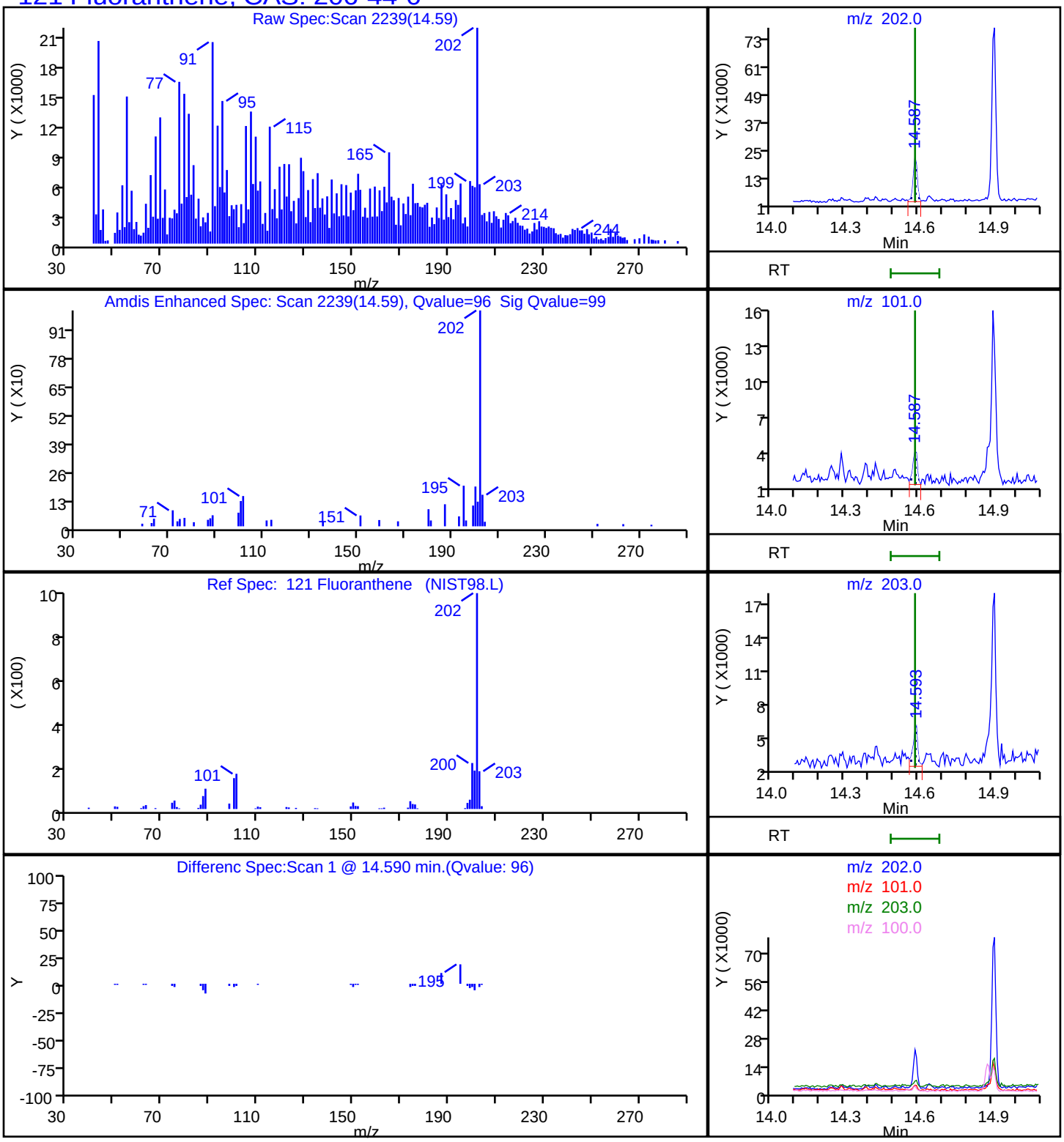
Report Date: 19-Aug-2020 13:58:12 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D

Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6
Client ID:	WPA-GW-02		
Operator ID:	em10340	ALS Bottle#:	16 Worklist Smp#: 15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

121 Fluoranthene, CAS: 206-44-0

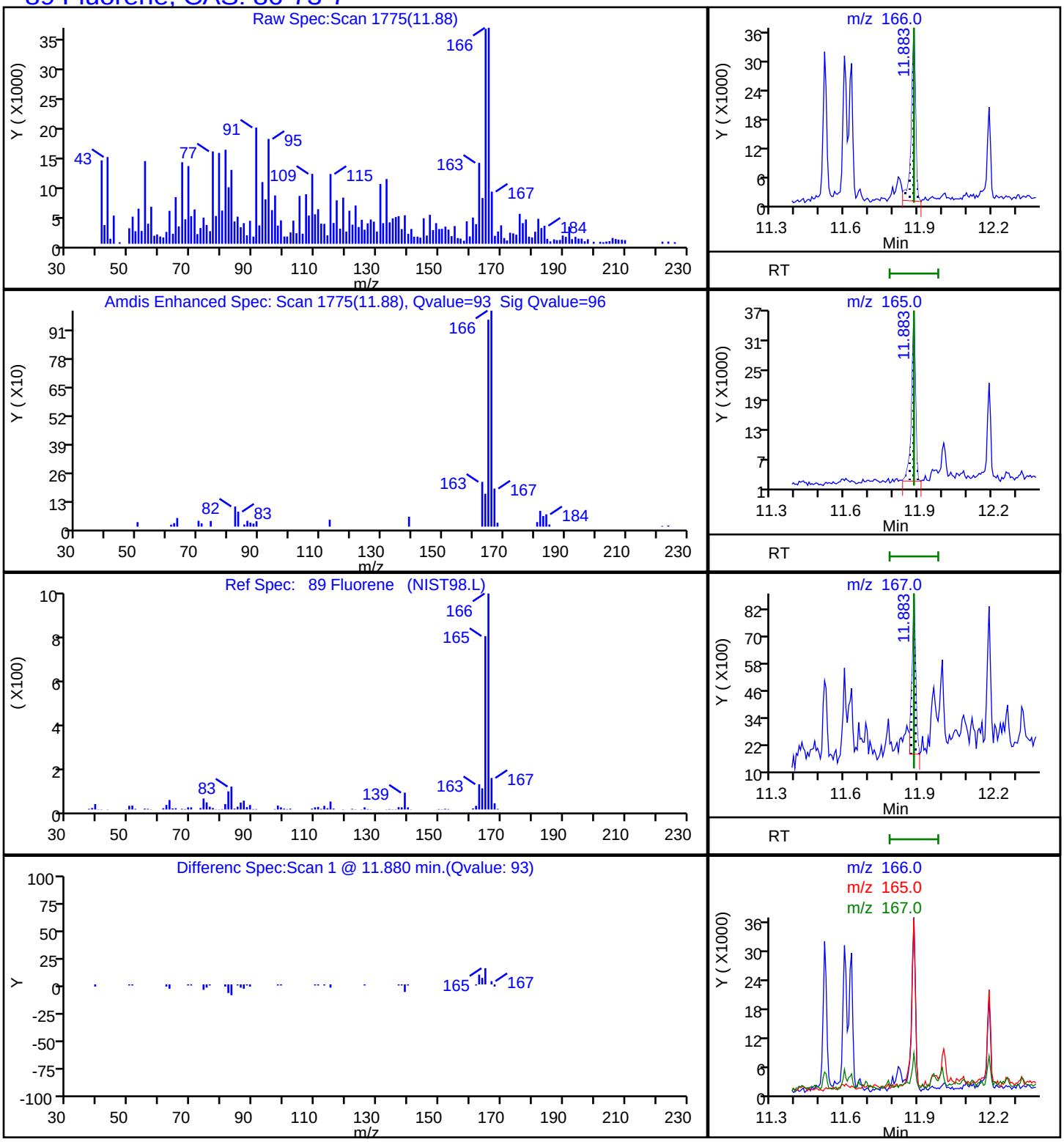


Report Date: 19-Aug-2020 13:58:11 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D				
Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	em10340	ALS Bottle#:	16	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

89 Fluorene, CAS: 86-73-7

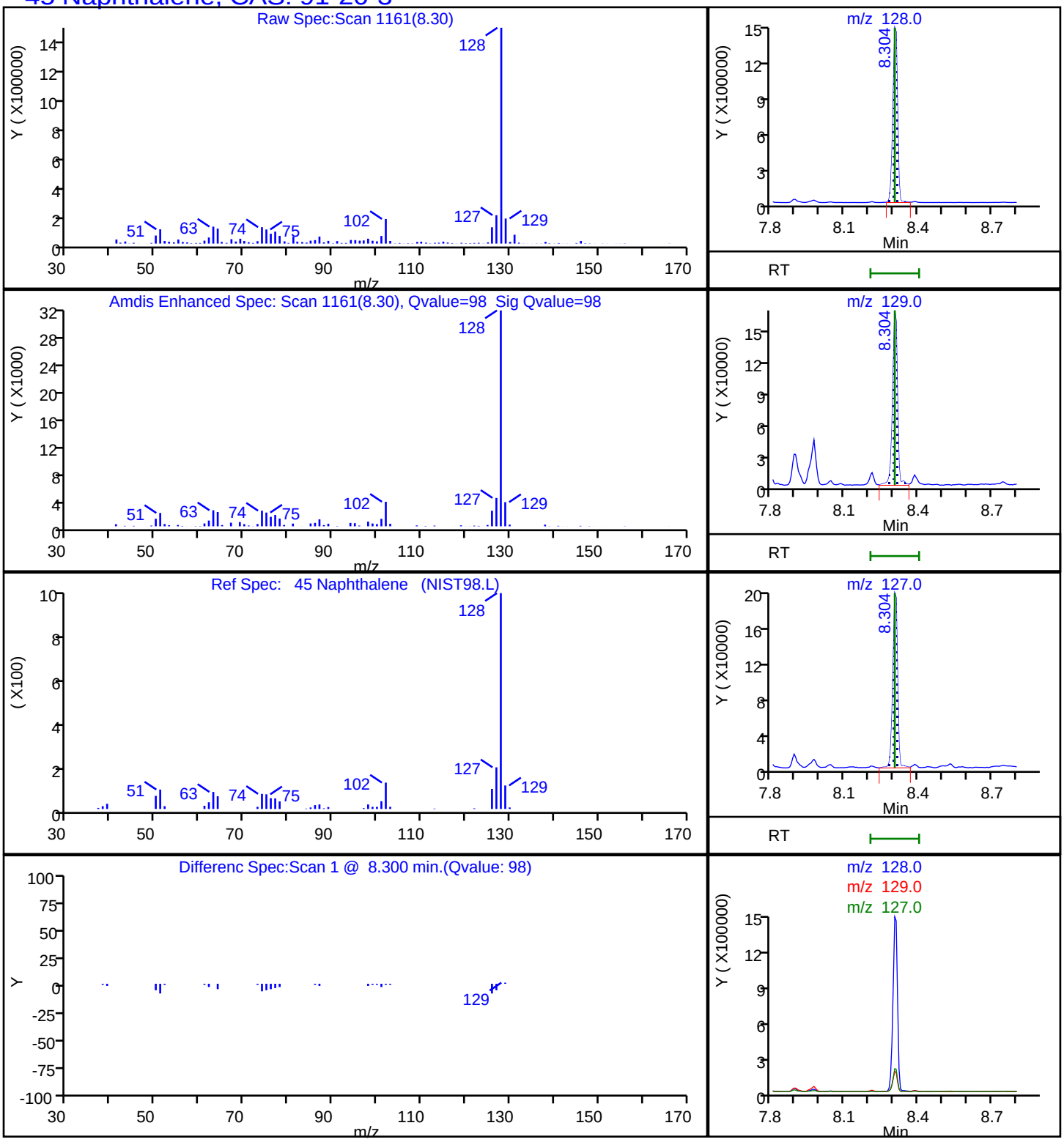


Report Date: 19-Aug-2020 13:58:11 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D		
Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6
Client ID:	WPA-GW-02		
Operator ID:	em10340	ALS Bottle#:	16 Worklist Smp#: 15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

45 Naphthalene, CAS: 91-20-3

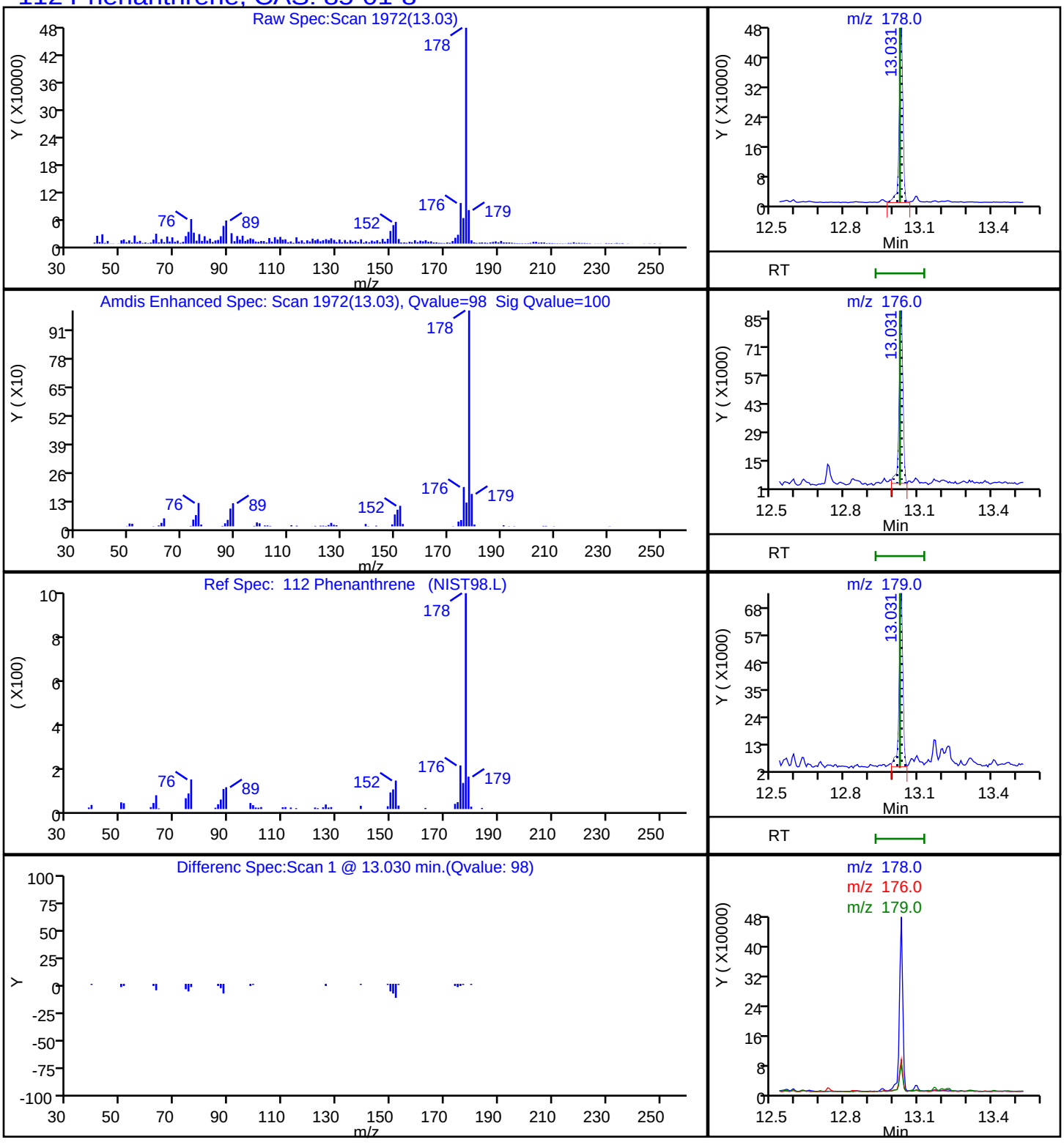


Report Date: 19-Aug-2020 13:58:12 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D		
Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6
Client ID:	WPA-GW-02		
Operator ID:	em10340	ALS Bottle#:	16 Worklist Smp#: 15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

112 Phenanthrene, CAS: 85-01-8



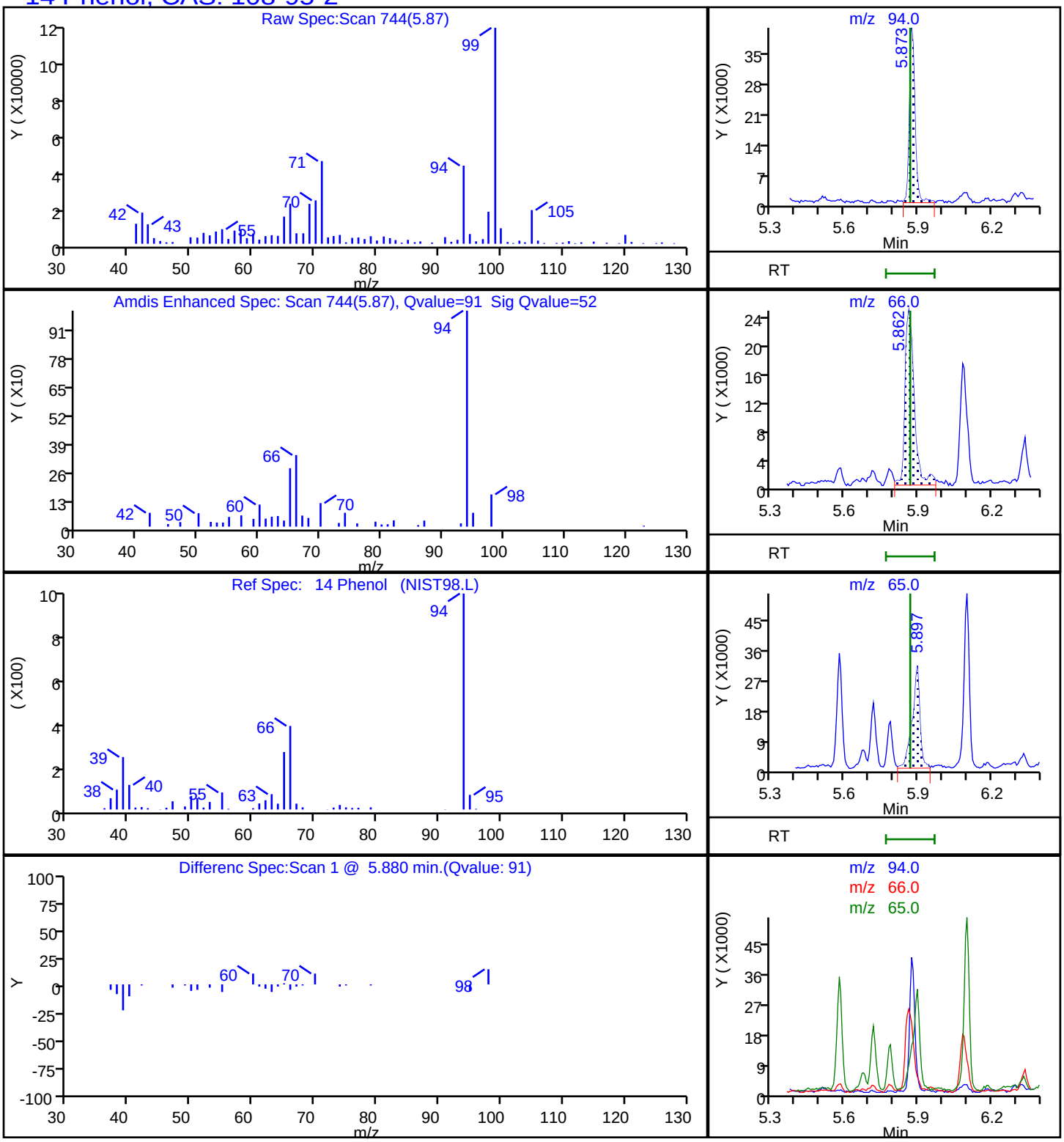
Report Date: 19-Aug-2020 13:58:11 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D

Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6
Client ID:	WPA-GW-02		
Operator ID:	em10340	ALS Bottle#:	16 Worklist Smp#: 15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

14 Phenol, CAS: 108-95-2



Report Date: 19-Aug-2020 13:58:12 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D

Injection Date: 18-Aug-2020 16:43:30 Instrument ID: HP19760

Lims ID: 410-10696-C-6-A Lab Sample ID: 410-10696-6

Client ID: WPA-GW-02

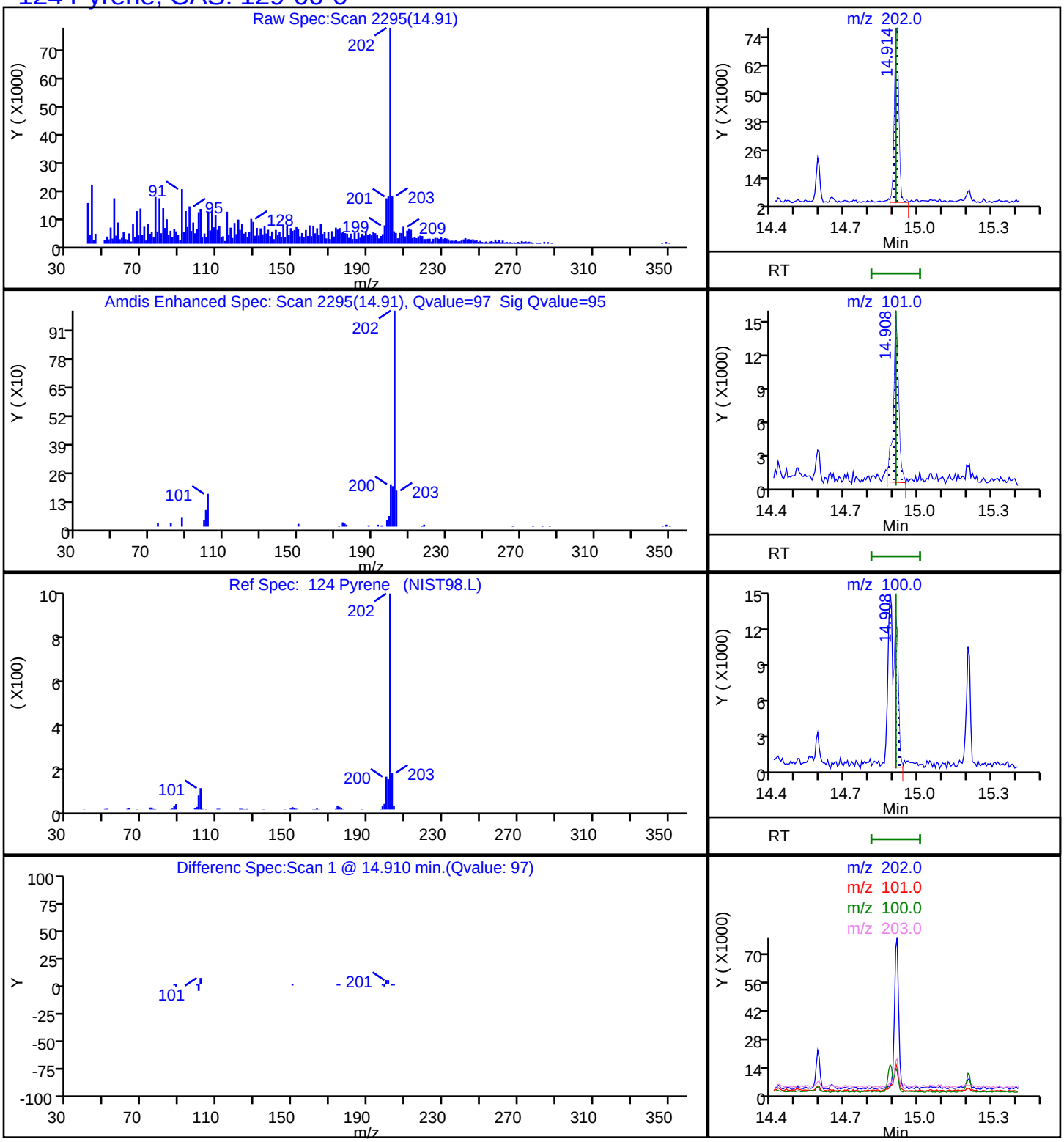
Operator ID: em10340 ALS Bottle#: 16 Worklist Smp#: 15

Injection Vol: 1.0 ul Dil. Factor: 1.0000

Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI

Column: DB-5MS 20m 0.25mm (0.25 mm) Detector MS SCAN

124 Pyrene, CAS: 129-00-0



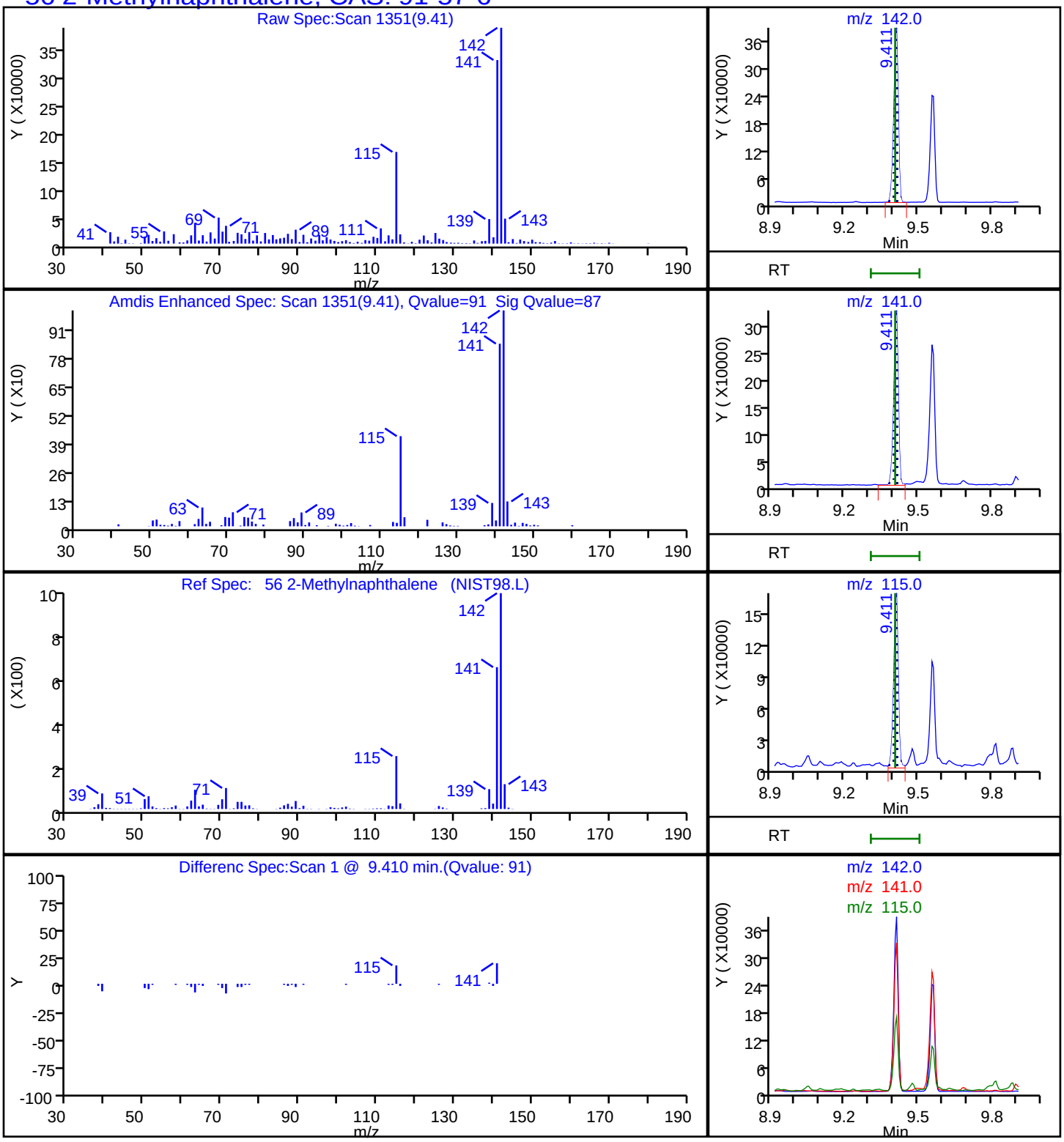
Report Date: 19-Aug-2020 13:58:11 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D

Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6
Client ID:	WPA-GW-02		
Operator ID:	em10340	ALS Bottle#:	16 Worklist Smp#: 15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

56 2-Methylnaphthalene, CAS: 91-57-6



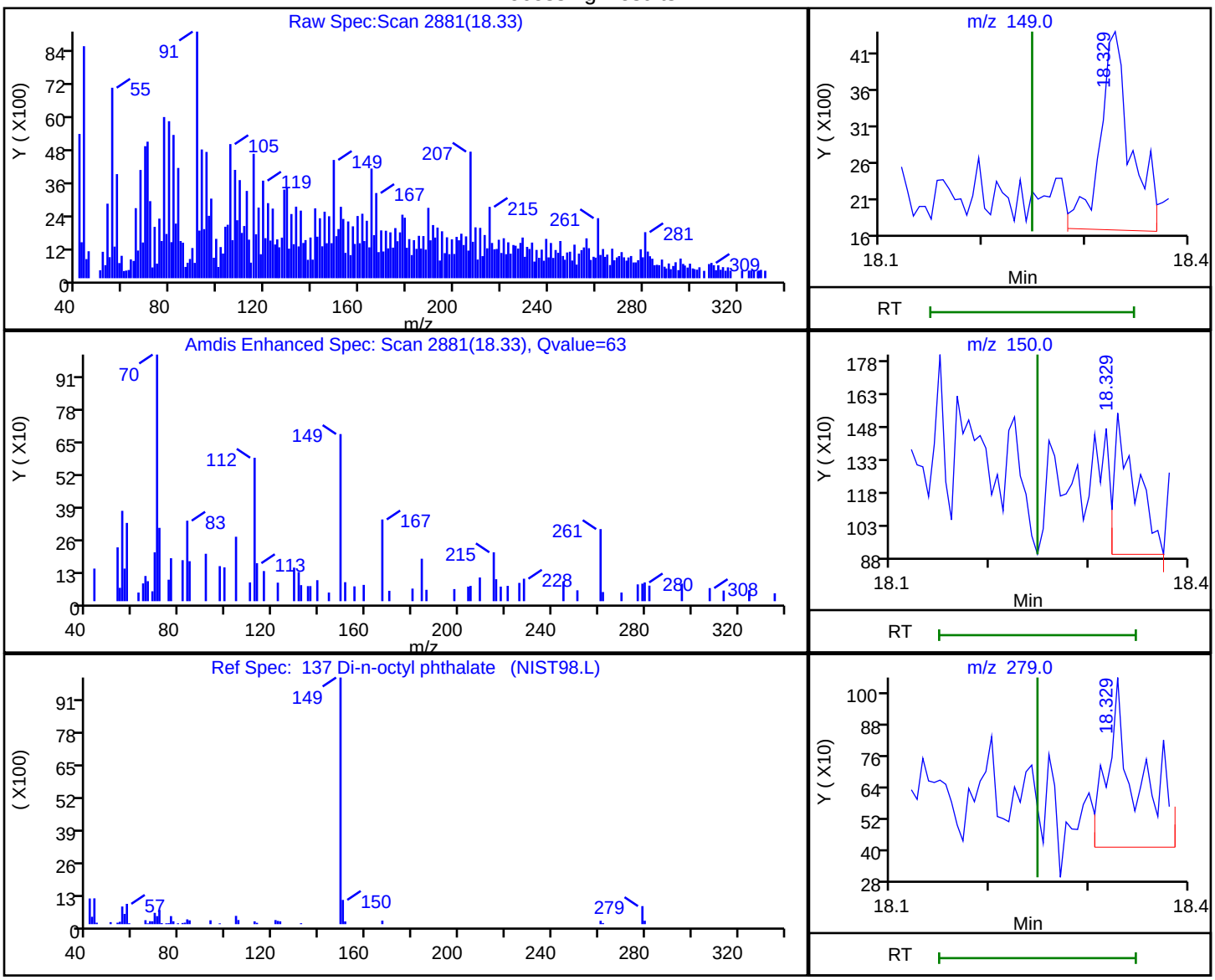
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D				
Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	em10340	ALS Bottle#:	16	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

137 Di-n-octyl phthalate, CAS: 117-84-0

Processing Results



RT	Mass	Response	Amount
18.33	149.00	5569	0.981205
18.33	150.00	947	
18.33	279.00	1313	

Reviewer: monbornee, 19-Aug-2020 09:27:45

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

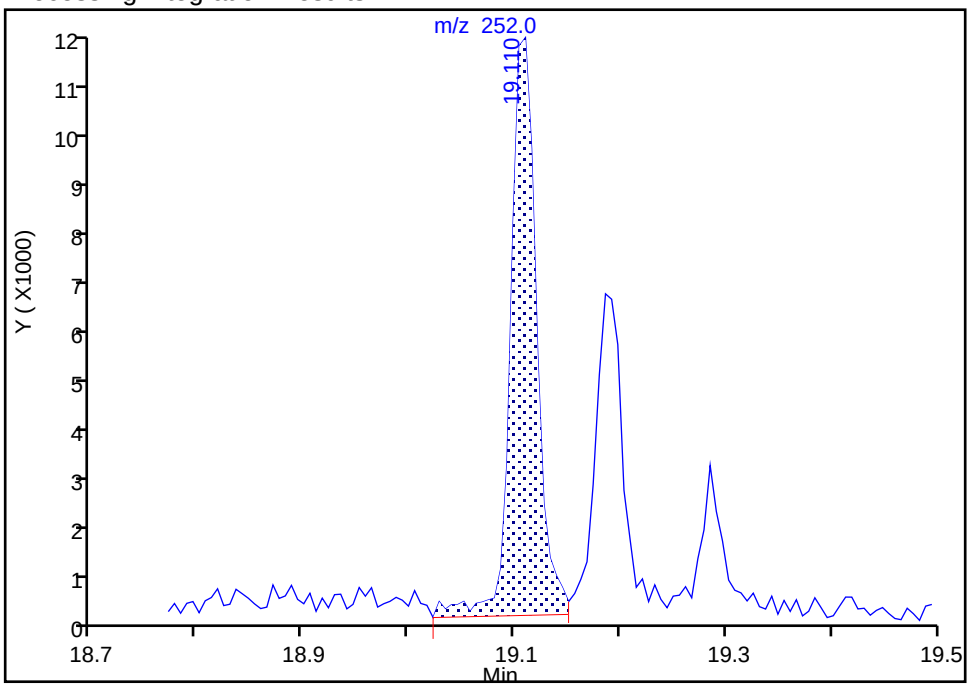
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D				
Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	em10340	ALS Bottle#:	16	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

141 Benzo[a]pyrene, CAS: 50-32-8

Signal: 1

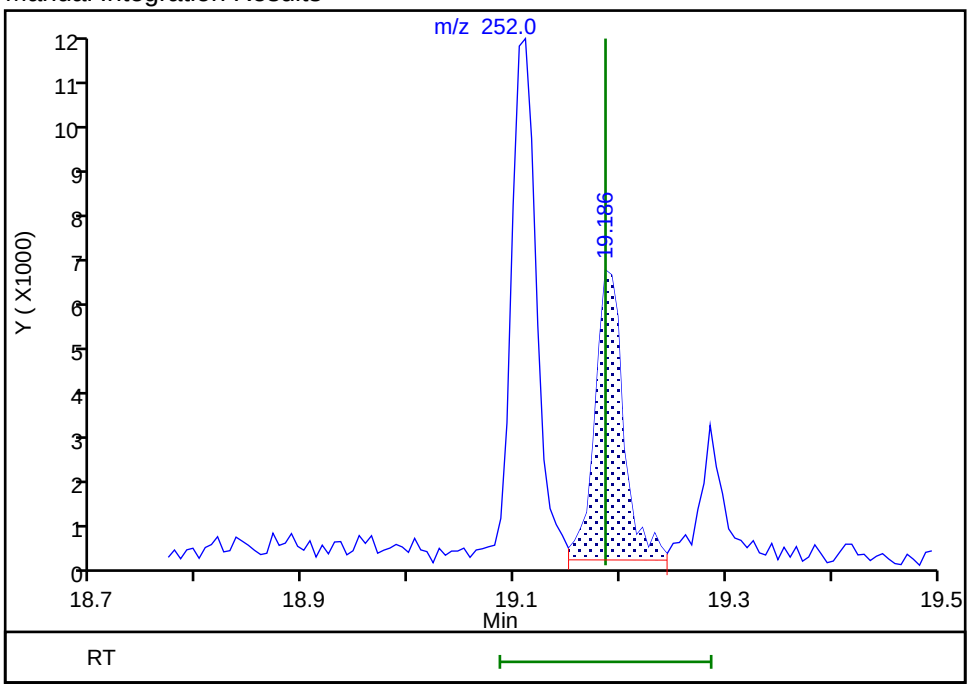
Processing Integration Results

RT: 19.11
Area: 18590
Amount: 0.176758
Amount Units: ug/ml



Manual Integration Results

RT: 19.19
Area: 11222
Amount: 0.145877
Amount Units: ug/ml



Reviewer: monbornee, 19-Aug-2020 09:27:57

Audit Action: Assigned Compound ID Audit Reason: Split Peak

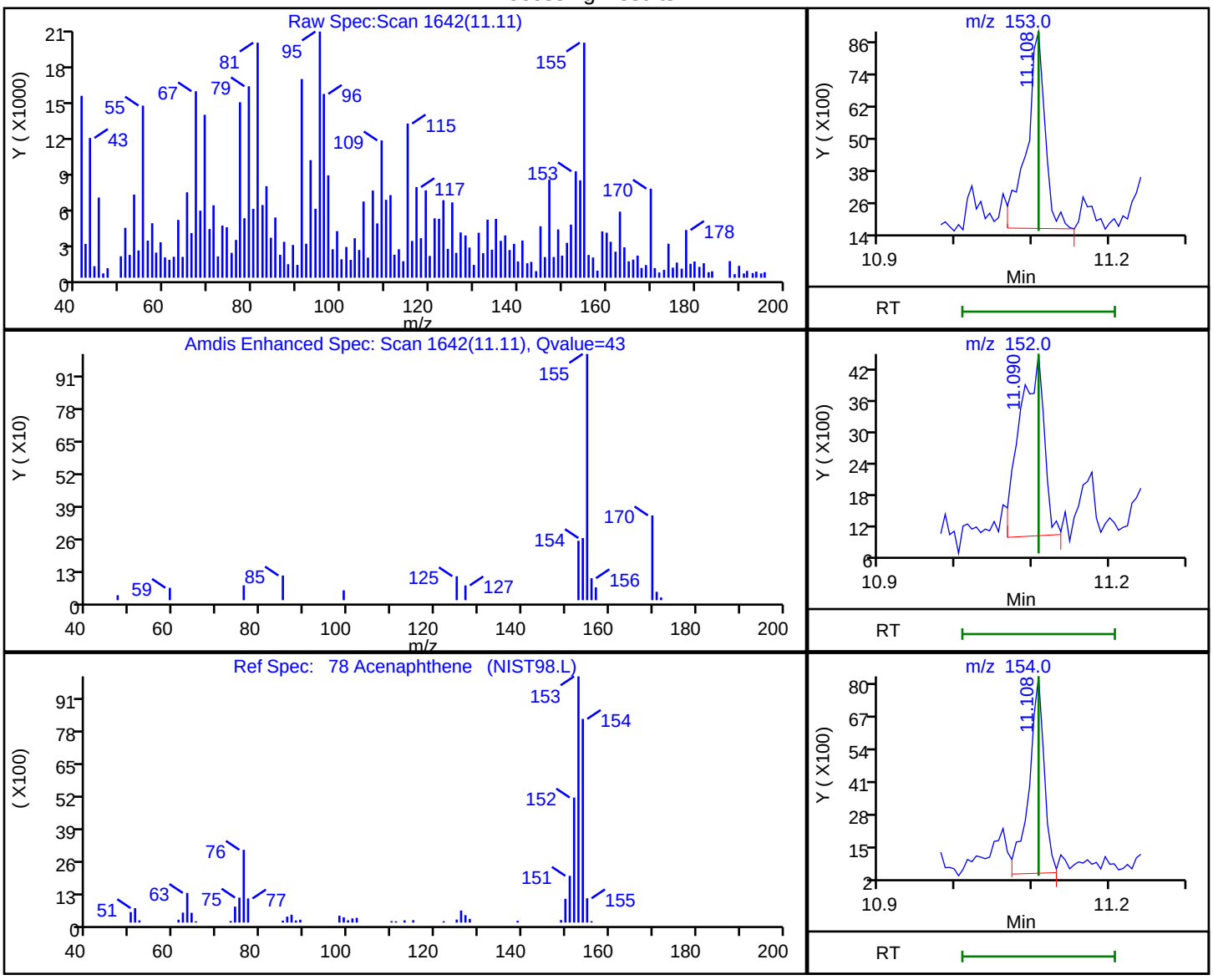
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D				
Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	em10340	ALS Bottle#:	16	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

78 Acenaphthene, CAS: 83-32-9

Processing Results



RT	Mass	Response	Amount
11.11	153.00	12244	0.096032
11.09	152.00	7560	
11.11	154.00	10594	

Reviewer: monbornee, 19-Aug-2020 09:27:05

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

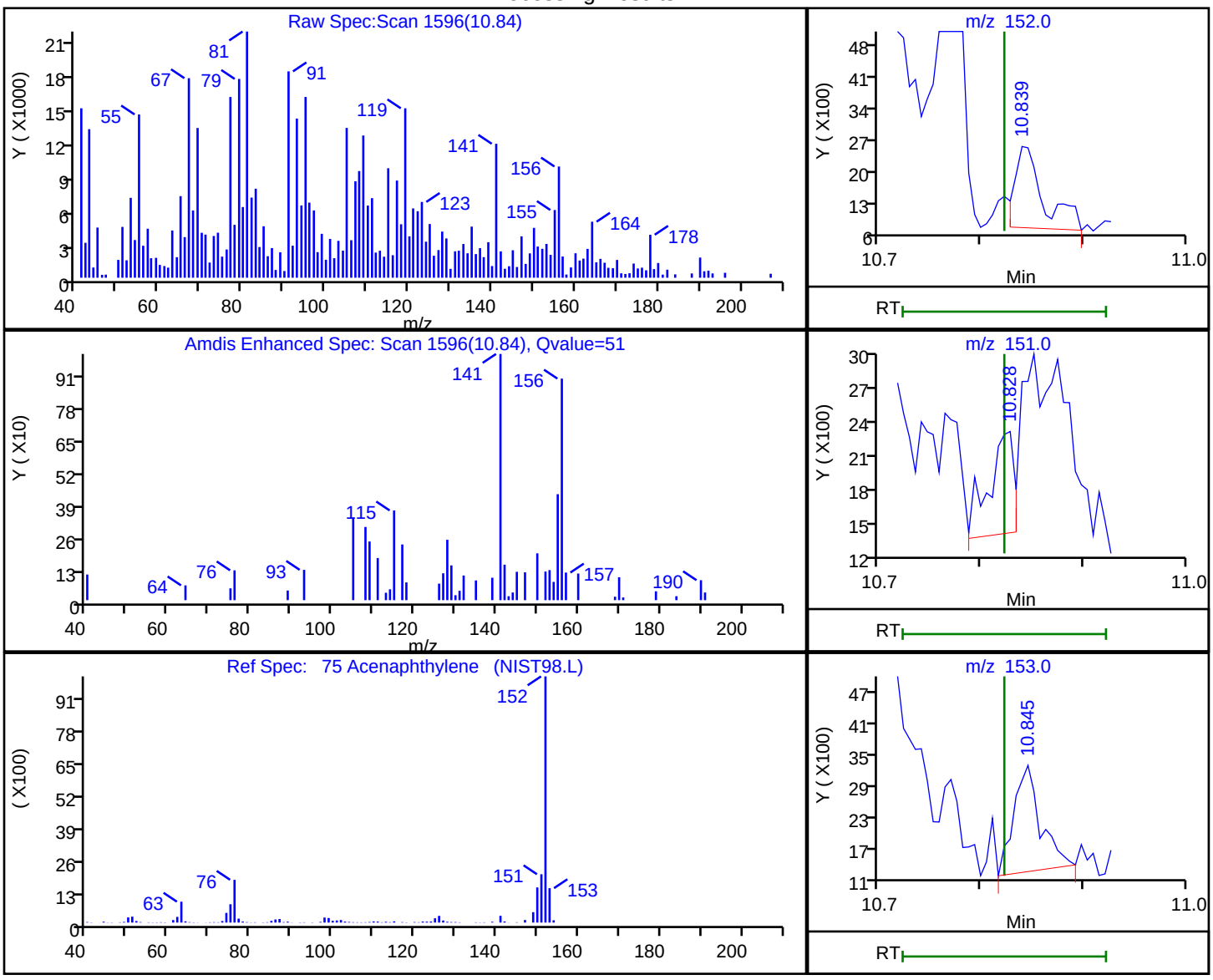
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D				
Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	em10340	ALS Bottle#:	16	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

75 Acenaphthylene, CAS: 208-96-8

Processing Results



RT	Mass	Response	Amount
10.84	152.00	3406	0.020242
10.83	151.00	1413	
10.85	153.00	3646	

Reviewer: monbornee, 19-Aug-2020 09:26:55

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

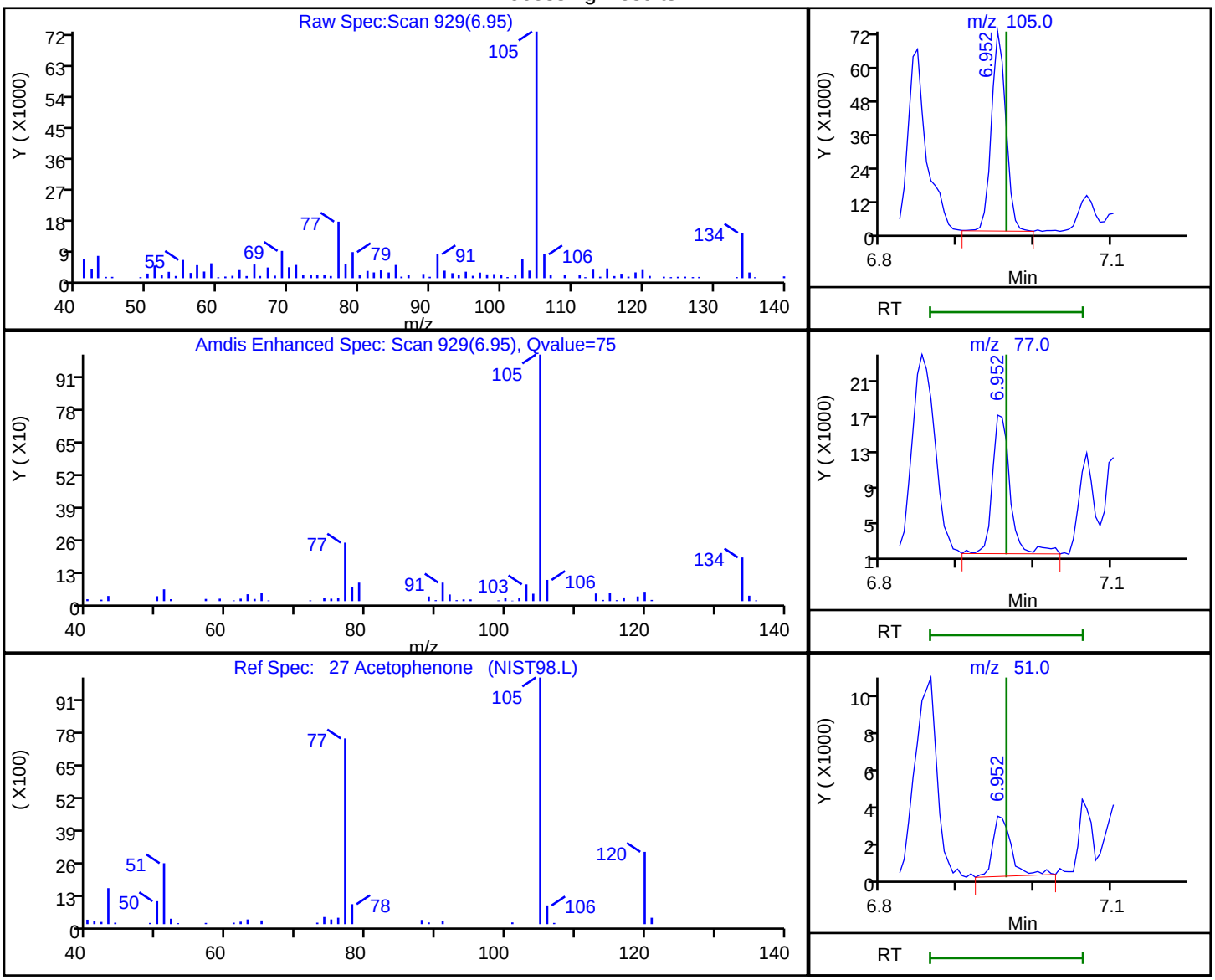
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D				
Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	em10340	ALS Bottle#:	16	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

27 Acetophenone, CAS: 98-86-2

Processing Results



RT	Mass	Response	Amount
6.95	105.00	95034	0.954830
6.95	77.00	24562	
6.95	51.00	5011	

Reviewer: monbornee, 19-Aug-2020 09:26:32

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

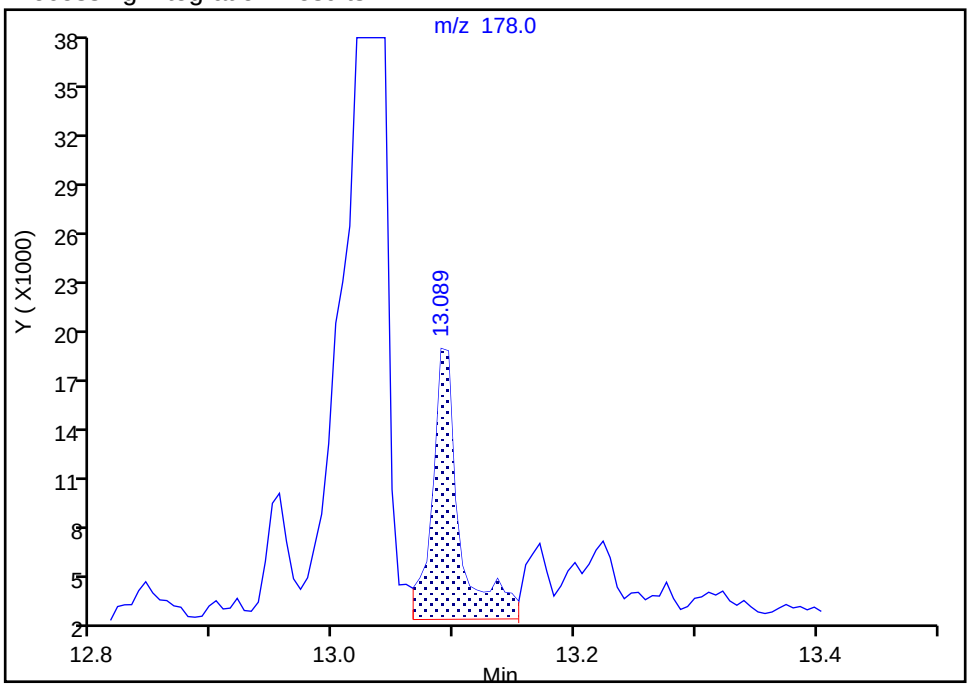
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D		
Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6
Client ID:	WPA-GW-02		
Operator ID:	em10340	ALS Bottle#:	16 Worklist Smp#: 15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

113 Anthracene, CAS: 120-12-7

Signal: 1

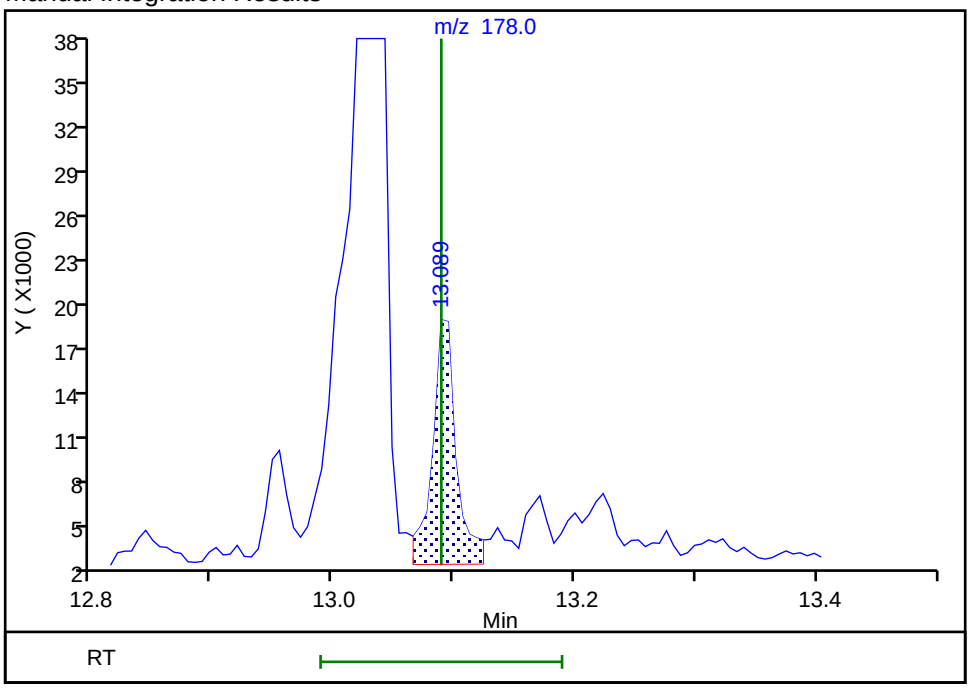
Processing Integration Results

RT: 13.09
Area: 25245
Amount: 0.132101
Amount Units: ug/ml



Manual Integration Results

RT: 13.09
Area: 22231
Amount: 0.116330
Amount Units: ug/ml



Reviewer: monbornee, 19-Aug-2020 09:27:34
Audit Action: Split an Integrated Peak Audit Reason: Split Peak

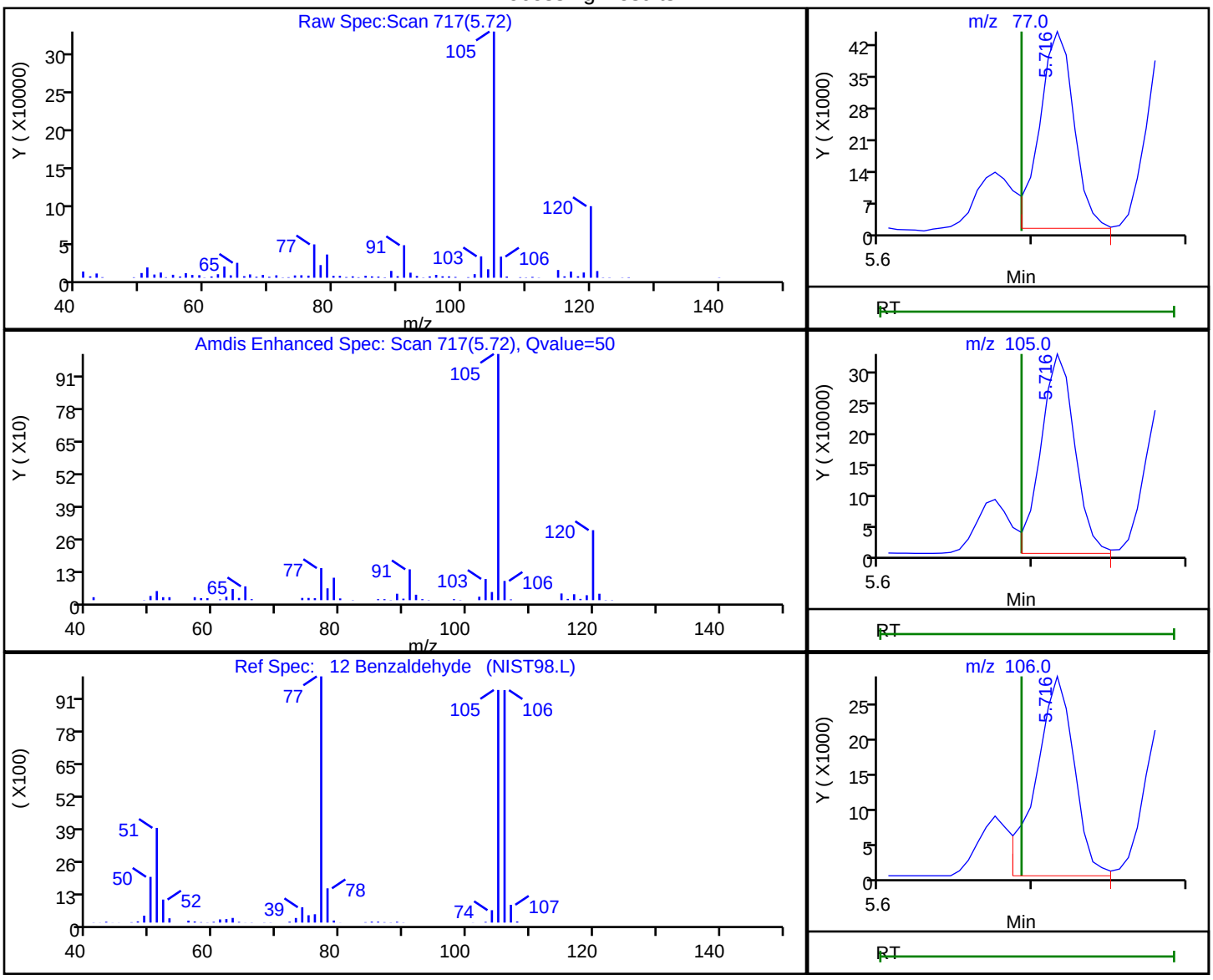
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D				
Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	em10340	ALS Bottle#:	16	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

12 Benzaldehyde, CAS: 100-52-7

Processing Results



RT	Mass	Response	Amount
5.72	77.00	66873	1.002920
5.72	105.00	500653	
5.72	106.00	47828	

Reviewer: monbornee, 19-Aug-2020 09:26:24

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

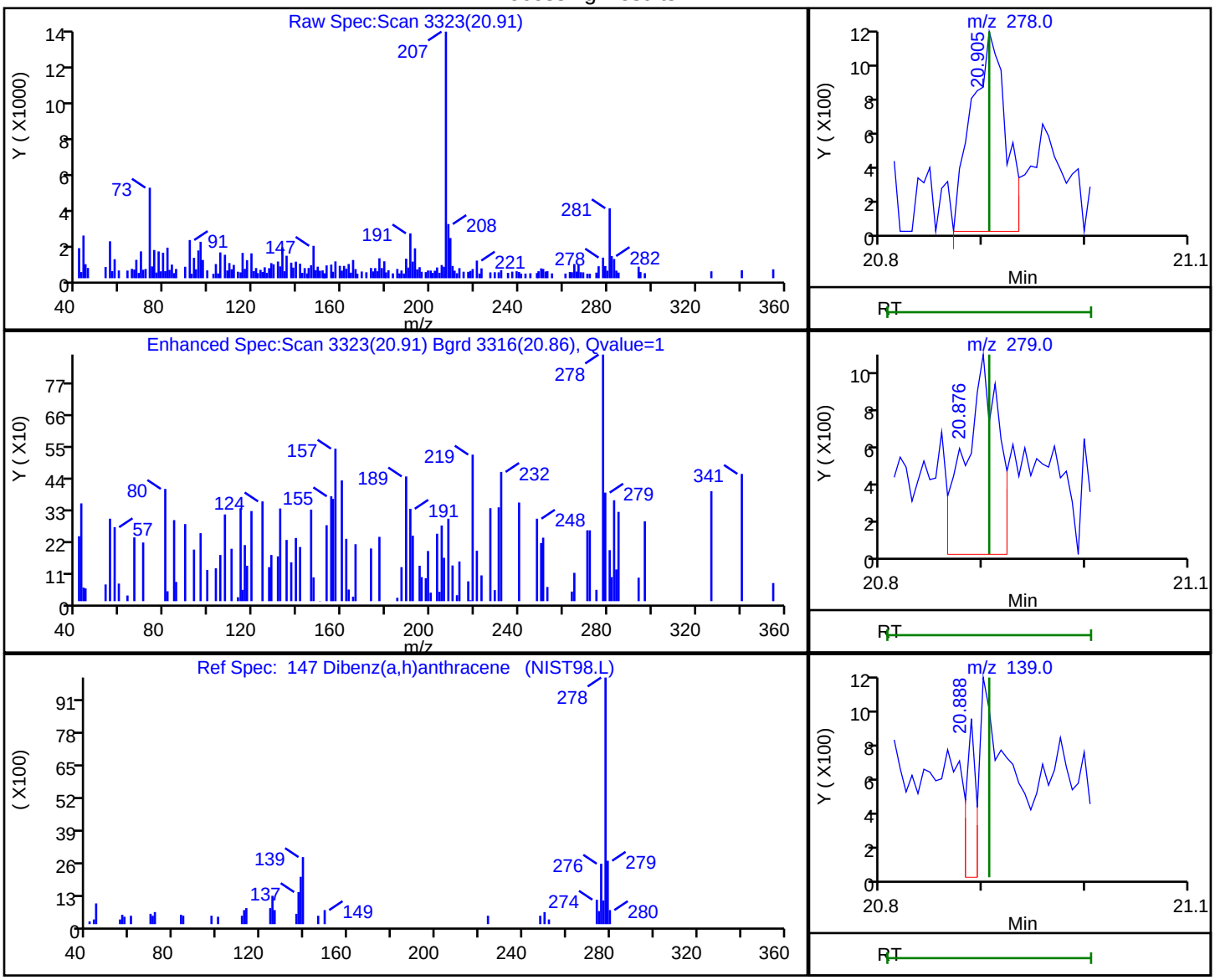
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D				
Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	em10340	ALS Bottle#:	16	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

147 Dibenz(a,h)anthracene, CAS: 53-70-3

Processing Results



RT	Mass	Response	Amount
20.91	278.00	2616	0.120968
20.88	279.00	2227	
20.89	139.00	449	

Reviewer: monbornee, 19-Aug-2020 09:28:02

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

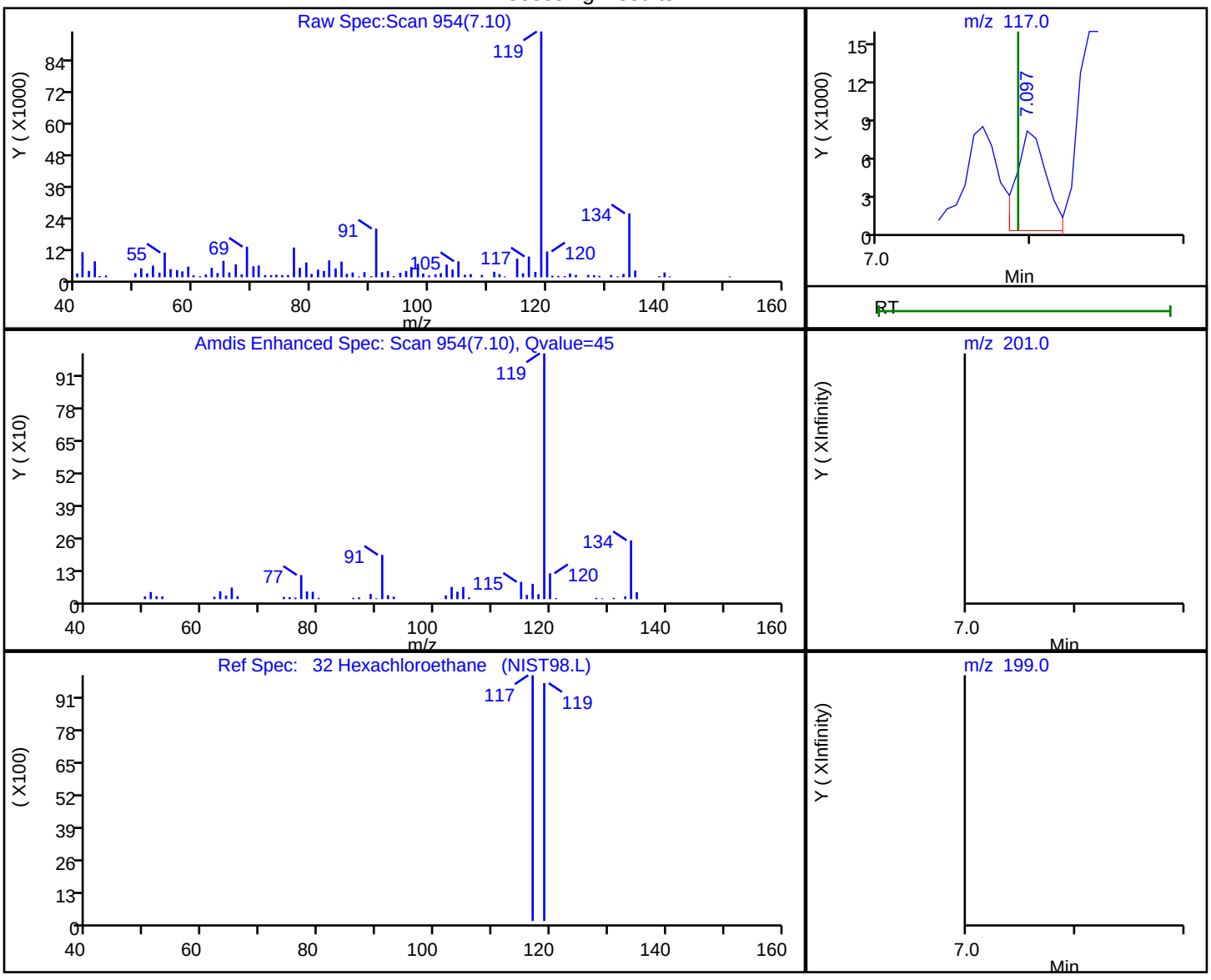
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D				
Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	em10340	ALS Bottle#:	16	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

32 Hexachloroethane, CAS: 67-72-1

Processing Results



RT	Mass	Response	Amount
7.10	117.00	10233	0.290607
7.09	201.00	0	
7.09	199.00	0	

Reviewer: monbornee, 19-Aug-2020 09:26:34

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

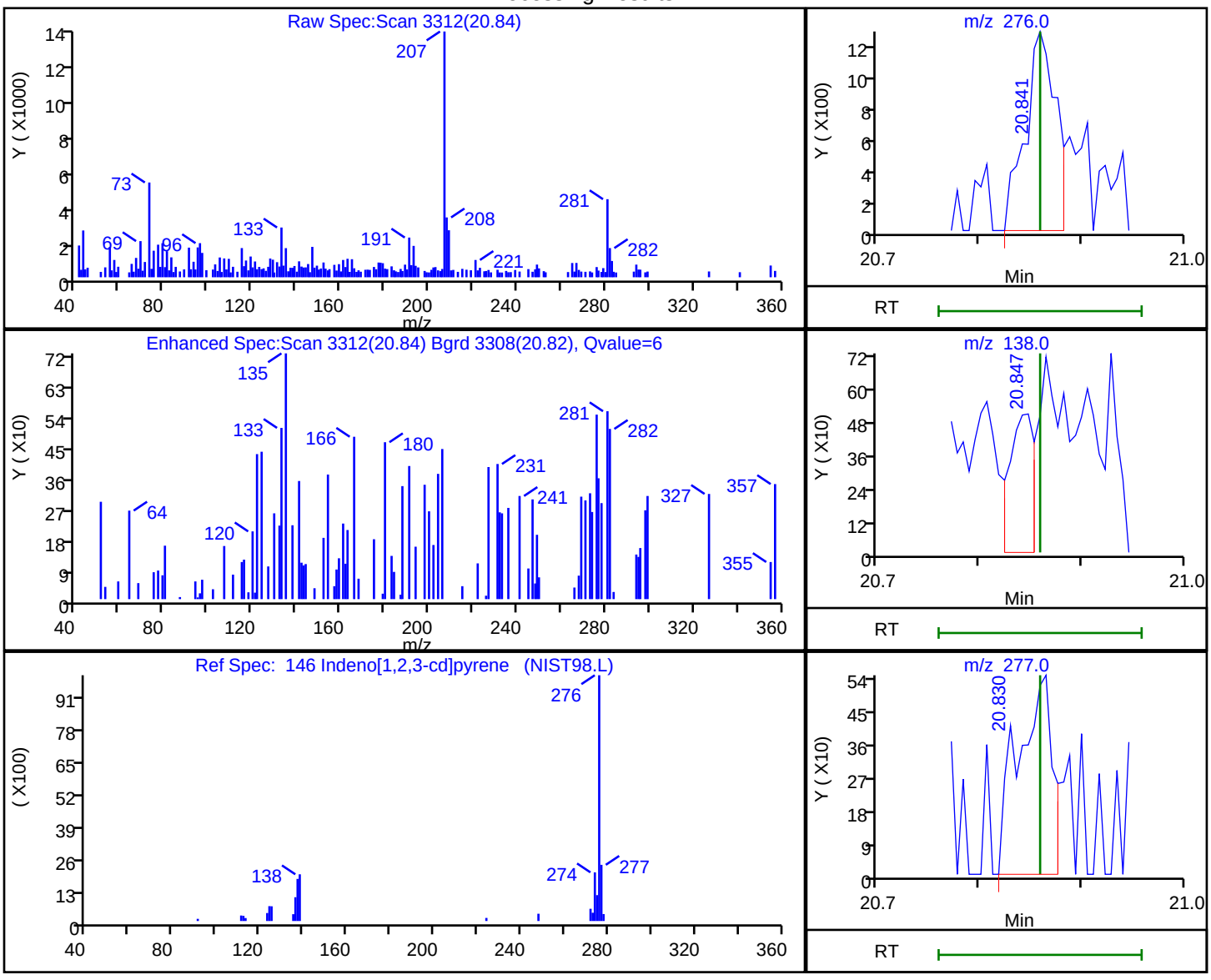
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D				
Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	em10340	ALS Bottle#:	16	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

146 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Processing Results



RT	Mass	Response	Amount
20.84	276.00	2539	0.135668
20.85	138.00	740	
20.83	277.00	1239	

Reviewer: monbornee, 19-Aug-2020 09:28:01

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

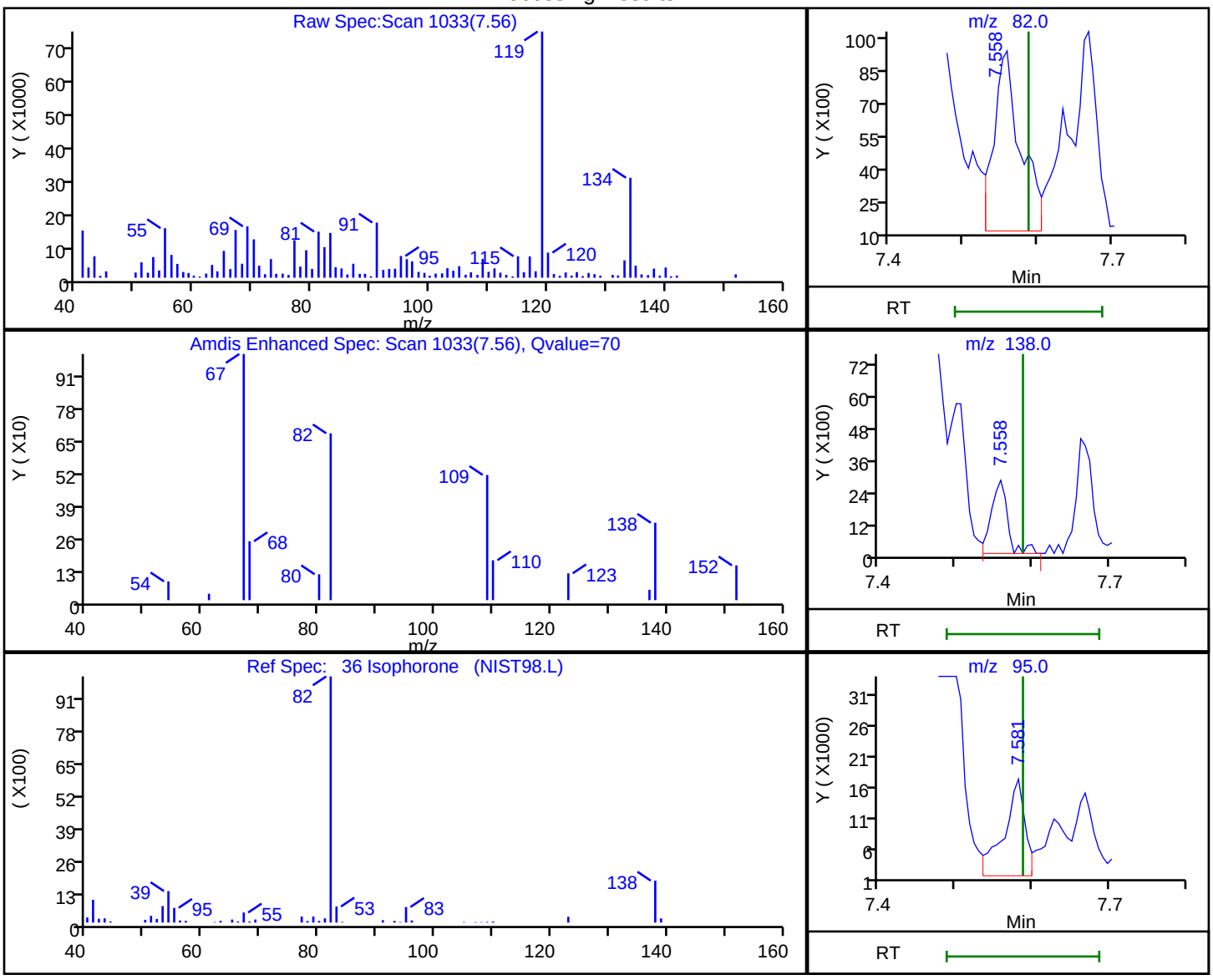
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D				
Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	em10340	ALS Bottle#:	16	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

36 Isophorone, CAS: 78-59-1

Processing Results



RT	Mass	Response	Amount
7.56	82.00	20243	0.134145
7.56	138.00	4062	
7.58	95.00	29719	

Reviewer: monbornee, 19-Aug-2020 09:26:38

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Report Date: 19-Aug-2020 13:58:11 Chrom Revision: 2.3 17-Aug-2020 20:42:08

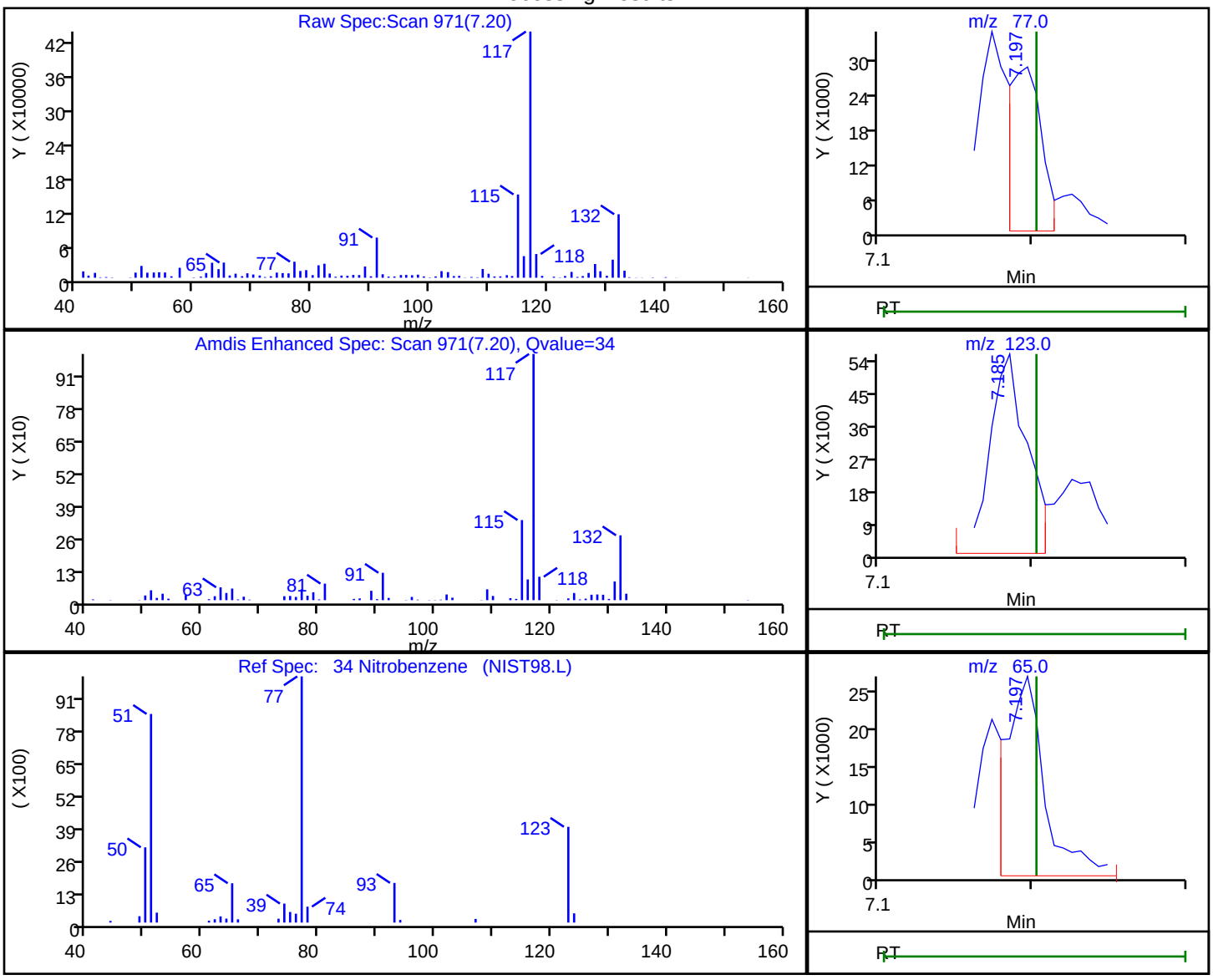
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D				
Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	em10340	ALS Bottle#:	16	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

34 Nitrobenzene, CAS: 98-95-3

Processing Results



RT	Mass	Response	Amount
7.20	77.00	36306	0.410234
7.18	123.00	9208	
7.20	65.00	43909	

Reviewer: monbornee, 19-Aug-2020 09:26:37

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

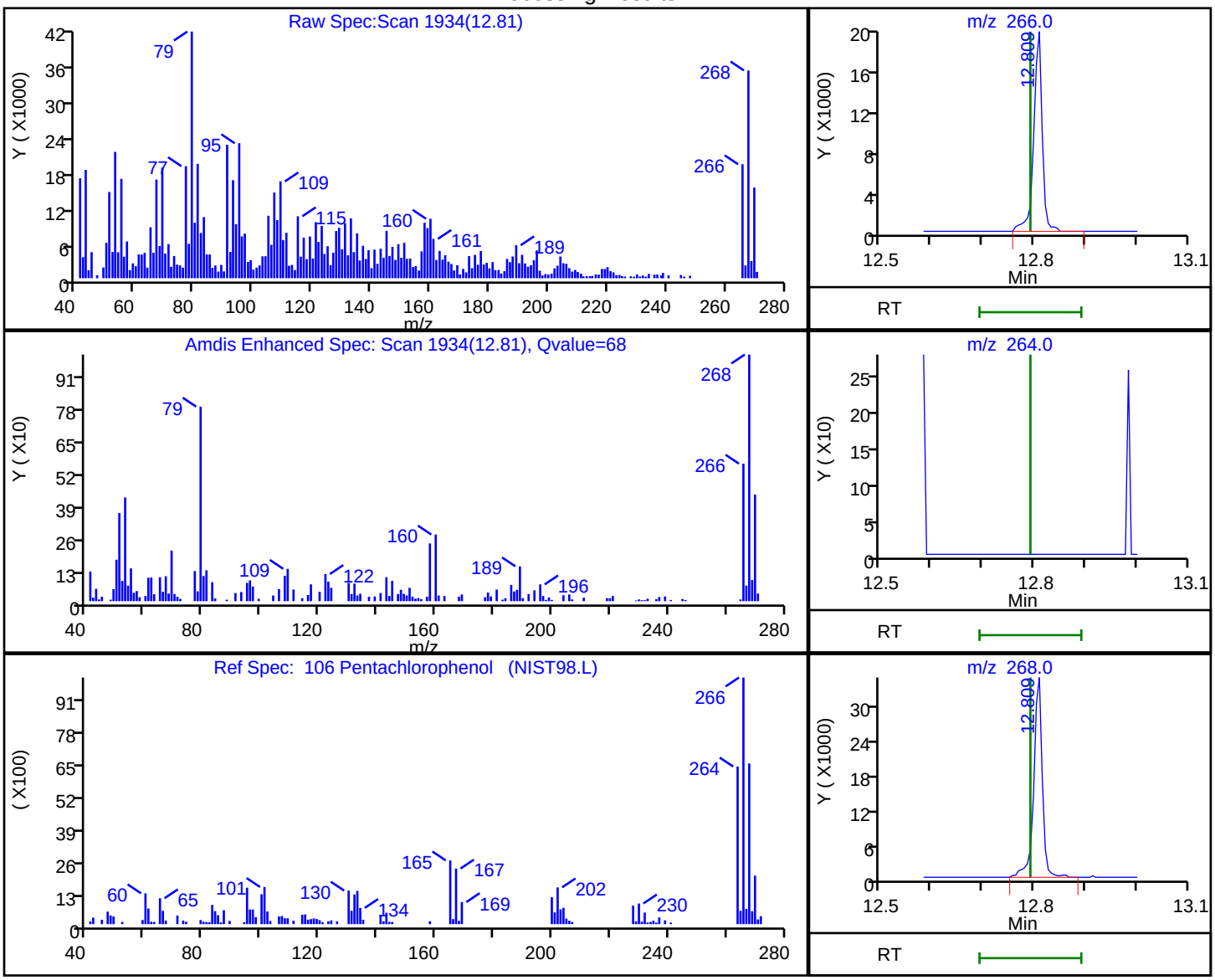
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D				
Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	em10340	ALS Bottle#:	16	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

106 Pentachlorophenol, CAS: 87-86-5

Processing Results



RT	Mass	Response	Amount
12.81	266.00	22097	0.857778
12.79	264.00	0	
12.81	268.00	40679	

Reviewer: monbornee, 19-Aug-2020 09:27:21

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

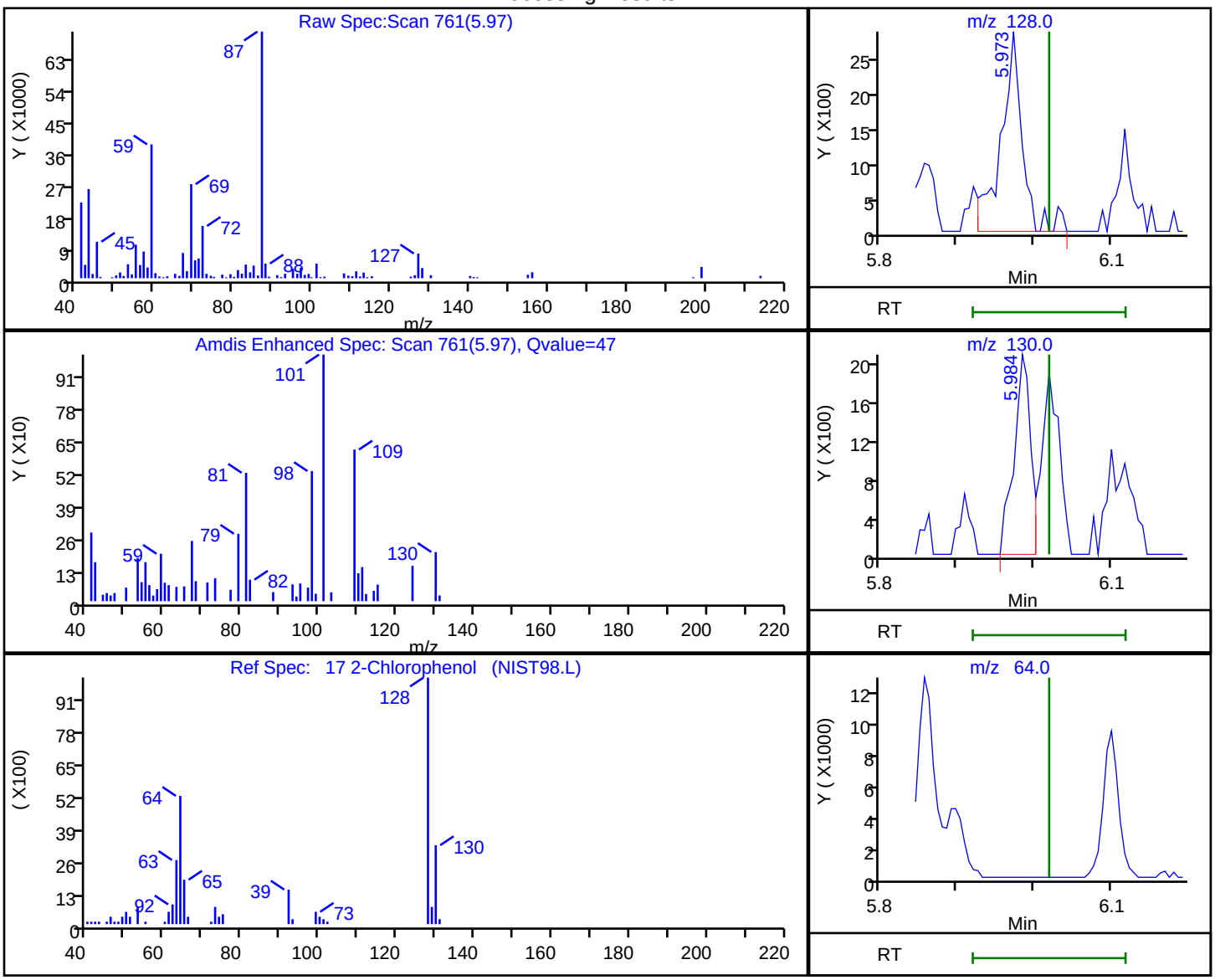
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D				
Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	em10340	ALS Bottle#:	16	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

17 2-Chlorophenol, CAS: 95-57-8

Processing Results



RT	Mass	Response	Amount
5.97	128.00	5532	0.081632
5.98	130.00	3087	
6.02	64.00	0	

Reviewer: monbornee, 19-Aug-2020 09:26:28

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

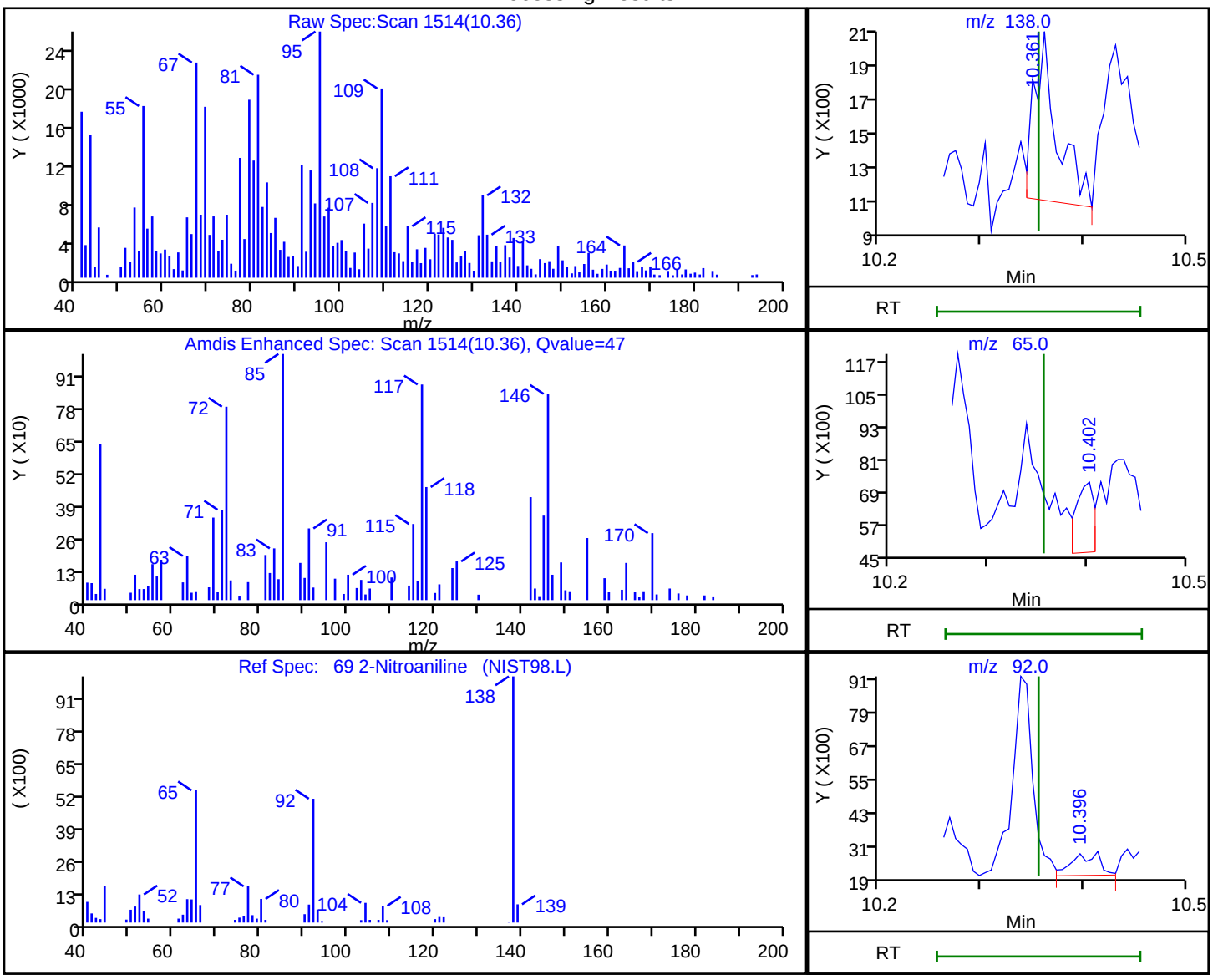
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D				
Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	em10340	ALS Bottle#:	16	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

69 2-Nitroaniline, CAS: 88-74-4

Processing Results



RT	Mass	Response	Amount
10.36	138.00	1533	0.269627
10.40	65.00	2952	
10.40	92.00	1499	

Reviewer: monbornee, 19-Aug-2020 09:26:53

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

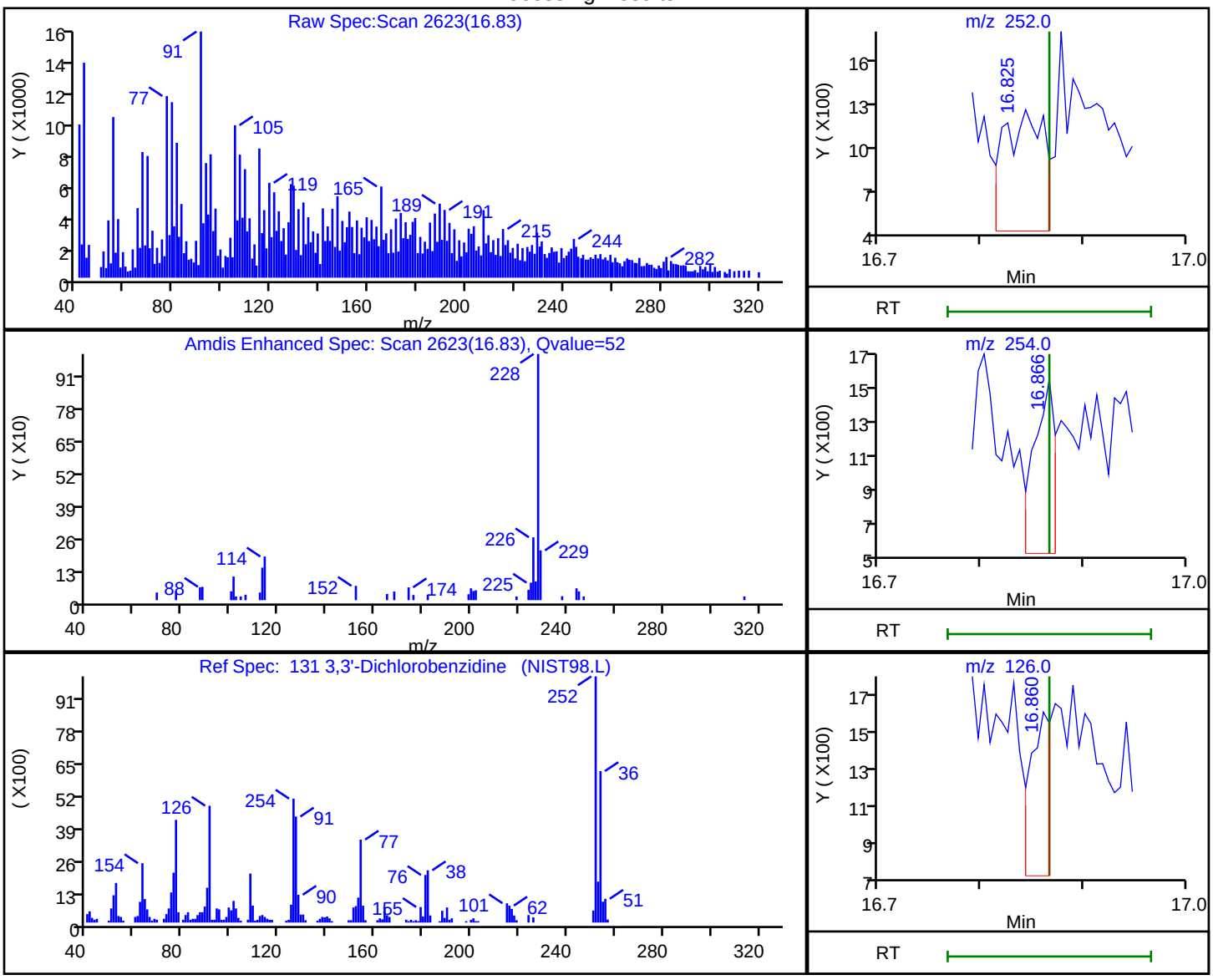
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D		
Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6
Client ID:	WPA-GW-02		
Operator ID:	em10340	ALS Bottle#:	16 Worklist Smp#: 15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

131 3,3'-Dichlorobenzidine, CAS: 91-94-1

Processing Results



RT	Mass	Response	Amount
16.83	252.00	2008	0.788917
16.87	254.00	1202	
16.86	126.00	954	

Reviewer: monbornee, 19-Aug-2020 09:27:48

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

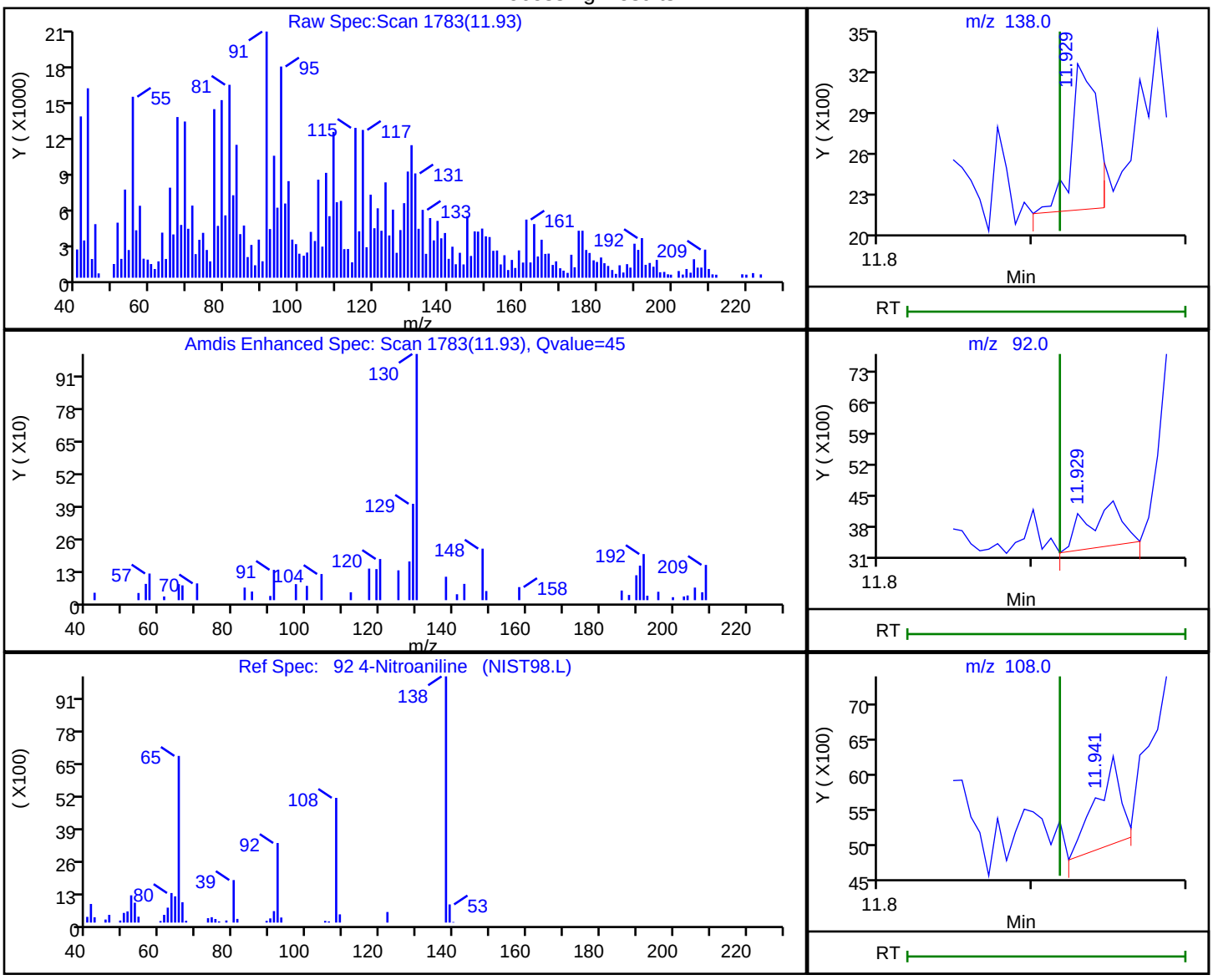
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D				
Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	em10340	ALS Bottle#:	16	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

92 4-Nitroaniline, CAS: 100-01-6

Processing Results



RT	Mass	Response	Amount
11.93	138.00	1207	0.217117
11.93	92.00	1564	
11.94	108.00	1356	
11.92	65.00	2612	

Reviewer: monbornee, 19-Aug-2020 09:27:18

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

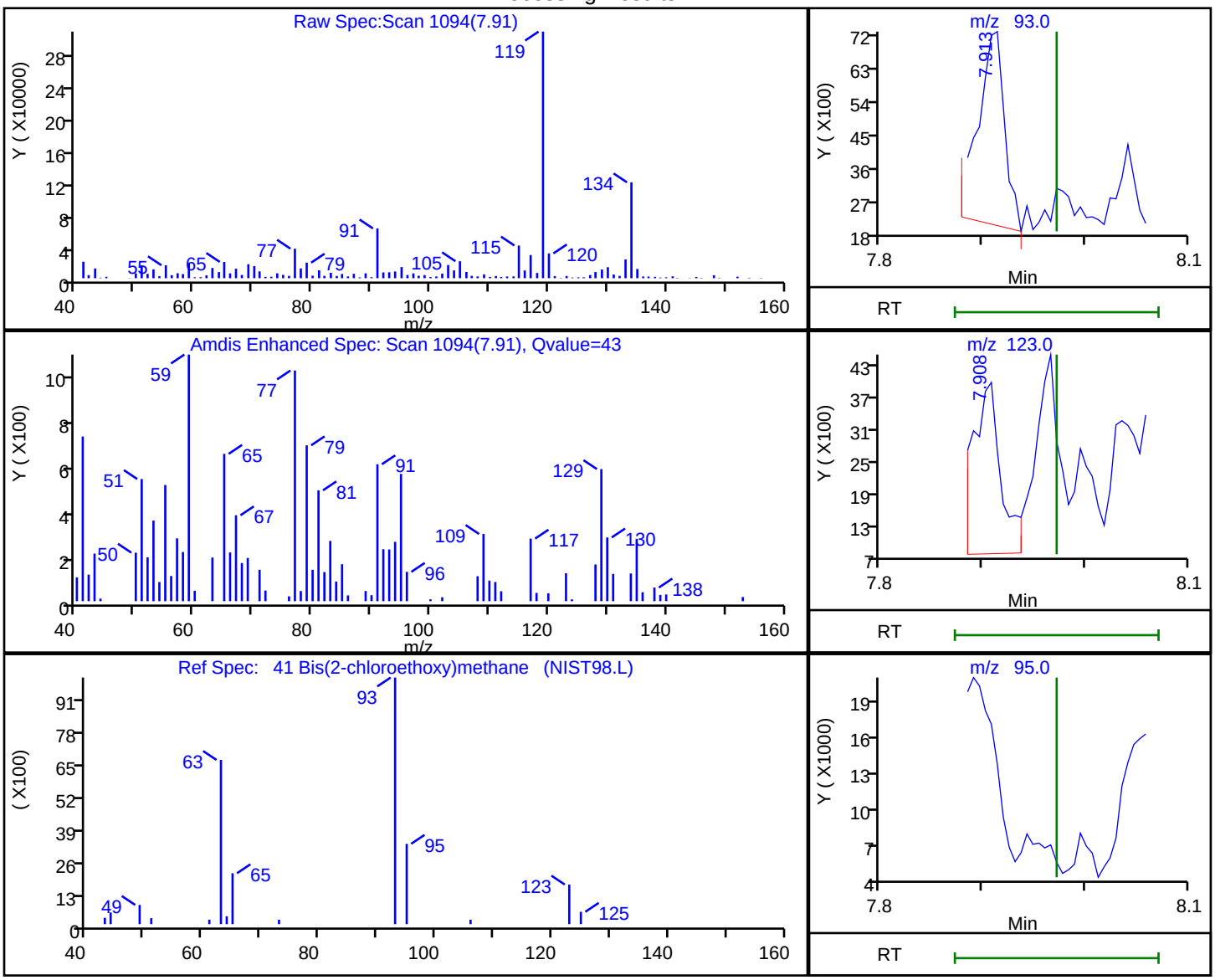
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D				
Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	em10340	ALS Bottle#:	16	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

41 Bis(2-chloroethoxy)methane, CAS: 111-91-1

Processing Results



RT	Mass	Response	Amount
7.91	93.00	9379	0.098035
7.91	123.00	5624	
7.97	95.00	0	

Reviewer: monbornee, 19-Aug-2020 09:26:40

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

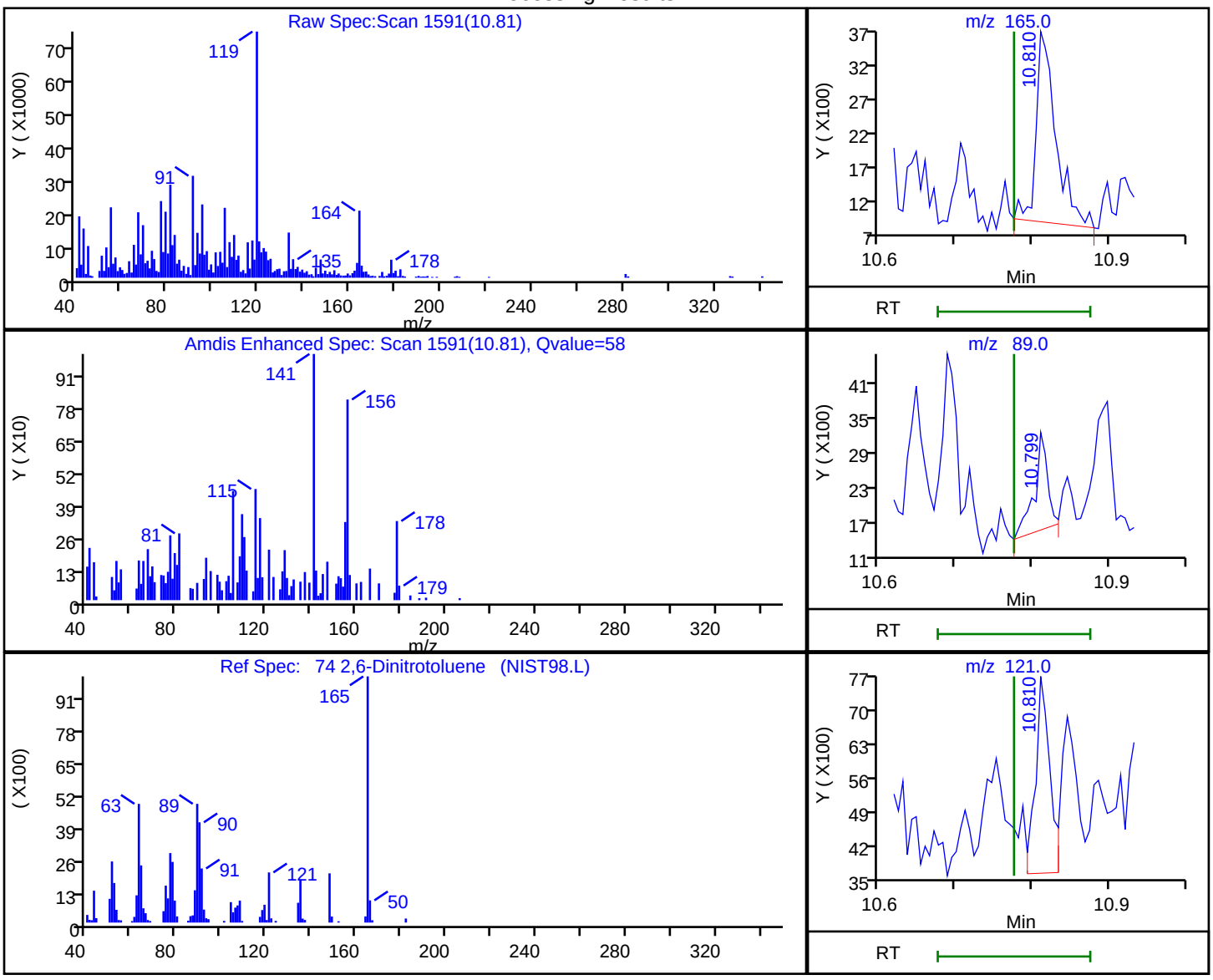
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1015.D				
Injection Date:	18-Aug-2020 16:43:30	Instrument ID:	HP19760		
Lims ID:	410-10696-C-6-A	Lab Sample ID:	410-10696-6		
Client ID:	WPA-GW-02				
Operator ID:	em10340	ALS Bottle#:	16	Worklist Smp#:	15
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

74 2,6-Dinitrotoluene, CAS: 606-20-2

Processing Results



RT	Mass	Response	Amount
10.81	165.00	4913	0.339955
10.80	89.00	1971	
10.81	121.00	5104	
10.81	63.00	5179	

Reviewer: monbornee, 19-Aug-2020 09:26:59

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 28519

SDG No.:

Instrument ID: HP19760 GC Column: DB-5MS 30m ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/31/2020 16:07 Calibration End Date: 07/31/2020 19:41 Calibration ID: 8045

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-28519/3	DG1952.D
Level 2	IC 410-28519/9	DG1958.D
Level 3	IC 410-28519/8	DG1957.D
Level 4	IC 410-28519/7	DG1956.D
Level 5	ICIS 410-28519/2	DG1951.D
Level 6	IC 410-28519/6	DG1955.D
Level 7	IC 410-28519/5	DG1954.D
Level 8	IC 410-28519/4	DG1953.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
1,4-Dioxane	+++++ 0.7105	+++++ 0.7418	0.6026 0.7524	0.6708	0.7231	Ave		0.7002				7.9		20.0			
N-Nitrosodimethylamine	+++++ 1.0627	+++++ 1.0908	0.8803 1.0968	1.0468	1.0287	Ave		1.0344				7.7		20.0			
Pyridine	+++++ 1.8017	+++++ 1.9572	1.6893 1.9929	1.9469	1.8805	Ave		1.8781				6.1		20.0			
2-Picoline	+++++ 1.9033	+++++ 1.9214	1.6300 1.9915	1.8203	1.8398	Ave		1.8511				6.7		20.0			
N-Nitrosomethylethylamine	+++++ 0.7791	+++++ 0.7996	0.5556 0.8117	0.7904	0.7715	Ave		0.7513				12.9		20.0			
Methyl methanesulfonate	+++++ 0.8976	+++++ 0.9139	0.8269 0.9133	0.9230	0.8803	Ave		0.8925				4.0		20.0			
N-Nitrosodiethylamine	+++++ 0.7535	0.5604 0.7730	0.6595 0.7913	0.7441	0.7346	Ave		0.7166				11.2		20.0			
Ethyl methanesulfonate	+++++ 0.7799	0.7407 0.7864	0.6976 0.7992	0.8028	0.7672	Ave		0.7677				4.9		20.0			
Benzaldehyde	+++++ 1.4936	+++++ 1.4327	1.2603 1.4407	1.4989	1.3377	Ave		1.4106			0.0100	6.6		20.0			
Phenol	+++++ 2.3952	1.9473 2.4743	2.1857 2.5595	2.4204	2.3766	Ave		2.3370			0.8000	8.8		20.0			
Aniline	+++++ 2.7484	2.4601 2.8361	2.5167 2.9787	2.7673	2.7425	Ave		2.7214				6.6		20.0			
Bis(2-chloroethyl)ether	+++++ 1.7634	1.6436 1.7813	1.7125 1.8095	1.8343	1.7736	Ave		1.7598			0.7000	3.6		20.0			
2-Chlorophenol	+++++ 1.4779	1.2447 1.4785	1.3616 1.5005	1.5196	1.4531	Ave		1.4337			0.8000	6.8		20.0			
1,3-Dichlorobenzene	+++++ 1.6150	1.5616 1.6138	1.5677 1.6645	1.6873	1.6349	Ave		1.6207				2.9		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 28519

SDG No.:

Instrument ID: HP19760 GC Column: DB-5MS 30m ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/31/2020 16:07 Calibration End Date: 07/31/2020 19:41 Calibration ID: 8045

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
1,4-Dichlorobenzene	+++++ 1.6411	1.6222 1.6575	1.5493 1.7044	1.7129	1.6291	Ave		1.6452				3.4		20.0			
Benzyl alcohol	+++++ 1.0284	+++++ 1.0673	0.9131 1.1048	1.0192	1.0178	Ave		1.0251				6.3		20.0			
1,2-Dichlorobenzene	+++++ 1.5599	1.4978 1.5877	1.5138 1.6451	1.6090	1.5598	Ave		1.5676				3.3		20.0			
Indene	+++++ 2.2436	+++++ 2.2895	2.1405 2.3429	2.3047	2.2467	Ave		2.2613				3.1		20.0			
2-Methylphenol	+++++ 1.4415	1.1450 1.4531	1.3231 1.4910	1.4690	1.4340	Ave		1.3938			0.7000	8.8		20.0			
2,2'-oxybis[1-chloropropane]	+++++ 1.3769	1.3560 1.3798	1.3607 1.4050	1.4539	1.3978	Ave		1.3900			0.0100	2.4		20.0			
N-Nitrosopyrrolidine	+++++ 0.7768	0.5200 0.7941	0.6079 0.8147	0.7393	0.7356	Ave		0.7126				15.2		20.0			
Acetophenone	+++++ 2.2194	1.9781 2.1743	1.8571 2.2870	2.2429	1.9807	Ave		2.1056			0.0100	7.8		20.0			
N-Nitrosodi-n-propylamine	+++++ 1.2641	0.8903 1.3216	1.0844 1.4184	1.2610	1.2377	Ave		1.2111			0.5000	14.3		20.0			
N-Nitrosomorpholine	+++++ 0.8421	+++++ 0.8646	0.7706 0.9149	0.8374	0.8321	Ave		0.8436				5.6		20.0			
4-Methylphenol	+++++ 1.7255	1.3778 1.7825	1.5362 1.8884	1.7509	1.7070	Ave		1.6812			0.6000	10.1		20.0			
o-Toluidine	+++++ 2.5103	2.2524 2.5688	2.3264 2.6867	2.5743	2.5162	Ave		2.4907				6.1		20.0			
Hexachloroethane	+++++ 0.7406	+++++ 0.7469	0.7167 0.7691	0.7571	0.7392	Ave		0.7449			0.3000	2.4		20.0			
Nitrobenzene	+++++ 0.5152	0.3816 0.5174	0.4641 0.5401	0.5292	0.4999	Ave		0.4925			0.2000	11.1		20.0			
N-Nitrosopiperidine	+++++ 0.1969	0.1324 0.2003	0.1727 0.2095	0.2058	0.1878	Ave		0.1865				14.4		20.0			
Isophorone	+++++ 0.8744	0.6856 0.8901	0.7497 0.9314	0.8894	0.8576	Ave		0.8397			0.4000	10.5		20.0			
2-Nitrophenol	+++++ 0.1967	+++++ 0.2007	0.1367 0.2133	0.1895	0.1865	Ave		0.1872			0.1000	14.1		20.0			
2,4-Dimethylphenol	+++++ 0.4233	0.3124 0.4335	0.3673 0.4573	0.4266	0.4159	Ave		0.4052			0.2000	12.1		20.0			
o,o',o''-Triethylphosphorothioate	+++++ 0.1875	+++++ 0.1915	0.1648 0.2026	0.1915	0.1831	Ave		0.1869				6.7		20.0			
Bis(2-chloroethoxy)methane	+++++ 0.5363	0.4907 0.5338	0.4993 0.5734	0.5626	0.5305	Ave		0.5324			0.3000	5.7		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 28519

SDG No.:

Instrument ID: HP19760 GC Column: DB-5MS 30m ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/31/2020 16:07 Calibration End Date: 07/31/2020 19:41 Calibration ID: 8045

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Benzoic acid	+++++ 0.2382	+++++ 0.2321	0.1442 0.2470	0.2091	0.2414	Ave		0.2187				17.7		20.0			
2,4-Dichlorophenol	+++++ 0.3163	0.2586 0.3217	0.2745 0.3386	0.3247	0.3116	Ave		0.3066			0.2000	9.4		20.0			
1,2,4-Trichlorobenzene	+++++ 0.3426	0.3263 0.3462	0.3207 0.3686	0.3592	0.3412	Ave		0.3435				4.9		20.0			
Naphthalene	1.0786 1.0926	1.0479 1.0961	1.0498 1.1437	1.1592	1.0955	Ave		1.0954			0.7000	3.6		20.0			
4-Chloroaniline	+++++ 0.4466	0.3526 0.4630	0.4047 0.4976	0.4616	0.4411	Ave		0.4382			0.0100	10.7		20.0			
2,6-Dichlorophenol	+++++ 0.3051	0.2501 0.3102	0.2709 0.3314	0.3162	0.3033	Ave		0.2982				9.4		20.0			
Hexachloropropene	+++++ 0.2128	+++++ 0.2198	0.1681 0.2337	0.2059	0.2009	Ave		0.2069				10.7		20.0			
Hexachlorobutadiene	+++++ 0.1943	0.1848 0.1998	0.1822 0.2111	0.2032	0.1922	Ave		0.1954			0.0100	5.2		20.0			
Quinoline	+++++ 0.6657	+++++ 0.6802	0.6101 0.7062	0.6842	0.6660	Ave		0.6687				4.8		20.0			
Caprolactam	+++++ 0.1216	+++++ 0.1208	0.0879 0.1329	0.1140	0.1055	Ave		0.1138			0.0100	13.7		20.0			
N-Nitrosodi-n-butylamine	+++++ 0.2884	+++++ 0.3744	0.2212 0.4052	0.2802	0.2715	Qua	-0.096	0.2579	0.0051310						0.9970		0.9900
4-Chloro-3-methylphenol	+++++ 0.3415	0.2246 0.3514	0.2801 0.3709	0.3423	0.3333	Ave		0.3206			0.2000	15.8		20.0			
Safrole, Total	+++++ 0.2815	+++++ 0.2876	0.2431 0.3061	0.2822	0.2766	Ave		0.2795				7.4		20.0			
2-Methylnaphthalene	0.5812 0.6991	0.6304 0.7102	0.6576 0.7584	0.7295	0.6979	Ave		0.6830			0.4000	8.4		20.0			
1-Methylnaphthalene	0.6028 0.6576	0.5617 0.6761	0.6114 0.7143	0.6903	0.6583	Ave		0.6466				7.8		20.0			
Hexachlorocyclopentadiene	+++++ 0.3971	+++++ 0.4262	0.3002 0.4679	0.3650	0.3724	Ave		0.3881			0.0500	14.8		20.0			
1,2,4,5-Tetrachlorobenzene	+++++ 0.6977	0.6656 0.7282	0.6667 0.7791	0.7235	0.6771	Ave		0.7054			0.0100	5.8		20.0			
Isosafrole Peak 1	+++++ 0.6064	+++++ 0.6093	0.4998 0.6513	0.5820	0.5668	Ave		0.5859				8.7		20.0			
2,4,6-Trichlorophenol	+++++ 0.4625	0.2945 0.4826	0.3853 0.5081	0.4616	0.4459	Ave		0.4344			0.2000	16.7		20.0			
2,4,5-Trichlorophenol	+++++ 0.4839	0.3452 0.5004	0.4184 0.5200	0.4912	0.4754	Ave		0.4621			0.2000	13.1		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 28519

SDG No.:

Instrument ID: HP19760 GC Column: DB-5MS 30m ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/31/2020 16:07 Calibration End Date: 07/31/2020 19:41 Calibration ID: 8045

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Isosafrole Peak 2	+++++ 0.6685	+++++ 0.6735	0.5773 0.7413	0.6677	0.6580	Ave		0.6644				7.9		20.0			
1,1'-Biphenyl	+++++ 1.7578	1.6781 1.7593	1.4999 1.9321	1.7598	1.5874	Ave		1.7106			0.0100	8.2		20.0			
2-Chloronaphthalene	+++++ 1.4988	1.2721 1.4910	1.4204 1.6358	1.5161	1.3853	Ave		1.4599			0.8000	7.9		20.0			
1-Chloronaphthalene	+++++ 1.2155	1.1092 1.3100	1.2086 1.2940	1.3447	1.3390	Ave		1.2601				6.8		20.0			
Diphenyl ether	+++++ 0.9471	0.8447 0.9733	0.9183 1.0283	0.9982	0.9419	Ave		0.9503				6.2		20.0			
2-Nitroaniline	+++++ 0.4254	0.1964 0.4480	0.2742 0.4746	0.3903	0.3943	Lin1	-0.106	0.4527			0.0100				0.9960		0.9900
1,4-Naphthoquinone	+++++ 0.5643	+++++ 0.5758	0.4120 0.6080	0.5592	0.5520	Ave		0.5452				12.5		20.0			
1,4-Dinitrobenzene	+++++ 0.2160	+++++ 0.2294	0.1358 0.2485	0.1978	0.2021	Ave		0.2049				18.8		20.0			
Dimethyl phthalate	+++++ 1.4934	+++++ 1.5280	1.4424 1.6187	1.5735	1.4806	Ave		1.5228			0.0100	4.2		20.0			
1,3-Dinitrobenzene	+++++ 0.2564	+++++ 0.2702	0.1702 0.2923	0.2336	0.2415	Ave		0.2440				17.1		20.0			
2,6-Dinitrotoluene	+++++ 0.3447	0.1330 0.3595	0.2764 0.3767	0.3482	0.3403	Lin1	-0.071	0.3659			0.2000				0.9990		0.9900
Acenaphthylene	1.5743 1.8841	1.5103 1.9402	1.7490 2.0155	1.9681	1.8925	Ave		1.8168			0.9000	10.3		20.0			
3-Nitroaniline	+++++ 0.3681	0.1425 0.3731	0.2717 0.3989	0.3439	0.3358	Lin1	-0.083	0.3827			0.0100				0.9970		0.9900
Acenaphthene	1.4031 1.3517	1.3074 1.3883	1.3149 1.4721	1.4217	1.3539	Ave		1.3766			0.9000	4.0		20.0			
2,4-Dinitrophenol	+++++ 0.2042	+++++ 0.2331	+++++ 0.2568	0.1732	0.1842	Ave		0.2103			0.0100	16.4		20.0			
Pentachlorobenzene	+++++ 0.5522	0.5025 0.5680	0.5455 0.5958	0.5766	0.5372	Ave		0.5540				5.5		20.0			
4-Nitrophenol	+++++ 0.3066	+++++ 0.3216	+++++ 0.3402	0.2909	0.2889	Ave		0.3096			0.0100	7.0		20.0			
Dibenzofuran	+++++ 1.8244	1.7262 1.8430	1.7755 1.9380	1.9465	1.8486	Ave		1.8432			0.8000	4.3		20.0			
2,4-Dinitrotoluene	+++++ 0.4559	+++++ 0.4793	0.3470 0.5063	0.4371	0.4335	Ave		0.4432			0.2000	12.3		20.0			
1-Naphthylamine	+++++ 1.3129	+++++ 1.3766	+++++ 1.4583	1.3578	1.2932	Ave		1.3598				4.7		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 28519

SDG No.:

Instrument ID: HP19760 GC Column: DB-5MS 30m ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/31/2020 16:07 Calibration End Date: 07/31/2020 19:41 Calibration ID: 8045

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
2,3,4,6-Tetrachlorophenol	+++++ 0.3419	+++++ 0.3731	0.2910 0.3969	0.3541	0.3339	Ave		0.3485			0.0100	10.4		20.0			
2-Naphthylamine	+++++ 1.3385	+++++ 1.3788	+++++ 1.4742	1.3533	1.2950	Ave		1.3680				4.9		20.0			
Diethyl phthalate	+++++ 1.4778	+++++ 1.5340	1.3023 1.6145	1.4954	1.4155	Ave		1.4732			0.0100	7.2		20.0			
Fluorene	1.2977 1.4918	1.2062 1.5355	1.3871 1.6351	1.5090	1.4845	Ave		1.4434			0.9000	9.6		20.0			
Thionazin	+++++ 0.3064	+++++ 0.3323	0.2356 0.3673	0.2828	0.2807	Ave		0.3008				15.2		20.0			
5-Nitro-o-toluidine	+++++ 0.4349	0.2092 0.4662	0.3329 0.4928	0.4121	0.4076	Lin1	-0.099	0.4692							0.9960		0.9900
4-Chlorophenyl-phenyl ether	+++++ 0.7637	0.6407 0.7958	0.7107 0.8673	0.7895	0.7607	Ave		0.7612			0.4000	9.3		20.0			
4-Nitroaniline	+++++ 0.4033	0.1780 0.4122	0.3162 0.4259	0.3833	0.3817	Lin1	-0.077	0.4166			0.0100				0.9990		0.9900
4,6-Dinitro-2-methylphenol	+++++ 0.1457	+++++ 0.1594	+++++ 0.1673	0.1280	0.1384	Ave		0.1478			0.0100	10.7		20.0			
N-Nitrosodiphenylamine	+++++ 0.6924	0.5835 0.7142	0.6317 0.7417	0.7255	0.6808	Ave		0.6814			0.0100	8.2		20.0			
1,2-Diphenylhydrazine	+++++ 1.0768	0.8882 1.0760	0.9829 1.1054	1.1282	1.0882	Ave		1.0494				8.0		20.0			
Sulfotepp	+++++ 0.1705	+++++ 0.1753	0.1315 0.1854	0.1598	0.1555	Ave		0.1630				11.5		20.0			
cis-Diallate	+++++ 0.4105	+++++ 0.4318	0.3313 0.4634	0.4170	0.3926	Ave		0.4078				10.9		20.0			
Phorate	+++++ 0.5656	0.3054 0.5987	0.4161 0.6337	0.5413	0.5321	Lin1	-0.119	0.6048							0.9960		0.9900
Phenacetin	+++++ 0.4455	+++++ 0.4544	0.3097 0.4717	0.4275	0.4136	Ave		0.4204				13.8		20.0			
4-Bromophenyl-phenylether	+++++ 0.2155	0.1701 0.2218	0.2047 0.2385	0.2242	0.2146	Ave		0.2128			0.1000	10.1		20.0			
trans-Diallate	+++++ 0.3938	+++++ 0.3994	0.3454 0.4203	0.4126	0.3780	Ave		0.3916				6.9		20.0			
Hexachlorobenzene	0.2119 0.2183	0.2103 0.2243	0.2055 0.2357	0.2327	0.2176	Ave		0.2195			0.1000	4.9		20.0			
Dimethoate	+++++ 0.3397	+++++ 0.3486	0.2352 0.3644	0.3307	0.3155	Ave		0.3223				14.2		20.0			
Atrazine	+++++ 0.2102	+++++ 0.2069	0.1715 0.2162	0.2180	0.1833	Ave		0.2010			0.0100	9.5		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 28519

SDG No.:

Instrument ID: HP19760 GC Column: DB-5MS 30m ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/31/2020 16:07 Calibration End Date: 07/31/2020 19:41 Calibration ID: 8045

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Pentachlorophenol	+++++ 0.1562	+++++ 0.1618	0.1133 0.1738	0.1441	0.1450	Ave		0.1490			0.0500	13.9		20.0			
Pentachloronitrobenzene	+++++ 0.1041	+++++ 0.1115	0.0708 0.1186	0.0991	0.0975	Ave		0.1002				16.4		20.0			
4-Aminobiphenyl	+++++ 0.6228	0.4248 0.6305	0.5096 0.6721	0.6259	0.6068	Ave		0.5846				14.7		20.0			
Pronamide	+++++ 0.3597	+++++ 0.3716	0.2610 0.3846	0.3390	0.3331	Ave		0.3415				12.9		20.0			
Phenanthrene	1.1434 1.1373	1.1104 1.1816	1.1005 1.2287	1.2089	1.1300	Ave		1.1551			0.7000	4.0		20.0			
Dinoseb	+++++ 0.1982	+++++ 0.2215	0.0878 0.2450	0.1510	0.1698	Lin1	-0.253	0.2363							0.9910		0.9900
Anthracene	0.9445 1.1586	0.9290 1.1806	1.0497 1.2063	1.2065	1.1703	Ave		1.1057			0.7000	10.4		20.0			
Carbazole	+++++ 1.0424	0.8065 1.0529	0.9261 1.0902	1.0877	1.0291	Ave		1.0050			0.0100	10.3		20.0			
Methyl parathion	+++++ 0.2771	+++++ 0.2956	0.1394 0.3127	0.2382	0.2397	Lin	-0.412	0.3212							0.9980		0.9900
Di-n-butyl phthalate	+++++ 1.3459	+++++ 1.3601	1.0362 1.4069	1.3090	1.2788	Ave		1.2895			0.0100	10.2		20.0			
4-Nitroquinoline-1-oxide	+++++ 0.0849	+++++ 0.1048	+++++ 0.1222	0.0467	0.0533	Lin	-0.527	0.1360							0.9900		0.9900
Parathion	+++++ 0.1841	+++++ 0.1951	0.0876 0.2117	0.1581	0.1591	Lin1	-0.181	0.2072							0.9950		0.9900
Octachlorostyrene	+++++ 0.0859	+++++ 0.0907	0.0732 0.0983	0.0830	0.0807	Ave		0.0853				10.1		20.0			
Isodrin	+++++ 0.1369	0.1183 0.1401	0.1183 0.1480	0.1364	0.1316	Ave		0.1328				8.3		20.0			
Fluoranthene	0.9384 1.2633	0.9027 1.2989	1.0757 1.3554	1.2813	1.2202	Ave		1.1670			0.6000	14.8		20.0			
Benzidine	+++++ 0.8709	+++++ 0.8828	+++++ 0.9070	0.8179	0.7789	Ave		0.8515				6.1		20.0			
Pyrene	1.3711 1.3022	1.2985 1.3269	1.2331 1.3870	1.3674	1.3189	Ave		1.3256			0.6000	3.8		20.0			
p-Dimethylamino azobenzene	+++++ 0.2296	+++++ 0.2416	0.1259 0.2608	0.1987	0.2070	Lin	-0.328	0.2660							0.9970		0.9900
Chlorobenzilate	+++++ 0.3673	+++++ 0.3857	0.2266 0.4165	0.3275	0.3304	Ave		0.3423				19.3		20.0			
3,3'-Dimethylbenzidine	+++++ 0.8466	+++++ 0.8828	0.4910 0.9764	0.7251	0.7142	Lin1	-0.749	0.9429							0.9940		0.9900

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 28519

SDG No.:

Instrument ID: HP19760 GC Column: DB-5MS 30m ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/31/2020 16:07 Calibration End Date: 07/31/2020 19:41 Calibration ID: 8045

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Butylbenzylphthalate	+++++ 0.5974	+++++ 0.6084	0.4146 0.6541	0.5615	0.5488	Ave		0.5641			0.0100	14.6		20.0			
2-Acetylaminofluorene	+++++ 0.4645	+++++ 0.5049	0.1836 0.5731	0.3629	0.3873	Lin1	-0.601	0.5493							0.9900		0.9900
Benzo[a]anthracene	0.6461 1.1926	0.6788 1.2474	0.8821 1.3777	1.0946	1.1000	Lin1	-0.148	1.2747			0.8000				0.9930		0.9900
3,3'-Dichlorobenzidine	+++++ 0.4708	+++++ 0.4942	0.2937 0.5614	0.4169	0.4090	Lin1	-0.411	0.5343			0.0100				0.9920		0.9900
4,4'-Methylene bis(2-chloroaniline)	+++++ 0.2294	+++++ 0.2365	+++++ 0.2639	0.2014	0.1953	Ave		0.2253				12.4		20.0			
Chrysene	0.9469 1.2237	0.9299 1.2417	1.0866 1.3198	1.2417	1.1427	Ave		1.1416			0.7000	12.6		20.0			
Bis(2-ethylhexyl) phthalate	+++++ 0.8258	+++++ 0.8557	0.4914 0.9159	0.7436	0.7311	Ave		0.7606			0.0100	19.6		20.0			
6-Methylchrysene	+++++ 0.8373	+++++ 0.8695	0.6204 0.9661	0.7804	0.7369	Ave		0.8018				14.8		20.0			
Di-n-octyl phthalate	+++++ 1.4526	+++++ 1.5073	0.7439 1.5778	1.2565	1.3664	Lin	-1.550	1.6110			0.0100				0.9990		0.9900
Benzo[b]fluoranthene	0.8062 1.3432	0.8709 1.3982	1.0712 1.5229	1.2736	1.2941	Lin1	-0.138	1.4287			0.7000				0.9960		0.9900
7,12-Dimethylbenz(a)anthracene	+++++ 0.6275	0.3634 0.6583	0.4780 0.7021	0.6023	0.6054	Lin1	-0.122	0.6699							0.9970		0.9900
Benzo[k]fluoranthene	1.0235 1.3647	1.0731 1.3794	1.2227 1.3922	1.4308	1.3882	Ave		1.2843			0.7000	12.3		20.0			
Benzo[a]pyrene	0.7016 1.2649	0.7022 1.3096	1.0316 1.3897	1.2458	1.2393	Lin1	-0.131	1.3302			0.7000				0.9980		0.9900
3-Methylcholanthrene	+++++ 0.5886	0.2346 0.6334	0.3854 0.6763	0.5403	0.5638	Lin1	-0.161	0.6410							0.9950		0.9900
Dibenz[a,h]acridine	+++++ 0.8236	+++++ 0.8843	0.4983 0.9381	0.7508	0.7977	Ave		0.7821				19.7		20.0			
Dibenz[a,j]acridine	+++++ 0.9506	+++++ 1.0295	0.5982 1.0334	0.8780	0.9386	Ave		0.9047				17.8		20.0			
Indeno[1,2,3-cd]pyrene	0.5002 1.0057	0.4554 1.0840	0.7280 1.1441	0.9824	1.0342	Lin1	-0.134	1.0902			0.5000				0.9960		0.9900
Dibenz(a,h)anthracene	0.6101 1.1187	0.6293 1.2145	0.8316 1.2419	1.0696	1.1283	Lin1	-0.130	1.1983			0.4000				0.9970		0.9900
Benzo[g,h,i]perylene	0.6488 1.1455	0.7100 1.2047	0.8848 1.2181	1.1534	1.1973	Lin1	-0.108	1.2005			0.5000				0.9990		0.9900
2-Fluorophenol (Surr)	+++++ 1.5716	+++++ 1.6028	1.4042 1.6537	1.5902	1.5659	Ave		1.5647				5.4		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 28519

SDG No.:

Instrument ID: HP19760 GC Column: DB-5MS 30m ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/31/2020 16:07 Calibration End Date: 07/31/2020 19:41 Calibration ID: 8045

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2								
Phenol-d5 (Surr)	+++++ 1.9979	+++++ 2.0298	1.7921 2.1184	1.9961	1.9710	Ave		1.9842				5.4		20.0			
Nitrobenzene-d5 (Surr)	+++++ 0.4937	+++++ 0.5038	0.4340 0.5215	0.5030	0.4811	Ave		0.4895				6.2		20.0			
2-Fluorobiphenyl (Surr)	+++++ 1.6146	+++++ 1.6574	1.5462 1.7157	1.7033	1.6190	Ave		1.6427				3.8		20.0			
2,4,6-Tribromophenol (Surr)	+++++ 0.1844	+++++ 0.2013	0.1527 0.2220	0.1810	0.1731	Ave		0.1857				12.8		20.0			
p-Terphenyl-d14 (Surr)	+++++ 0.9706	+++++ 1.0006	0.8478 1.0383	0.9542	0.9428	Ave		0.9591				6.7		20.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 28519

SDG No.:

Instrument ID: HP19760 GC Column: DB-5MS 30m ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/31/2020 16:07 Calibration End Date: 07/31/2020 19:41 Calibration ID: 8045

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-28519/3	DG1952.D
Level 2	IC 410-28519/9	DG1958.D
Level 3	IC 410-28519/8	DG1957.D
Level 4	IC 410-28519/7	DG1956.D
Level 5	ICIS 410-28519/2	DG1951.D
Level 6	IC 410-28519/6	DG1955.D
Level 7	IC 410-28519/5	DG1954.D
Level 8	IC 410-28519/4	DG1953.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
1,4-Dioxane	DCBd 4	Ave	+++++ 317583	+++++ 536279	27432 788309	91448	203231	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
N-Nitrosodimethylamine	DCBd 4	Ave	+++++ 475013	+++++ 788636	40071 1149130	142694	289127	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
Pyridine	DCBd 4	Ave	+++++ 805334	+++++ 1414973	76899 2087888	265402	528520	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
2-Picoline	DCBd 4	Ave	+++++ 850757	+++++ 1389072	74199 2086430	248144	517092	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
N-Nitrosomethylethylamine	DCBd 4	Ave	+++++ 348242	+++++ 578071	25293 850372	107749	216840	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
Methyl methanesulfonate	DCBd 4	Ave	+++++ 401211	+++++ 660723	37641 956832	125821	247409	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
N-Nitrosodiethylamine	DCBd 4	Ave	+++++ 336832	5083 558845	30022 828978	101431	206472	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Ethyl methanesulfonate	DCBd 4	Ave	+++++ 348605	6718 568555	31756 837286	109432	215618	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Benzaldehyde	DCBd 4	Ave	+++++ 667610	+++++ 1035775	57368 1509356	204324	375967	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
Phenol	DCBd 4	Ave	+++++ 1070654	17662 1788822	99493 2681517	329940	667948	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Aniline	DCBd 4	Ave	+++++ 1228502	22313 2050374	114559 3120716	377238	770796	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Bis(2-chloroethyl)ether	DCBd 4	Ave	+++++ 788245	14907 1287832	77954 1895775	250052	498480	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
2-Chlorophenol	DCBd 4	Ave	+++++ 660625	11289 1068875	61982 1571973	207144	408387	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
1,3-Dichlorobenzene	DCBd 4	Ave	+++++ 721897	14164 1166741	71360 1743825	230016	459485	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
1,4-Dichlorobenzene	DCBd 4	Ave	+++++ 733568	14713 1198307	70526 1785602	233495	457854	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 28519

SDG No.:

Instrument ID: HP19760 GC Column: DB-5MS 30m ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/31/2020 16:07 Calibration End Date: 07/31/2020 19:41 Calibration ID: 8045

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Benzyl alcohol	DCBd 4	Ave	+++++ 459678	+++++ 771627	41563 1157414	138929	286053	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
1,2-Dichlorobenzene	DCBd 4	Ave	+++++ 697281	13585 1147848	68908 1723559	219330	438389	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Indene	DCBd 4	Ave	+++++ 1002892	+++++ 1655178	97436 2454560	314174	631452	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
2-Methylphenol	DCBd 4	Ave	+++++ 644337	10385 1050538	60228 1562084	200248	403031	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
2,2'-oxybis[1-chloropropane]	DCBd 4	Ave	+++++ 615481	12299 997523	61939 1472009	198200	392869	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
N-Nitrosopyrrolidine	DCBd 4	Ave	+++++ 347239	4716 574095	27673 853537	100779	206756	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Acetophenone	DCBd 4	Ave	+++++ 992040	17941 1571929	84536 2395975	305744	556691	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
N-Nitrosodi-n-propylamine	DCBd 4	Ave	+++++ 565043	8075 955423	49363 1486022	171894	347861	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
N-Nitrosomorpholine	DCBd 4	Ave	+++++ 376400	+++++ 625053	35078 958554	114159	233866	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
4-Methylphenol	DCBd 4	Ave	+++++ 771268	12497 1288642	69926 1978394	238675	479749	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
o-Toluidine	DCBd 4	Ave	+++++ 1122112	20429 1857104	105899 2814762	350930	707177	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Hexachloroethane	DCBd 4	Ave	+++++ 331026	+++++ 540002	32624 805807	103210	207764	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
Nitrobenzene	NPT	Ave	+++++ 865214	13029 1400821	81140 2083520	270992	533269	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
N-Nitrosopiperidine	NPT	Ave	+++++ 330696	4521 542261	30195 808047	105390	200333	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Isophorone	NPT	Ave	+++++ 1468471	23412 2410074	131054 3593203	455454	914894	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
2-Nitrophenol	NPT	Ave	+++++ 330314	+++++ 543362	23898 822879	97042	198989	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
2,4-Dimethylphenol	NPT	Ave	+++++ 710946	10666 1173879	64211 1764115	218461	443671	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
o,o',o''-Triethylphosphorothioate	NPT	Ave	+++++ 314881	+++++ 518652	28814 781575	98063	195376	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
Bis(2-chloroethoxy)methane	NPT	Ave	+++++ 900687	16755 1445234	87293 2212013	288128	565971	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Benzoic acid	NPT	Ave	+++++ 399957	+++++ 628474	75601 952996	214124	343431	+++++ 12.5	+++++ 20.0	3.75 30.0	7.50	10.0
2,4-Dichlorophenol	NPT	Ave	+++++ 531240	8832 871110	47986 1306201	166279	332356	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 28519

SDG No.:

Instrument ID: HP19760 GC Column: DB-5MS 30m ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/31/2020 16:07 Calibration End Date: 07/31/2020 19:41 Calibration ID: 8045

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
1,2,4-Trichlorobenzene	NPT	Ave	+++++ 575342	11144 937371	56064 1421891	183922	364020	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Naphthalene	NPT	Ave	18709 1834959	35782 2967982	183525 4412362	593604	1168603	0.125 12.5	0.250 20.0	1.25 30.0	3.75	7.50
4-Chloroaniline	NPT	Ave	+++++ 750017	12042 1253754	70746 1919725	236367	470593	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
2,6-Dichlorophenol	NPT	Ave	+++++ 512429	8539 839816	47363 1278436	161913	323519	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Hexachloropropene	NPT	Ave	+++++ 357429	+++++ 595054	29380 901611	105426	214317	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
Hexachlorobutadiene	NPT	Ave	+++++ 326267	6311 540980	31860 814493	104079	205039	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Quinoline	NPT	Ave	+++++ 1118026	+++++ 1841775	106658 2724239	350355	710490	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
Caprolactam	NPT	Ave	+++++ 204186	+++++ 326960	15367 512895	58392	112595	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
N-Nitrosodi-n-butylamine	NPT	Qua	+++++ 484368	+++++ 1013637	38662 1563068	143516	289641	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
4-Chloro-3-methylphenol	NPT	Ave	+++++ 573575	7669 951375	48968 1431046	175291	355590	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Safrole, Total	NPT	Ave	+++++ 472705	+++++ 778615	42499 1181028	144521	295032	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
2-Methylnaphthalene	NPT	Ave	10081 1174140	21528 1922884	114966 2925617	373601	744532	0.125 12.5	0.250 20.0	1.25 30.0	3.75	7.50
1-Methylnaphthalene	NPT	Ave	10456 1104340	19181 1830624	106891 2755816	353514	702252	0.125 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Hexachlorocyclopentadiene	ANT	Ave	+++++ 329682	+++++ 562742	25450 878684	91949	194321	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
1,2,4,5-Tetrachlorobenzene	ANT	Ave	+++++ 579203	11035 961560	56513 1462985	182272	353339	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Isosafrole Peak 1	ANT	Ave	+++++ 80547	+++++ 128740	6779 195680	23459	47325	+++++ 2.00	+++++ 3.20	0.200 4.80	0.600	1.20
2,4,6-Trichlorophenol	ANT	Ave	+++++ 383968	4882 637264	32660 954216	116292	232696	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
2,4,5-Trichlorophenol	ANT	Ave	+++++ 401746	5724 660822	35468 976434	123766	248075	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Isosafrole Peak 2	ANT	Ave	+++++ 466153	+++++ 747084	41106 1169274	141297	288419	+++++ 10.5	+++++ 16.8	1.05 25.2	3.15	6.30
1,1'-Biphenyl	ANT	Ave	+++++ 1459286	27822 2323151	127143 3628234	443358	828320	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
2-Chloronaphthalene	ANT	Ave	+++++ 1244212	21090 1968785	120407 3071696	381977	722863	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 28519

SDG No.:

Instrument ID: HP19760 GC Column: DB-5MS 30m ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/31/2020 16:07 Calibration End Date: 07/31/2020 19:41 Calibration ID: 8045

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
1-Chloronaphthalene	ANT	Ave	+++++ 1009066	18390 1729875	102451 2429889	338781	698710	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Diphenyl ether	ANT	Ave	+++++ 786282	14005 1285267	77843 1930992	251485	491503	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
2-Nitroaniline	ANT	Lin1	+++++ 353174	3256 591637	23241 891249	98334	205731	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
1,4-Naphthoquinone	ANT	Ave	+++++ 468483	+++++ 760328	34927 1141665	140877	288044	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
1,4-Dinitrobenzene	ANT	Ave	+++++ 179347	+++++ 302921	11510 466619	49829	105454	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
Dimethyl phthalate	ANT	Ave	+++++ 1239775	+++++ 2017713	122270 3039699	396424	772558	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
1,3-Dinitrobenzene	ANT	Ave	+++++ 212839	+++++ 356799	14429 548838	58858	126016	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
2,6-Dinitrotoluene	ANT	Lin1	+++++ 286187	2205 474777	23431 707368	87719	177595	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Acenaphthylene	ANT	Ave	13055 1564067	25040 2561983	148259 3784820	495855	987515	0.125 12.5	0.250 20.0	1.25 30.0	3.75	7.50
3-Nitroaniline	ANT	Lin1	+++++ 305549	2362 492704	23032 749131	86643	175200	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Acenaphthene	ANT	Ave	11635 1122097	21676 1833157	111464 2764369	358183	706463	0.125 12.5	0.250 20.0	1.25 30.0	3.75	7.50
2,4-Dinitrophenol	ANT	Ave	+++++ 169481	+++++ 307826	+++++ 482193	87284	128167	+++++ 12.5	+++++ 20.0	+++++ 30.0	7.50	10.0
Pentachlorobenzene	ANT	Ave	+++++ 458437	8331 750088	46241 1118875	145281	280330	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
4-Nitrophenol	ANT	Ave	+++++ 254498	+++++ 424713	+++++ 638887	73284	150764	+++++ 12.5	+++++ 20.0	+++++ 30.0	3.75	7.50
Dibenzofuran	ANT	Ave	+++++ 1514555	28620 2433649	150508 3639219	490413	964626	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
2,4-Dinitrotoluene	ANT	Ave	+++++ 378505	+++++ 632939	29416 950839	110121	226180	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
1-Naphthylamine	ANT	Ave	+++++ 1089953	+++++ 1817831	+++++ 2738535	342095	674771	+++++ 12.5	+++++ 20.0	+++++ 30.0	3.75	7.50
2,3,4,6-Tetrachlorophenol	ANT	Ave	+++++ 283832	+++++ 492693	24671 745244	89224	174213	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
2-Naphthylamine	ANT	Ave	+++++ 1111156	+++++ 1820651	+++++ 2768314	340964	675731	+++++ 12.5	+++++ 20.0	+++++ 30.0	3.75	7.50
Diethyl phthalate	ANT	Ave	+++++ 1226771	+++++ 2025648	110390 3031841	376741	738623	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
Fluorene	ANT	Ave	10761 1238446	19999 2027649	117586 3070495	380170	774606	0.125 12.5	0.250 20.0	1.25 30.0	3.75	7.50

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 28519

SDG No.:

Instrument ID: HP19760 GC Column: DB-5MS 30m ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/31/2020 16:07 Calibration End Date: 07/31/2020 19:41 Calibration ID: 8045

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Thionazin	ANT	Ave	+++++ 254323	+++++ 438773	19973 689782	71254	146447	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
5-Nitro-o-toluidine	ANT	Lin1	+++++ 361047	3468 615652	28222 925445	103823	212691	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
4-Chlorophenyl-phenyl ether	ANT	Ave	+++++ 633978	10623 1050780	60246 1628587	198905	396943	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
4-Nitroaniline	ANT	Lin1	+++++ 334834	2951 544311	26806 799828	96572	199168	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
4,6-Dinitro-2-methylphenol	PHN	Ave	+++++ 227839	+++++ 401940	+++++ 612037	59197	133449	+++++ 12.5	+++++ 20.0	+++++ 30.0	3.75	7.50
N-Nitrosodiphenylamine	PHN	Ave	+++++ 1082704	17574 1800758	100918 2714066	335454	656608	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
1,2-Diphenylhydrazine	PHN	Ave	+++++ 1683765	26751 2712985	157027 4044815	521656	1049449	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Sulfotepp	PHN	Ave	+++++ 266604	+++++ 442033	21011 678457	73904	149950	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
cis-Diallate	PHN	Ave	+++++ 474943	+++++ 805670	39164 1254711	142672	280185	+++++ 9.25	+++++ 14.8	0.925 22.2	2.78	5.55
Phorate	PHN	Lin1	+++++ 884463	9200 1509482	66474 2318798	250279	513192	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Phenacetin	PHN	Ave	+++++ 696587	+++++ 1145821	49474 1725952	197643	398920	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
4-Bromophenyl-phenylether	PHN	Ave	+++++ 336950	5124 559227	32699 872737	103649	206919	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
trans-Diallate	PHN	Ave	+++++ 160109	+++++ 261857	14348 399865	49603	94779	+++++ 3.25	+++++ 5.20	0.325 7.80	0.975	1.95
Hexachlorobenzene	PHN	Ave	3190 341343	6335 565444	32831 862289	107610	209878	0.125 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Dimethoate	PHN	Ave	+++++ 531119	+++++ 878881	37580 1333421	152916	304256	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
Atrazine	PHN	Ave	+++++ 328731	+++++ 521589	27394 790975	100811	176803	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
Pentachlorophenol	PHN	Ave	+++++ 244315	+++++ 408057	18093 635955	66651	139819	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
Pentachloronitrobenzene	PHN	Ave	+++++ 162713	+++++ 281066	11305 434084	45815	94016	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
4-Aminobiphenyl	PHN	Ave	+++++ 973844	12796 1589692	81409 2459253	289397	585219	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Pronamide	PHN	Ave	+++++ 562386	+++++ 936876	41700 1407270	156747	321259	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
Phenanthrene	PHN	Ave	17215 1778318	33446 2979191	175815 4495790	558947	1089818	0.125 12.5	0.250 20.0	1.25 30.0	3.75	7.50

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 28519

SDG No.:

Instrument ID: HP19760 GC Column: DB-5MS 30m ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/31/2020 16:07 Calibration End Date: 07/31/2020 19:41 Calibration ID: 8045

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Dinoseb	PHN	Lin1	+++++ 309865	+++++ 558482	14024 896389	69833	163761	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
Anthracene	PHN	Ave	14221 1811598	27980 2976748	167708 4413791	557836	1128622	0.125 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Carbazole	PHN	Ave	+++++ 1629966	24293 2654731	147952 3989225	502915	992488	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Methyl parathion	PHN	Lin	+++++ 433266	+++++ 745299	22277 1144111	110131	231154	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
Di-n-butyl phthalate	PHN	Ave	+++++ 2104512	+++++ 3429302	165551 5148102	605263	1233355	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
4-Nitroquinoline-1-oxide	PHN	Lin	+++++ 132814	+++++ 264143	+++++ 447085	21571	51406	+++++ 12.5	+++++ 20.0	+++++ 30.0	3.75	7.50
Parathion	PHN	Lin1	+++++ 287878	+++++ 491898	14002 774708	73101	153435	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
Octachlorostyrene	PHN	Ave	+++++ 134304	+++++ 228656	11699 359596	38380	77809	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
Isodrin	PHN	Ave	+++++ 214111	3563 353218	18897 541507	63087	126922	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Fluoranthene	PHN	Ave	14129 1975327	27190 3274953	171858 4959466	592462	1176836	0.125 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Benzidine	PYR10	Ave	+++++ 4164450	+++++ 6683824	+++++ 9932745	1147574	2218138	+++++ 37.5	+++++ 60.0	+++++ 90.0	11.3	22.5
Pyrene	PYR10	Ave	19765 2075687	37895 3348440	196067 5063024	639539	1251983	0.125 12.5	0.250 20.0	1.25 30.0	3.75	7.50
p-Dimethylamino azobenzene	PYR10	Lin	+++++ 365898	+++++ 609791	20022 952098	92956	196464	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
Chlorobenzilate	PYR10	Ave	+++++ 585481	+++++ 973369	36028 1520385	153191	313617	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
3,3'-Dimethylbenzidine	PYR10	Lin1	+++++ 1349364	+++++ 2227930	78071 3564362	339128	677944	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
Butylbenzylphthalate	PYR10	Ave	+++++ 952253	+++++ 1535265	65928 2387541	262631	520952	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
2-Acetylaminofluorene	PYR10	Lin1	+++++ 740408	+++++ 1274055	29192 2091902	169723	367646	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
Benzo[a]anthracene	PYR10	Lin1	9314 1900844	19809 3147964	140264 5028938	511971	1044177	0.125 12.5	0.250 20.0	1.25 30.0	3.75	7.50
3,3'-Dichlorobenzidine	PYR10	Lin1	+++++ 750403	+++++ 1247107	46708 2049333	194995	388215	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
4,4'-Methylene bis(2-chloroaniline)	PYR10	Ave	+++++ 365593	+++++ 596835	+++++ 963416	94175	185399	+++++ 12.5	+++++ 20.0	+++++ 30.0	3.75	7.50
Chrysene	PYR10	Ave	13650 1950408	27138 3133547	172782 4817579	580737	1084746	0.125 12.5	0.250 20.0	1.25 30.0	3.75	7.50

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 28519

SDG No.:

Instrument ID: HP19760 GC Column: DB-5MS 30m ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/31/2020 16:07 Calibration End Date: 07/31/2020 19:41 Calibration ID: 8045

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5
Bis(2-ethylhexyl) phthalate	PYR10	Ave	+++++ 1316305	+++++ 2159494	78130 3343306	347799	693970	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
6-Methylchrysene	PYR10	Ave	+++++ 1334670	+++++ 2194210	98656 3526544	365012	699512	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
Di-n-octyl phthalate	PRY	Lin	+++++ 2196104	+++++ 3636086	97346 5841450	516141	1097225	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
Benzo[b]fluoranthene	PRY	Lin1	9033 2030597	20845 3372741	140175 5638393	523168	1039150	0.125 12.5	0.250 20.0	1.25 30.0	3.75	7.50
7,12-Dimethylbenz(a)anthracene	PRY	Lin1	+++++ 948635	8698 1588116	62552 2599214	247429	486103	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Benzo[k]fluoranthene	PRY	Ave	11468 2063157	25685 3327470	160005 5154376	587727	1114692	0.125 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Benzo[a]pyrene	PRY	Lin1	7861 1912273	16806 3159140	134998 5144947	511742	995137	0.125 12.5	0.250 20.0	1.25 30.0	3.75	7.50
3-Methylcholanthrene	PRY	Lin1	+++++ 889807	5615 1527886	50436 2503849	221952	452694	+++++ 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Dibenz[a,h]acridine	PRY	Ave	+++++ 1245145	+++++ 2133290	65205 3472995	308428	640530	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
Dibenz[a,j]acridine	PRY	Ave	+++++ 1437085	+++++ 2483447	78286 3826028	360648	753674	+++++ 12.5	+++++ 20.0	1.25 30.0	3.75	7.50
Indeno[1,2,3-cd]pyrene	PRY	Lin1	5604 1520409	10900 2614949	95264 4235670	403563	830474	0.125 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Dibenz(a,h)anthracene	PRY	Lin1	6836 1691207	15062 2929655	108826 4597922	439365	906038	0.125 12.5	0.250 20.0	1.25 30.0	3.75	7.50
Benzo[g,h,i]perylene	PRY	Lin1	7269 1731722	16993 2906103	115784 4509765	473775	961407	0.125 12.5	0.250 20.0	1.25 30.0	3.75	7.50
2-Fluorophenol (Surr)	DCBd4	Ave	+++++ 1405036	+++++ 2317562	127837 3465007	433535	880197	+++++ 25.0	+++++ 40.0	2.50 60.0	7.50	15.0
Phenol-d5 (Surr)	DCBd4	Ave	+++++ 1786073	+++++ 2934934	163155 4438736	544218	1107941	+++++ 25.0	+++++ 40.0	2.50 60.0	7.50	15.0
Nitrobenzene-d5 (Surr)	NPT	Ave	+++++ 1658312	+++++ 2728349	151727 4023629	515174	1026484	+++++ 25.0	+++++ 40.0	2.50 60.0	7.50	15.0
2-Fluorobiphenyl (Surr)	ANT	Ave	+++++ 2680733	+++++ 4377046	262136 6443754	858283	1689645	+++++ 25.0	+++++ 40.0	2.50 60.0	7.50	15.0
2,4,6-Tribromophenol (Surr)	ANT	Ave	+++++ 306184	+++++ 531515	25891 833876	91193	180633	+++++ 25.0	+++++ 40.0	2.50 60.0	7.50	15.0
p-Terphenyl-d14 (Surr)	PYR10	Ave	+++++ 3094220	+++++ 5050373	269620 7579996	892529	1789948	+++++ 25.0	+++++ 40.0	2.50 60.0	7.50	15.0

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 28519

SDG No.:

Instrument ID: HP19760 GC Column: DB-5MS 30m ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/31/2020 16:07 Calibration End Date: 07/31/2020 19:41 Calibration ID: 8045

Curve Type Legend:

Ave = Average ISTD
Lin = Linear ISTD
Lin1 = Linear 1/conc ISTD
Qua = Quadratic ISTD

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 28519

SDG No.:

Instrument ID: HP19760 GC Column: DB-5MS 30m ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/31/2020 16:07 Calibration End Date: 07/31/2020 19:41 Calibration ID: 8045

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-28519/3	DG1952.D
Level 2	IC 410-28519/9	DG1958.D
Level 3	IC 410-28519/8	DG1957.D
Level 4	IC 410-28519/7	DG1956.D
Level 5	ICIS 410-28519/2	DG1951.D
Level 6	IC 410-28519/6	DG1955.D
Level 7	IC 410-28519/5	DG1954.D
Level 8	IC 410-28519/4	DG1953.D

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
N-Nitrosodi-n-butylamine	+++++ 4.0	+++++ -0.6	12.3	9.6	-3.6	-6.8	30	30	50	30	30	30
2-Nitroaniline	+++++ 0.1	36.6 5.6	-20.8	-7.6	-9.8	-4.2	30	50 30	30	30	30	30
2,6-Dinitrotoluene	+++++ -0.8	14.3 3.6	-8.9	0.3	-4.4	-4.2	30	50 30	30	30	30	30
3-Nitroaniline	+++++ -1.4	23.9 5.0	-11.7	-4.3	-9.4	-2.1	30	50 30	30	30	30	30
5-Nitro-o-toluidine	+++++ 0.4	28.6 5.7	-12.2	-6.6	-10.3	-5.6	30	50 30	30	30	30	30
4-Nitroaniline	+++++ -0.1	17.1 2.9	-9.2	-3.0	-5.9	-1.7	30	50 30	30	30	30	30
Phorate	+++++ 0.0	29.5 5.4	-15.4	-5.2	-9.4	-4.9	30	50 30	30	30	30	30
Dinoseb	+++++ -0.9	+++++ 7.2	22.7	-7.6	-13.9	-7.6	30	30	50	30	30	30
Methyl parathion	+++++ -1.6	+++++ 1.6	46.0	8.3	-8.3	-3.5	30	30	50	30	30	30
4-Nitroquinoline-1-oxide	+++++ -3.6	+++++ 2.7	+++++	37.6	-9.2	-6.6	30	30		50	30	30
Parathion	+++++ -1.5	+++++ 5.1	12.4	-0.3	-11.5	-4.1	30	30	50	30	30	30
p-Dimethylamino azobenzene	+++++ -3.0	+++++ 2.2	46.1	7.6	-5.7	-3.8	30	30	50	30	30	30
3,3'-Dimethylbenzidine	+++++ -2.4	+++++ 6.2	15.6	-1.9	-13.7	-3.9	30	30	50	30	30	30
2-Acetylaminofluorene	+++++ -2.6	+++++ 8.0	21.0	-4.8	-14.9	-6.7	30	30	50	30	30	30
Benzo[a]anthracene	43.6 -1.6	-0.3 8.5	-21.5	-11.0	-12.2	-5.5	50 30	30 30	30	30	30	30

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
READBACK PERCENT ERROR

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 28519

SDG No.:

Instrument ID: HP19760 GC Column: DB-5MS 30m ID: 0.25(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/31/2020 16:07 Calibration End Date: 07/31/2020 19:41 Calibration ID: 8045

ANALYTE	PERCENT ERROR						PERCENT ERROR LIMIT					
	LVL 1 # LVL 7 #	LVL 2 # LVL 8 #	LVL 3 #	LVL 4 #	LVL 5 #	LVL 6 #	LVL 1 LVL 7	LVL 2 LVL 8	LVL 3	LVL 4	LVL 5	LVL 6
3,3'-Dichlorobenzidine	+++++ -3.7	+++++ 7.6	16.5	-1.5	-13.2	-5.7	30	30	50	30	30	30
Di-n-octyl phthalate	+++++ -1.6	+++++ 1.1	23.1	3.6	-2.4	-2.1	30	30	50	30	30	30
Benzo[b]fluoranthene	33.9 -1.7	-0.3 6.9	-17.3	-8.3	-8.1	-5.2	50 30	30 30	30	30	30	30
7,12-Dimethylbenz(a)anthracene	+++++ -0.8	26.9 5.4	-14.1	-5.2	-7.2	-4.9	30	50 30	30	30	30	30
Benzo[a]pyrene	31.8 -1.1	-7.7 4.8	-14.5	-3.7	-5.5	-4.1	50 30	30 30	30	30	30	30
3-Methylcholanthrene	+++++ 0.1	37.2 6.3	-19.8	-9.0	-8.7	-6.2	30	50 30	30	30	30	30
Indeno[1,2,3-cd]pyrene	44.0 0.1	-9.2 5.4	-23.4	-6.6	-3.5	-6.8	50 30	30 30	30	30	30	30
Dibenz(a,h)anthracene	38.0 1.9	-4.0 4.0	-21.9	-7.8	-4.4	-5.8	50 30	30 30	30	30	30	30
Benzo[g,h,i]perylene	25.9 0.8	-4.9 1.8	-19.1	-1.5	0.9	-3.9	50 30	30 30	30	30	30	30

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D
Lims ID: ICIS L5
Client ID:
Sample Type: ICIS Calib Level: 5
Inject. Date: 31-Jul-2020 16:07:30 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS L5
Misc. Info.: 410-0007009-002
Operator ID: lmh00956 Instrument ID: HP19760
Sublist: chrom-MSSemi_HP19760*sub5

Method: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 04-Aug-2020 16:09:47 Calib Date: 31-Jul-2020 19:41:30
Integrator: Falcon ID Type: RT Order ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1958.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1041

First Level Reviewer: hartenstinel Date: 31-Jul-2020 16:44:41

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.782	1.782	0.000	87	203231	7.50	7.75	a
2 N-Nitrosodimethylamine	74	2.382	2.382	0.000	93	289127	7.50	7.46	a
3 Pyridine	79	2.423	2.423	0.000	92	528520	7.50	7.51	a
4 2-Picoline	93	3.664	3.664	0.000	90	517092	7.50	7.45	a
5 N-Nitrosomethylethylamine	88	3.868	3.868	0.000	87	216840	7.50	7.70	a
7 Methyl methanesulfonate	80	4.335	4.335	0.000	87	247409	7.50	7.40	a
$ 8 2-Fluorophenol	112	4.574	4.574	0.000	91	880197	15.0	15.0	a
9 N-Nitrosodiethylamine	102	4.912	4.912	0.000	87	206472	7.50	7.69	a
10 Ethyl methanesulfonate	109	5.384	5.384	0.000	98	215618	7.50	7.50	a
12 Benzaldehyde	77	5.833	5.833	0.000	95	375967	7.50	7.11	a
$ 13 Phenol-d5	99	5.978	5.978	0.000	96	1107941	15.0	14.9	
14 Phenol	94	5.996	5.996	0.000	93	667948	7.50	7.63	a
15 Aniline	93	6.002	6.002	0.000	96	770796	7.50	7.56	a
16 Bis(2-chloroethyl)ether	93	6.124	6.124	0.000	100	498480	7.50	7.56	a
17 2-Chlorophenol	128	6.159	6.159	0.000	94	408387	7.50	7.60	a
18 1,3-Dichlorobenzene	146	6.386	6.386	0.000	94	459485	7.50	7.57	a
* 19 1,4-Dichlorobenzene-d4	152	6.479	6.479	0.000	96	187369	5.00	5.00	a
20 1,4-Dichlorobenzene	146	6.503	6.503	0.000	91	457854	7.50	7.43	a
21 Benzyl alcohol	108	6.707	6.707	0.000	91	286053	7.50	7.45	a
22 1,2-Dichlorobenzene	146	6.718	6.718	0.000	92	438389	7.50	7.46	a
24 Indene	115	6.858	6.858	0.000	88	631452	7.50	7.45	a
23 2-Methylphenol	108	6.899	6.899	0.000	95	403031	7.50	7.72	
25 2,2'-oxybis[1-chloropropane]	45	6.934	6.934	0.000	86	392869	7.50	7.54	
26 N-Nitrosopyrrolidine	100	7.062	7.062	0.000	94	206756	7.50	7.74	a
27 Acetophenone	105	7.097	7.097	0.000	94	556691	7.50	7.06	a
29 N-Nitrosodi-n-propylamine	70	7.126	7.126	0.000	78	347861	7.50	7.66	a
30 N-Nitrosomorpholine	56	7.132	7.132	0.000	74	233866	7.50	7.40	a
28 4-Methylphenol	108	7.138	7.138	0.000	89	479749	7.50	7.62	
31 2-Toluidine	106	7.150	7.150	0.000	94	707177	7.50	7.58	a
32 Hexachloroethane	117	7.231	7.231	0.000	93	207764	7.50	7.44	a

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 33 Nitrobenzene-d5	82	7.313	7.313	0.000	86	1026484	15.0	14.7	a
34 Nitrobenzene	77	7.342	7.342	0.000	83	533269	7.50	7.61	a
35 N-Nitrosopiperidine	114	7.575	7.575	0.000	86	200333	7.50	7.55	a
36 Isophorone	82	7.727	7.727	0.000	96	914894	7.50	7.66	a
37 2-Nitrophenol	139	7.838	7.838	0.000	91	198989	7.50	7.47	a
38 2,4-Dimethylphenol	107	7.948	7.948	0.000	97	443671	7.50	7.70	a
39 o,o',o''-Triethylphosphorothioat	198	8.077	8.077	0.000	88	195376	7.50	7.35	
40 Benzoic acid	105	8.100	8.100	0.000	89	343431	10.0	11.0	Ma
41 Bis(2-chloroethoxy)methane	93	8.106	8.106	0.000	99	565971	7.50	7.47	
42 2,4-Dichlorophenol	162	8.211	8.211	0.000	95	332356	7.50	7.62	a
43 1,2,4-Trichlorobenzene	180	8.339	8.339	0.000	92	364020	7.50	7.45	a
* 44 Naphthalene-d8	136	8.415	8.415	0.000	100	711185	5.00	5.00	a
45 Naphthalene	128	8.450	8.450	0.000	98	1168603	7.50	7.50	a
46 4-Chloroaniline	127	8.560	8.560	0.000	94	470593	7.50	7.55	a
47 2,6-Dichlorophenol	162	8.566	8.566	0.000	94	323519	7.50	7.63	a
48 Hexachloropropene	213	8.601	8.601	0.000	89	214317	7.50	7.28	a
49 Hexachlorobutadiene	225	8.677	8.677	0.000	95	205039	7.50	7.38	a
50 Quinoline	129	8.980	8.980	0.000	96	710490	7.50	7.47	a
52 Caprolactam	113	9.091	9.091	0.000	88	112595	7.50	6.96	a
53 N-Nitrosodi-n-butylamine	84	9.137	9.137	0.000	91	289641	7.50	7.23	
54 4-Chloro-3-methylphenol	107	9.365	9.365	0.000	92	355590	7.50	7.80	a
55 Safrole, Total	162	9.452	9.452	0.000	84	295032	7.50	7.42	
56 2-Methylnaphthalene	142	9.551	9.551	0.000	90	744532	7.50	7.66	a
S 51 Diallate	86				0		7.50	7.23	
57 1-Methylnaphthalene	142	9.703	9.703	0.000	92	702252	7.50	7.64	a
59 1,2,4,5-Tetrachlorobenzene	216	9.819	9.819	0.000	96	353339	7.50	7.20	a
58 Hexachlorocyclopentadiene	237	9.819	9.819	0.000	94	194321	7.50	7.20	a
60 Isosafrole Peak 1	162	9.918	9.918	0.000	84	47325	1.20	1.16	a
61 2,4,6-Trichlorophenol	196	10.017	10.017	0.000	95	232696	7.50	7.70	a
62 2,4,5-Trichlorophenol	196	10.070	10.070	0.000	42	248075	7.50	7.72	a
$ 63 2-Fluorobiphenyl (Surr)	172	10.169	10.169	0.000	99	1689645	15.0	14.8	
64 Isosafrole Peak 2	162	10.280	10.280	0.000	87	288419	6.30	6.24	a
65 1,1'-Biphenyl	154	10.315	10.315	0.000	96	828320	7.50	6.96	a
66 2-Chloronaphthalene	162	10.321	10.321	0.000	98	722863	7.50	7.12	a
67 1-Chloronaphthalene	162	10.350	10.350	0.000	97	698710	7.50	7.97	a
68 Phenyl ether	170	10.495	10.495	0.000	86	491503	7.50	7.43	a
69 2-Nitroaniline	138	10.507	10.507	0.000	77	205731	7.50	6.76	
70 1,4-Naphthoquinone	158	10.612	10.612	0.000	81	288044	7.50	7.59	a
71 1,4-Dinitrobenzene	168	10.746	10.746	0.000	84	105454	7.50	7.40	
72 Dimethyl phthalate	163	10.851	10.851	0.000	97	772558	7.50	7.29	
73 1,3-Dinitrobenzene	168	10.857	10.857	0.000	82	126016	7.50	7.42	a
74 2,6-Dinitrotoluene	165	10.921	10.921	0.000	89	177595	7.50	7.17	
75 Acenaphthylene	152	10.973	10.973	0.000	99	987515	7.50	7.81	a
76 3-Nitroaniline	138	11.166	11.166	0.000	89	175200	7.50	6.80	a
* 77 Acenaphthene-d10	164	11.207	11.207	0.000	96	347869	5.00	5.00	
78 Acenaphthene	153	11.253	11.253	0.000	97	706463	7.50	7.38	a
79 2,4-Dinitrophenol	184	11.341	11.341	0.000	83	128167	10.0	8.76	
81 Pentachlorobenzene	250	11.469	11.469	0.000	95	280330	7.50	7.27	
80 4-Nitrophenol	109	11.475	11.475	0.000	83	150764	7.50	7.00	
83 Dibenzofuran	168	11.533	11.533	0.000	96	964626	7.50	7.52	
82 2,4-Dinitrotoluene	165	11.545	11.545	0.000	86	226180	7.50	7.34	
84 1-Naphthylamine	143	11.649	11.649	0.000	97	674771	7.50	7.13	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
85 2,3,4,6-Tetrachlorophenol	232	11.725	11.725	0.000	77	174213	7.50	7.19	
86 2-Naphthylamine	143	11.766	11.766	0.000	94	675731	7.50	7.10	
87 Diethyl phthalate	149	11.935	11.935	0.000	97	738623	7.50	7.21	
89 Fluorene	166	12.005	12.005	0.000	94	774606	7.50	7.71	
88 Thionazin	107	12.034	12.034	0.000	77	146447	7.50	7.00	
90 N-Nitro-o-toluidine	152	12.040	12.040	0.000	80	212691	7.50	6.73	a
92 4-Nitroaniline	138	12.046	12.046	0.000	78	199168	7.50	7.06	
91 4-Chlorophenyl phenyl ether	204	12.046	12.046	0.000	88	396943	7.50	7.50	
93 4,6-Dinitro-2-methylphenol	198	12.092	12.092	0.000	82	133449	7.50	7.02	a
94 N-Nitrosodiphenylamine	169	12.192	12.192	0.000	62	656608	7.50	7.49	
95 1,2-Diphenylhydrazine	77	12.238	12.238	0.000	98	1049449	7.50	7.78	
$ 96 2,4,6-Tribromophenol	330	12.308	12.308	0.000	82	180633	15.0	14.0	
97 Sulfotepp	97	12.431	12.431	0.000	81	149950	7.50	7.15	
98 cis-Diallate	86	12.553	12.553	0.000	85	280185	5.55	5.34	a
99 Phorate	75	12.559	12.559	0.000	95	513192	7.50	6.80	a
100 Phenacetin	108	12.582	12.582	0.000	92	398920	7.50	7.38	a
101 4-Bromophenyl phenyl ether	248	12.623	12.623	0.000	72	206919	7.50	7.56	a
102 trans-Diallate	86	12.652	12.652	0.000	96	94779	1.95	1.88	a
103 Hexachlorobenzene	284	12.664	12.664	0.000	90	209878	7.50	7.43	
104 Dimethoate	87	12.745	12.745	0.000	93	304256	7.50	7.34	a
105 Atrazine	200	12.856	12.856	0.000	92	176803	7.50	6.84	a
106 Pentachlorophenol	266	12.908	12.908	0.000	90	139819	7.50	7.30	a
107 Pentachloronitrobenzene	237	12.926	12.926	0.000	82	94016	7.50	7.29	
108 4-Aminobiphenyl	169	12.932	12.932	0.000	91	585219	7.50	7.78	a
109 Pronamide	173	13.037	13.037	0.000	90	321259	7.50	7.32	a
* 110 Phenanthrene-d10	188	13.130	13.130	0.000	98	642951	5.00	5.00	a
112 Phenanthrene	178	13.159	13.159	0.000	99	1089818	7.50	7.34	a
111 Dinoseb	211	13.165	13.165	0.000	89	163761	7.50	6.46	
113 Anthracene	178	13.223	13.223	0.000	98	1128622	7.50	7.94	a
114 Carbazole	167	13.439	13.439	0.000	96	992488	7.50	7.68	
115 Methyl parathion	109	13.643	13.643	0.000	91	231154	7.50	6.88	
116 Di-n-butyl phthalate	149	13.952	13.952	0.000	100	1233355	7.50	7.44	
117 Ethyl Parathion	109	14.167	14.167	0.000	83	153435	7.50	6.63	
118 4-Nitroquinoline-1-oxide	190	14.167	14.167	0.000	78	51406	7.50	6.81	
119 Octachlorostyrene	308	14.494	14.494	0.000	85	77809	7.50	7.09	a
120 Isodrin	193	14.529	14.529	0.000	86	126922	7.50	7.43	a
121 Fluoranthene	202	14.739	14.739	0.000	99	1176836	7.50	7.84	a
122 Benzidine	184	14.978	14.978	0.000	99	2218138	22.5	20.6	a
* 123 Pyrene-d10 (IS)	212	15.042	15.042	0.000	98	632828	5.00	5.00	a
124 Pyrene	202	15.065	15.065	0.000	96	1251983	7.50	7.46	a
$ 125 p-Terphenyl-d14	244	15.362	15.362	0.000	98	1789948	15.0	14.7	a
126 p-Dimethylamino azobenzene	225	15.590	15.590	0.000	89	196464	7.50	7.07	a
127 Chlorobenzilate	139	15.683	15.683	0.000	86	313617	7.50	7.24	a
128 3,3'-Dimethylbenzidine	212	16.138	16.138	0.000	99	677944	7.50	6.48	a
129 Butyl benzyl phthalate	149	16.207	16.207	0.000	95	520952	7.50	7.30	a
130 2-Acetylaminofluorene	181	16.546	16.546	0.000	96	367646	7.50	6.38	a
132 Benzo[a]anthracene	228	17.035	17.035	0.000	100	1044177	7.50	6.59	a
131 3,3'-Dichlorobenzidine	252	17.041	17.041	0.000	76	388215	7.50	6.51	a
133 4,4'-Methylene bis(2-chloroanil	231	17.064	17.064	0.000	95	185399	7.50	6.50	a
134 Chrysene	228	17.093	17.093	0.000	97	1084746	7.50	7.51	a
135 Bis(2-ethylhexyl) phthalate	149	17.268	17.268	0.000	97	693970	7.50	7.21	a
136 6-Methylchrysene	242	17.886	17.886	0.000	99	699512	7.50	6.89	a

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
137 Di-n-octyl phthalate	149	18.422	18.422	0.000	100	1097225	7.50	7.32	a
138 Benzo[b]fluoranthene	252	18.860	18.860	0.000	97	1039150	7.50	6.89	a
139 7,12-Dimethylbenz(a)anthracene	256	18.871	18.871	0.000	90	486103	7.50	6.96	a
140 Benzo[k]fluoranthene	252	18.906	18.906	0.000	99	1114692	7.50	8.11	a
141 Benzo[a]pyrene	252	19.378	19.378	0.000	78	995137	7.50	7.09	a
* 142 Perylene-d12	264	19.466	19.466	0.000	97	535333	5.00	5.00	a
143 3-Methylcholanthrene	268	19.955	19.955	0.000	92	452694	7.50	6.85	a
144 Dibenz[a,h]acridine	279	20.760	20.760	0.000	92	640530	7.50	7.65	a
145 Dibenz[a,j]acridine	279	20.835	20.835	0.000	96	753674	7.50	7.78	a
146 Indeno[1,2,3-cd]pyrene	276	21.063	21.063	0.000	98	830474	7.50	7.24	a
147 Dibenz(a,h)anthracene	278	21.109	21.109	0.000	94	906038	7.50	7.17	a
148 Benzo[g,h,i]perylene	276	21.418	21.418	0.000	96	961407	7.50	7.57	a
S 152 Dinitrotoluene	165				0		15.0	14.5	
S 170 Isosafrole	162				0		7.50	7.40	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

MSS_RV8270_5_00007 Amount Added: 1.00 Units: mL

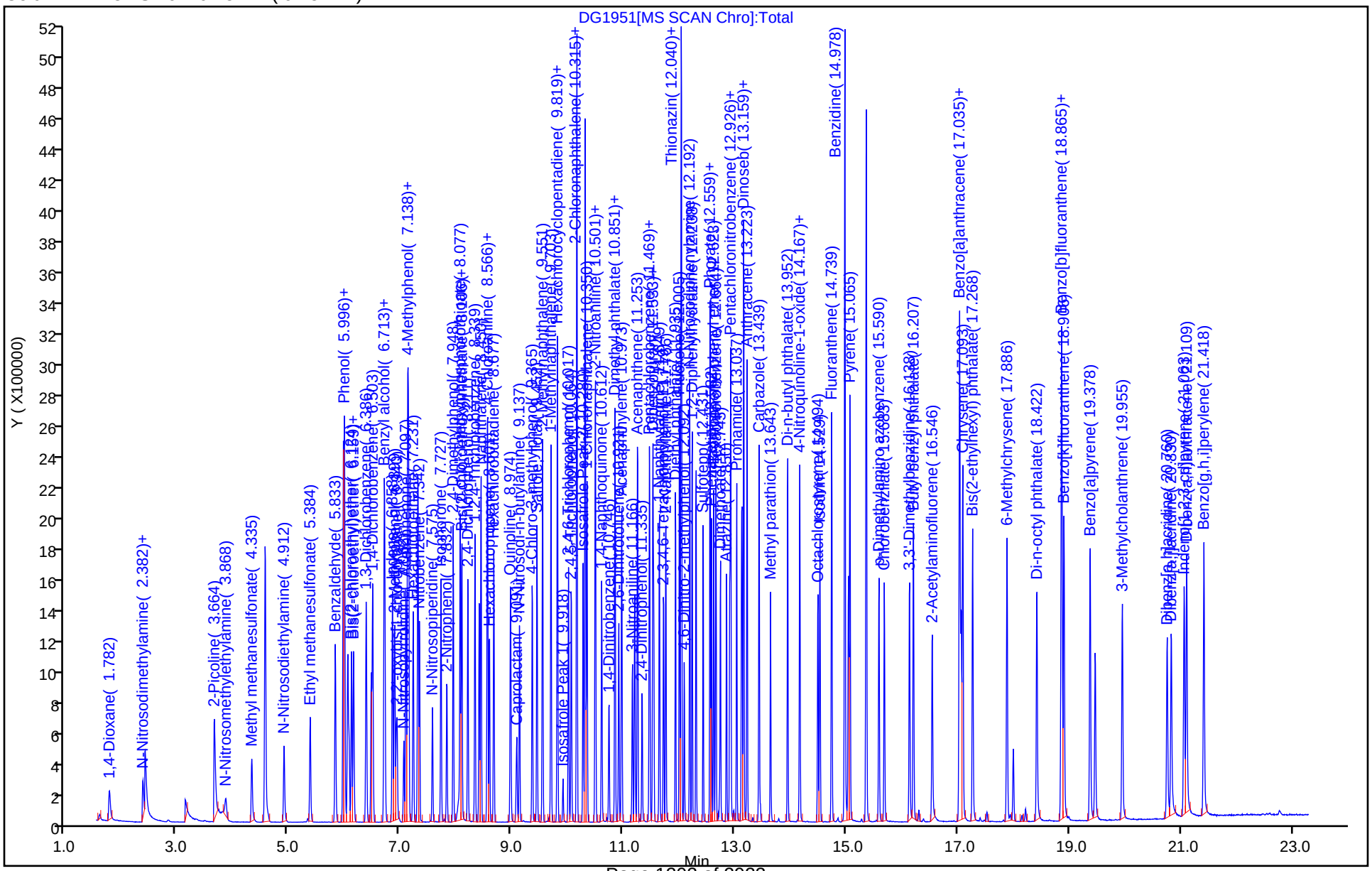
Report Date: 04-Aug-2020 16:09:49 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D

Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760	Operator ID:	lmh00956
Lims ID:	ICIS L5			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

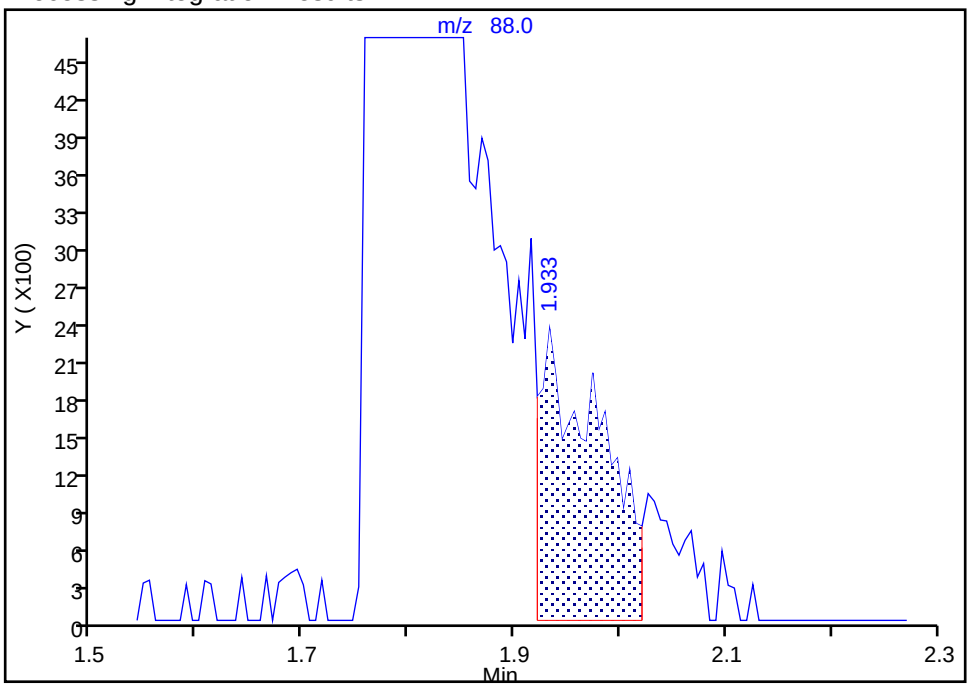
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

1 1,4-Dioxane, CAS: 123-91-1

Signal: 1

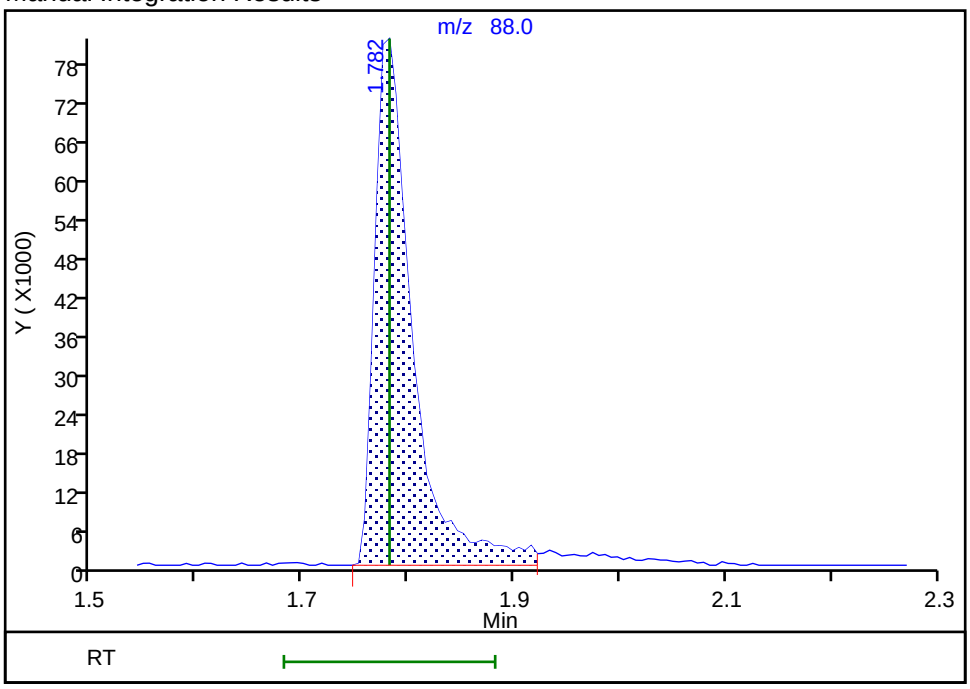
Processing Integration Results

RT: 1.93
Area: 8965
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 1.78
Area: 203231
Amount: 7.745158
Amount Units: ug/ml



Reviewer: hartenstinel, 31-Jul-2020 16:40:59

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

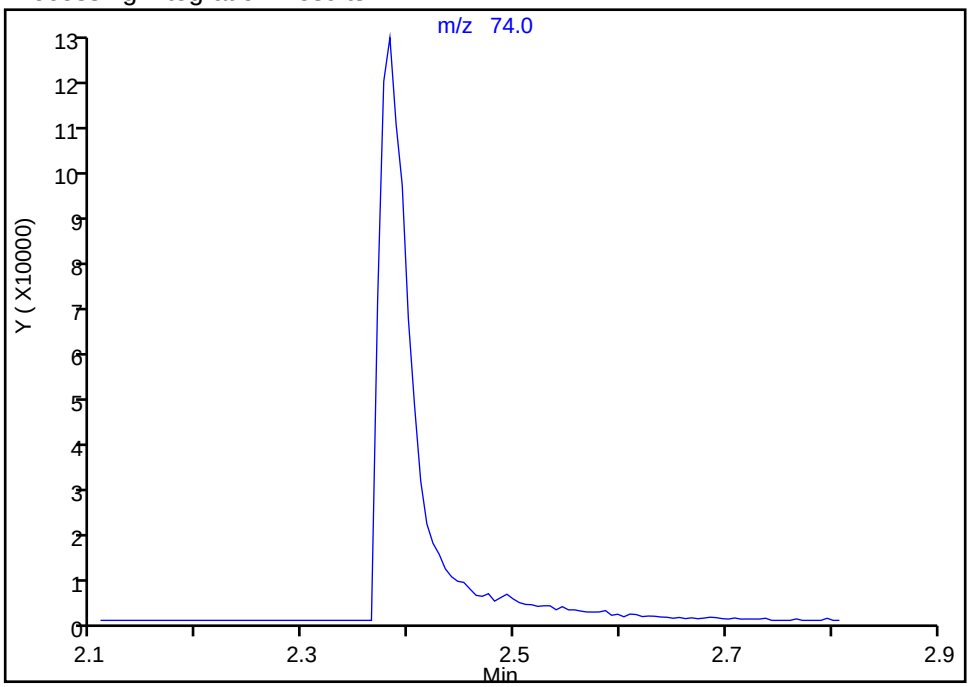
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

2 N-Nitrosodimethylamine, CAS: 62-75-9

Signal: 1

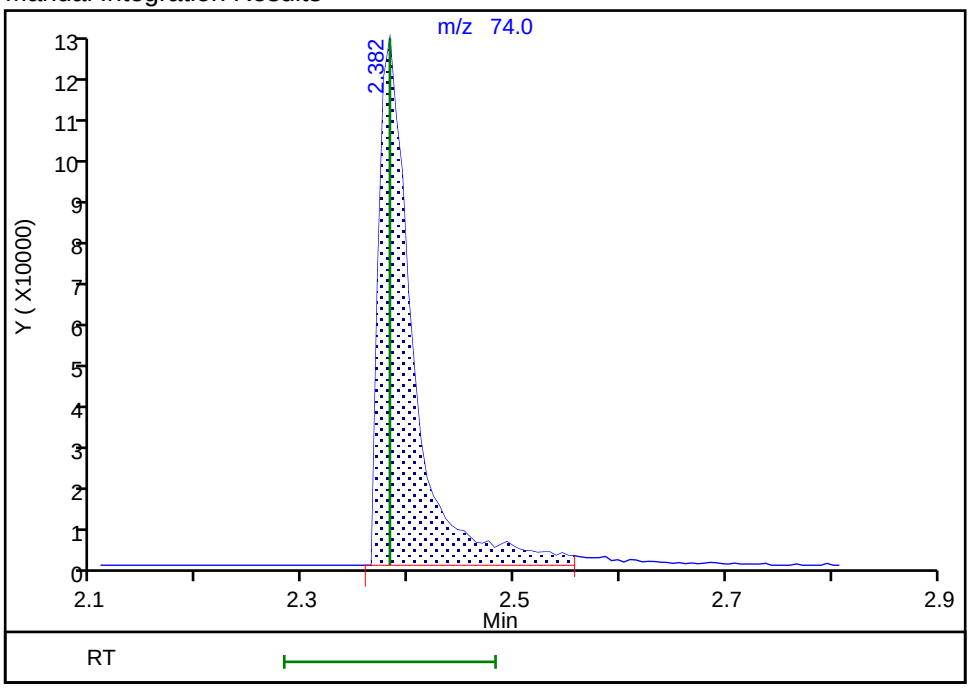
Not Detected
Expected RT: 2.38

Processing Integration Results



RT: 2.38
Area: 289127
Amount: 7.459139
Amount Units: ug/ml

Manual Integration Results



Reviewer: transuea, 31-Jul-2020 17:45:06
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

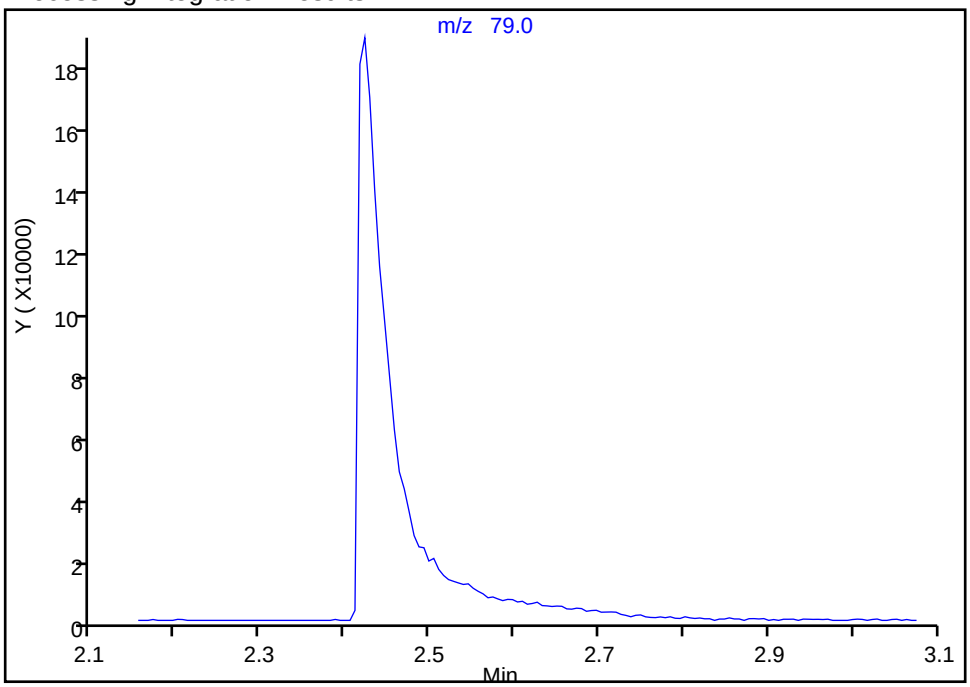
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

3 Pyridine, CAS: 110-86-1

Signal: 1

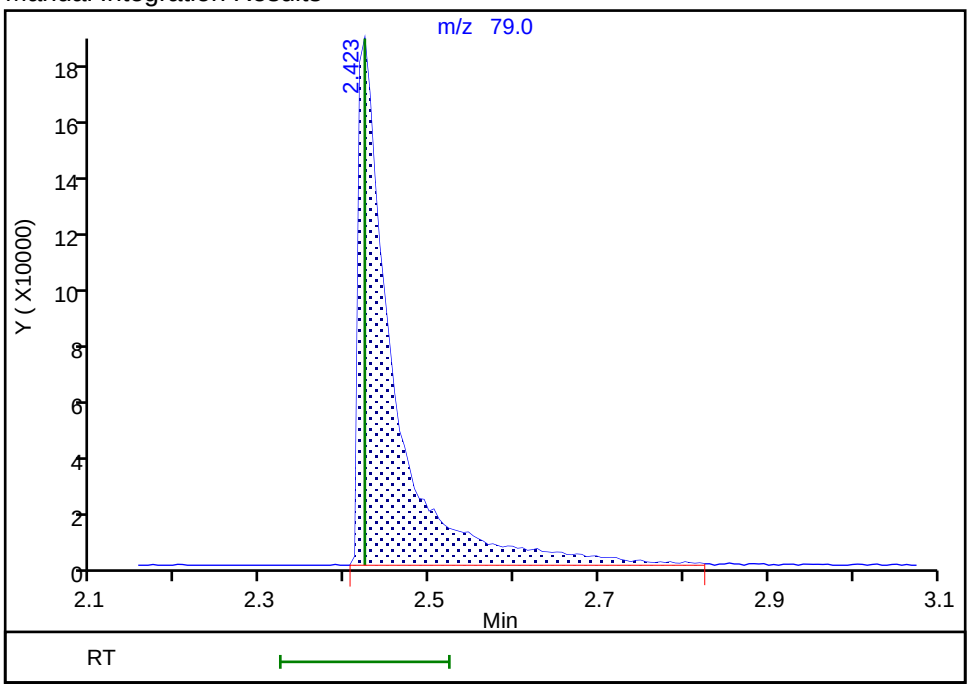
Not Detected
Expected RT: 2.42

Processing Integration Results



Manual Integration Results

RT: 2.42
Area: 528520
Amount: 7.509616
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:45:12
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

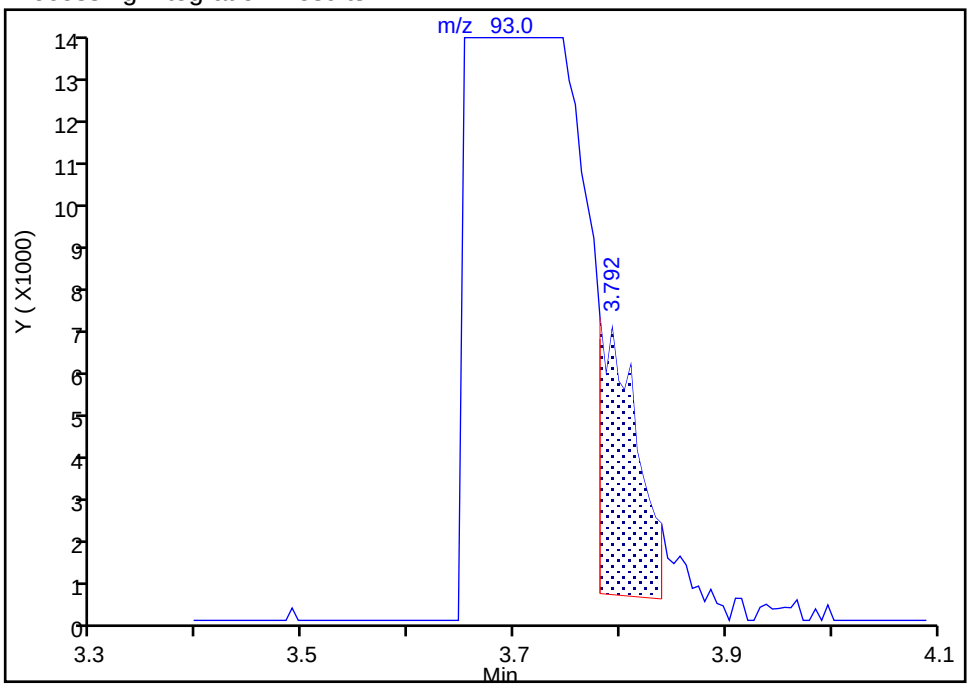
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

4 2-Picoline, CAS: 109-06-8

Signal: 1

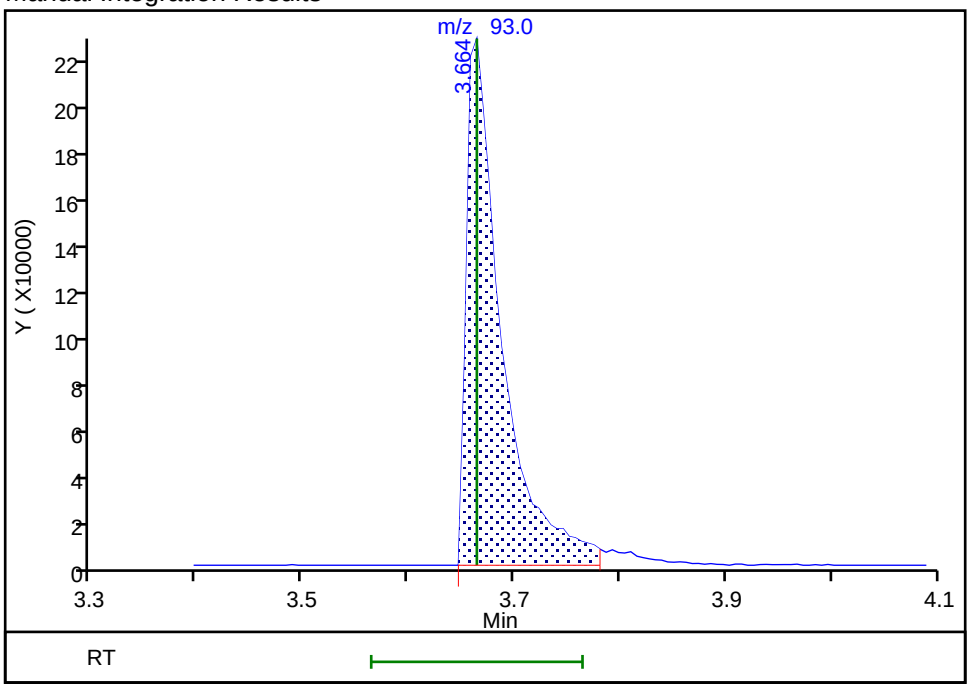
Processing Integration Results

RT: 3.79
Area: 13873
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 3.66
Area: 517092
Amount: 7.454523
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:35:23
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

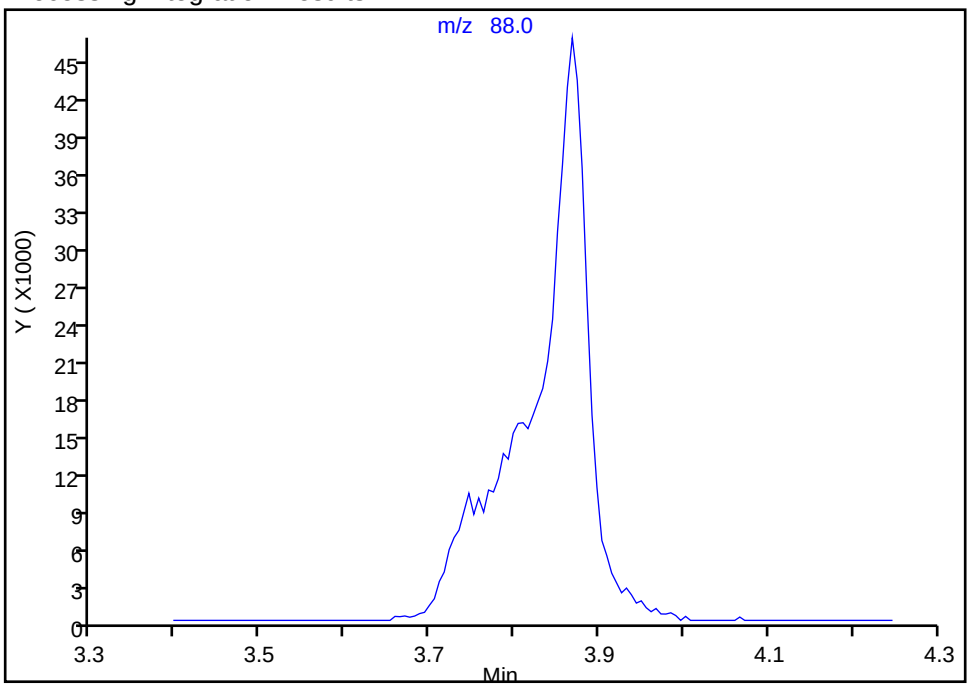
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

5 N-Nitrosomethylethylamine, CAS: 10595-95-6

Signal: 1

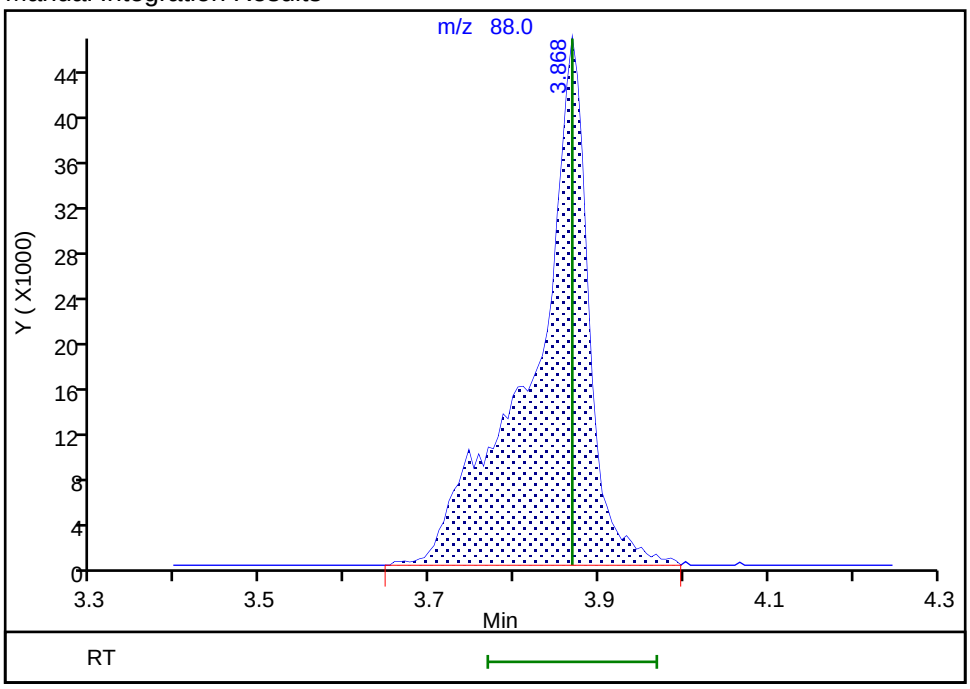
Not Detected
Expected RT: 3.87

Processing Integration Results



Manual Integration Results

RT: 3.87
Area: 216840
Amount: 7.701664
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:45:16
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

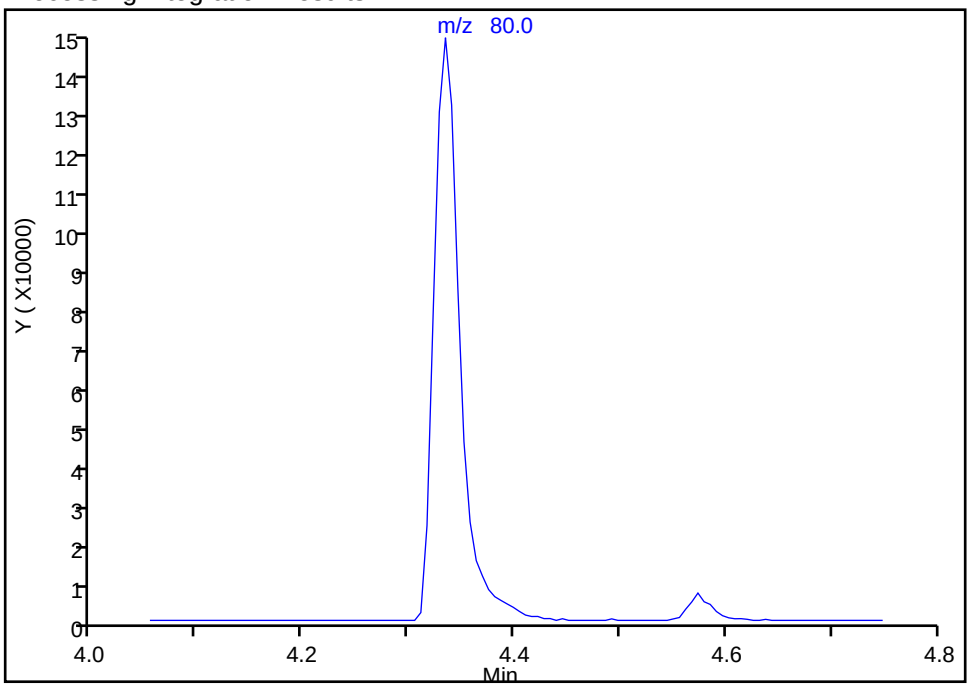
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

7 Methyl methanesulfonate, CAS: 66-27-3

Signal: 1

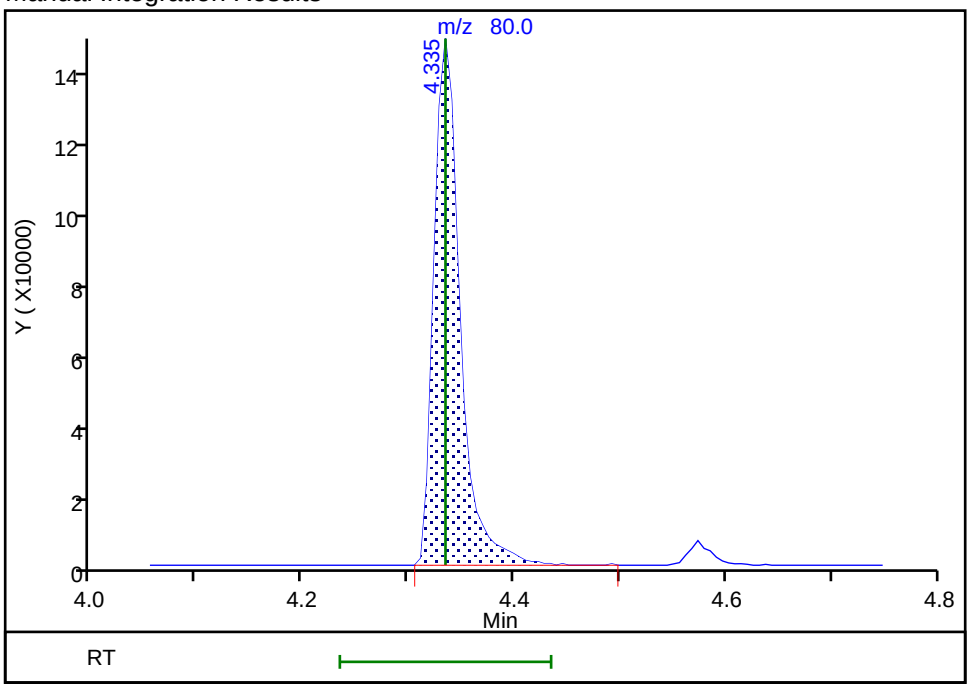
Not Detected
Expected RT: 4.33

Processing Integration Results



Manual Integration Results

RT: 4.33
Area: 247409
Amount: 7.397426
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:45:21
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

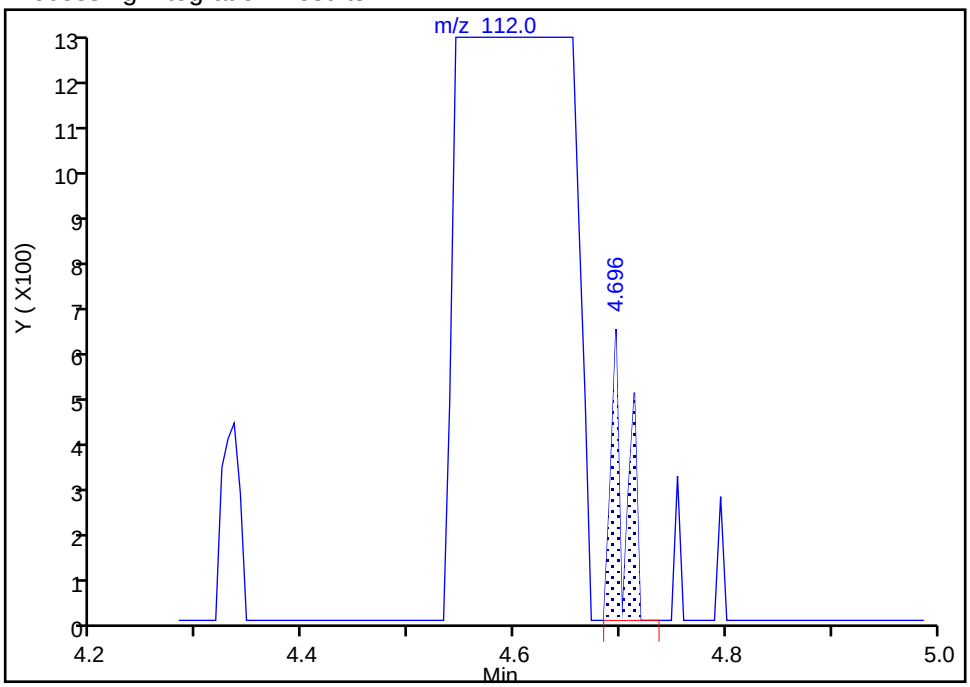
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

$ 8 2-Fluorophenol, CAS: 367-12-4

Signal: 1

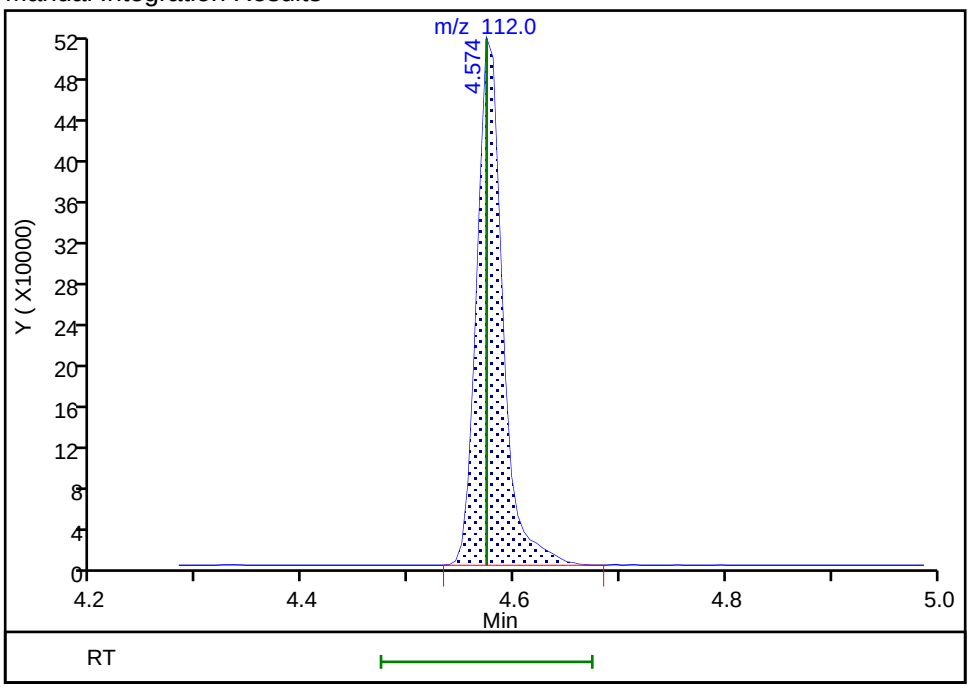
Processing Integration Results

RT: 4.70
Area: 604
Amount: 15.000000
Amount Units: ug/ml



Manual Integration Results

RT: 4.57
Area: 880197
Amount: 15.011090
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:35:30
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

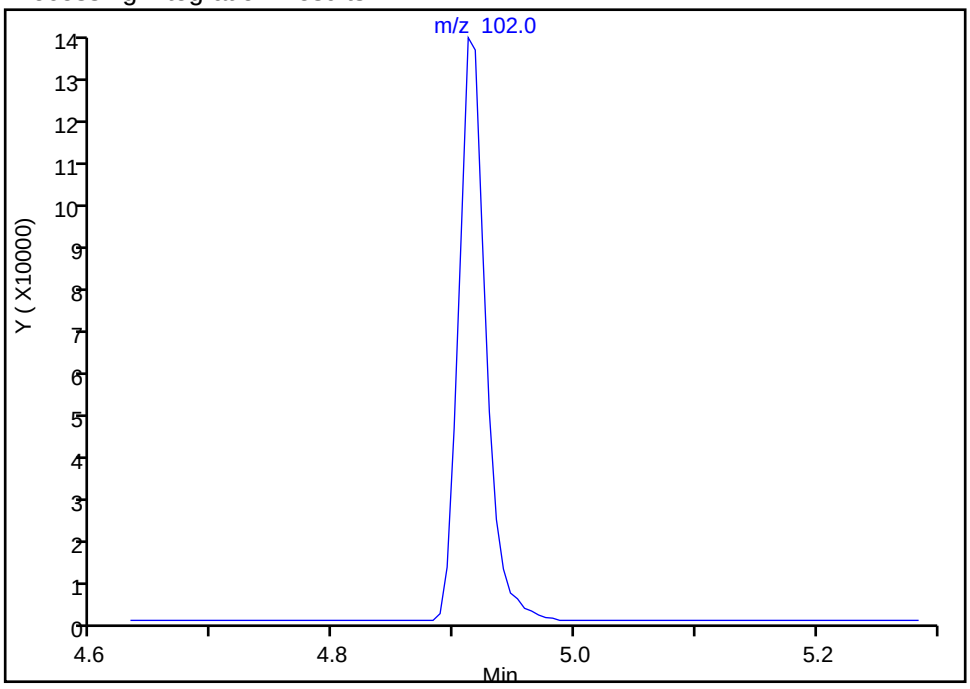
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

9 N-Nitrosodiethylamine, CAS: 55-18-5

Signal: 1

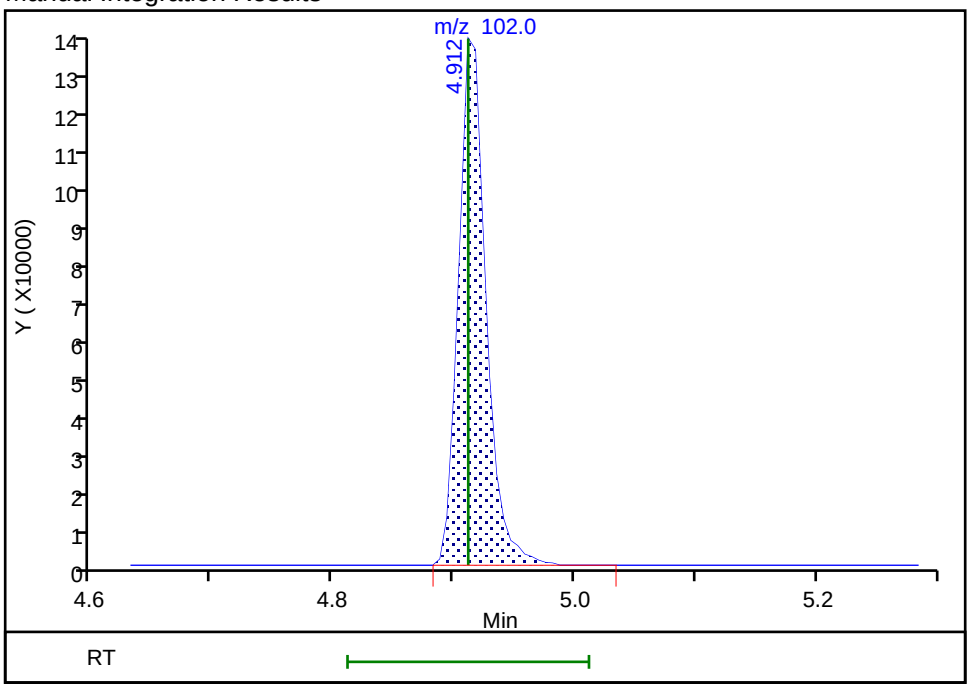
Not Detected
Expected RT: 4.91

Processing Integration Results



Manual Integration Results

RT: 4.91
Area: 206472
Amount: 7.688344
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:45:27
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

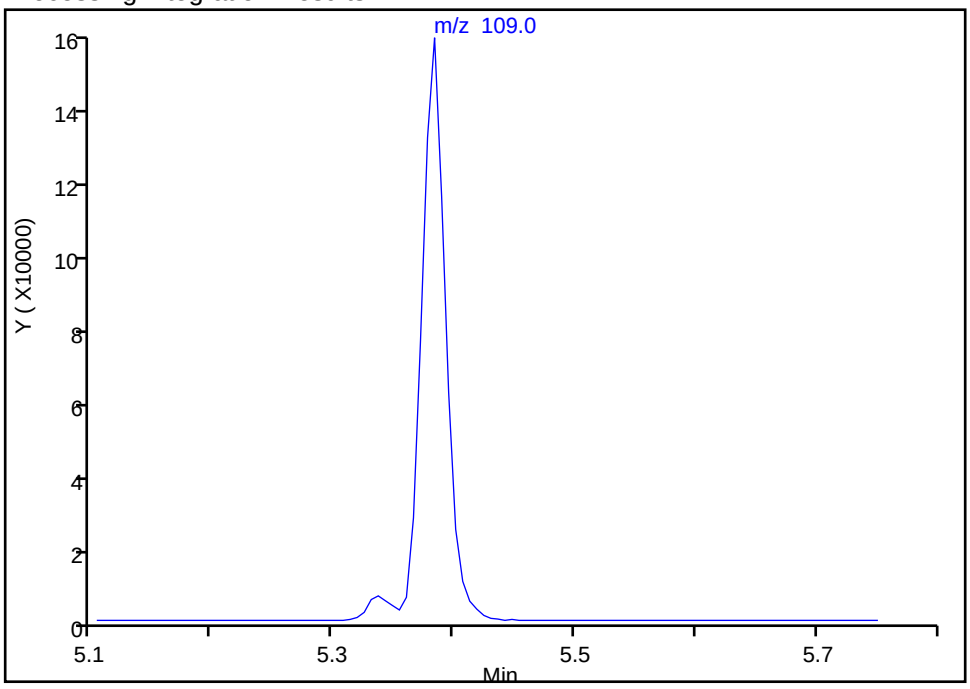
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

10 Ethyl methanesulfonate, CAS: 62-50-0

Signal: 1

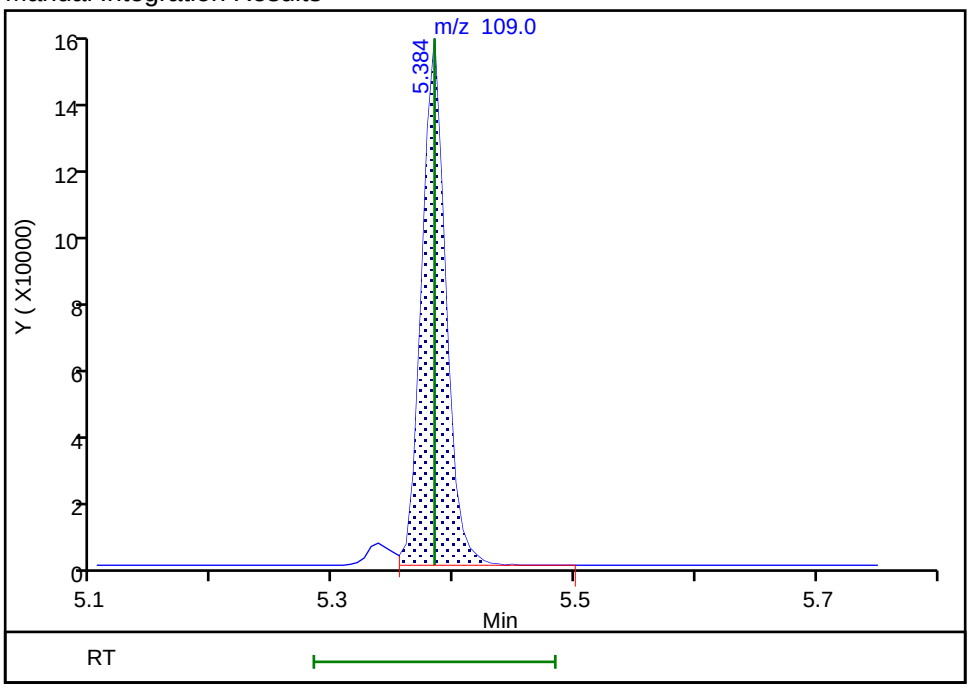
Not Detected
Expected RT: 5.38

Processing Integration Results



Manual Integration Results

RT: 5.38
Area: 215618
Amount: 7.495082
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:45:33
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

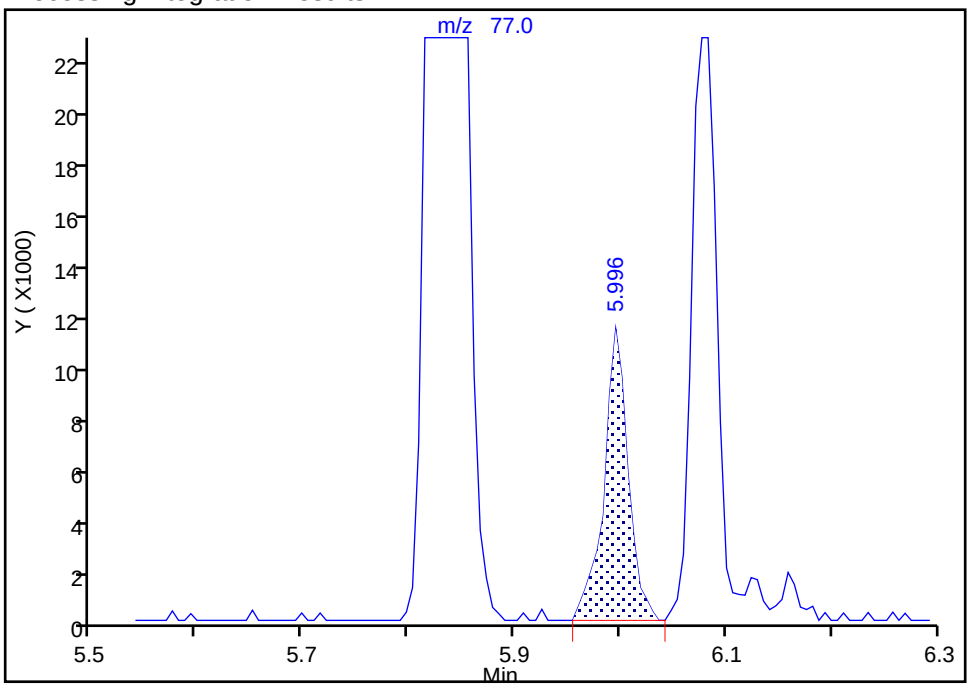
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

12 Benzaldehyde, CAS: 100-52-7

Signal: 1

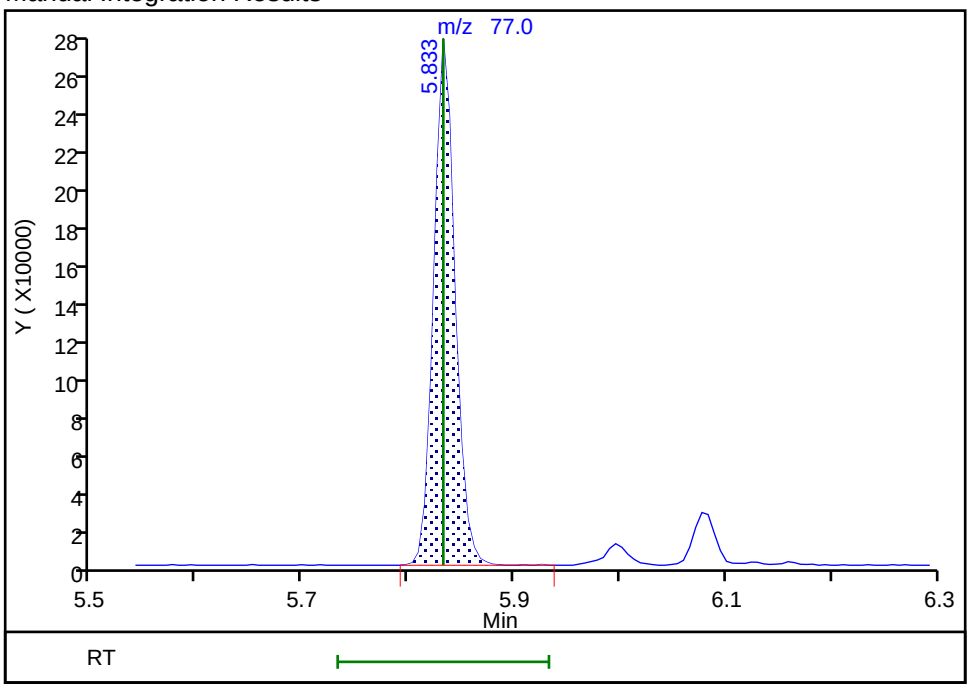
Processing Integration Results

RT: 6.00
Area: 17567
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 5.83
Area: 375967
Amount: 7.112272
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:35:39

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

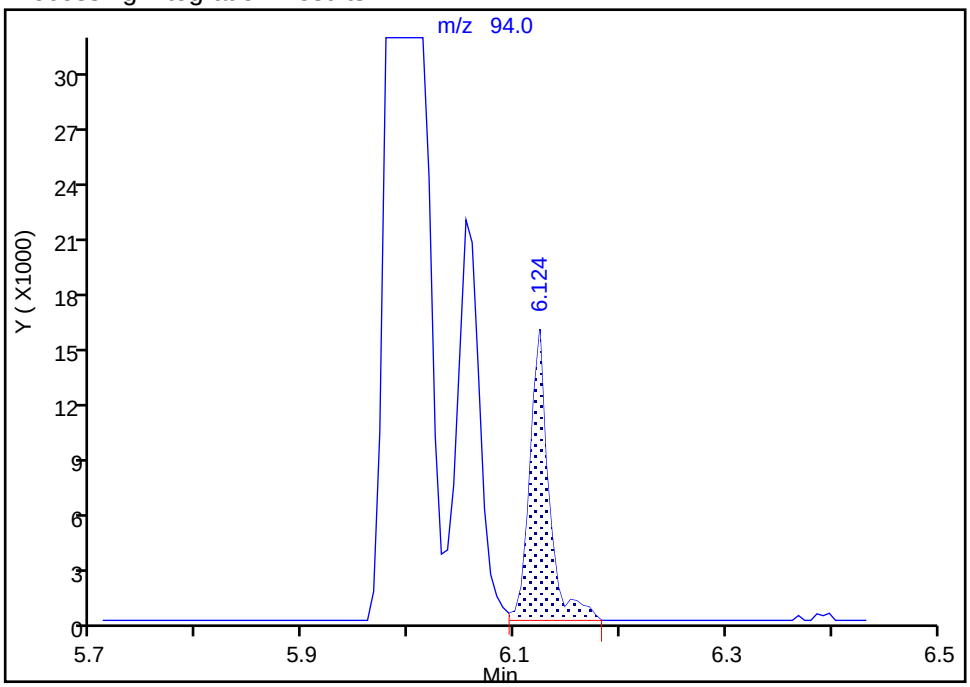
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

14 Phenol, CAS: 108-95-2

Signal: 1

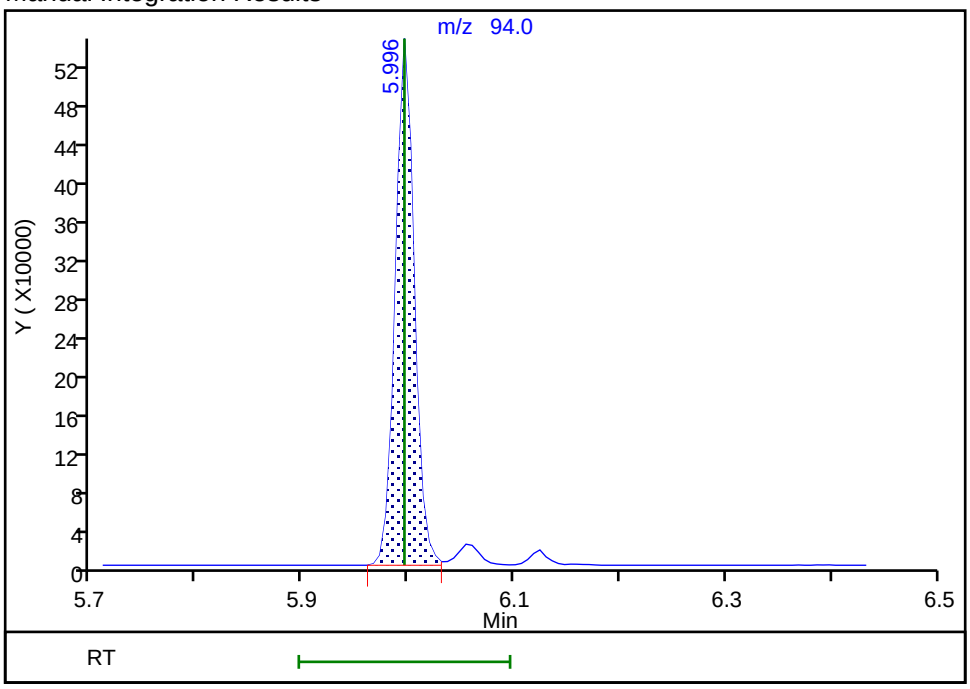
Processing Integration Results

RT: 6.12
Area: 19523
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 6.00
Area: 667948
Amount: 7.627037
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:35:45

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

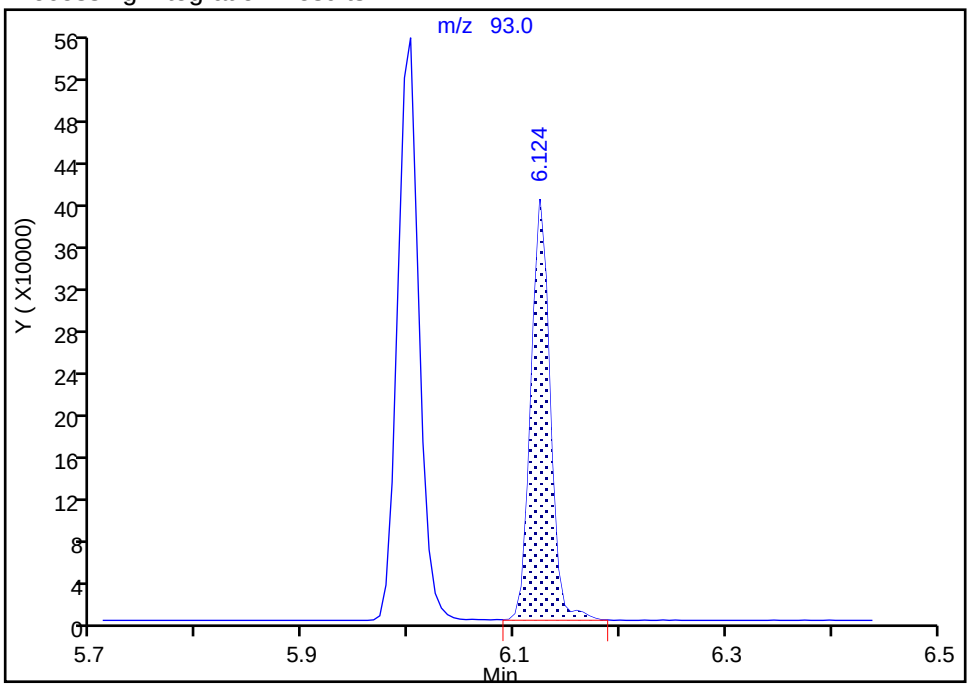
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

15 Aniline, CAS: 62-53-3

Signal: 1

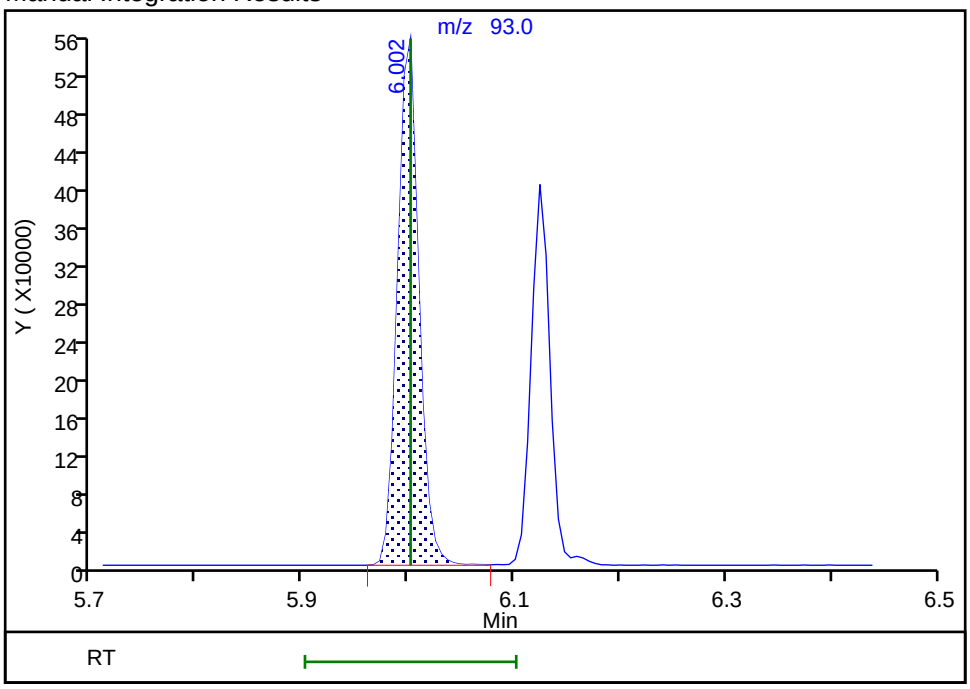
Processing Integration Results

RT: 6.12
Area: 497722
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 6.00
Area: 770796
Amount: 7.558211
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:35:52
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

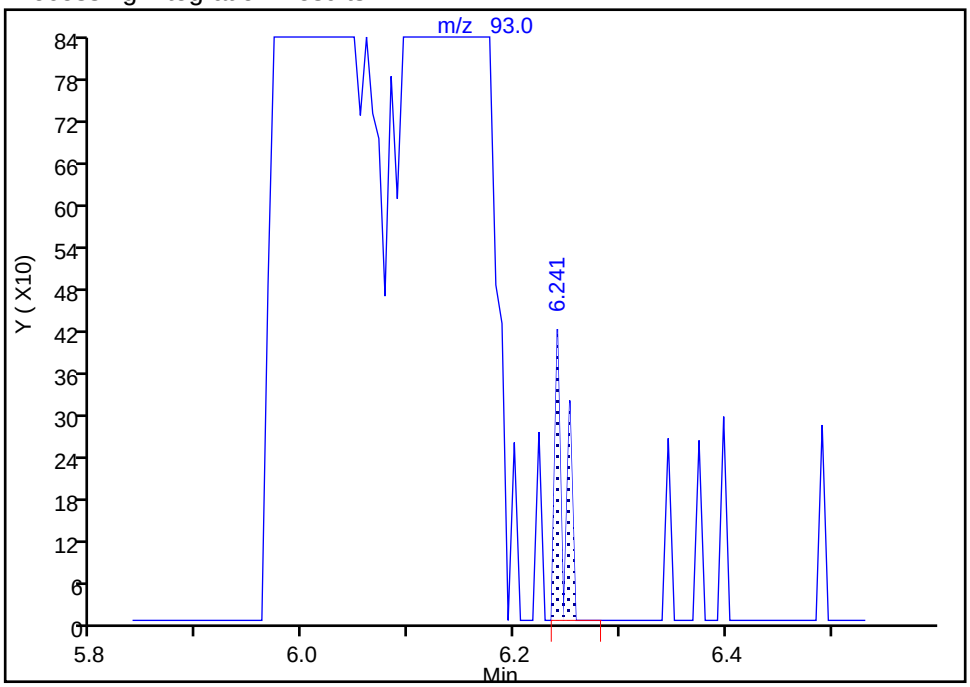
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

16 Bis(2-chloroethyl)ether, CAS: 111-44-4

Signal: 1

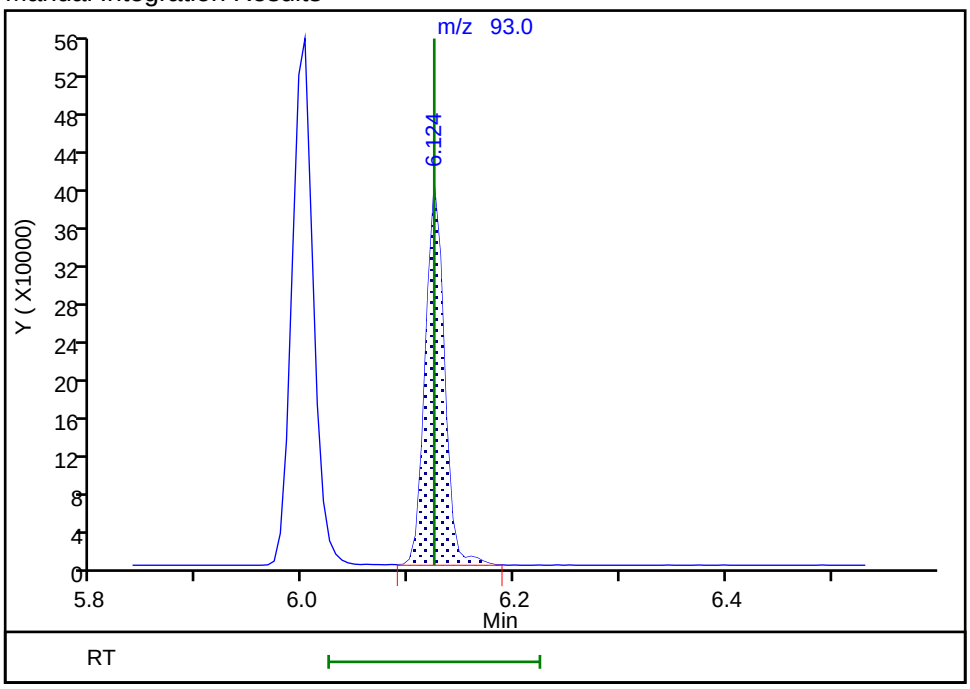
Processing Integration Results

RT: 6.24
Area: 255
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 6.12
Area: 498480
Amount: 7.559044
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:36:02

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

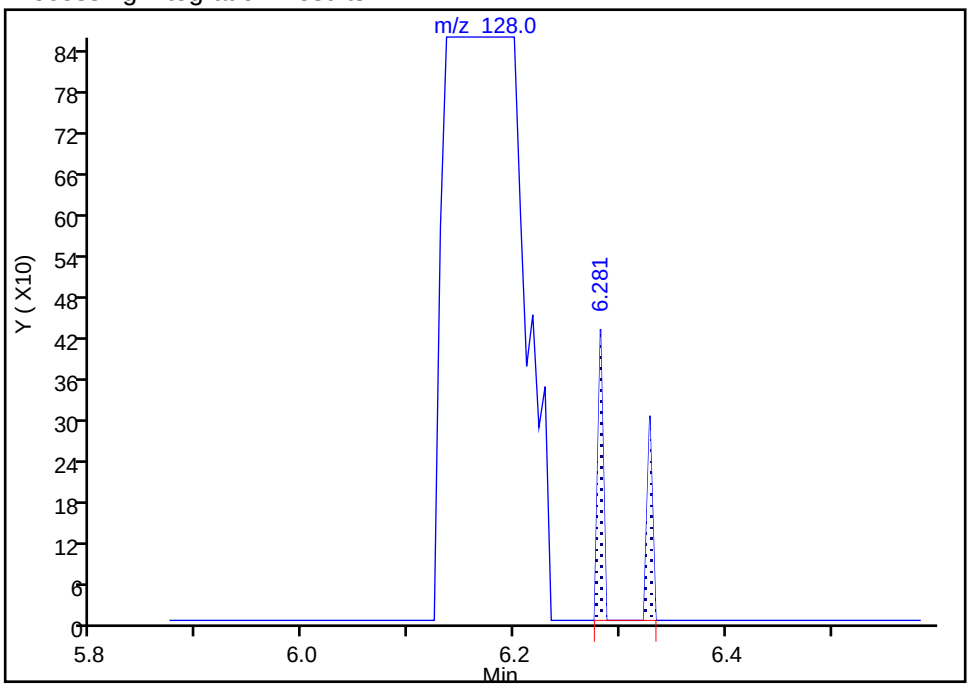
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

17 2-Chlorophenol, CAS: 95-57-8

Signal: 1

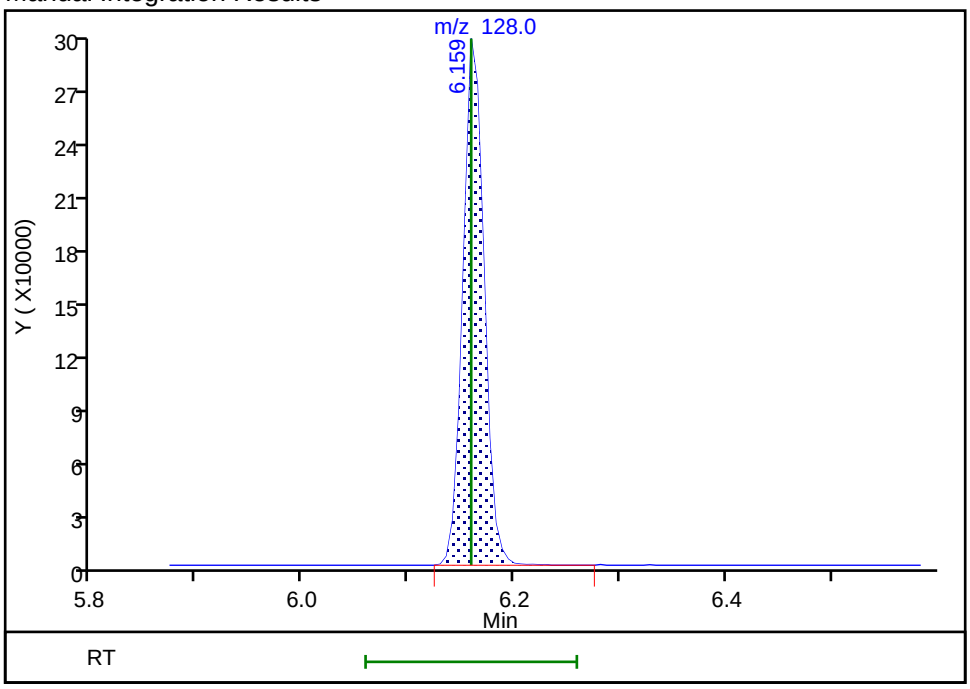
Processing Integration Results

RT: 6.28
Area: 255
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 6.16
Area: 408387
Amount: 7.601360
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:36:08

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

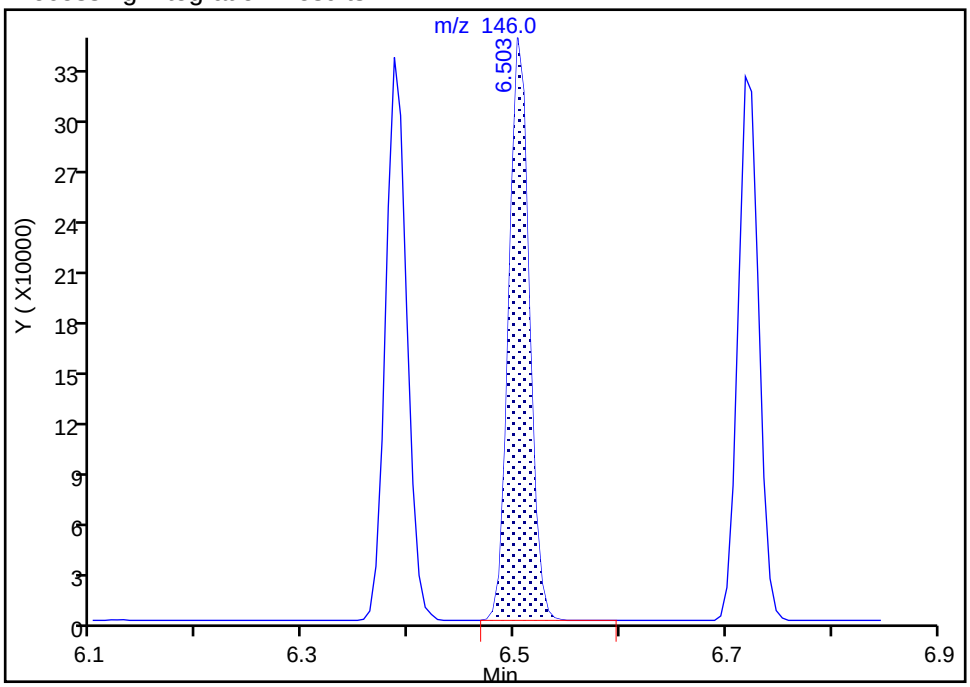
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

18 1,3-Dichlorobenzene, CAS: 541-73-1

Signal: 1

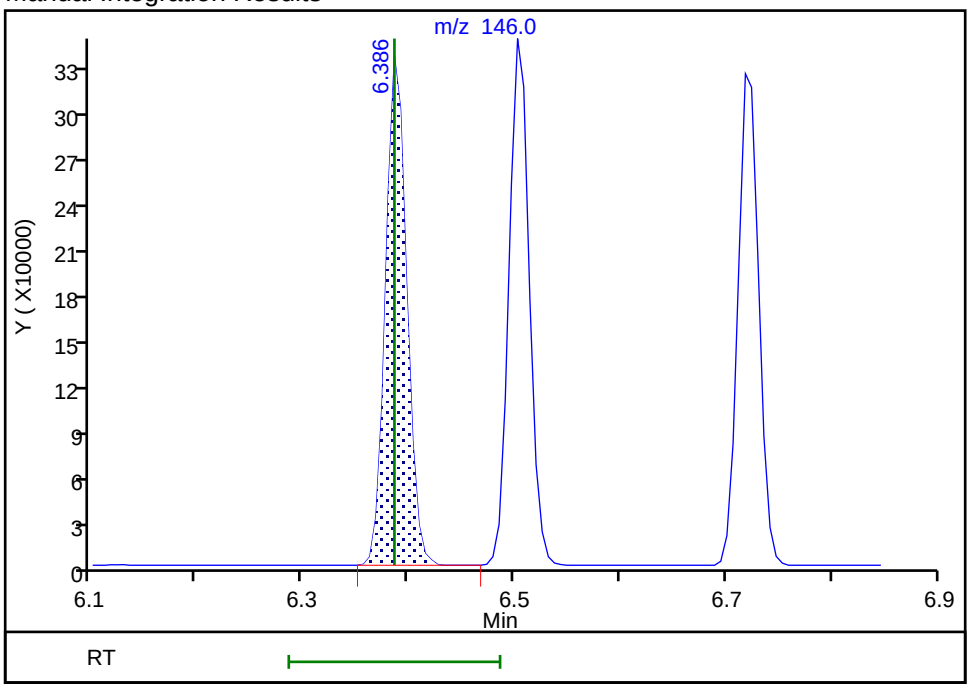
Processing Integration Results

RT: 6.50
Area: 457854
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 6.39
Area: 459485
Amount: 7.565594
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:36:17

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

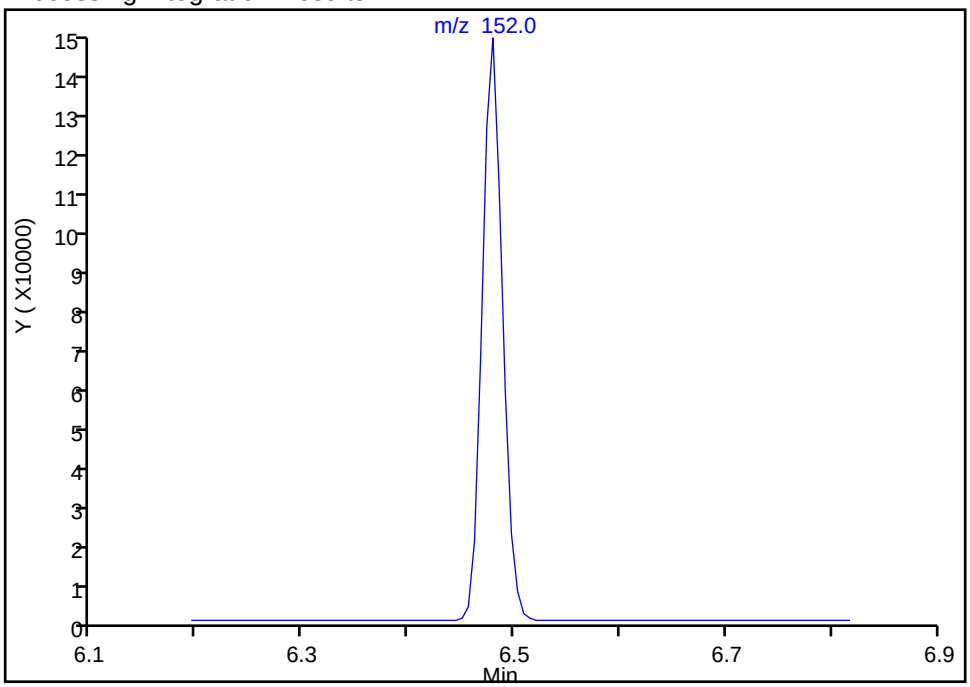
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D
Injection Date: 31-Jul-2020 16:07:30 Instrument ID: HP19760
Lims ID: ICIS L5
Client ID:
Operator ID: lmh00956 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI
Column: DB-5MS 20m 0.25mm (0.25 mm) Detector MS SCAN

* 19 1,4-Dichlorobenzene-d4, CAS: 3855-82-1

Signal: 1

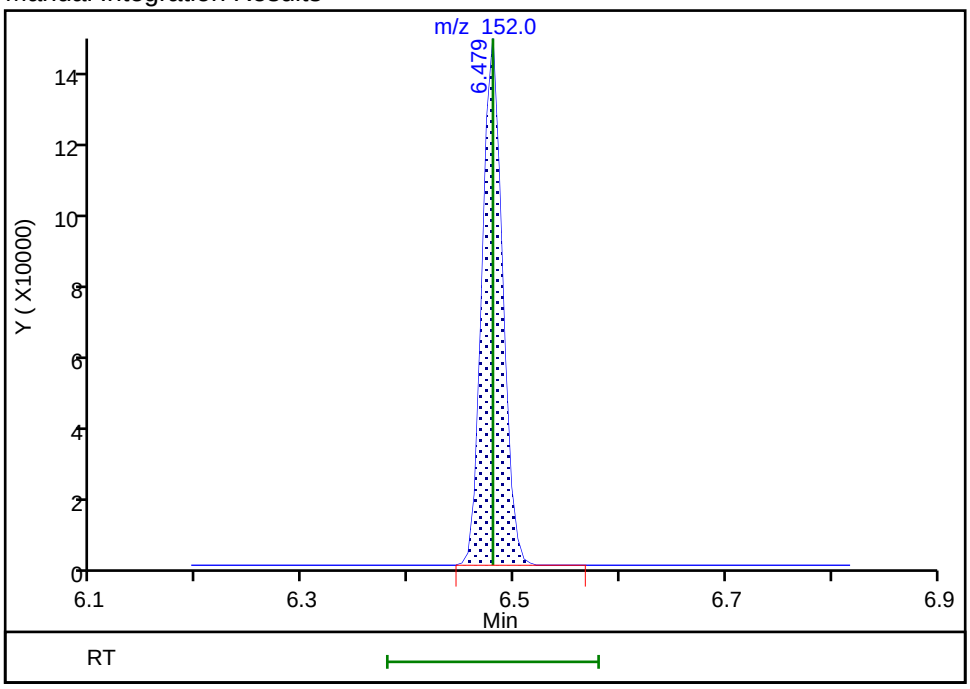
Not Detected
Expected RT: 6.48

Processing Integration Results



Manual Integration Results

RT: 6.48
Area: 187369
Amount: 5.000000
Amount Units: ug/ml



Reviewer: hartenstinel, 31-Jul-2020 16:40:45
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

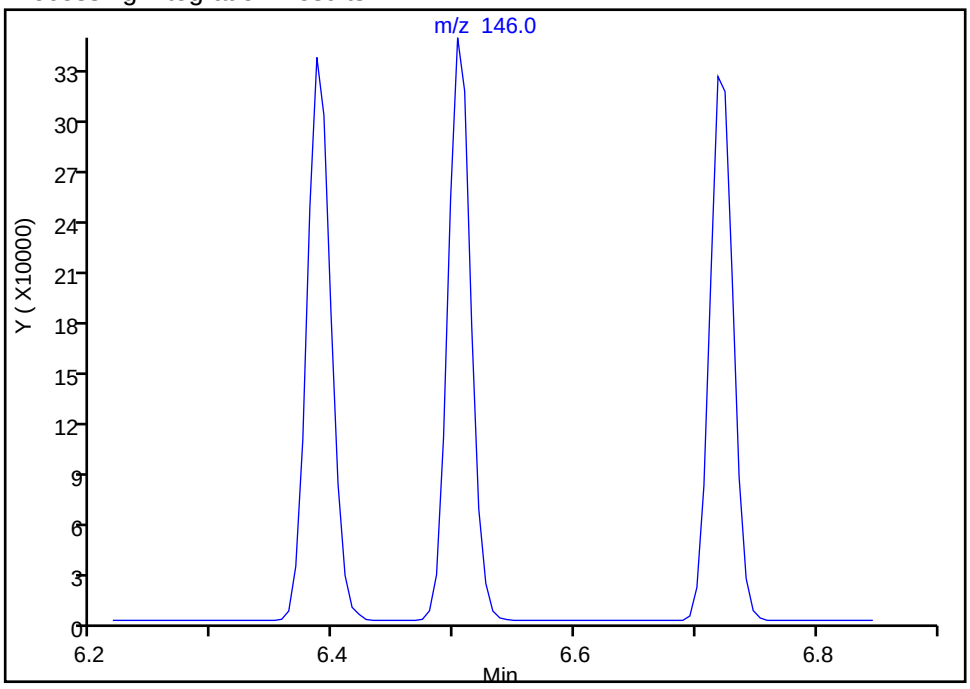
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

20 1,4-Dichlorobenzene, CAS: 106-46-7

Signal: 1

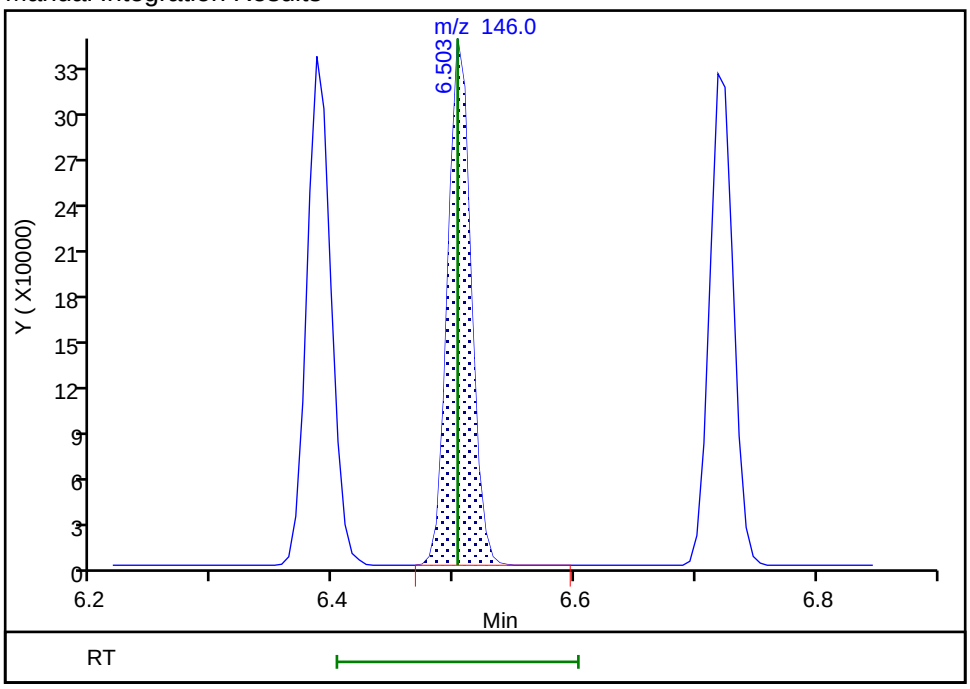
Not Detected
Expected RT: 6.50

Processing Integration Results



Manual Integration Results

RT: 6.50
Area: 457854
Amount: 7.426425
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:45:40
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

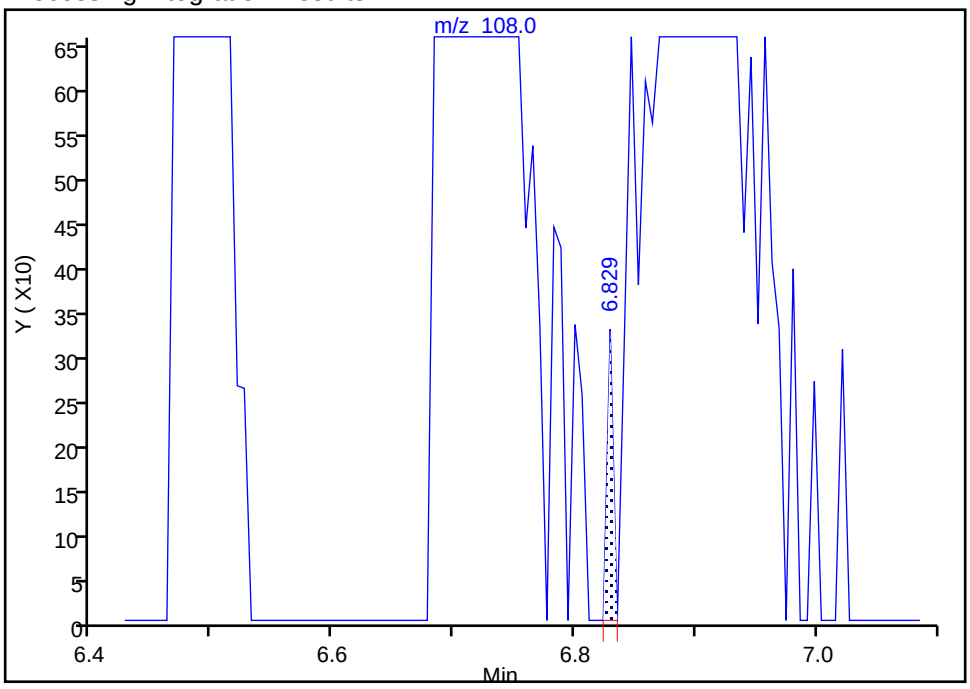
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

21 Benzyl alcohol, CAS: 100-51-6

Signal: 1

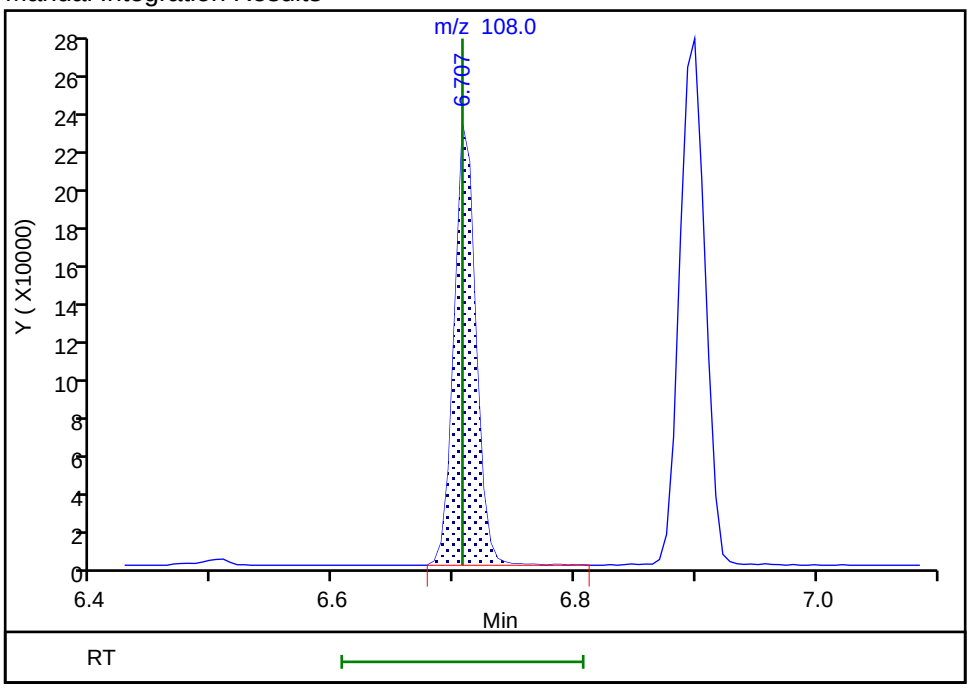
Processing Integration Results

RT: 6.83
Area: 115
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 6.71
Area: 286053
Amount: 7.446675
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:36:23

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

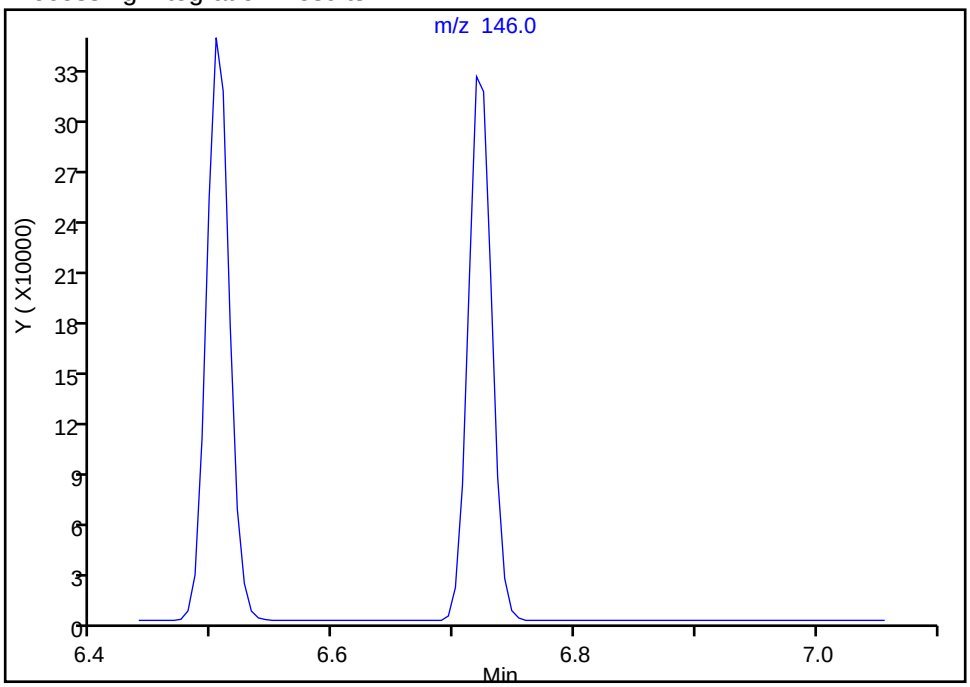
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

22 1,2-Dichlorobenzene, CAS: 95-50-1

Signal: 1

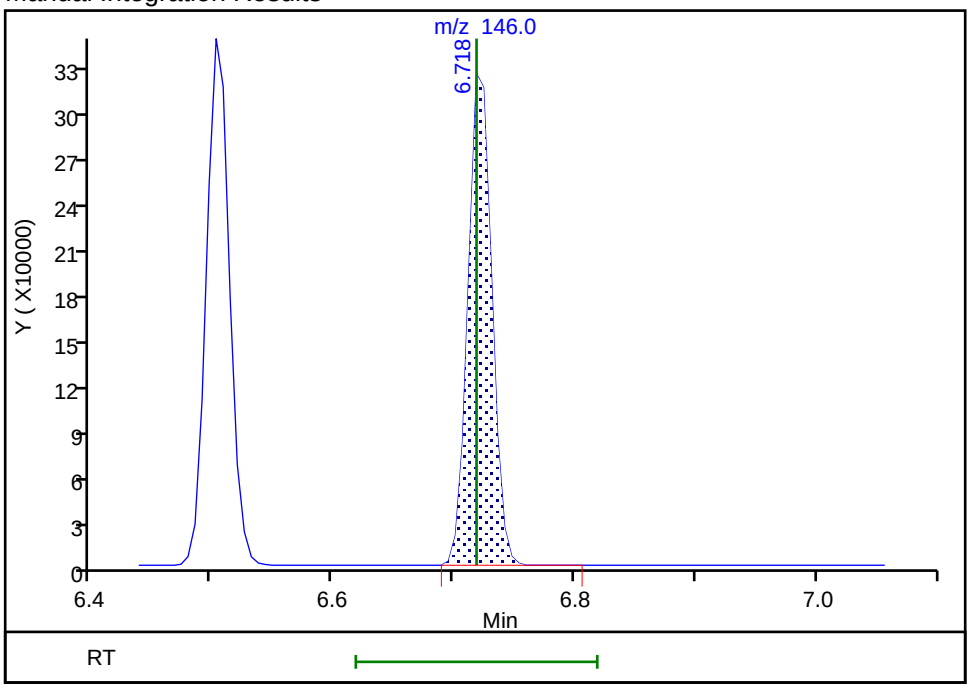
Not Detected
Expected RT: 6.72

Processing Integration Results



Manual Integration Results

RT: 6.72
Area: 438389
Amount: 7.462749
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:45:46
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

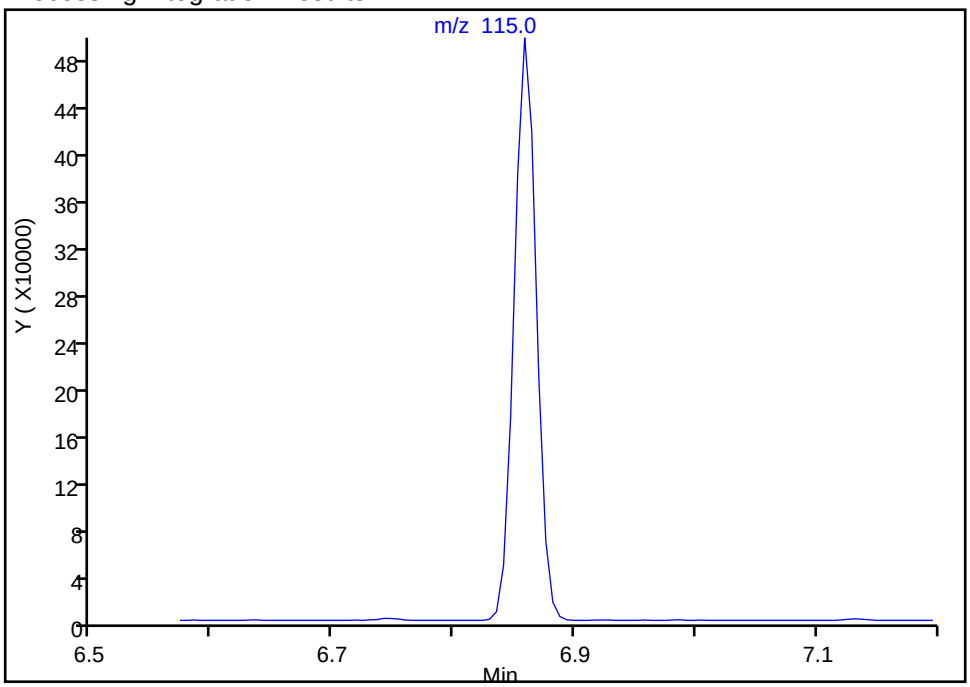
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

24 Indene, CAS: 95-13-6

Signal: 1

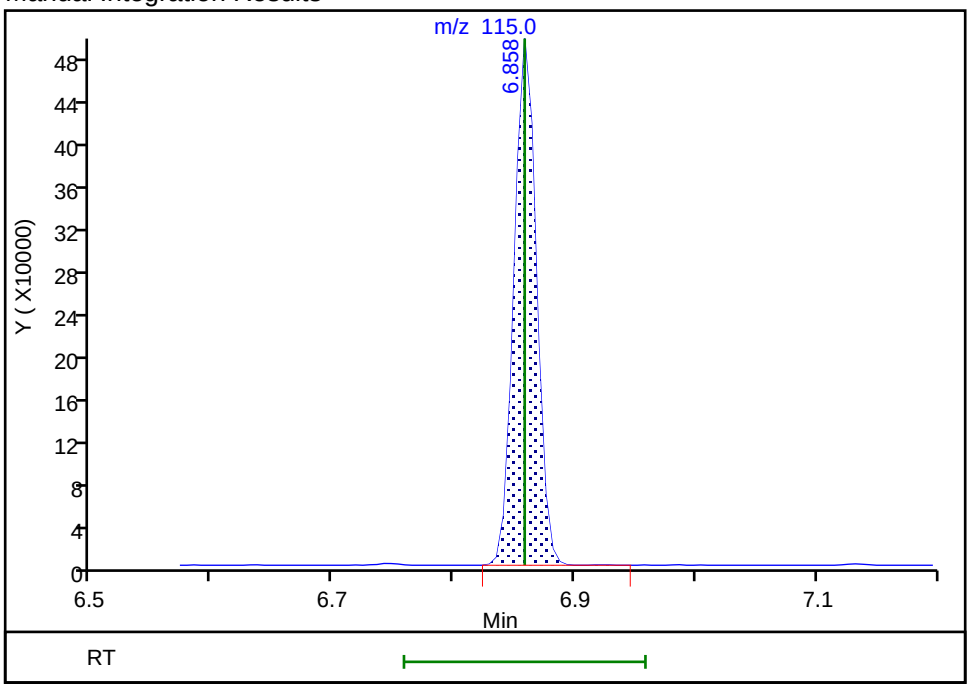
Not Detected
Expected RT: 6.86

Processing Integration Results



Manual Integration Results

RT: 6.86
Area: 631452
Amount: 7.451617
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:45:50
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

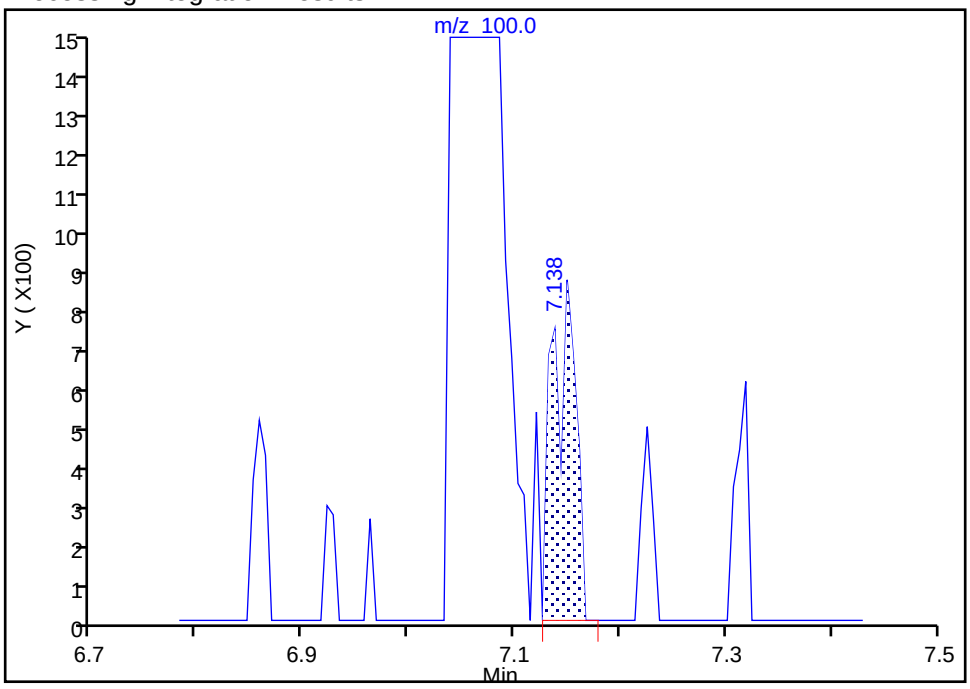
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

26 N-Nitrosopyrrolidine, CAS: 930-55-2

Signal: 1

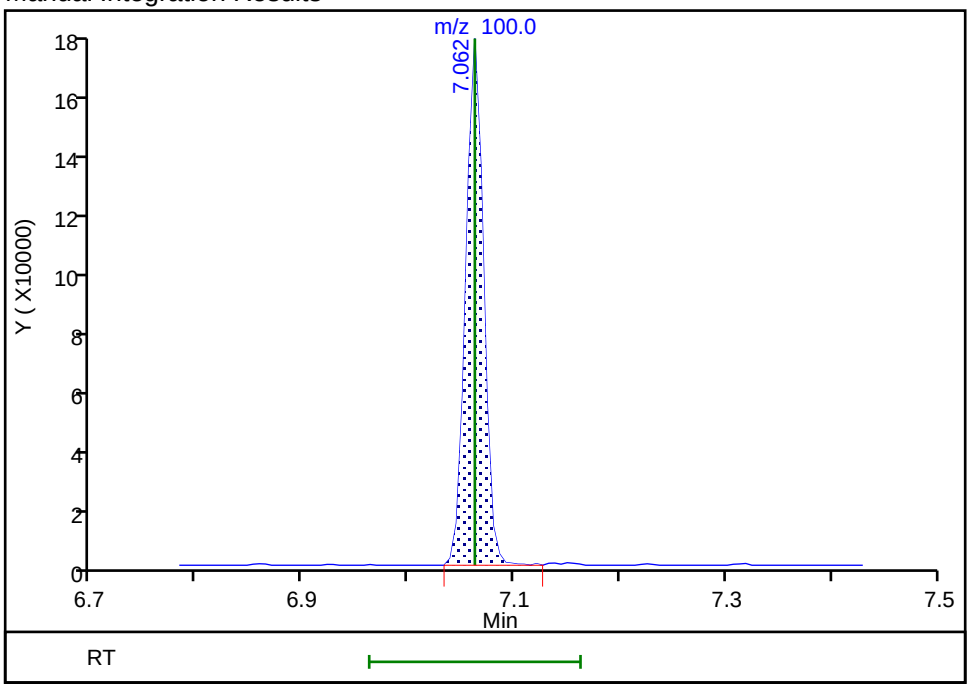
Processing Integration Results

RT: 7.14
Area: 1296
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 7.06
Area: 206756
Amount: 7.742166
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:36:32

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

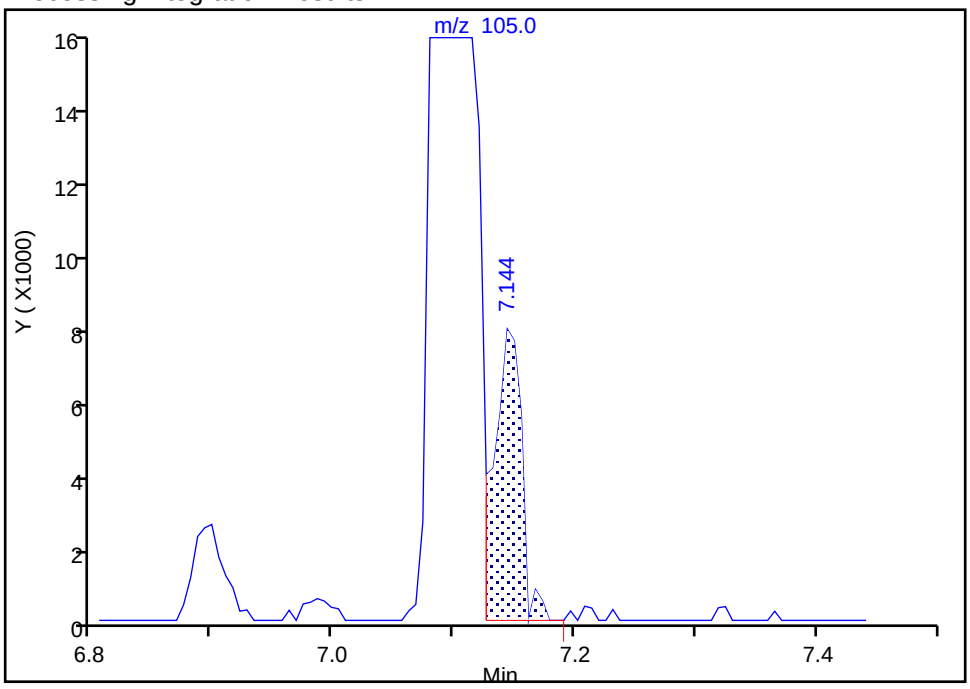
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

27 Acetophenone, CAS: 98-86-2

Signal: 1

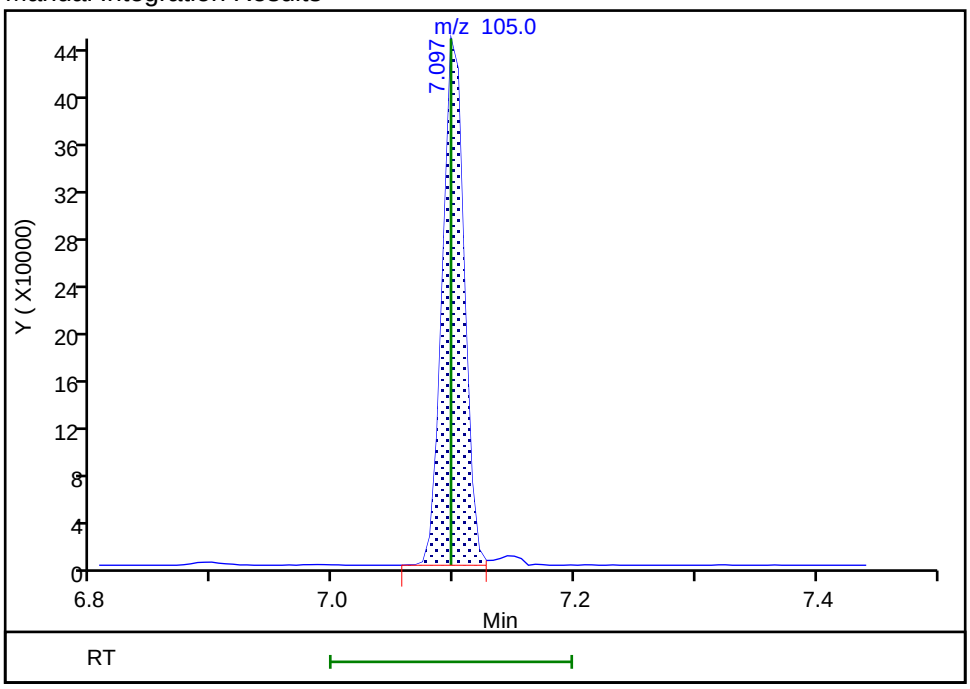
Processing Integration Results

RT: 7.14
Area: 12082
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 7.10
Area: 556691
Amount: 7.055120
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:36:38

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

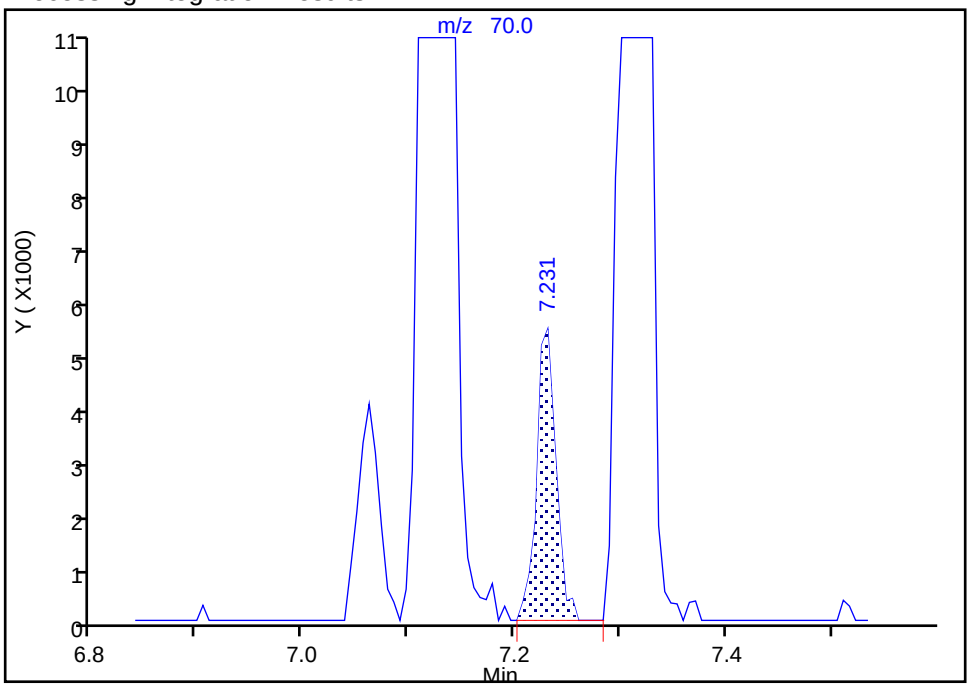
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

29 N-Nitrosodi-n-propylamine, CAS: 621-64-7

Signal: 1

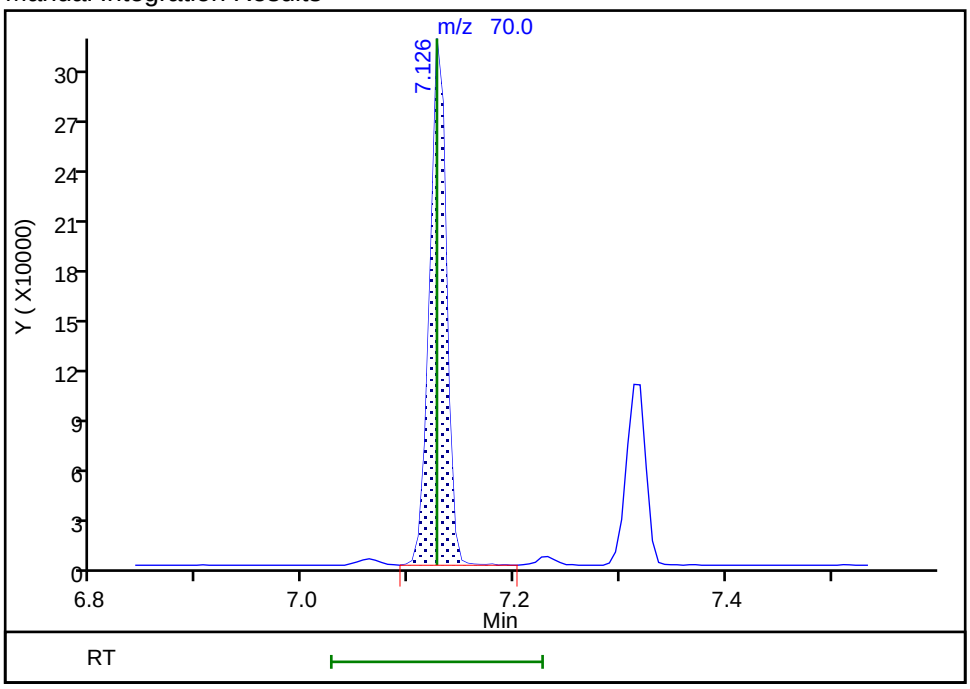
Processing Integration Results

RT: 7.23
Area: 6579
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 7.13
Area: 347861
Amount: 7.664968
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:36:47

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

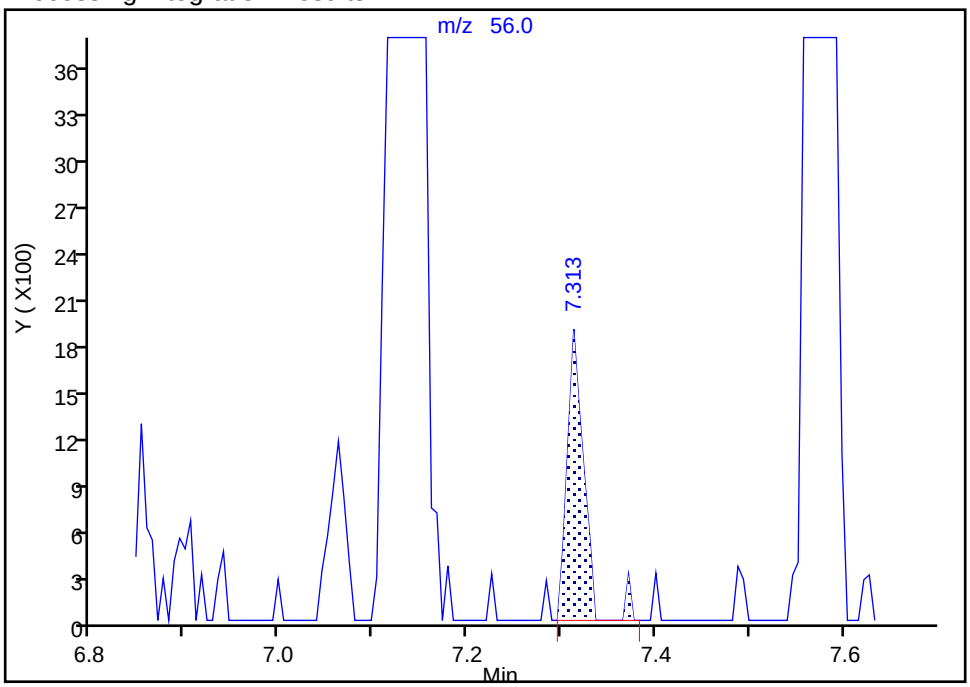
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D		
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760
Lims ID:	ICIS L5		
Client ID:			
Operator ID:	lmh00956	ALS Bottle#:	2 Worklist Smp#: 2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

30 N-Nitrosomorpholine, CAS: 59-89-2

Signal: 1

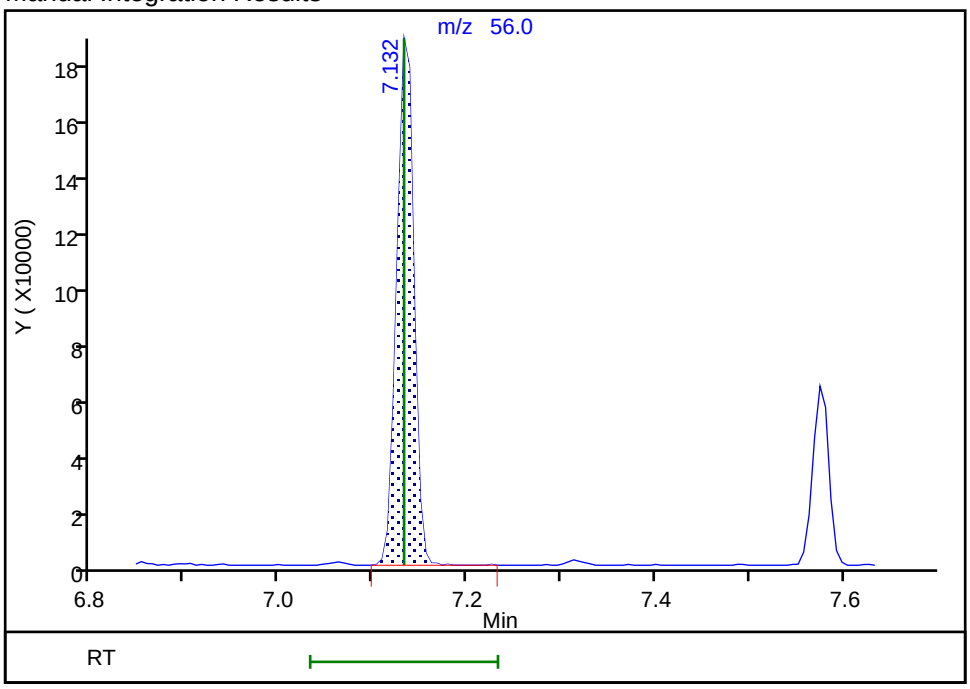
Processing Integration Results

RT: 7.31
Area: 2328
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 7.13
Area: 233866
Amount: 7.397593
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:36:56

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

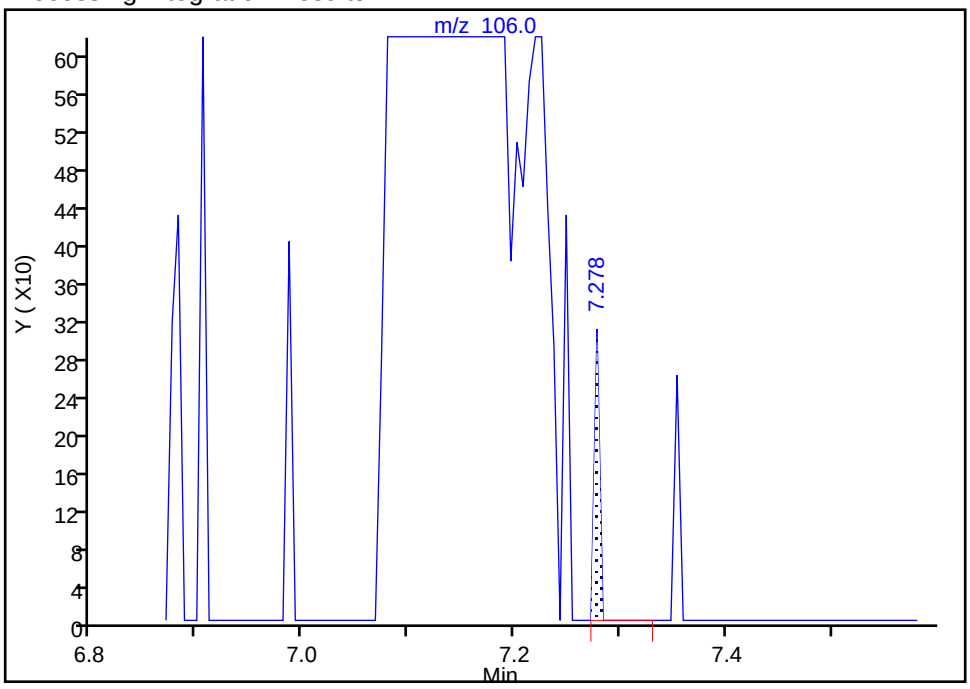
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

31 2-Toluidine, CAS: 95-53-4

Signal: 1

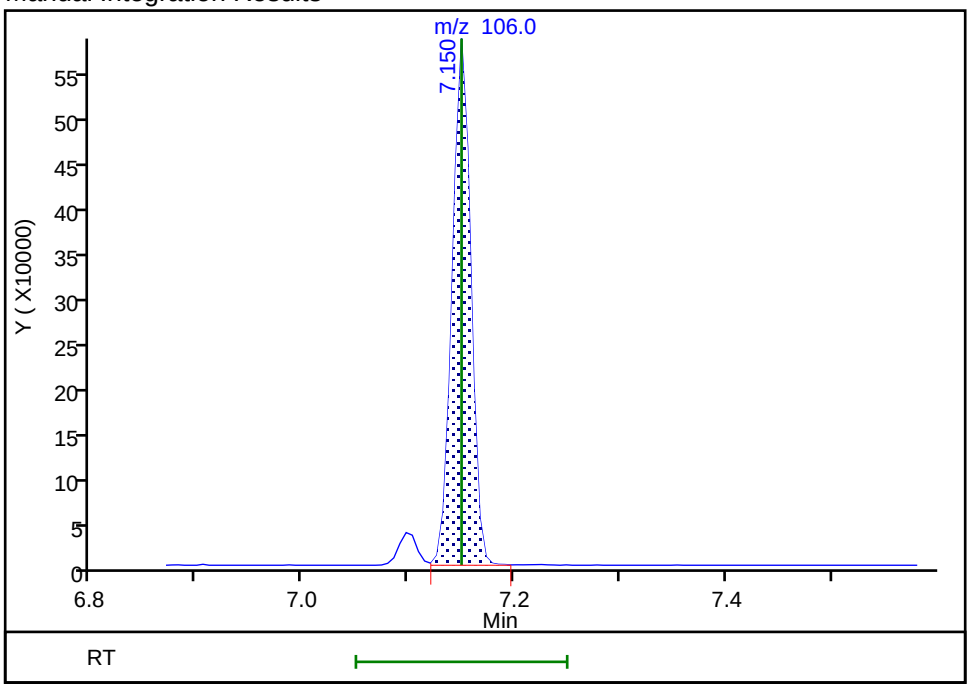
Processing Integration Results

RT: 7.28
Area: 107
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 7.15
Area: 707177
Amount: 7.576583
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:36:51

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

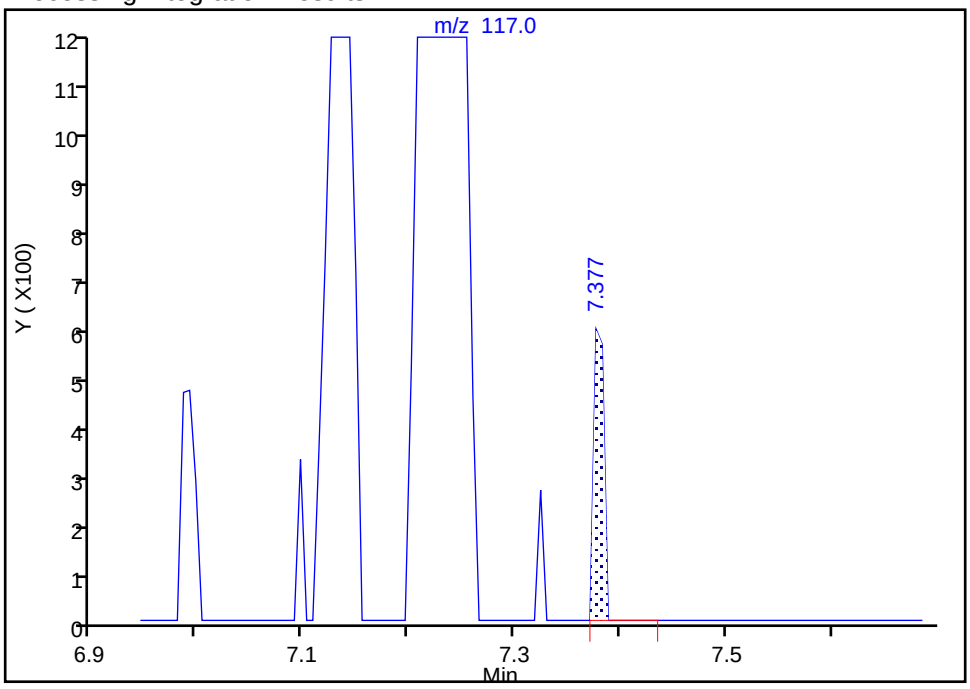
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

32 Hexachloroethane, CAS: 67-72-1

Signal: 1

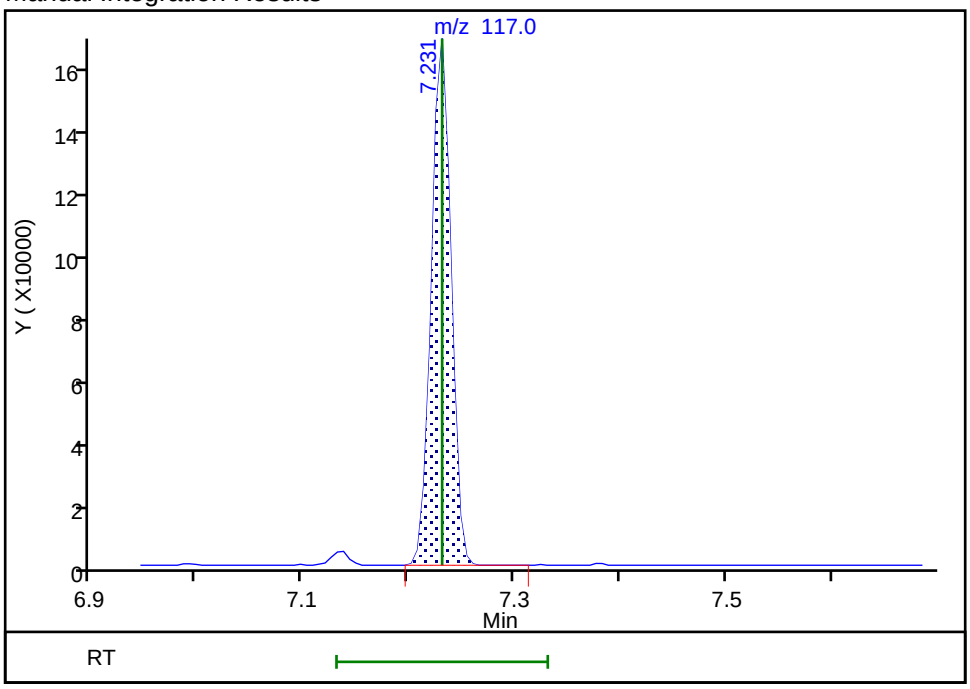
Processing Integration Results

RT: 7.38
Area: 382
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 7.23
Area: 207764
Amount: 7.442454
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:37:02

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

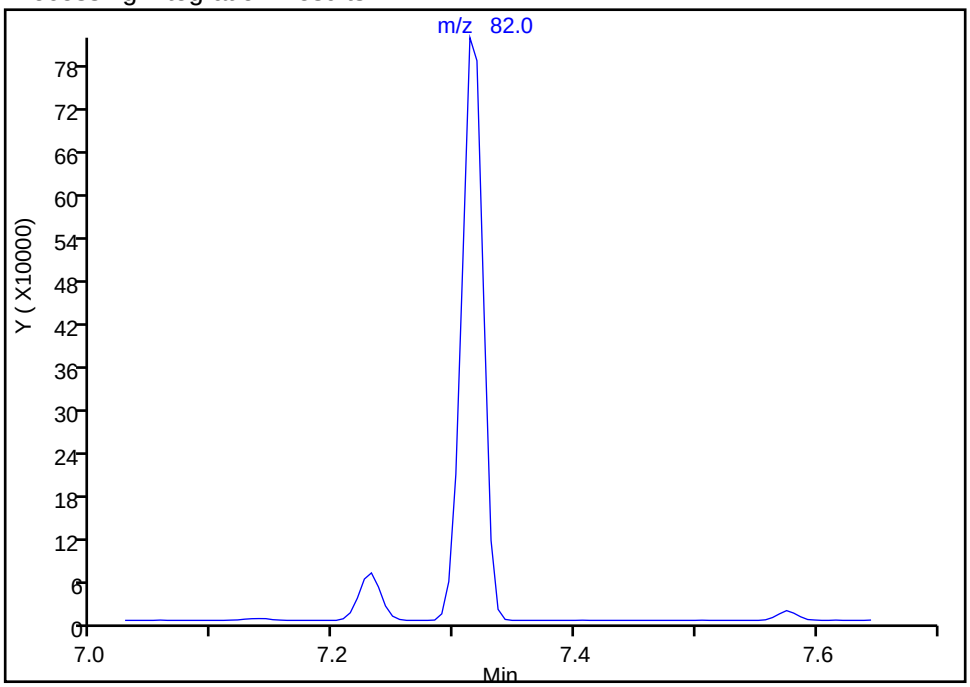
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

$ 33 Nitrobenzene-d5, CAS: 4165-60-0

Signal: 1

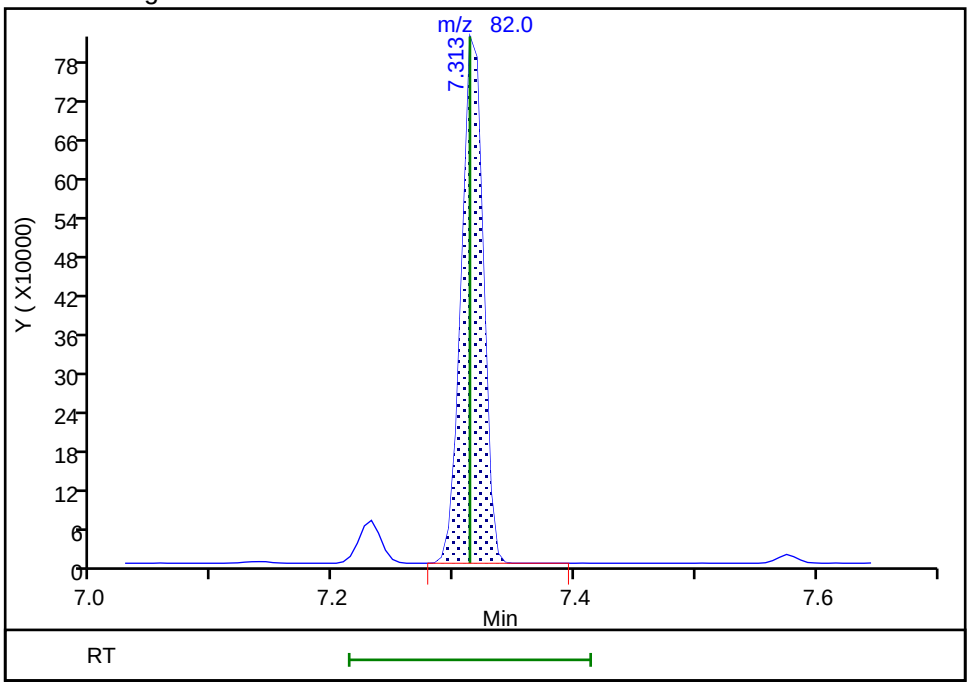
Not Detected
Expected RT: 7.31

Processing Integration Results



Manual Integration Results

RT: 7.31
Area: 1026484
Amount: 14.742513
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:45:56
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

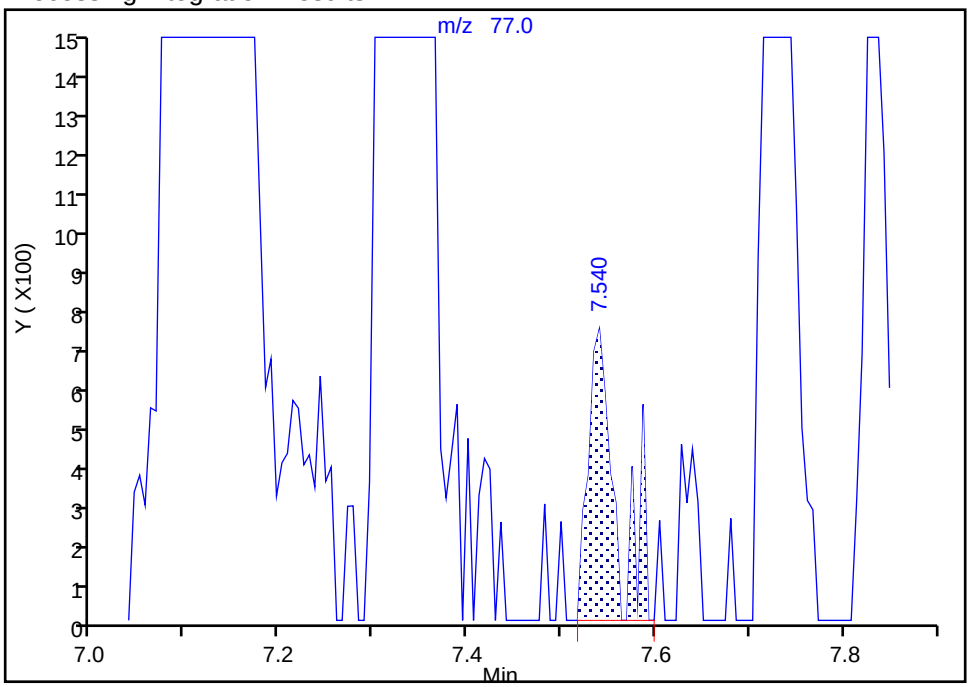
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

34 Nitrobenzene, CAS: 98-95-3

Signal: 1

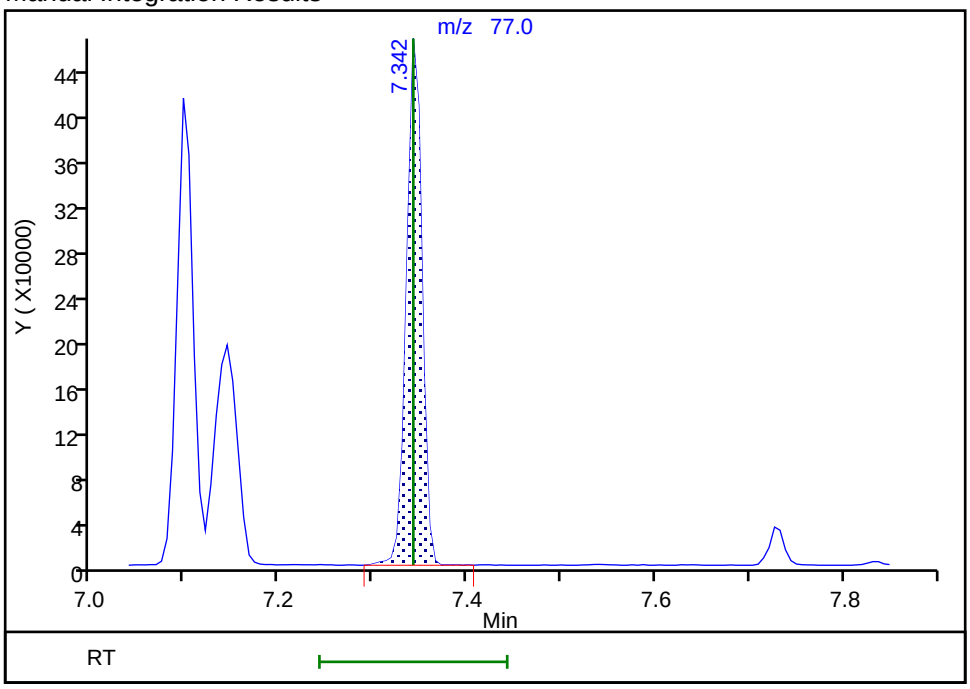
Processing Integration Results

RT: 7.54
Area: 1497
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 7.34
Area: 533269
Amount: 7.612768
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:37:08

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

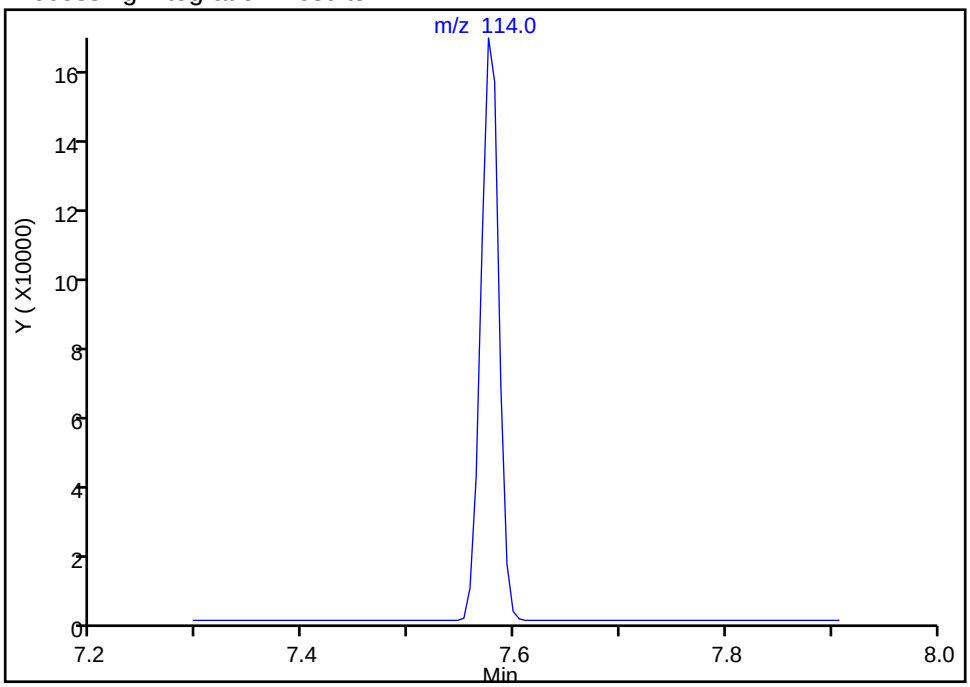
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

35 N-Nitrosopiperidine, CAS: 100-75-4

Signal: 1

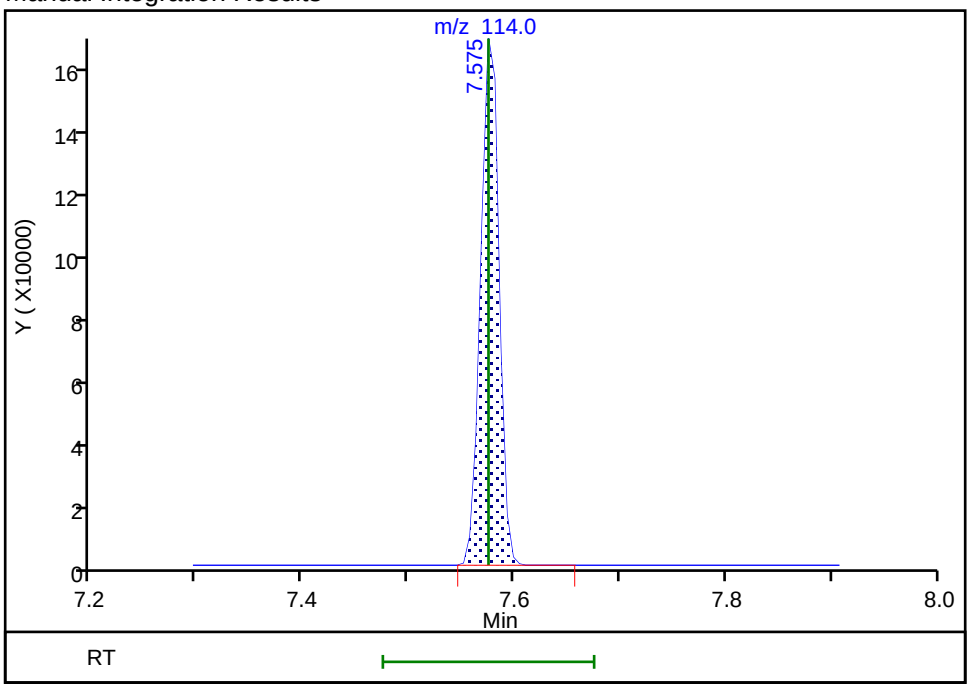
Not Detected
Expected RT: 7.58

Processing Integration Results



Manual Integration Results

RT: 7.58
Area: 200333
Amount: 7.552850
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:46:22
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

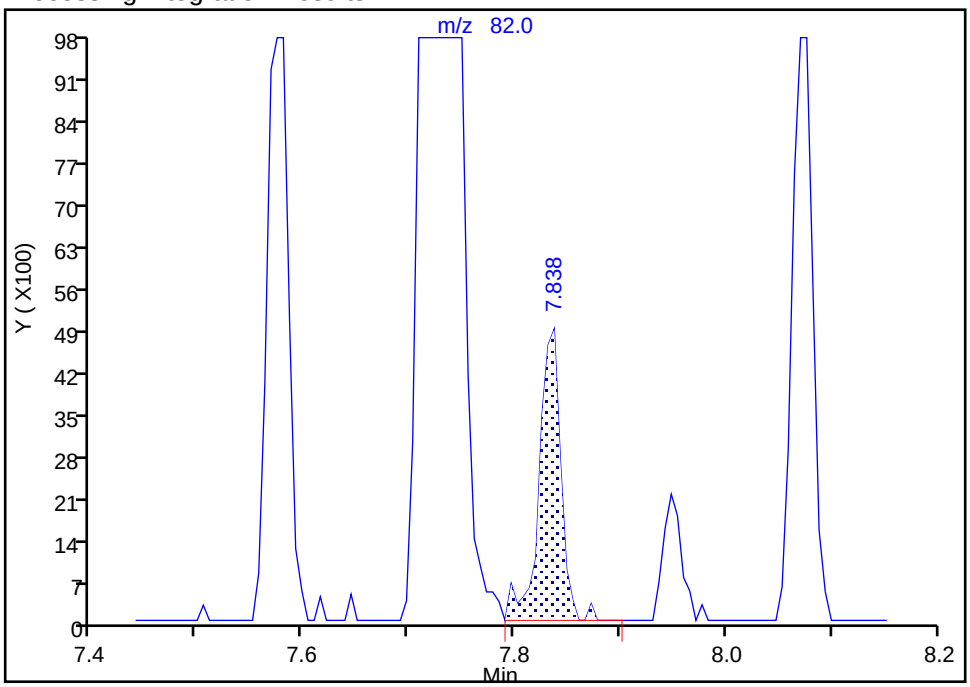
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

36 Isophorone, CAS: 78-59-1

Signal: 1

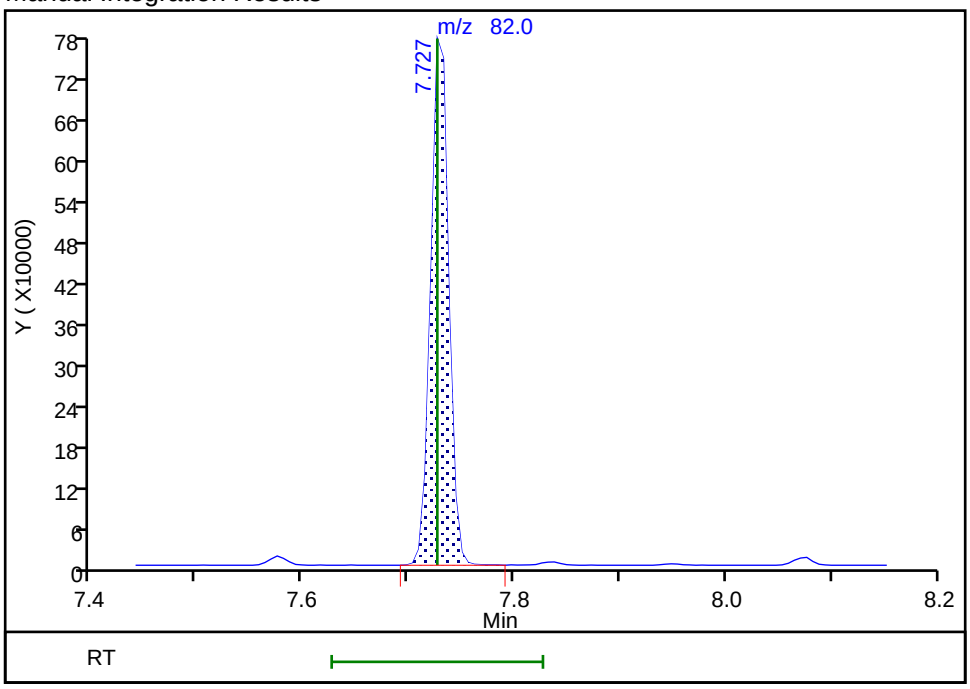
Processing Integration Results

RT: 7.84
Area: 6928
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 7.73
Area: 914894
Amount: 7.659719
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:37:13

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

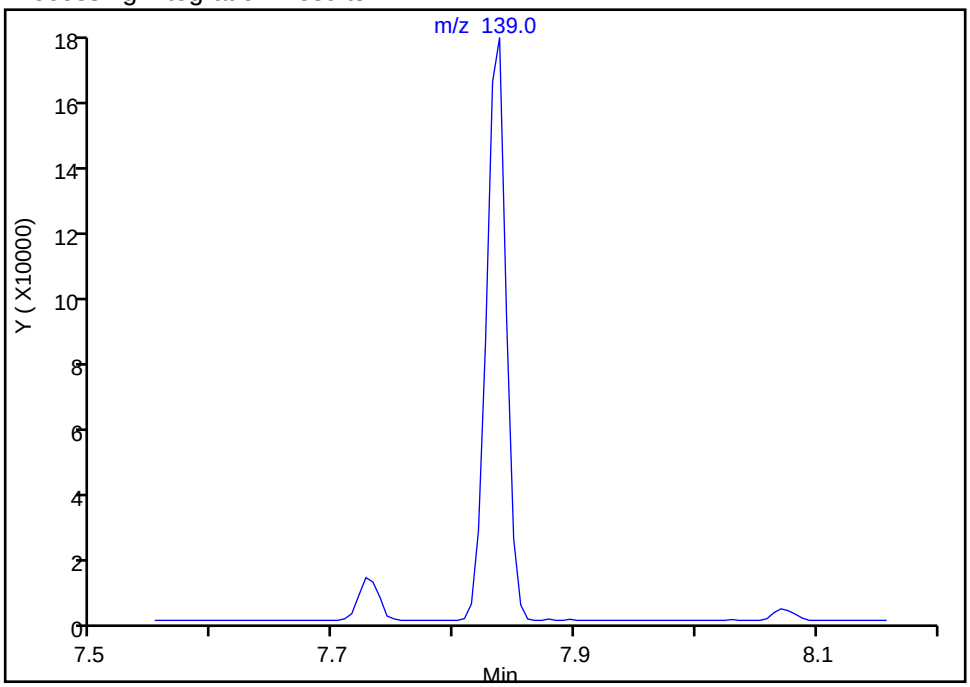
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

37 2-Nitrophenol, CAS: 88-75-5

Signal: 1

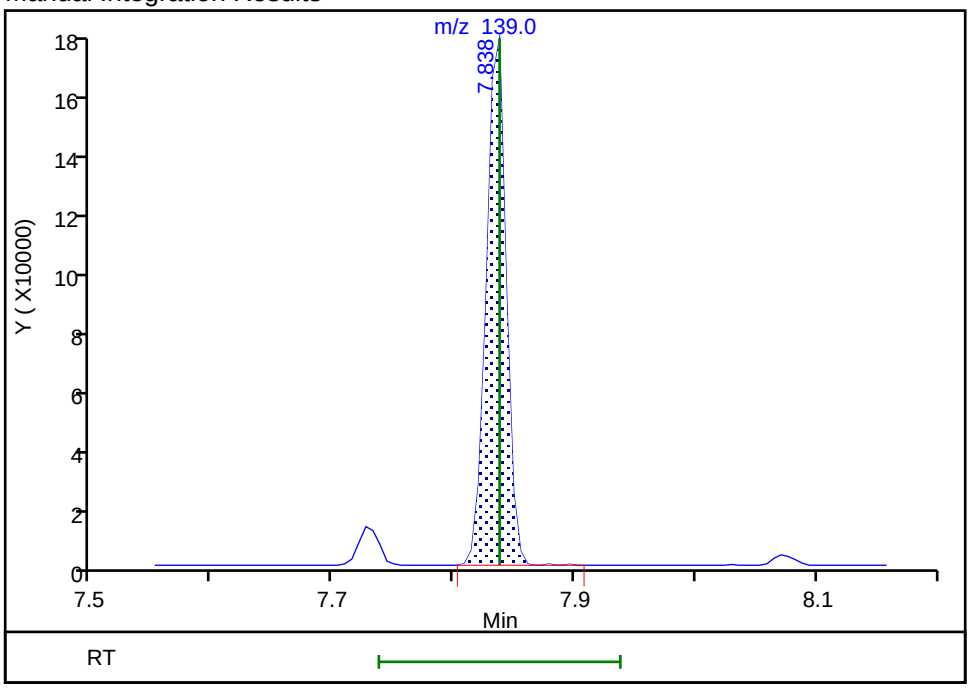
Not Detected
Expected RT: 7.84

Processing Integration Results



Manual Integration Results

RT: 7.84
Area: 198989
Amount: 7.471968
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:46:29
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

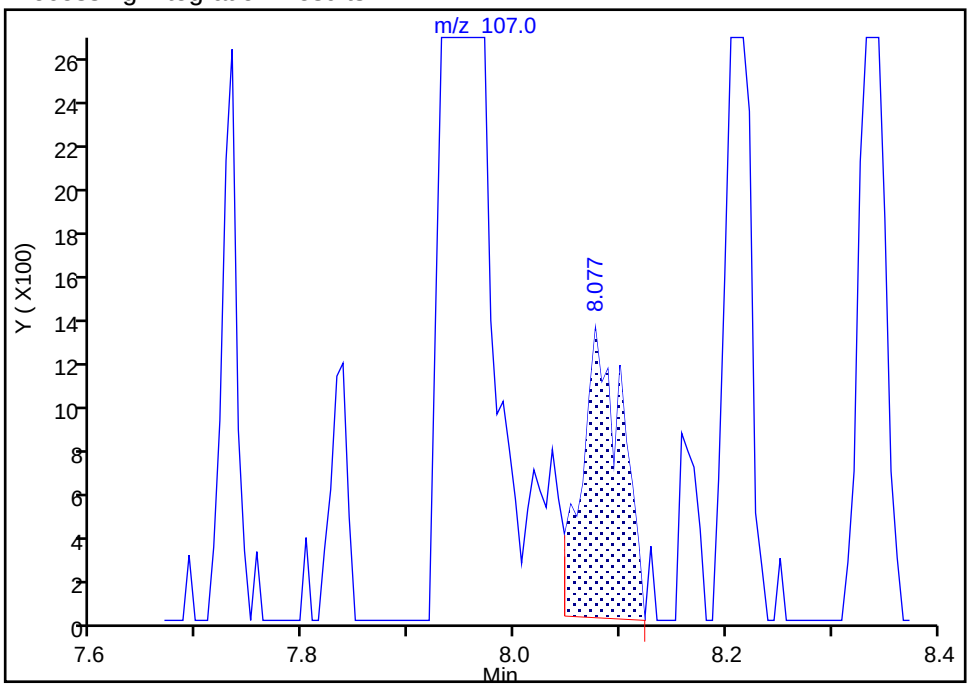
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

38 2,4-Dimethylphenol, CAS: 105-67-9

Signal: 1

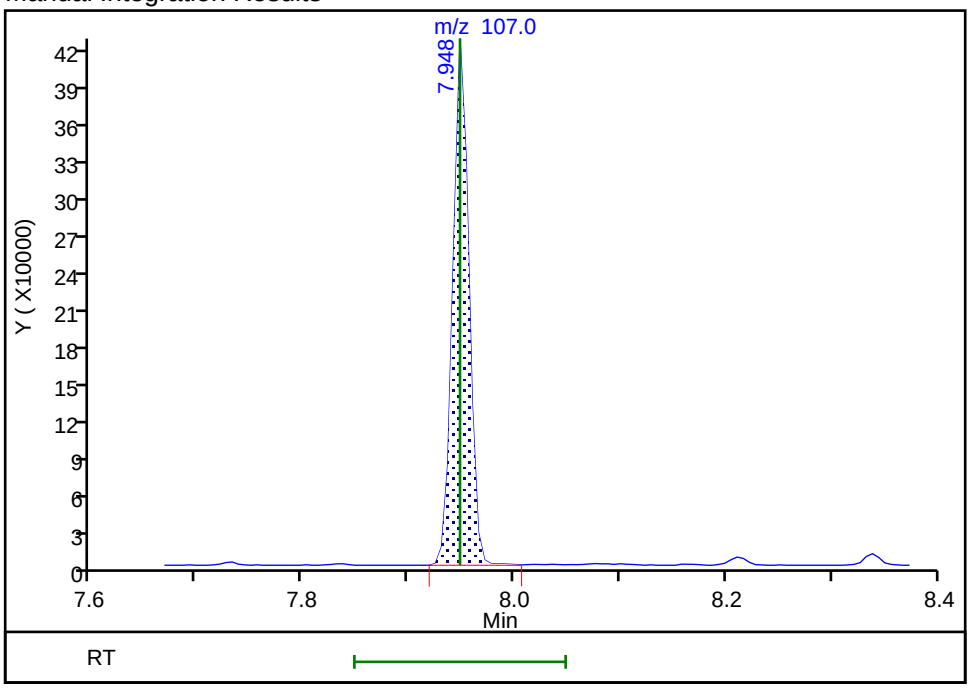
Processing Integration Results

RT: 8.08
Area: 3509
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 7.95
Area: 443671
Amount: 7.698276
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:37:18

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

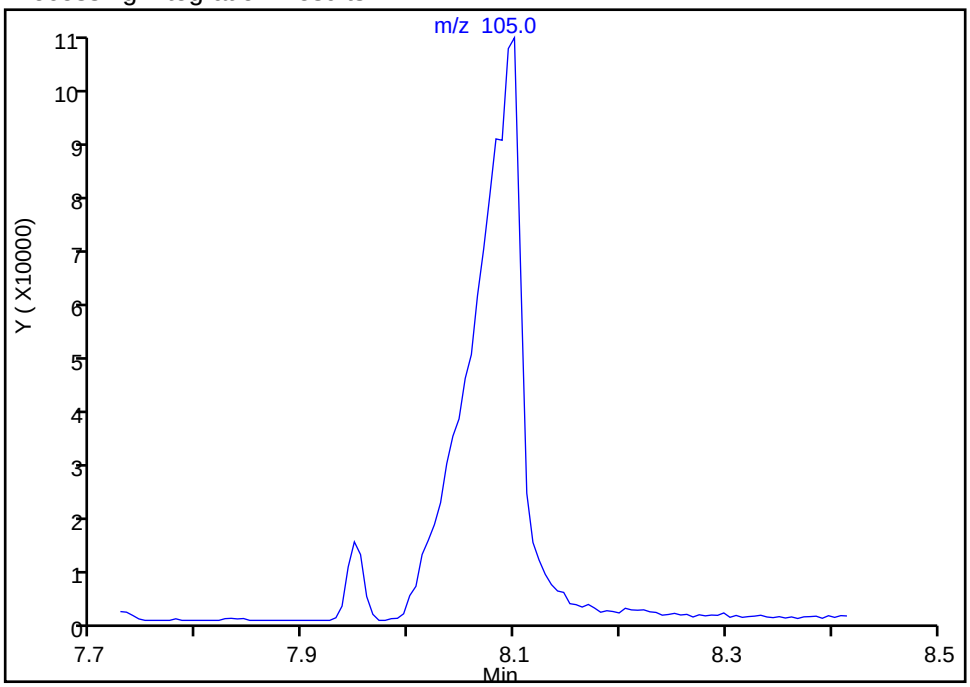
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

40 Benzoic acid, CAS: 65-85-0

Signal: 1

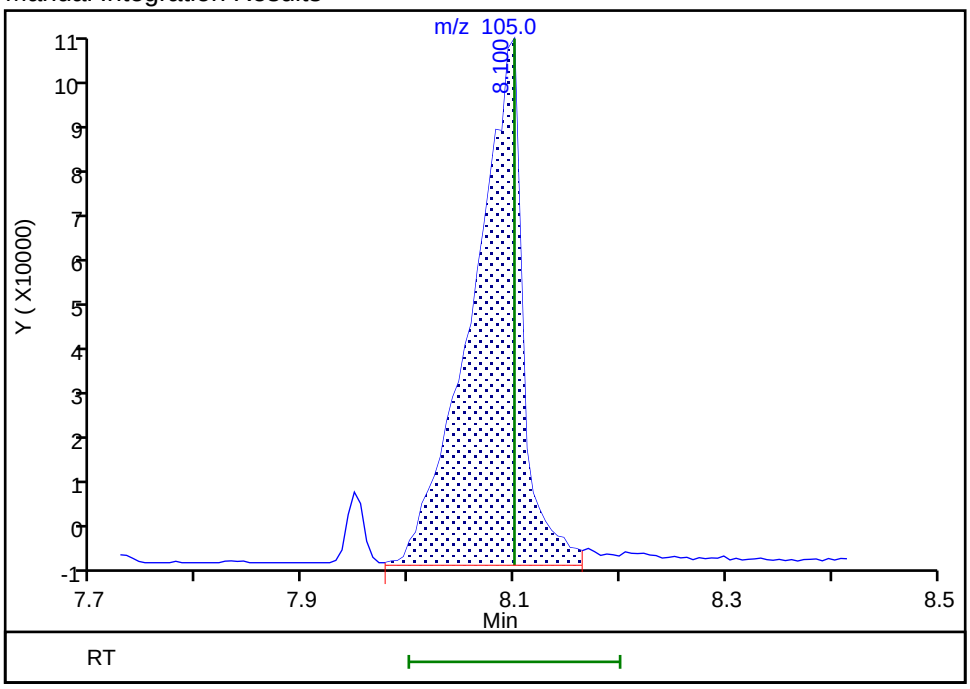
Not Detected
Expected RT: 8.10

Processing Integration Results



Manual Integration Results

RT: 8.10
Area: 343431
Amount: 11.042255
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:46:49
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

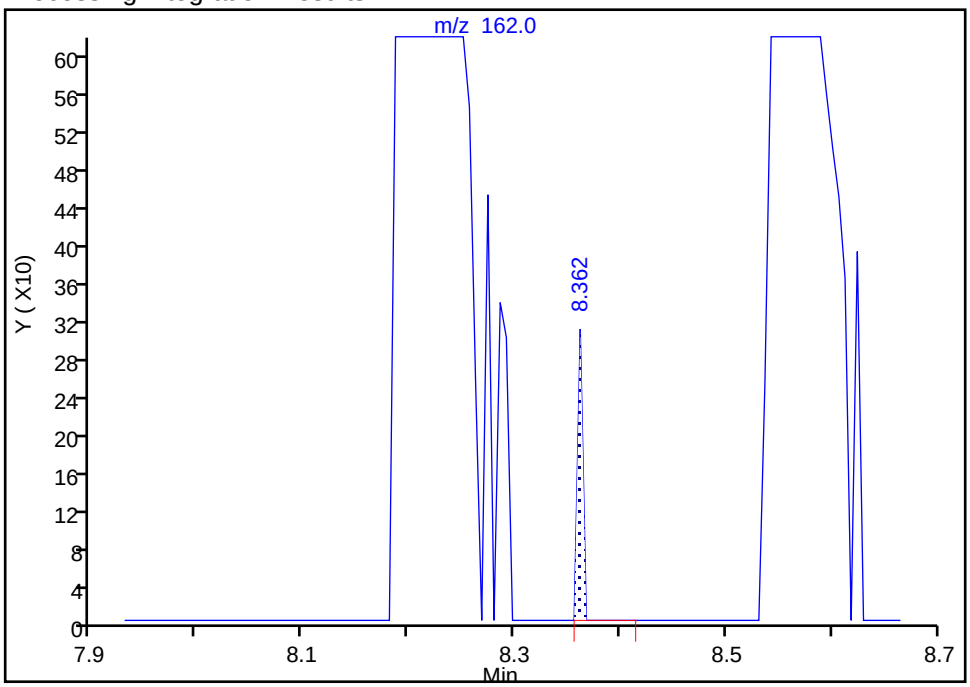
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

42 2,4-Dichlorophenol, CAS: 120-83-2

Signal: 1

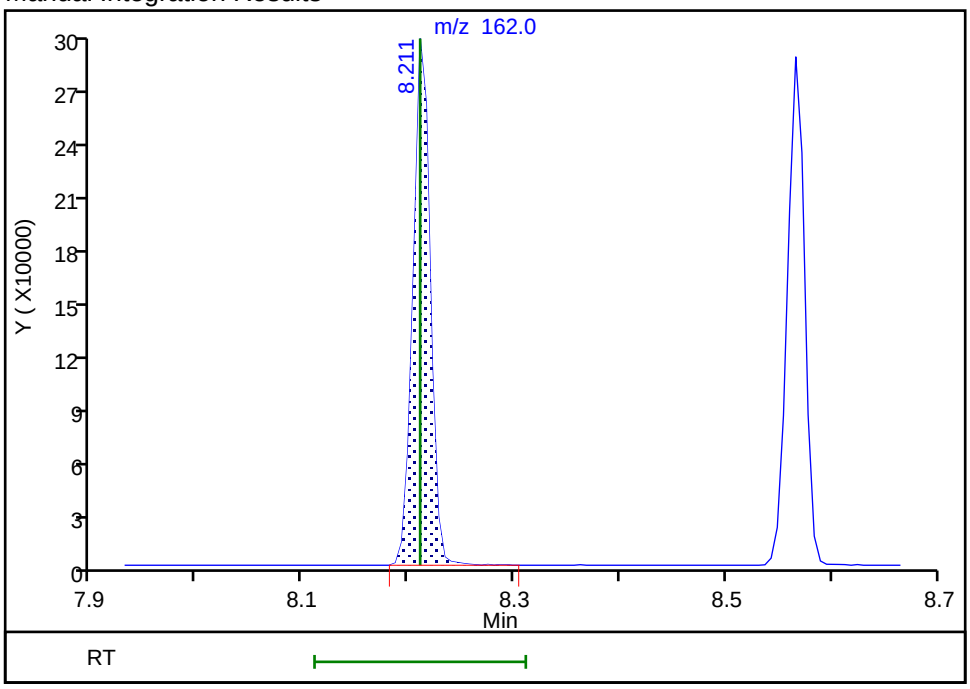
Processing Integration Results

RT: 8.36
Area: 107
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 8.21
Area: 332356
Amount: 7.621764
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:37:40

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

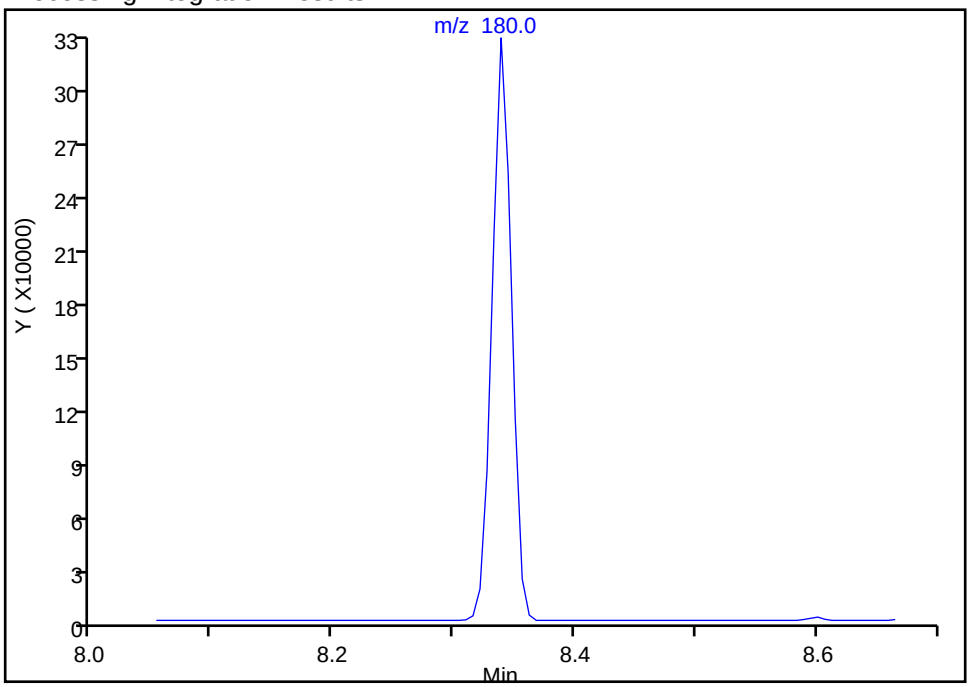
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

43 1,2,4-Trichlorobenzene, CAS: 120-82-1

Signal: 1

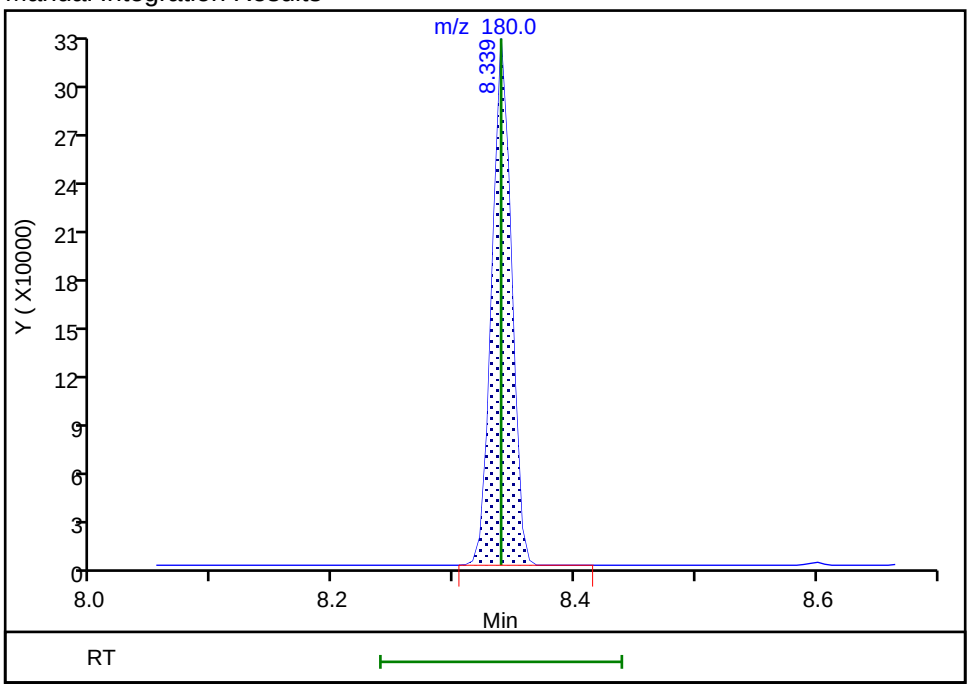
Not Detected
Expected RT: 8.34

Processing Integration Results



Manual Integration Results

RT: 8.34
Area: 364020
Amount: 7.449616
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:46:57
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

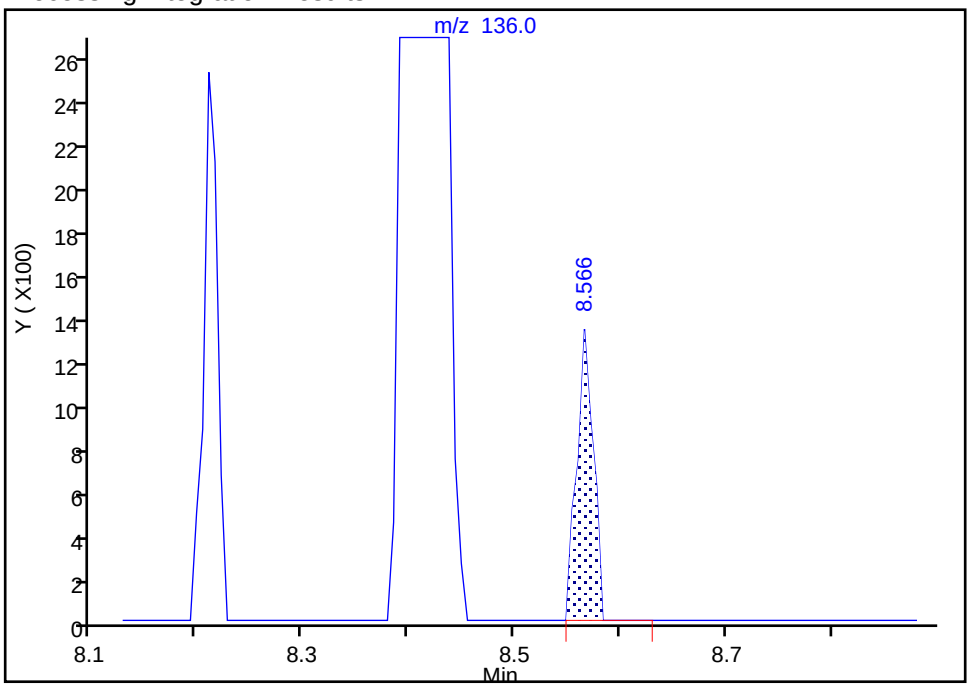
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

* 44 Naphthalene-d8, CAS: 1146-65-2

Signal: 1

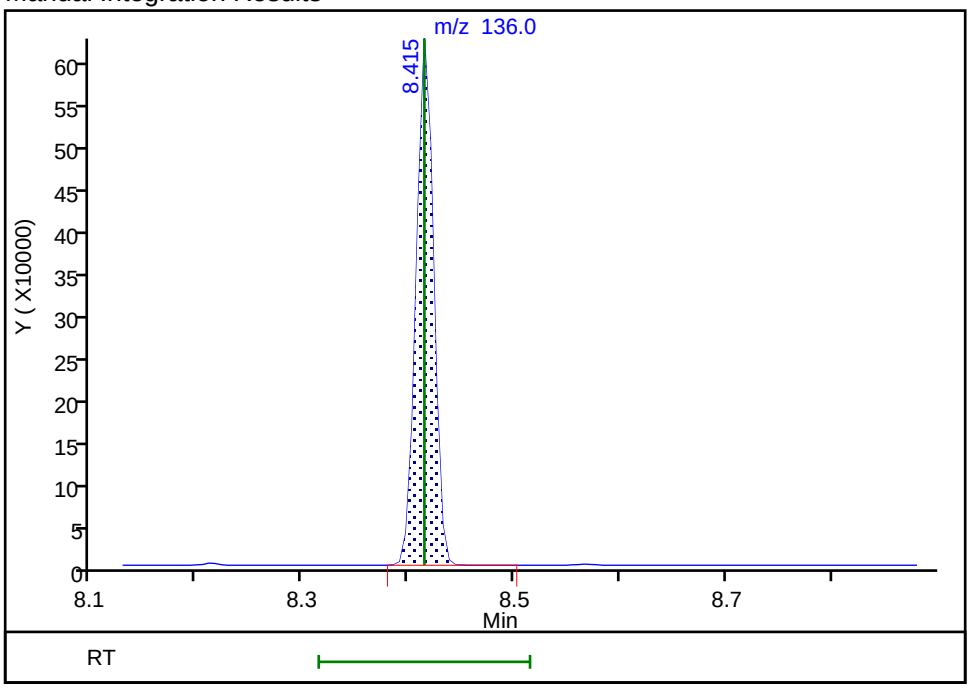
Processing Integration Results

RT: 8.57
Area: 1449
Amount: 5.000000
Amount Units: ug/ml



Manual Integration Results

RT: 8.41
Area: 711185
Amount: 5.000000
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:37:43

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

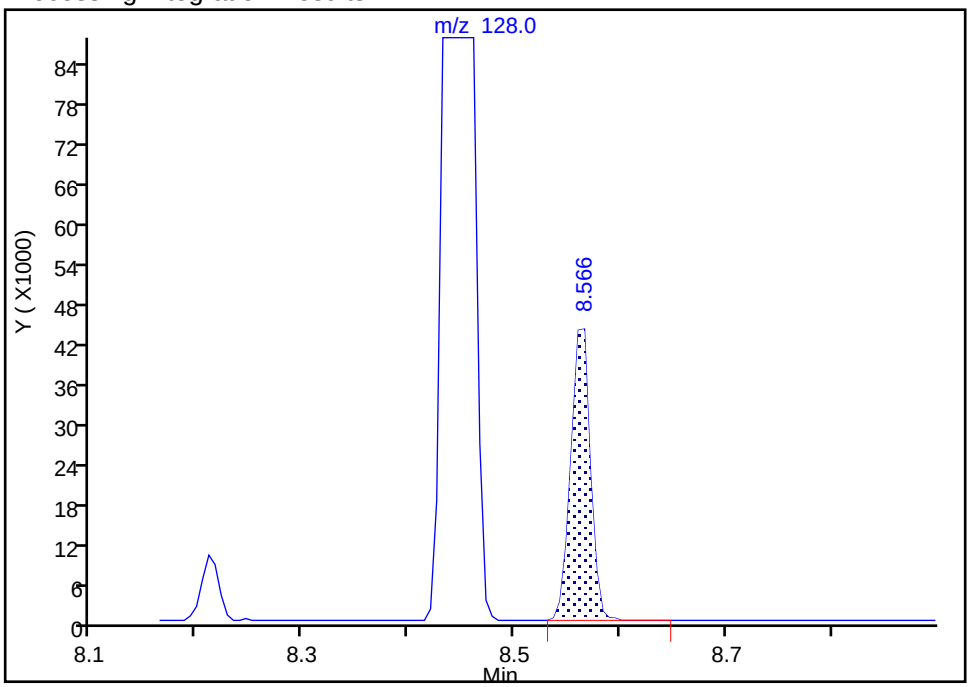
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

45 Naphthalene, CAS: 91-20-3

Signal: 1

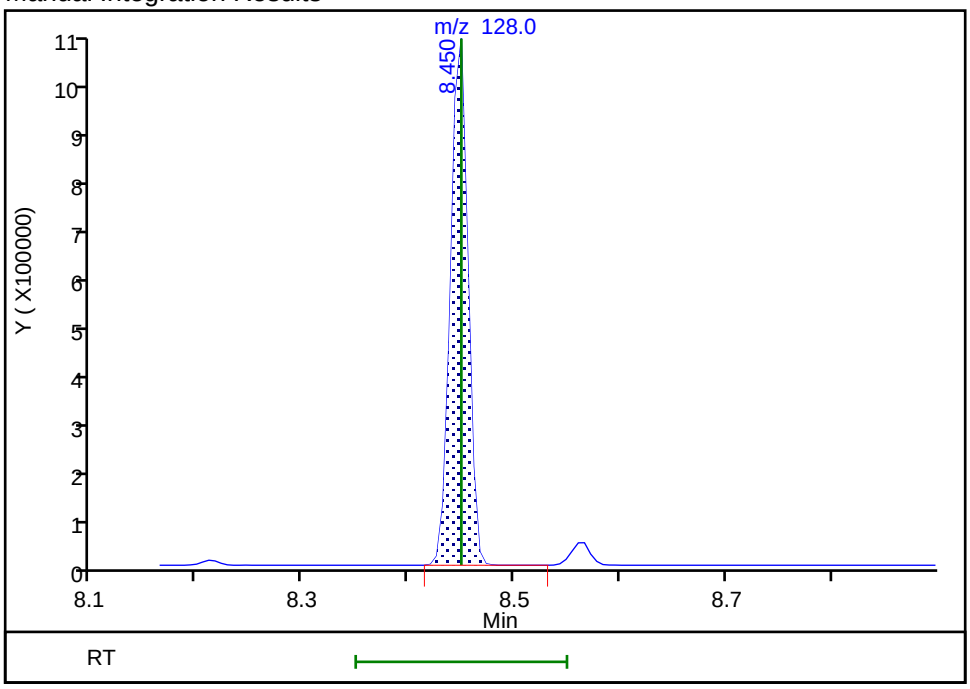
Processing Integration Results

RT: 8.57
Area: 56062
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 8.45
Area: 1168603
Amount: 7.500200
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:37:48

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

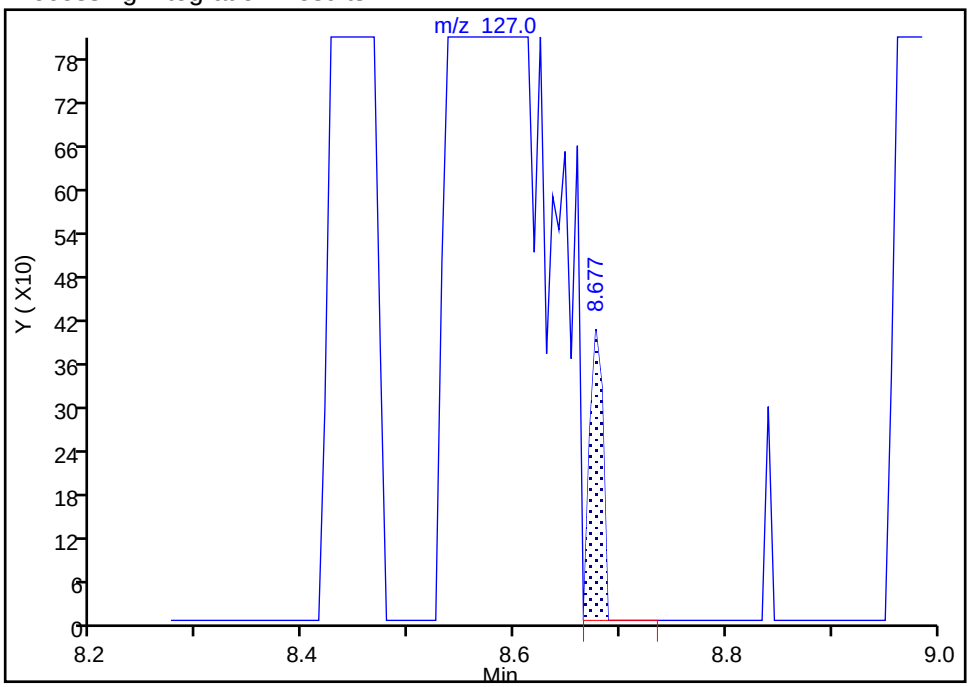
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D		
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760
Lims ID:	ICIS L5		
Client ID:			
Operator ID:	lmh00956	ALS Bottle#:	2 Worklist Smp#: 2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

46 4-Chloroaniline, CAS: 106-47-8

Signal: 1

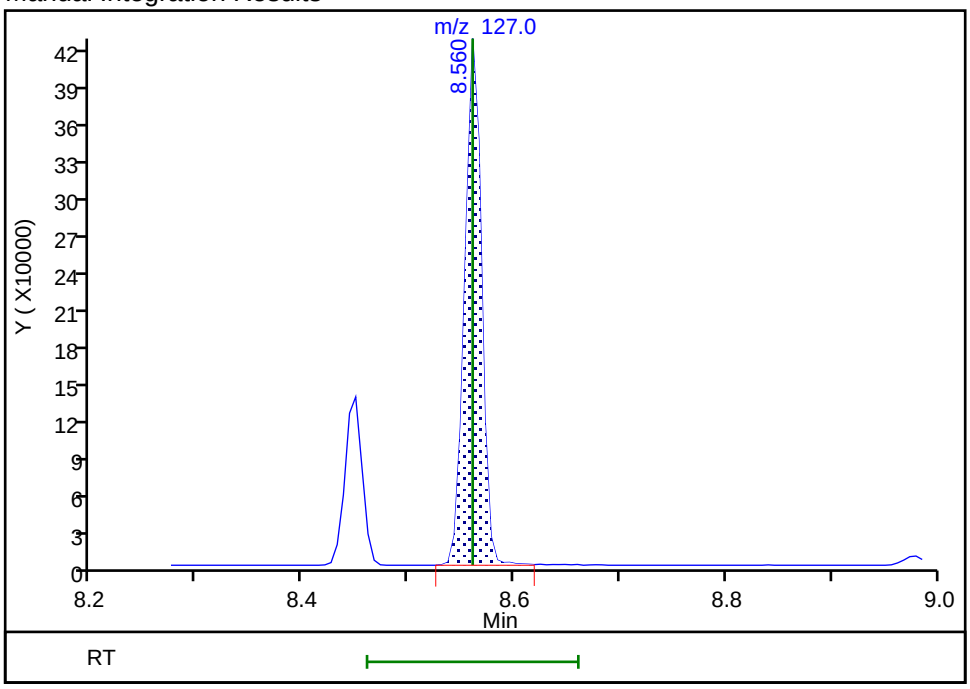
Processing Integration Results

RT: 8.68
Area: 344
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 8.56
Area: 470593
Amount: 7.550515
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:37:52

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

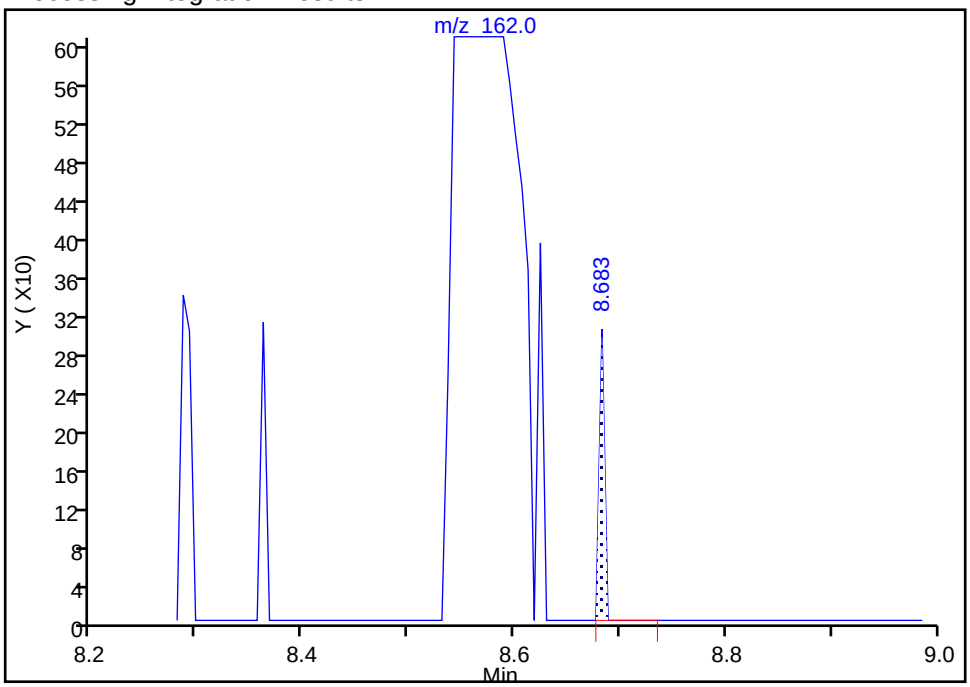
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

47 2,6-Dichlorophenol, CAS: 87-65-0

Signal: 1

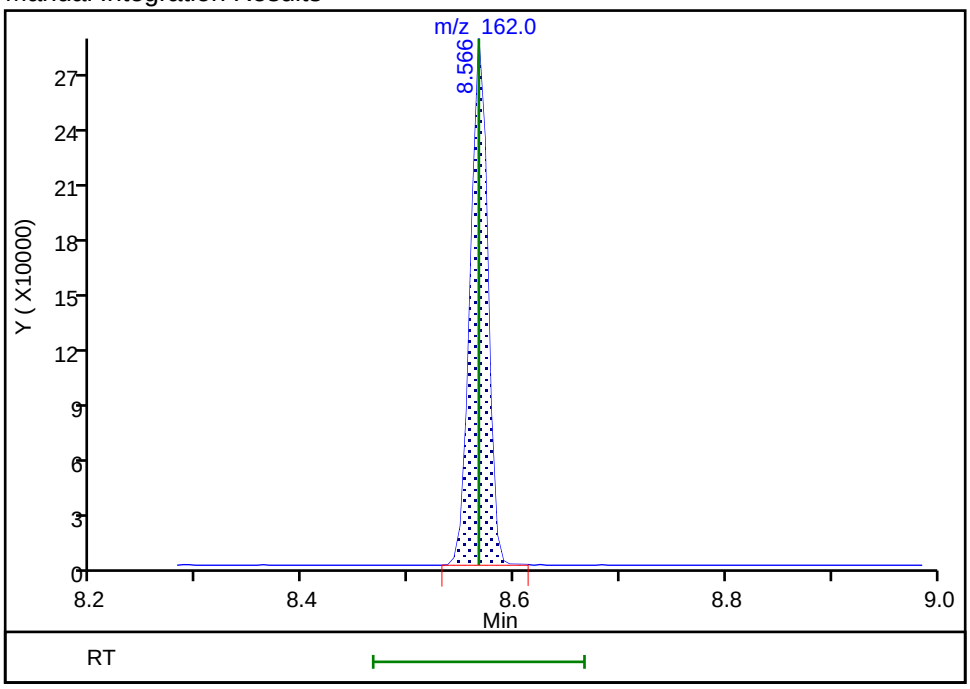
Processing Integration Results

RT: 8.68
Area: 105
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 8.57
Area: 323519
Amount: 7.628516
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:37:57

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

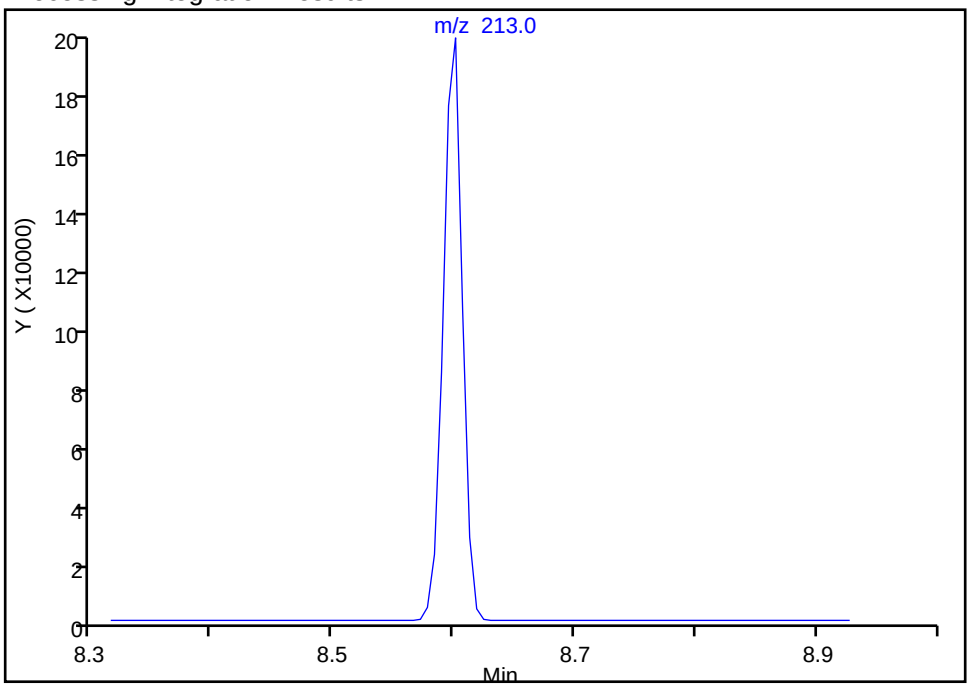
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

48 Hexachloropropene, CAS: 1888-71-7

Signal: 1

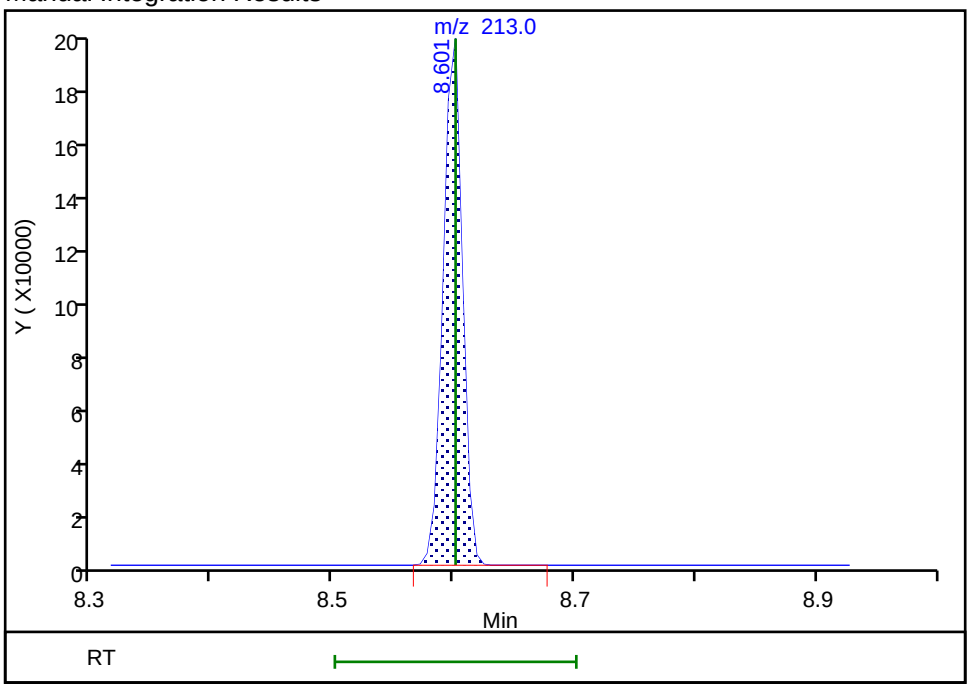
Not Detected
Expected RT: 8.60

Processing Integration Results



Manual Integration Results

RT: 8.60
Area: 214317
Amount: 7.284080
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:47:02
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

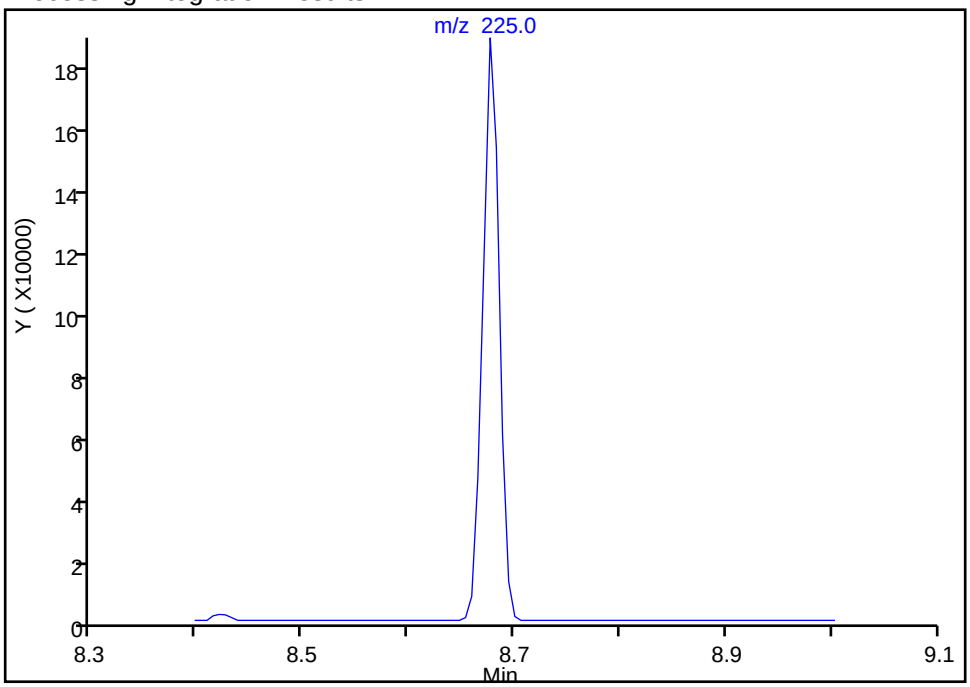
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

49 Hexachlorobutadiene, CAS: 87-68-3

Signal: 1

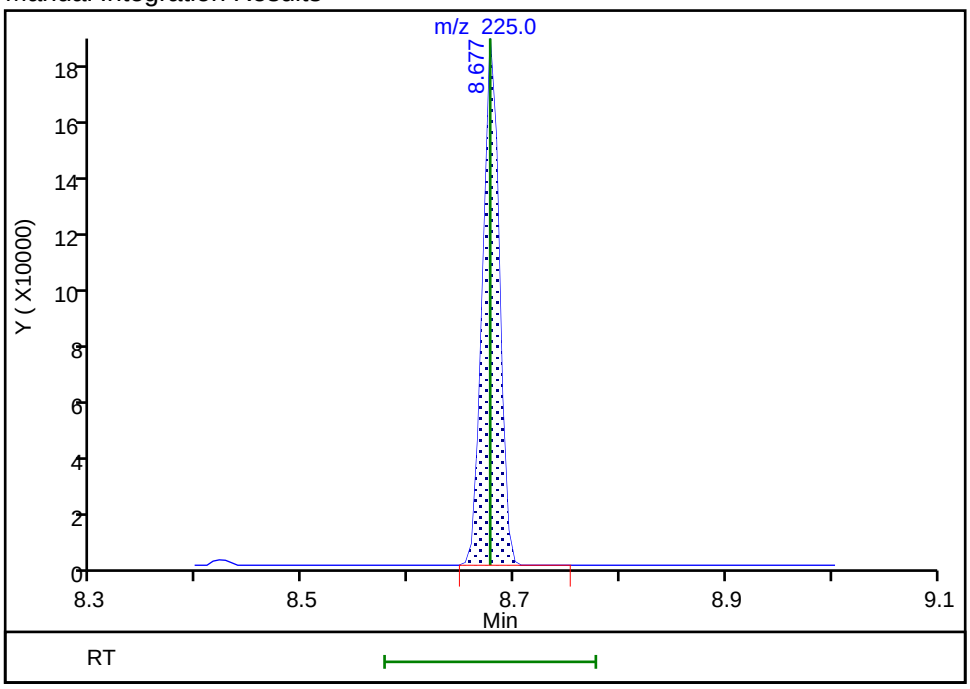
Not Detected
Expected RT: 8.68

Processing Integration Results



Manual Integration Results

RT: 8.68
Area: 205039
Amount: 7.377838
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:47:06
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

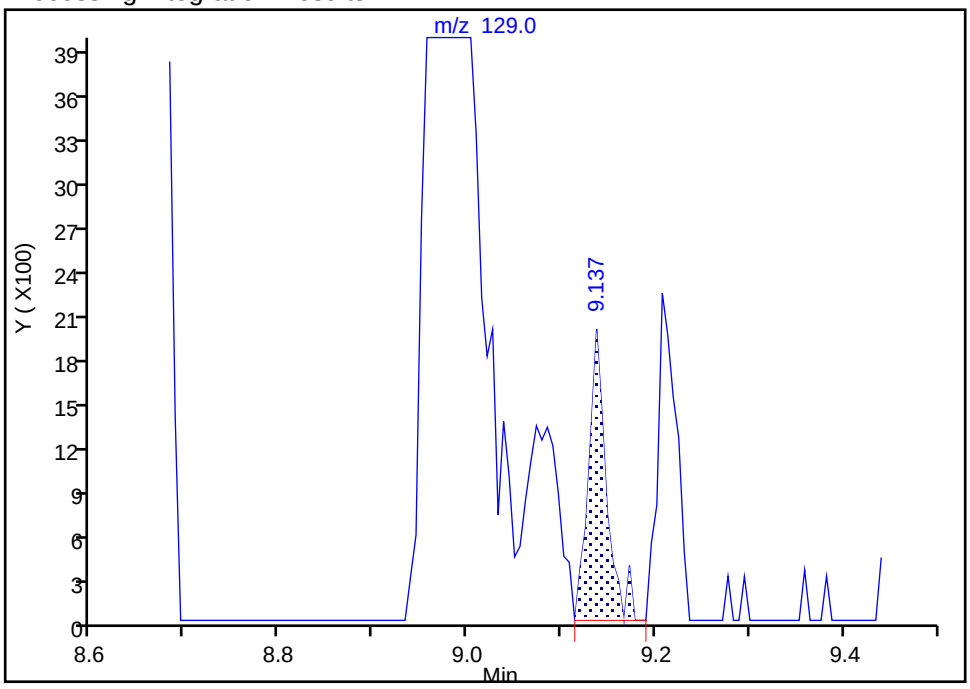
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

50 Quinoline, CAS: 91-22-5

Signal: 1

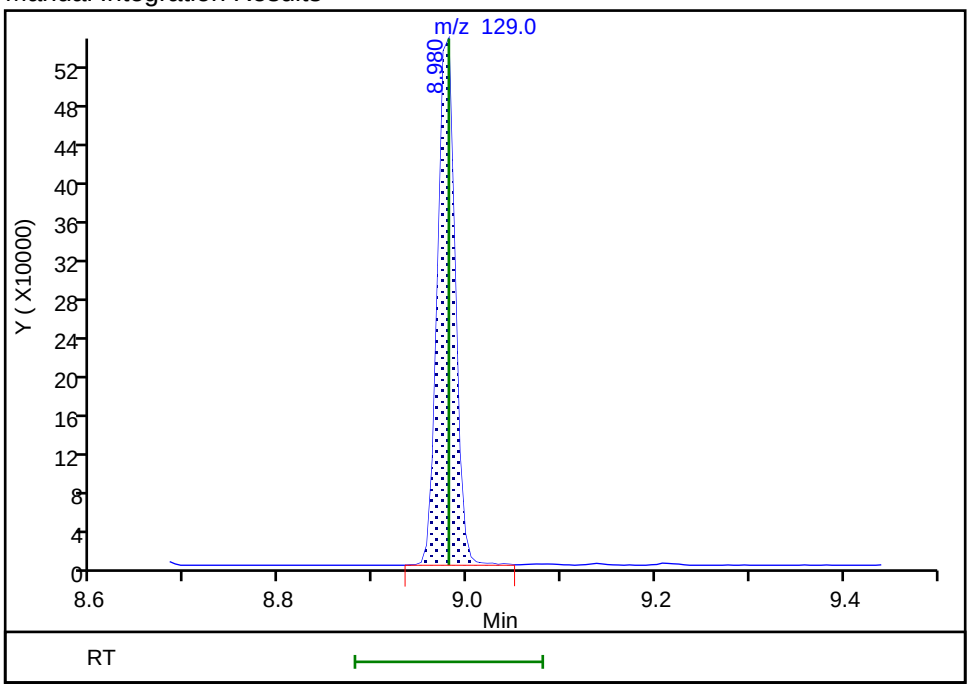
Processing Integration Results

RT: 9.14
Area: 2568
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 8.98
Area: 710490
Amount: 7.469561
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:38:03

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

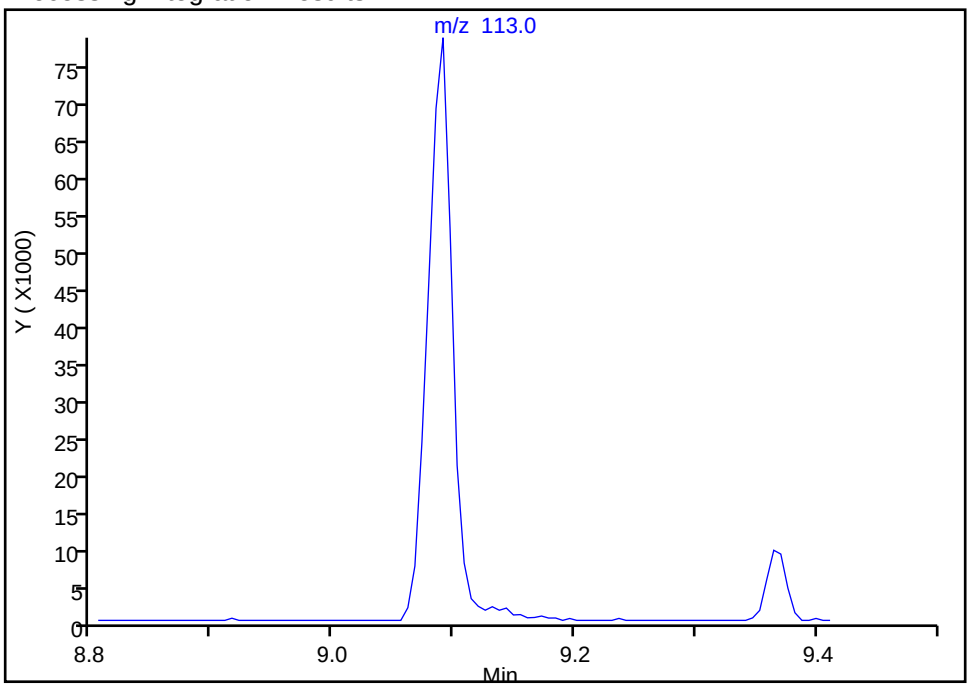
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

52 Caprolactam, CAS: 105-60-2

Signal: 1

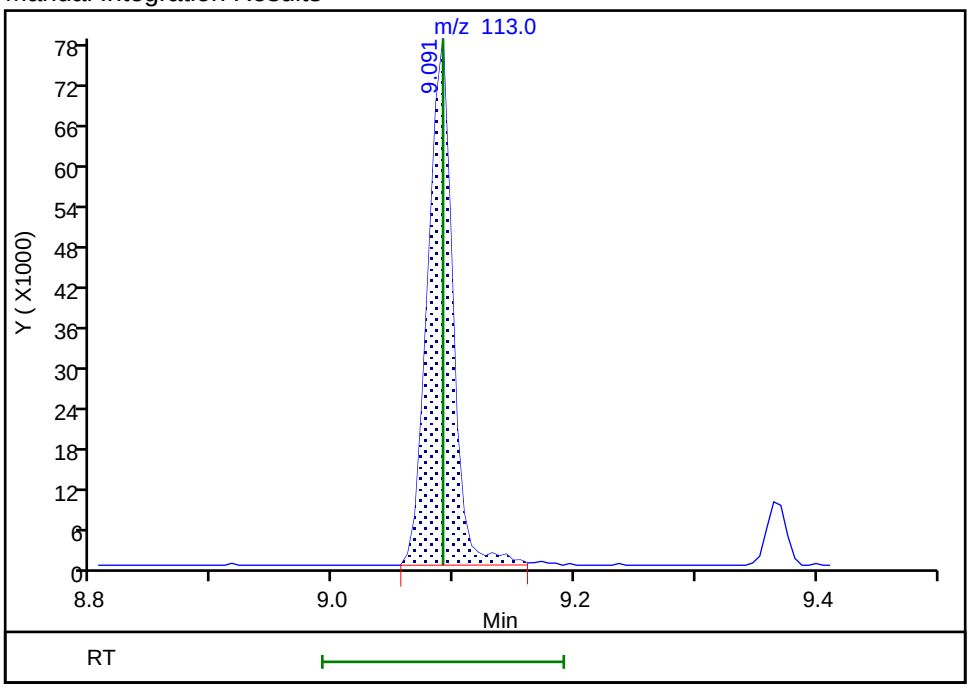
Not Detected
Expected RT: 9.09

Processing Integration Results



Manual Integration Results

RT: 9.09
Area: 112595
Amount: 6.956484
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:47:11
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

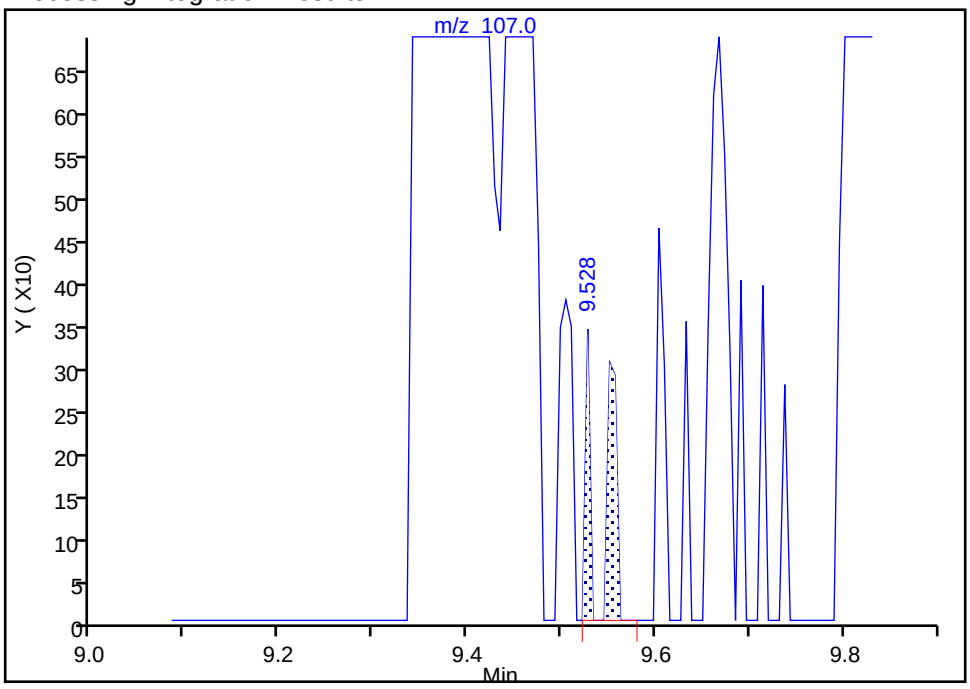
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

54 4-Chloro-3-methylphenol, CAS: 59-50-7

Signal: 1

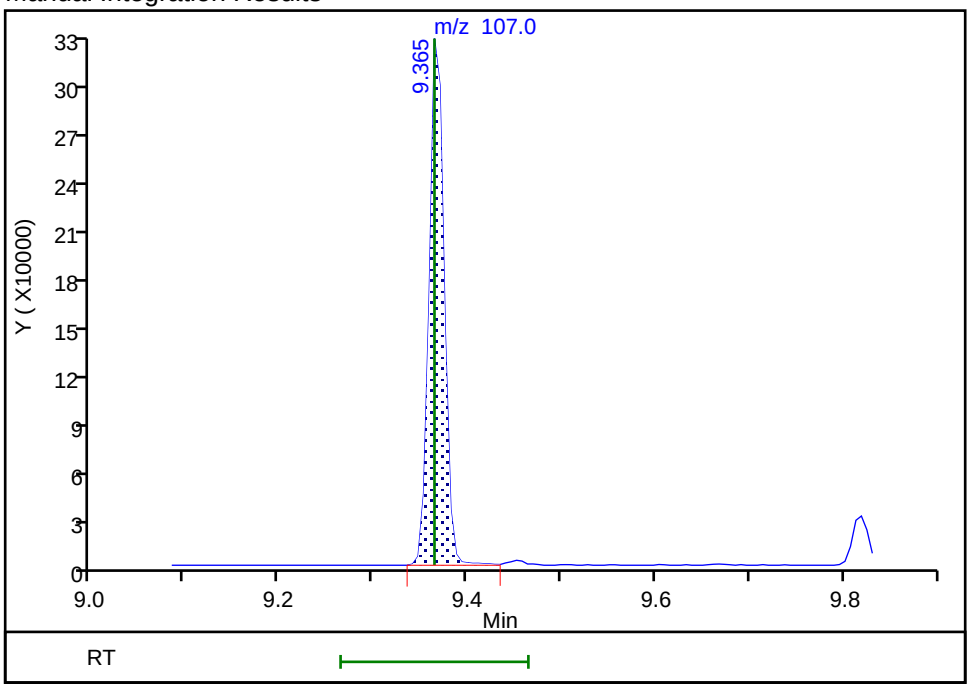
Processing Integration Results

RT: 9.53
Area: 325
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 9.36
Area: 355590
Amount: 7.797933
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:38:12

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

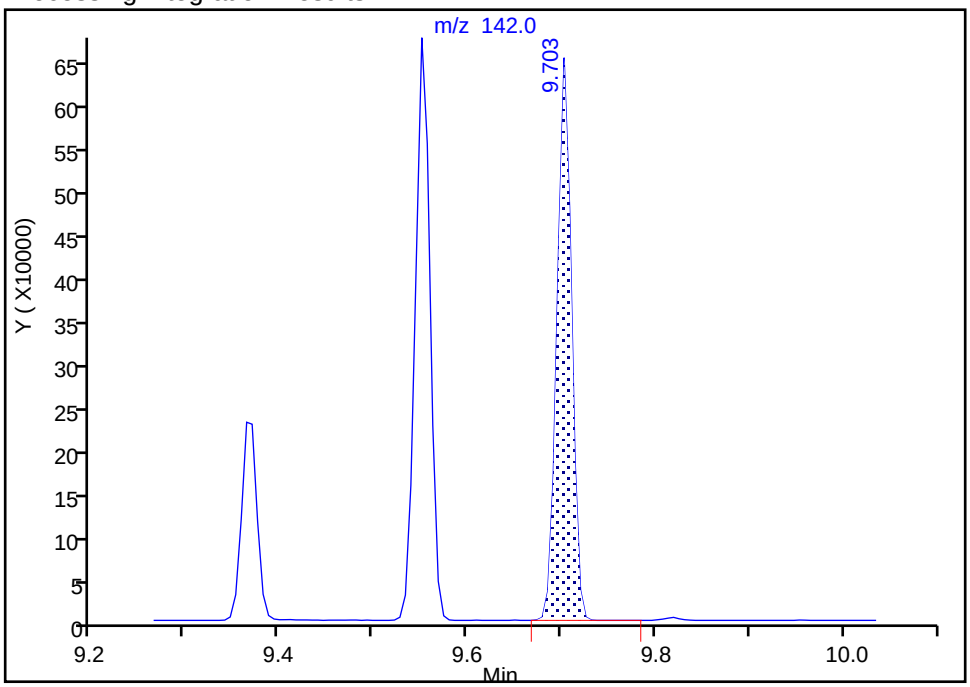
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

56 2-Methylnaphthalene, CAS: 91-57-6

Signal: 1

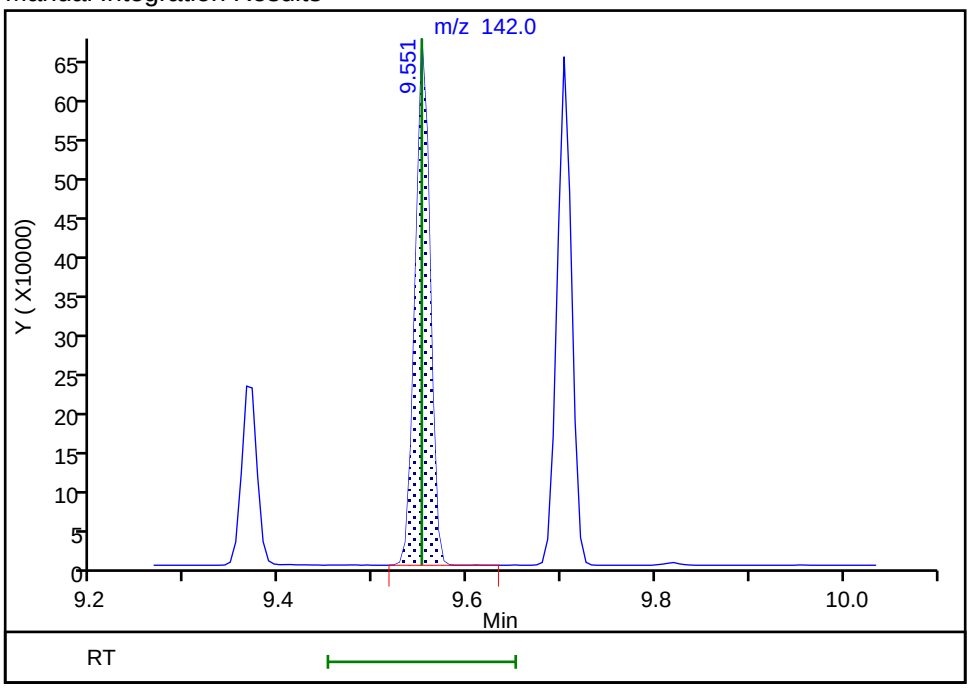
Processing Integration Results

RT: 9.70
Area: 702252
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 9.55
Area: 744532
Amount: 7.663359
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:38:21
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

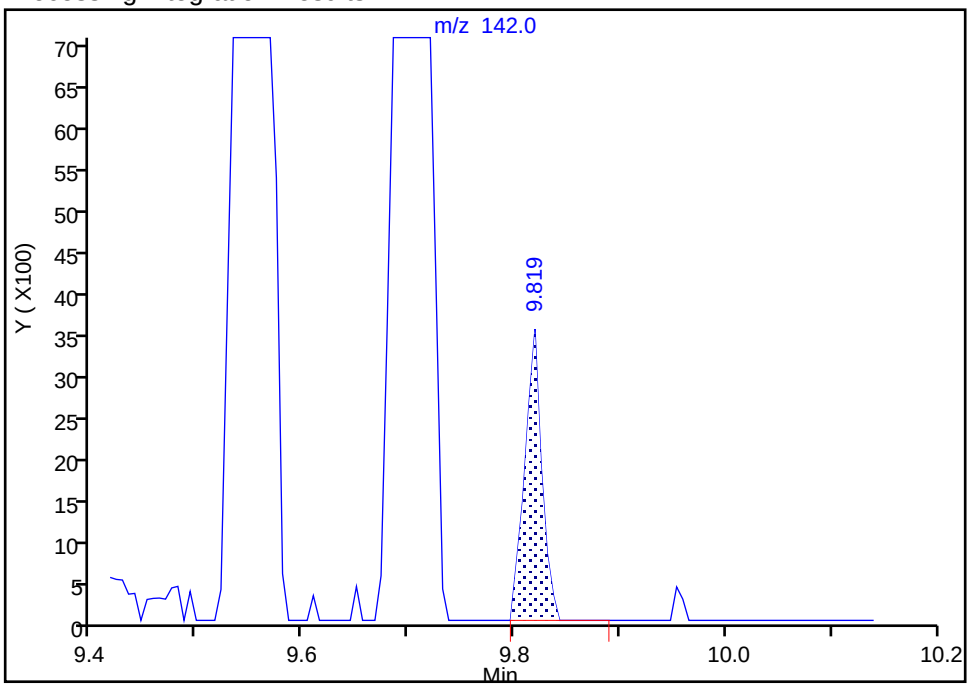
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

57 1-Methylnaphthalene, CAS: 90-12-0

Signal: 1

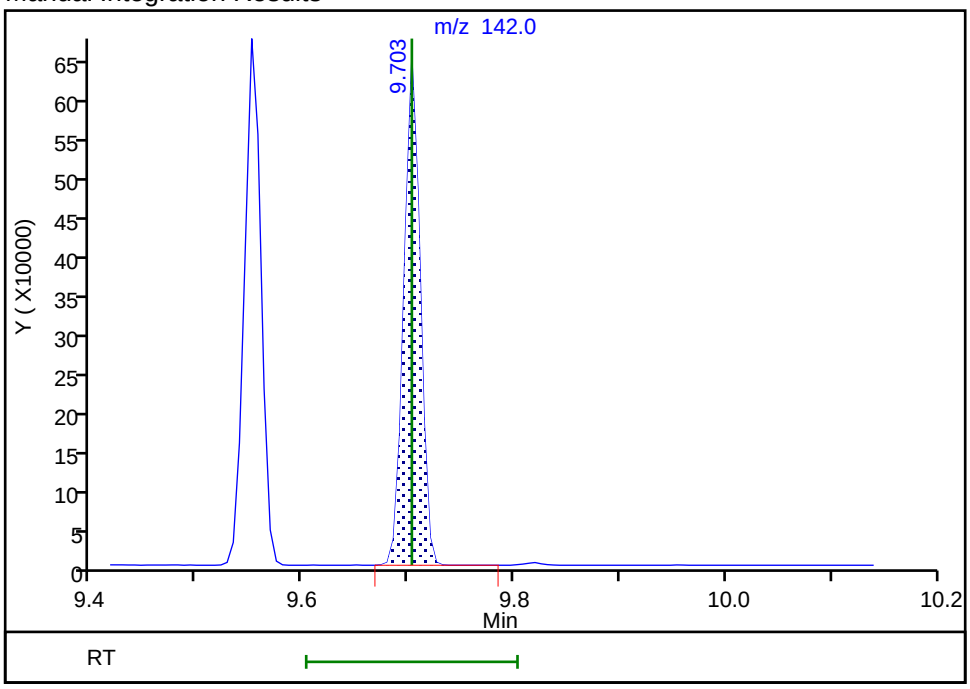
Processing Integration Results

RT: 9.82
Area: 3925
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 9.70
Area: 702252
Amount: 7.635957
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:38:26

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

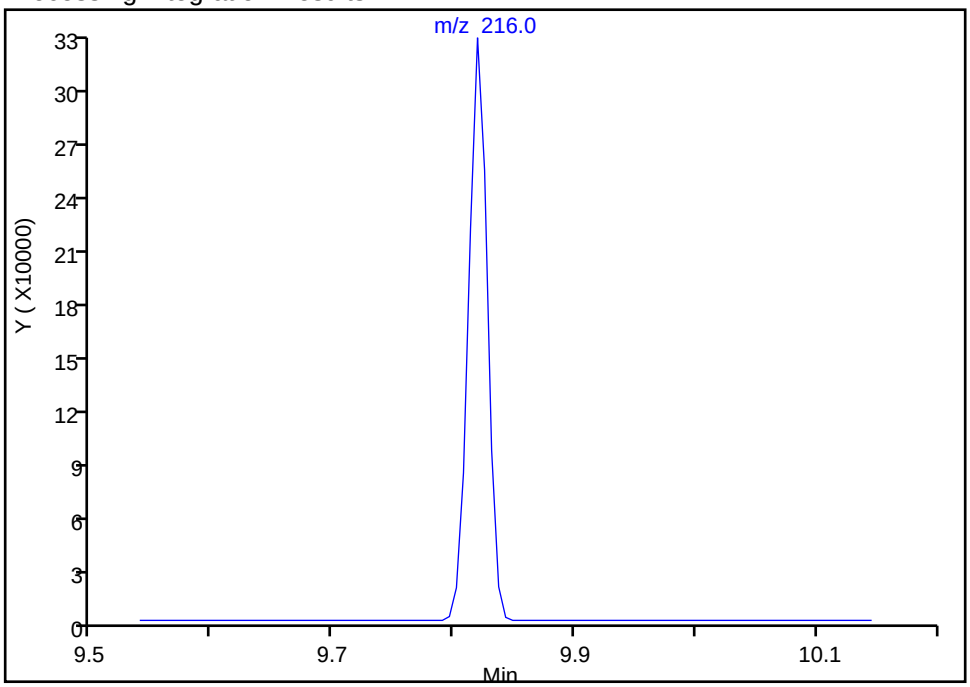
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

59 1,2,4,5-Tetrachlorobenzene, CAS: 95-94-3

Signal: 1

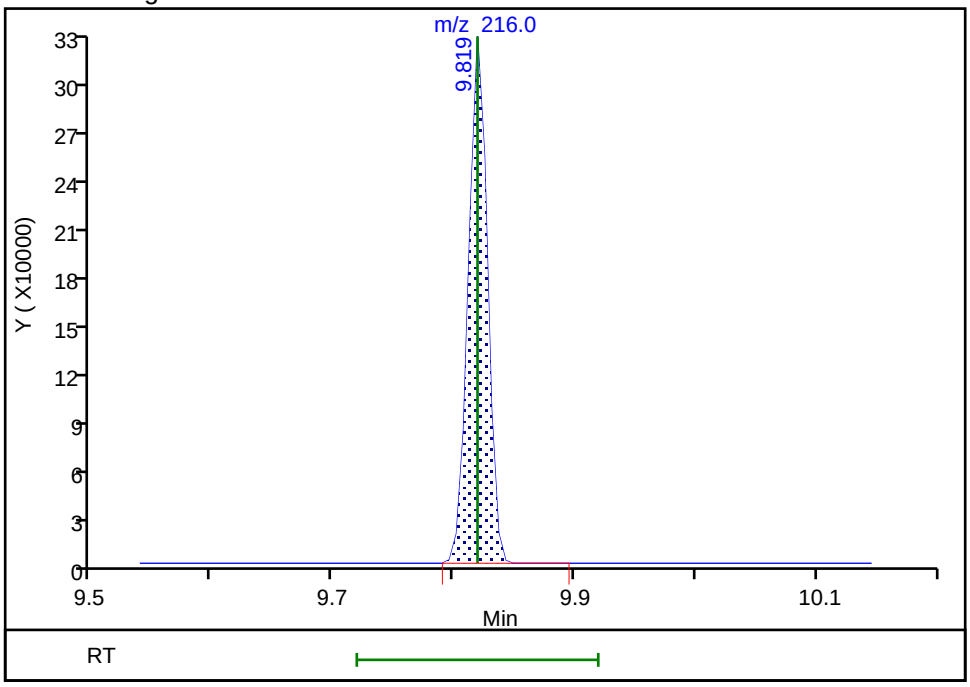
Not Detected
Expected RT: 9.82

Processing Integration Results



Manual Integration Results

RT: 9.82
Area: 353339
Amount: 7.199566
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:47:23
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

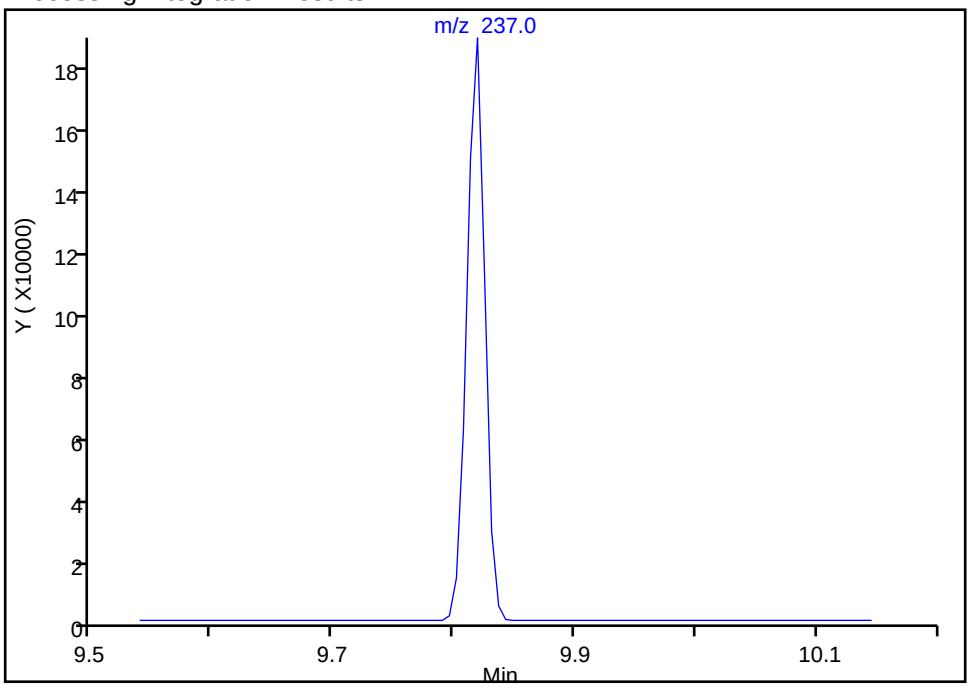
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

58 Hexachlorocyclopentadiene, CAS: 77-47-4

Signal: 1

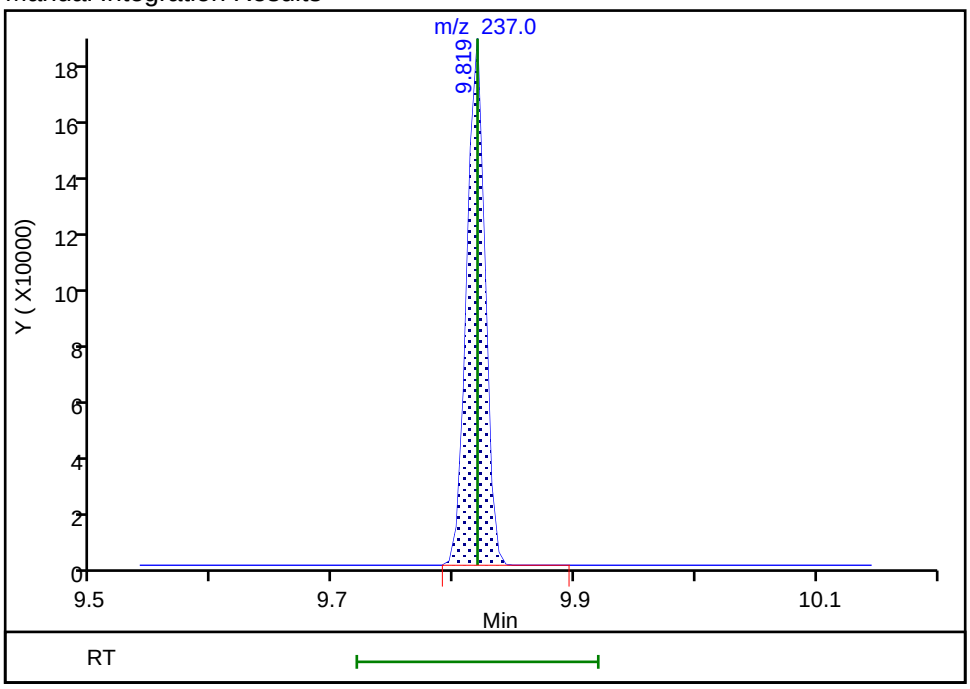
Not Detected
Expected RT: 9.82

Processing Integration Results



Manual Integration Results

RT: 9.82
Area: 194321
Amount: 7.195990
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:47:18
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

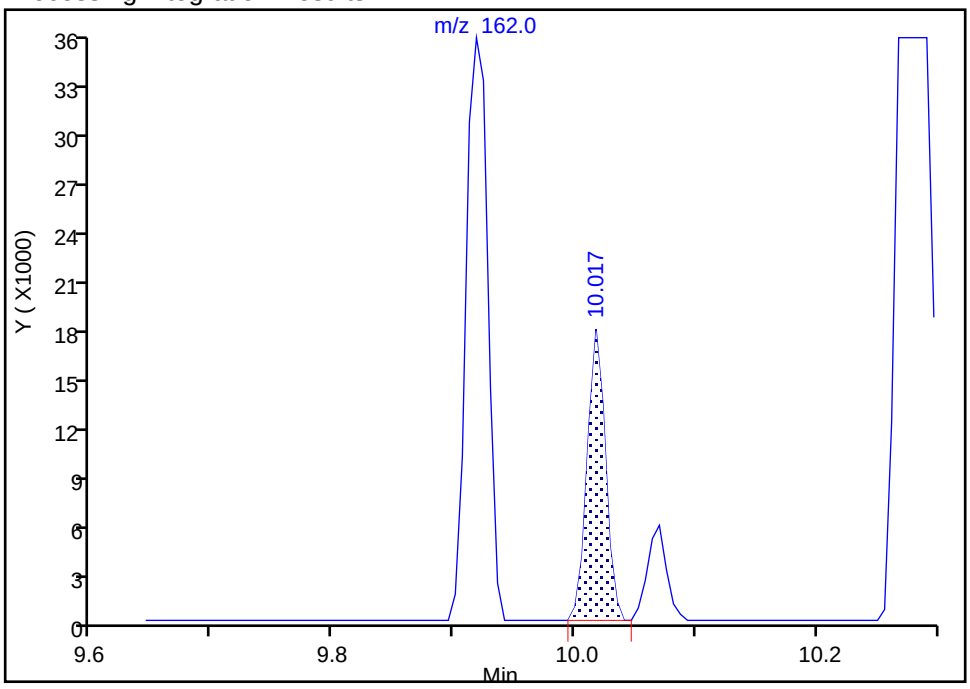
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D		
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760
Lims ID:	ICIS L5		
Client ID:			
Operator ID:	lmh00956	ALS Bottle#:	2 Worklist Smp#: 2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

60 Isosafrole Peak 1, CAS: 120-58-1

Signal: 1

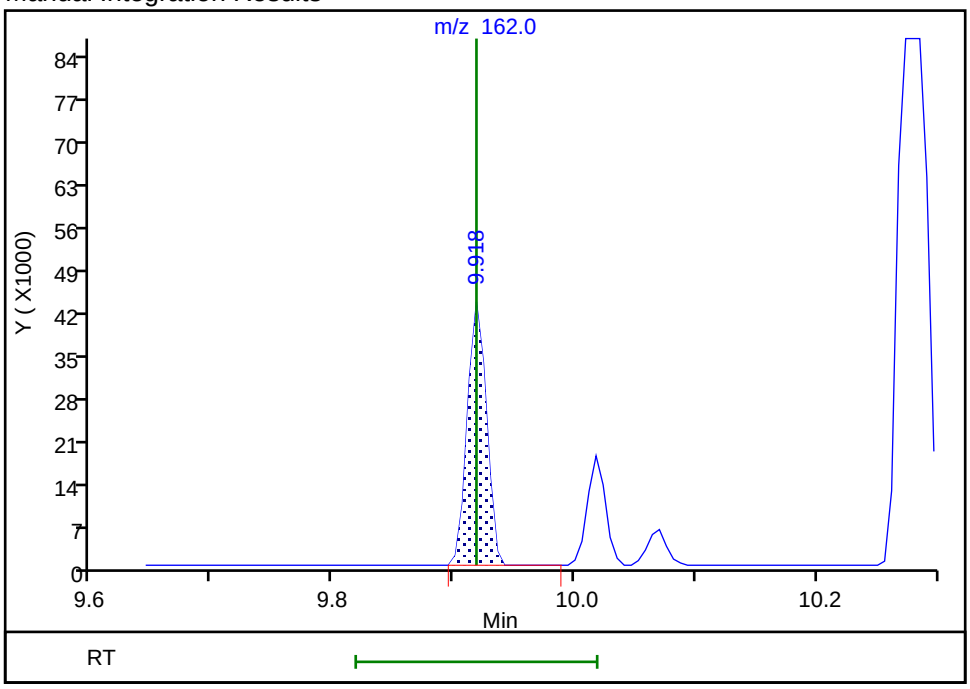
Processing Integration Results

RT: 10.02
Area: 18791
Amount: 1.200000
Amount Units: ug/ml



Manual Integration Results

RT: 9.92
Area: 47325
Amount: 1.160887
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:38:31

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

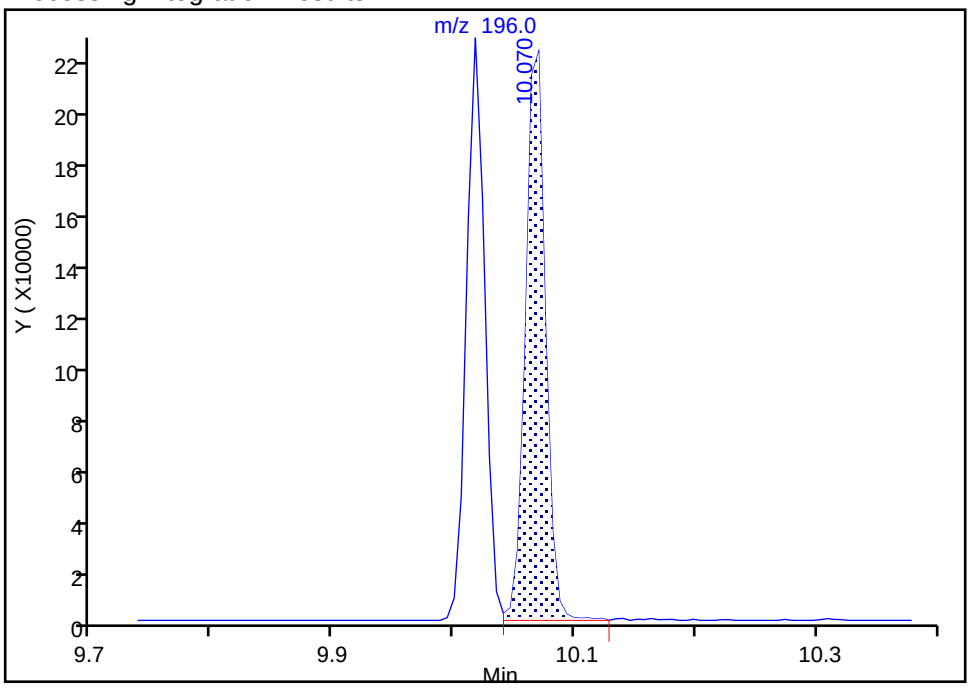
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

61 2,4,6-Trichlorophenol, CAS: 88-06-2

Signal: 1

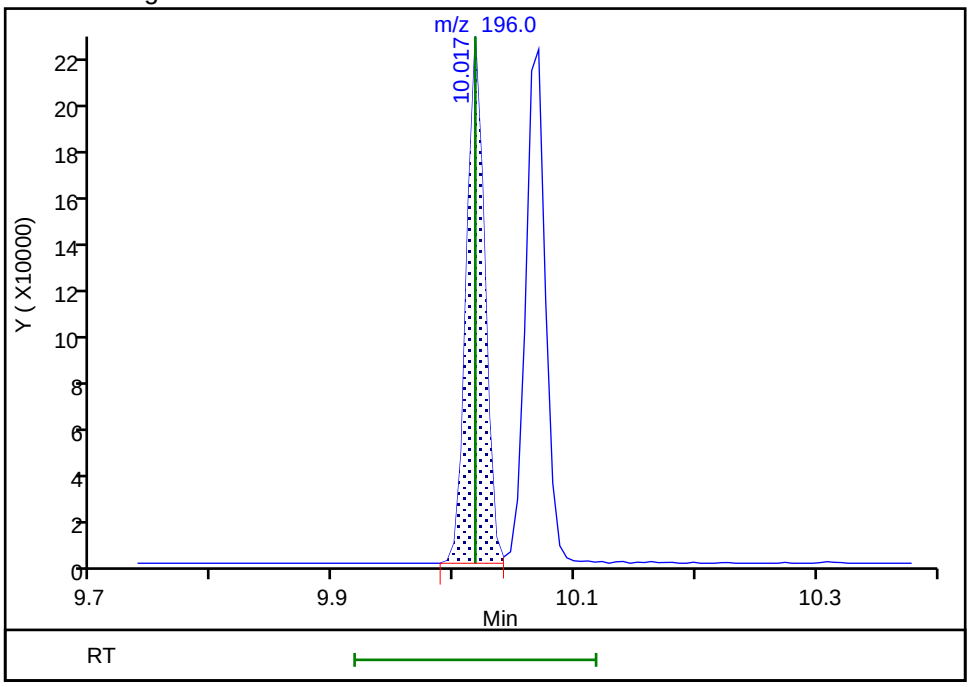
Processing Integration Results

RT: 10.07
Area: 248075
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 10.02
Area: 232696
Amount: 7.699985
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:39:23

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

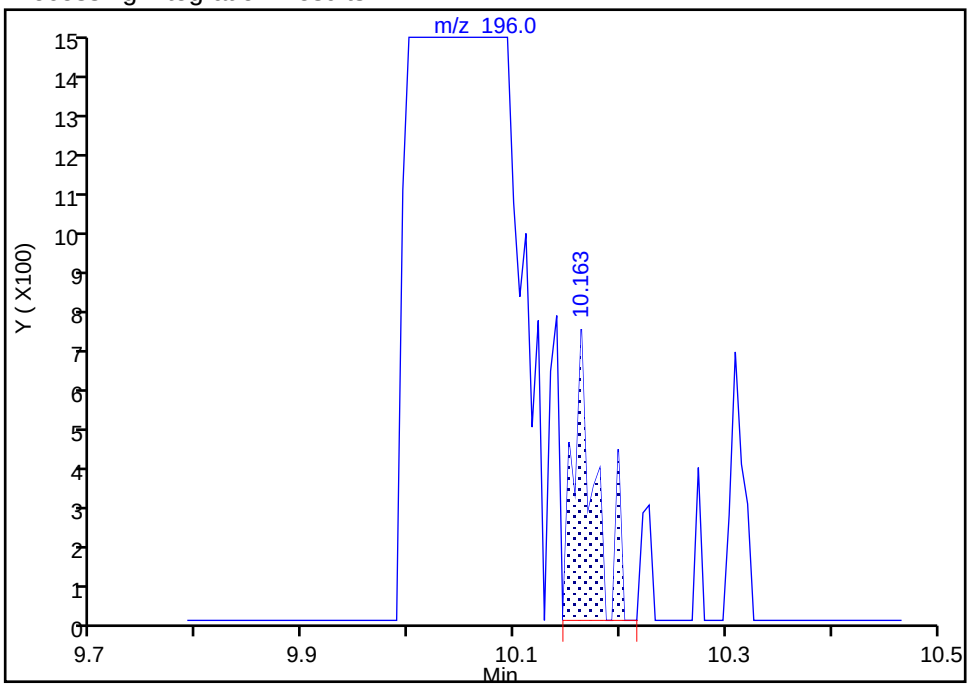
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

62 2,4,5-Trichlorophenol, CAS: 95-95-4

Signal: 1

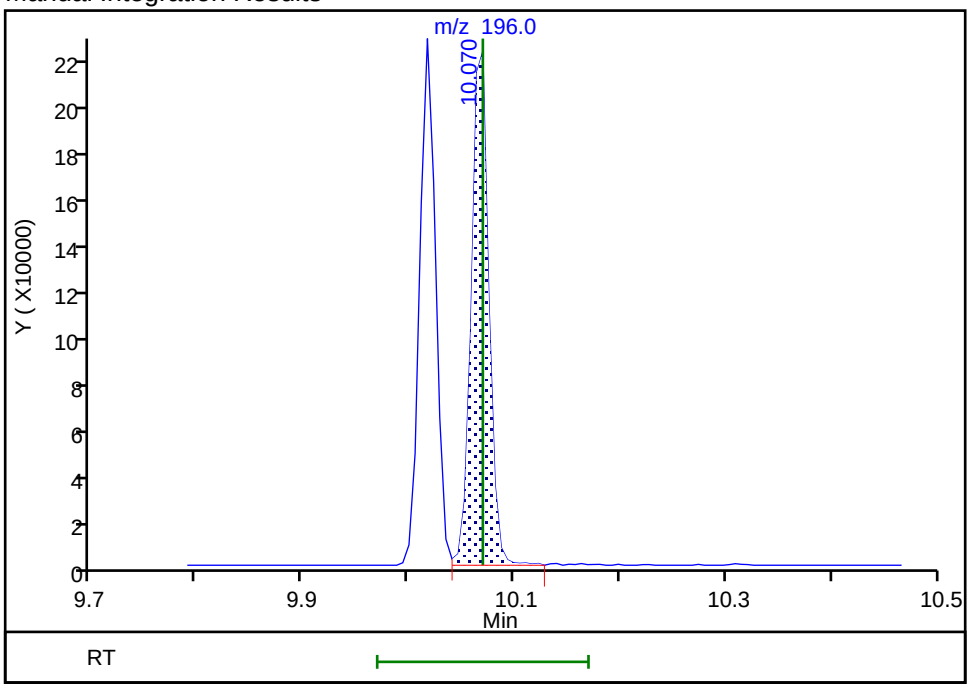
Processing Integration Results

RT: 10.16
Area: 987
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 10.07
Area: 248075
Amount: 7.716206
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:39:28

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

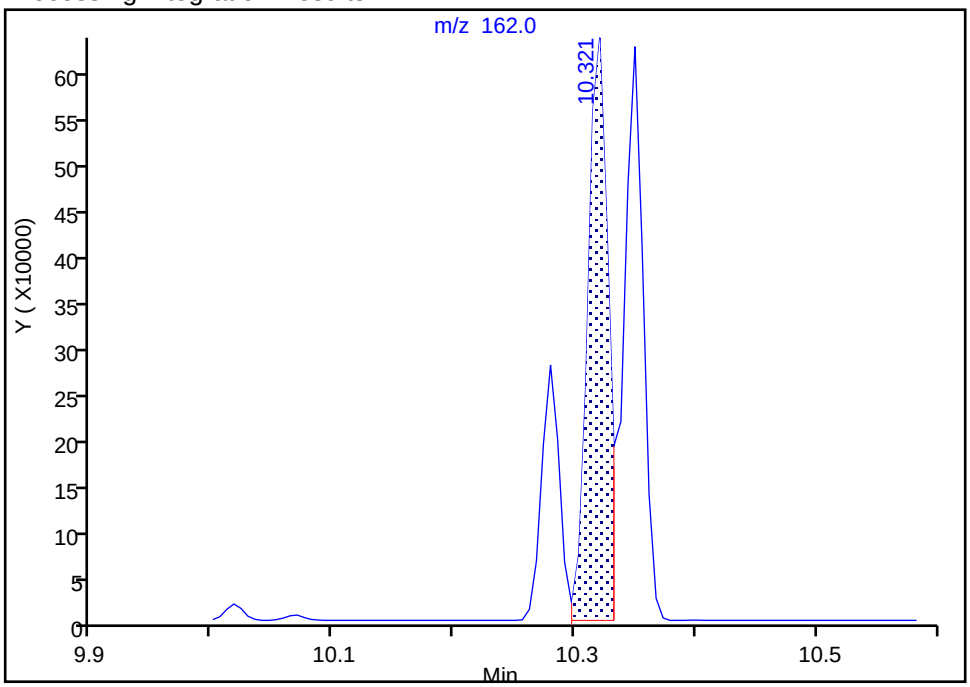
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D		
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760
Lims ID:	ICIS L5		
Client ID:			
Operator ID:	lmh00956	ALS Bottle#:	2 Worklist Smp#: 2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

64 Isosafrole Peak 2, CAS: 120-58-1

Signal: 1

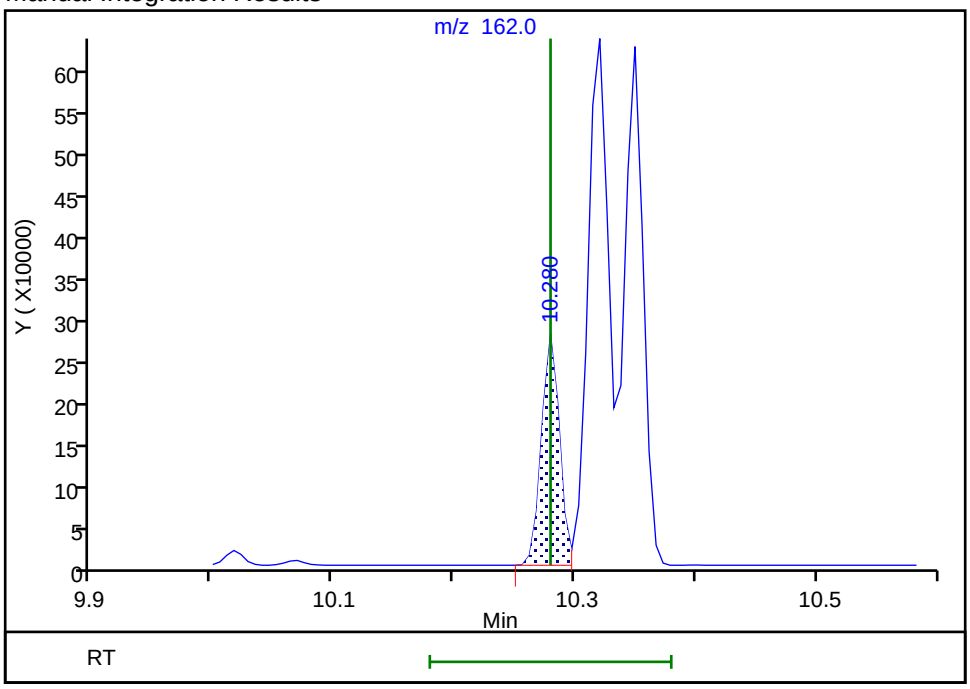
Processing Integration Results

RT: 10.32
Area: 722863
Amount: 6.300000
Amount Units: ug/ml



Manual Integration Results

RT: 10.28
Area: 288419
Amount: 6.239718
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:39:39

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

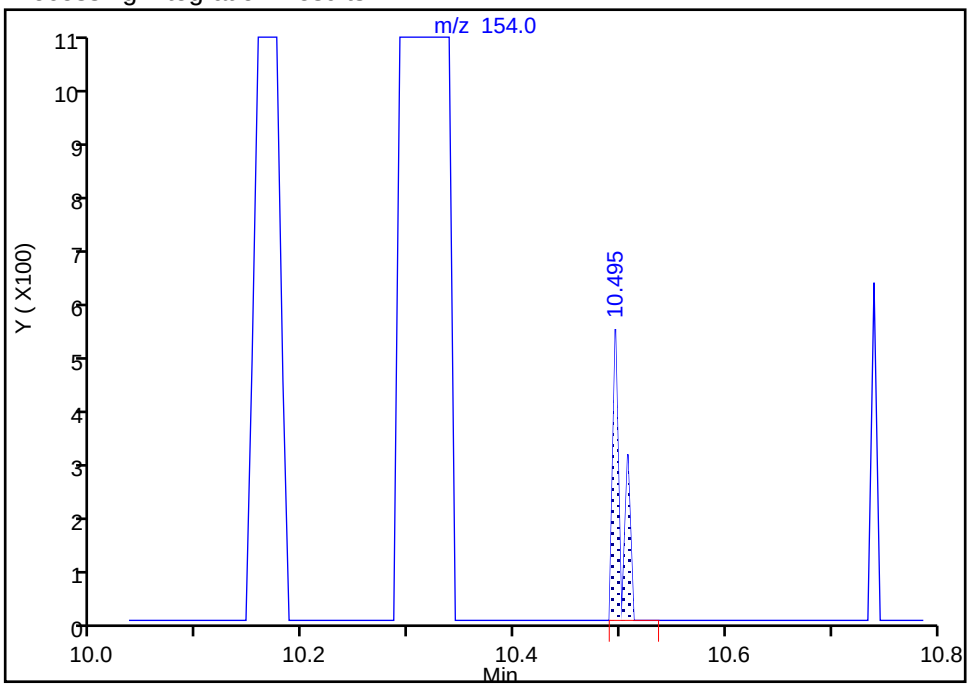
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

65 1,1'-Biphenyl, CAS: 92-52-4

Signal: 1

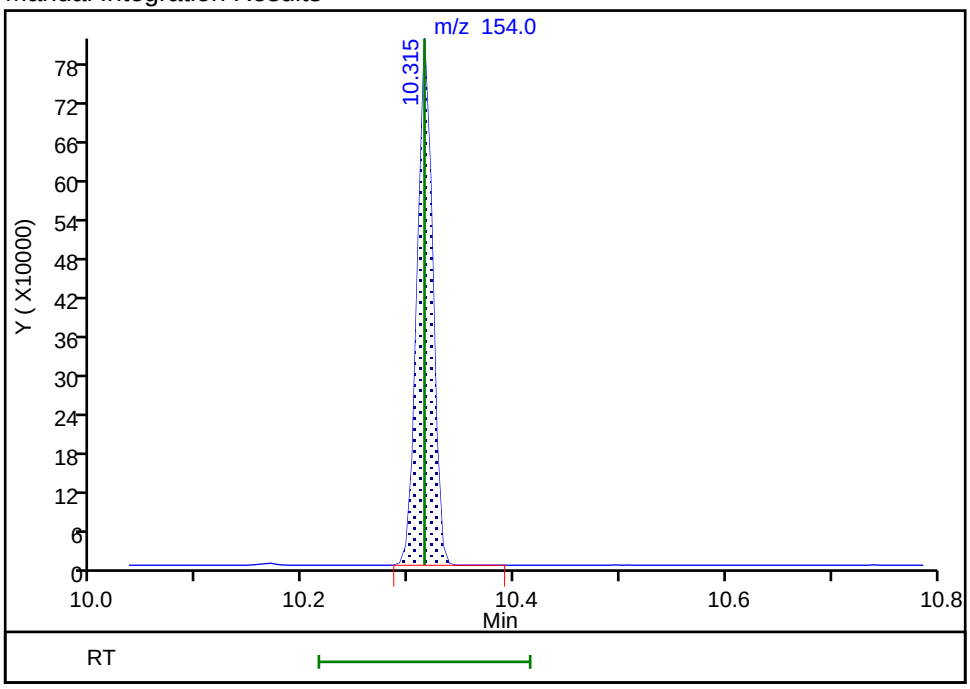
Processing Integration Results

RT: 10.50
Area: 289
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 10.31
Area: 828320
Amount: 6.959762
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:39:49

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

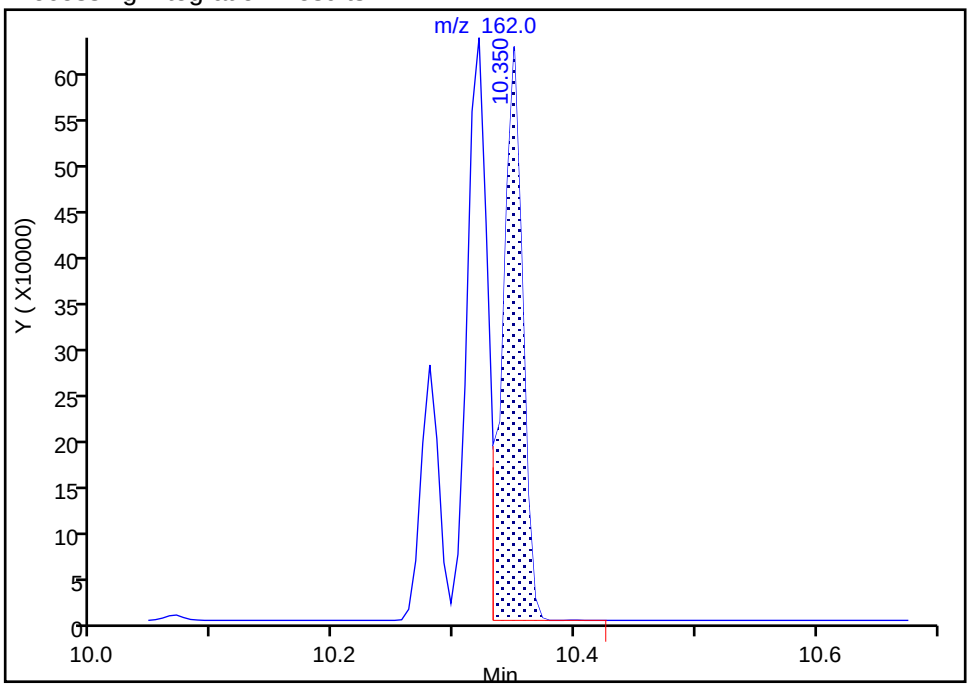
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

66 2-Chloronaphthalene, CAS: 91-58-7

Signal: 1

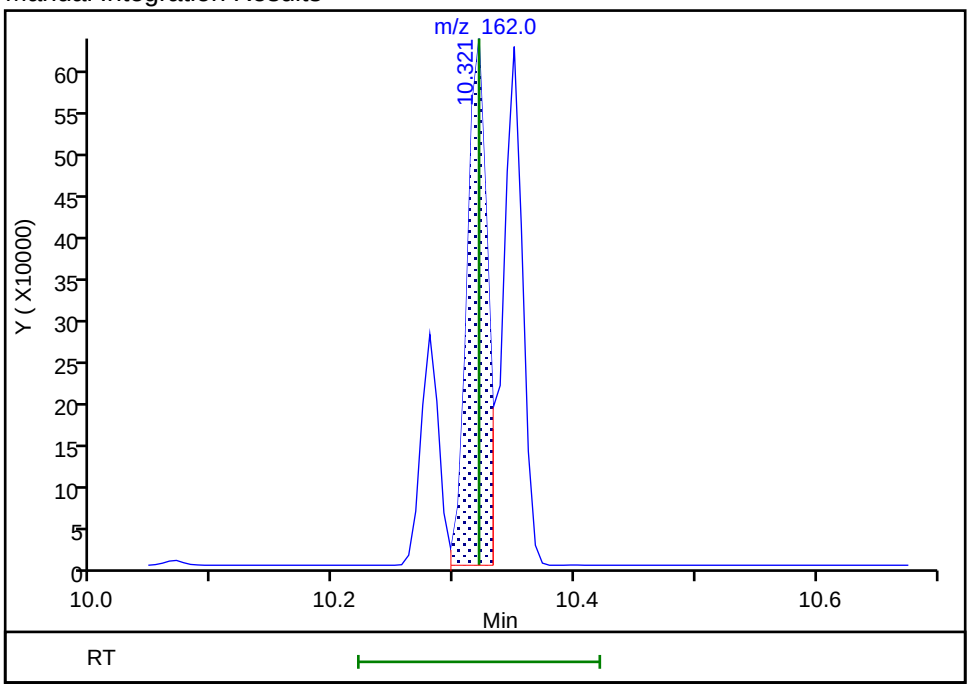
Processing Integration Results

RT: 10.35
Area: 698710
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 10.32
Area: 722863
Amount: 7.116760
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:39:44

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

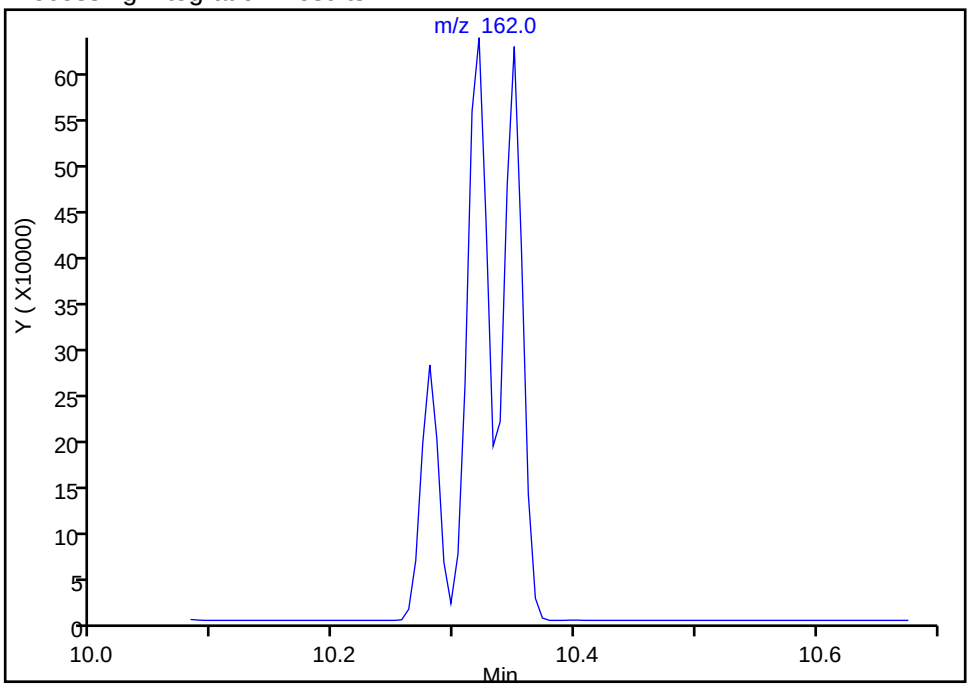
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

67 1-Chloronaphthalene, CAS: 90-13-1

Signal: 1

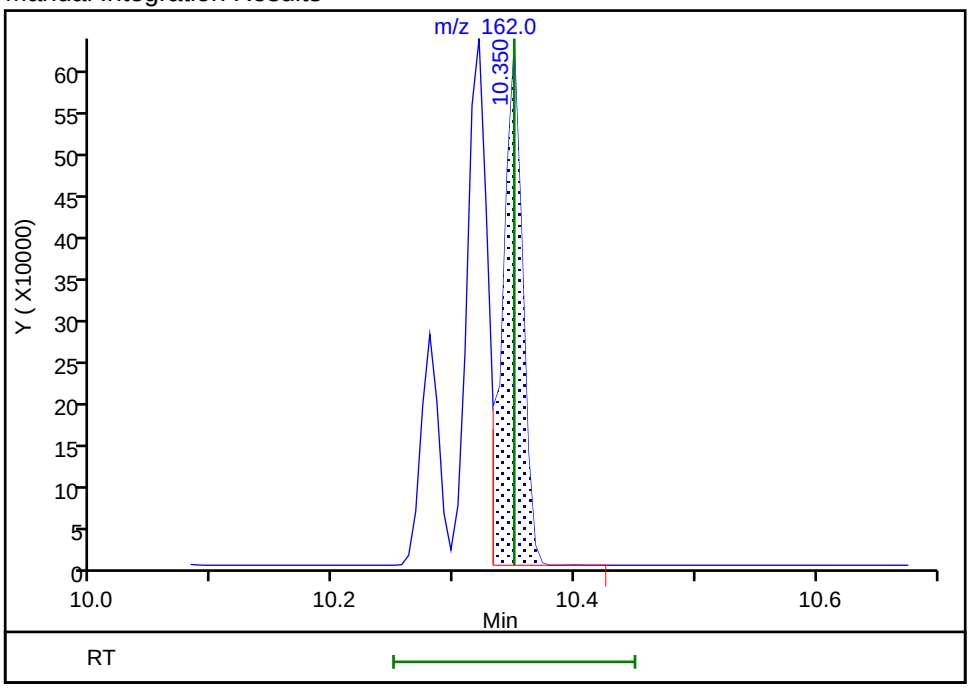
Not Detected
Expected RT: 10.35

Processing Integration Results



Manual Integration Results

RT: 10.35
Area: 698710
Amount: 7.969473
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:47:28
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

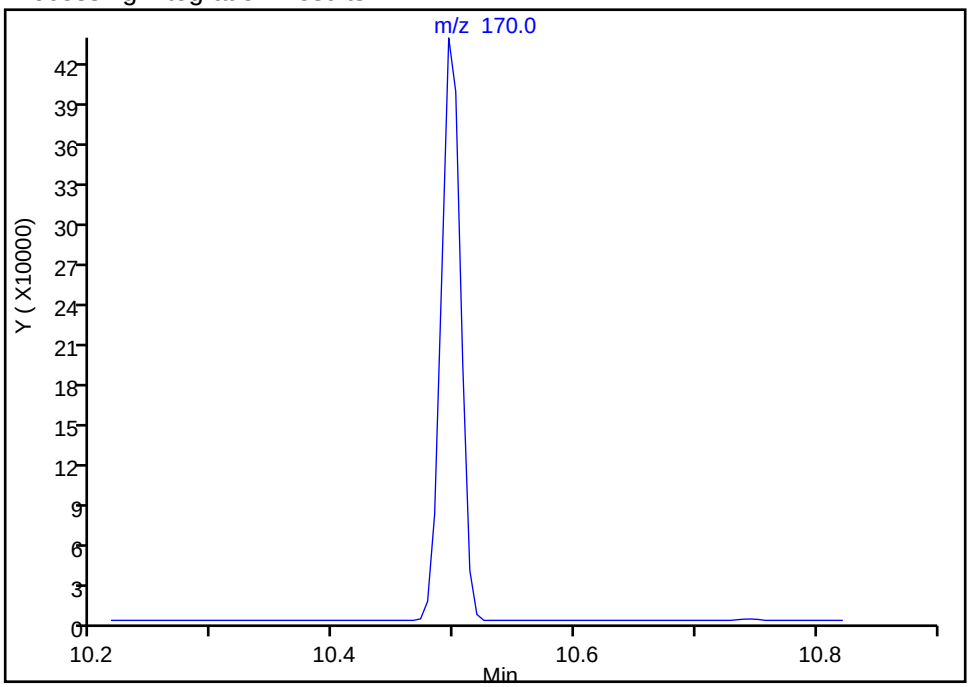
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

68 Phenyl ether, CAS: 101-84-8

Signal: 1

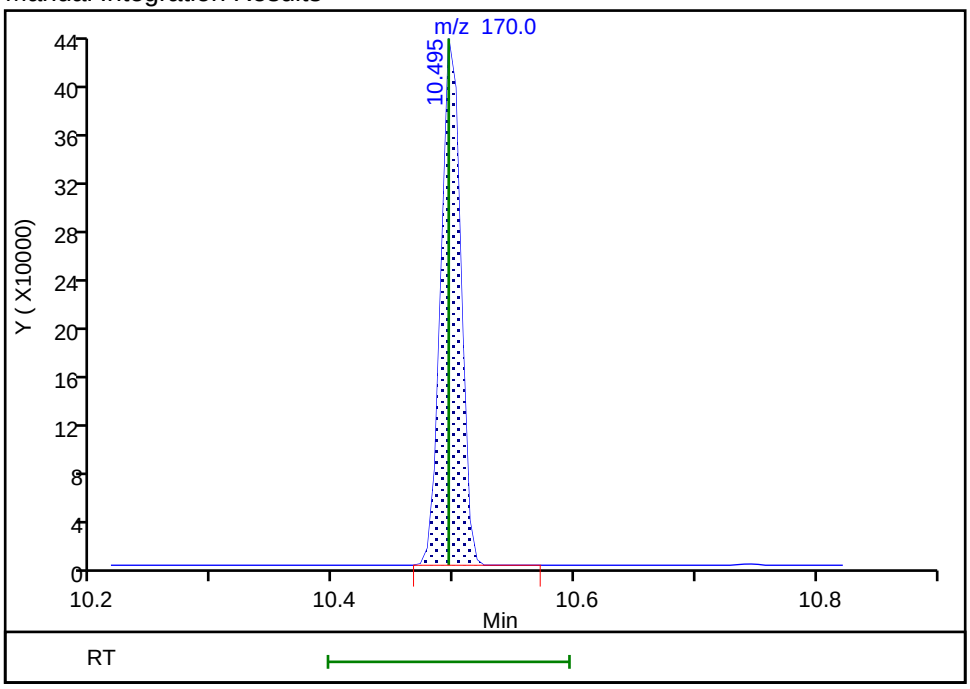
Not Detected
Expected RT: 10.50

Processing Integration Results



Manual Integration Results

RT: 10.50
Area: 491503
Amount: 7.434147
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:47:34
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

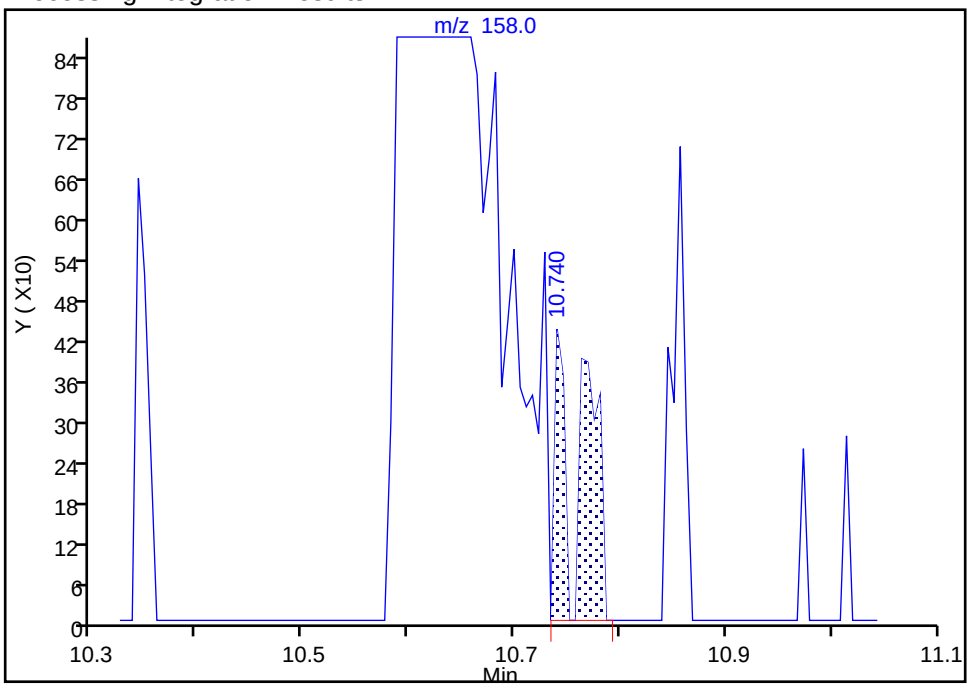
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D		
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760
Lims ID:	ICIS L5		
Client ID:			
Operator ID:	lmh00956	ALS Bottle#:	2 Worklist Smp#: 2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

70 1,4-Naphthoquinone, CAS: 130-15-4

Signal: 1

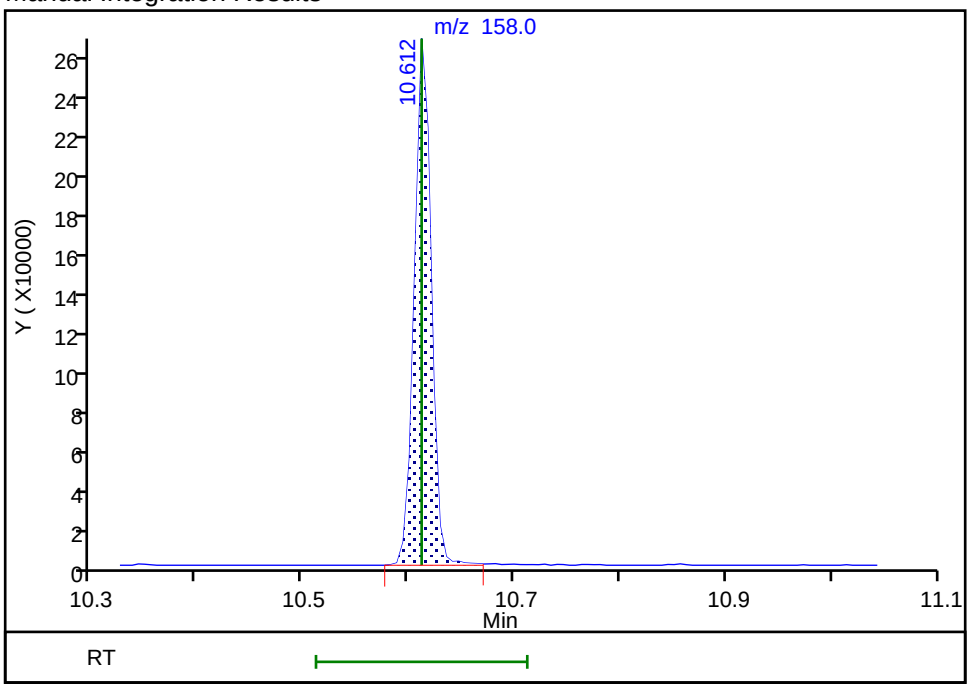
Processing Integration Results

RT: 10.74
Area: 764
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 10.61
Area: 288044
Amount: 7.593524
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:40:04

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

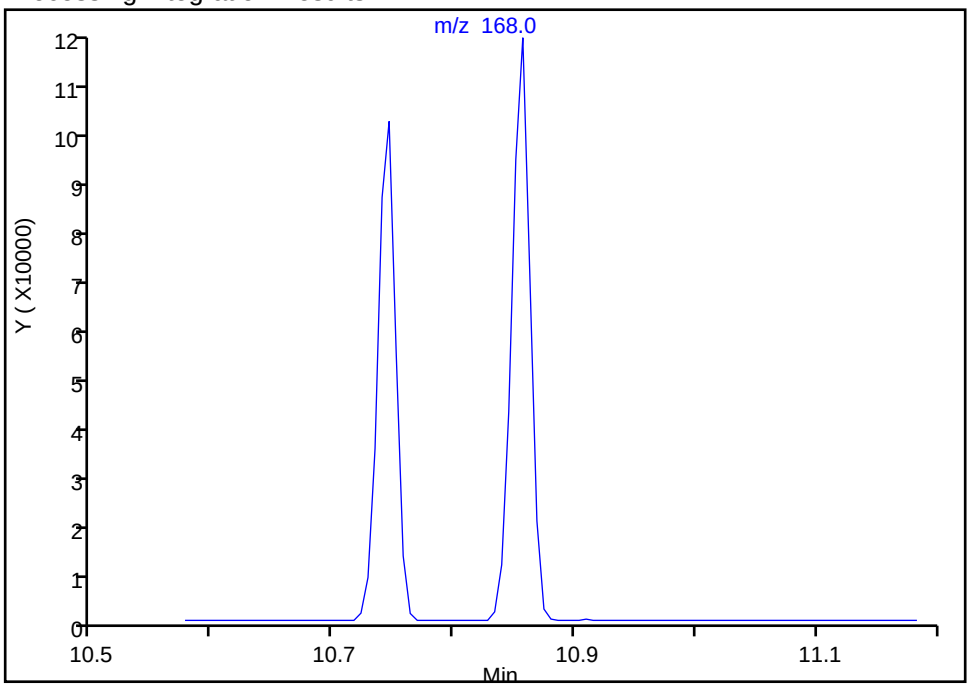
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

73 1,3-Dinitrobenzene, CAS: 99-65-0

Signal: 1

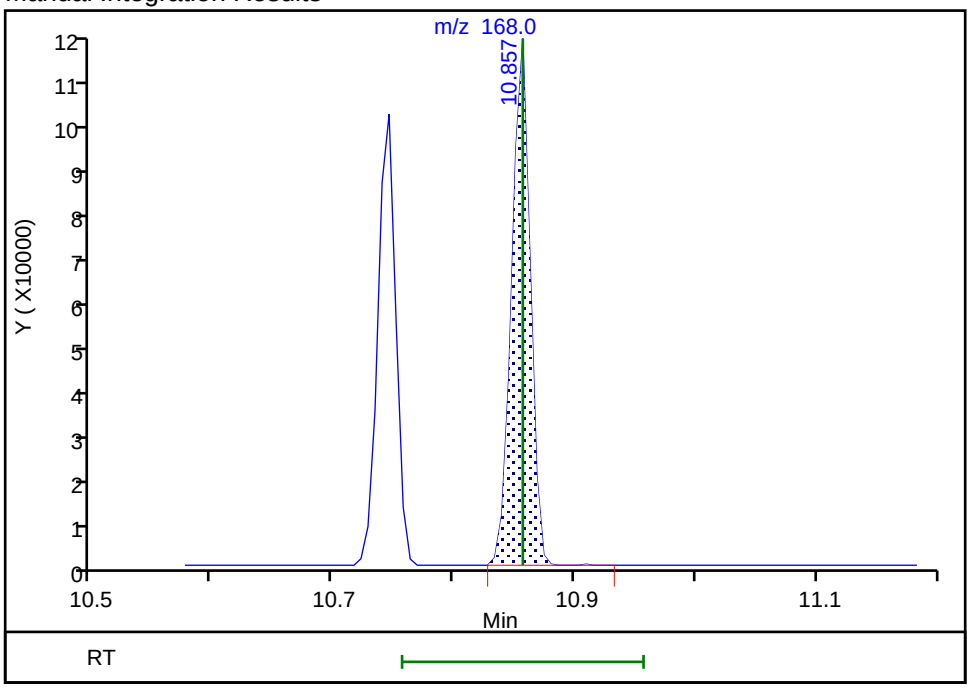
Not Detected
Expected RT: 10.86

Processing Integration Results



Manual Integration Results

RT: 10.86
Area: 126016
Amount: 7.422198
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:47:54
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

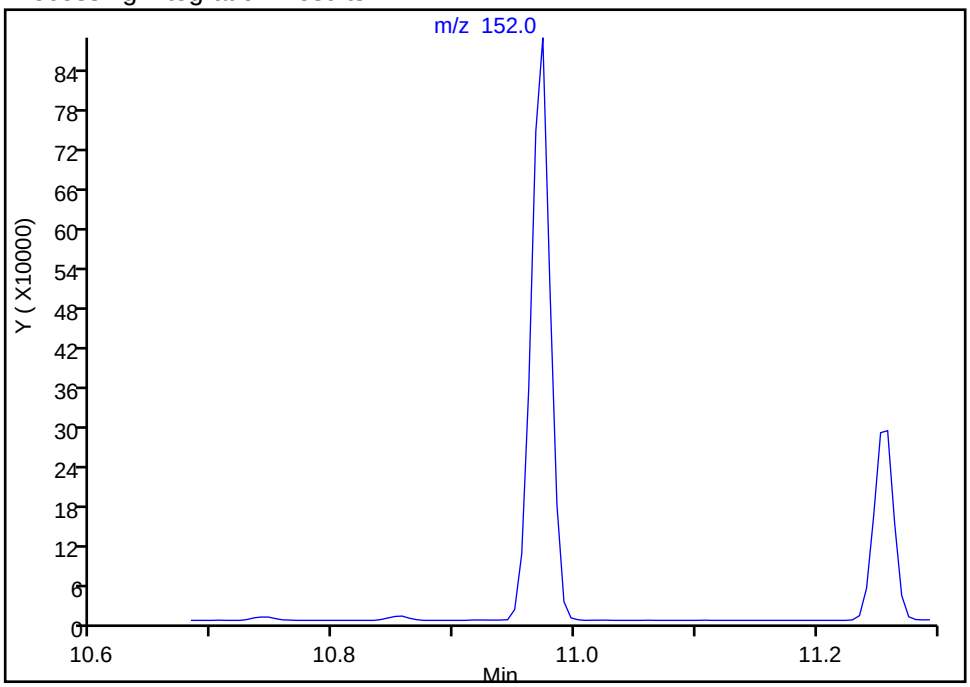
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

75 Acenaphthylene, CAS: 208-96-8

Signal: 1

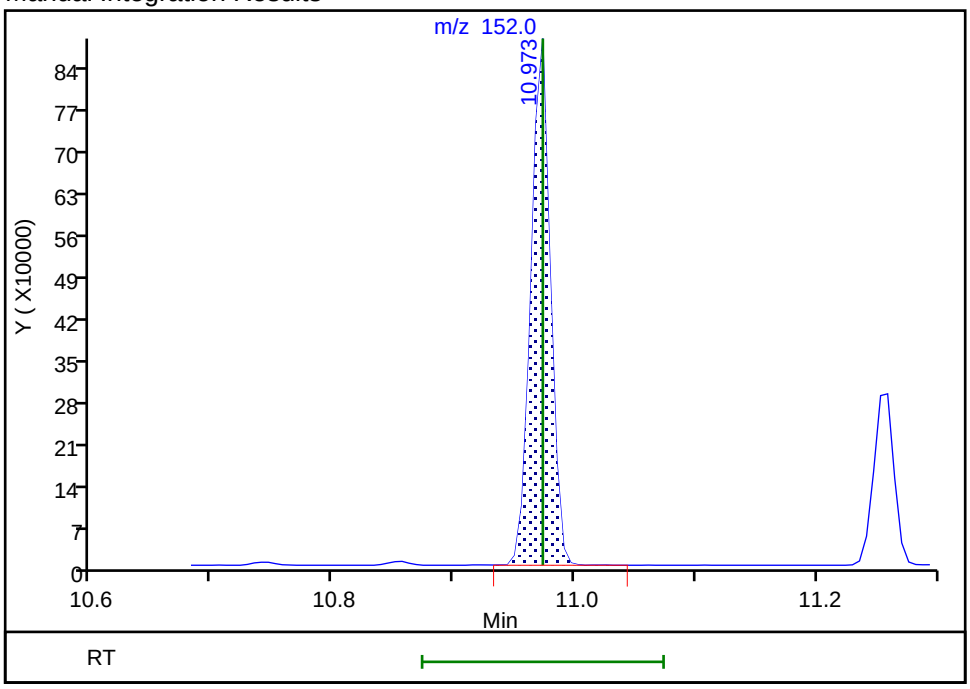
Not Detected
Expected RT: 10.97

Processing Integration Results



Manual Integration Results

RT: 10.97
Area: 987515
Amount: 7.812719
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:48:05
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

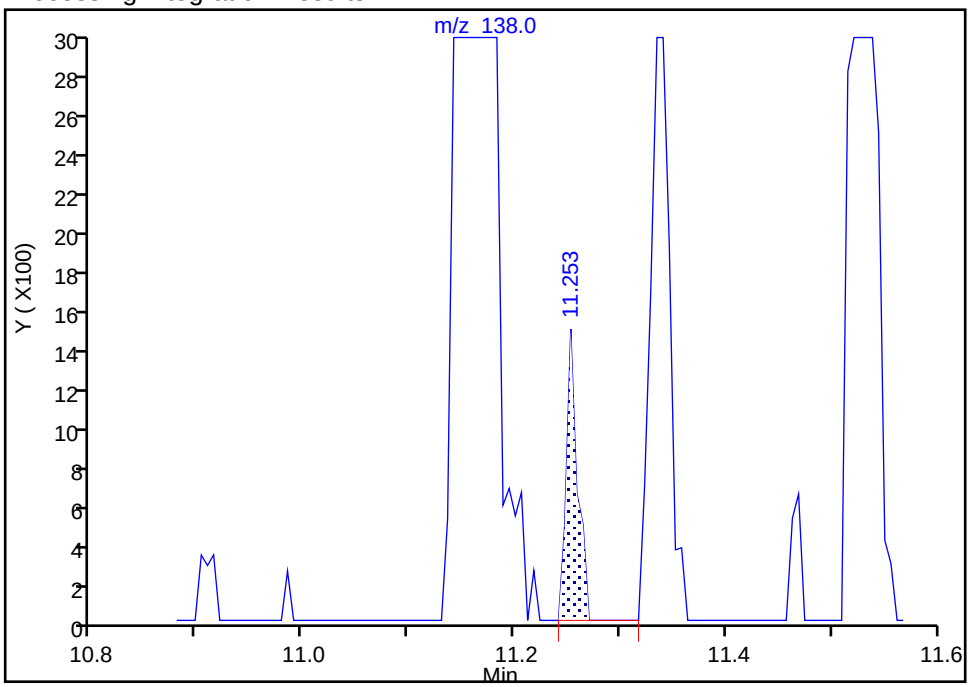
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

76 3-Nitroaniline, CAS: 99-09-2

Signal: 1

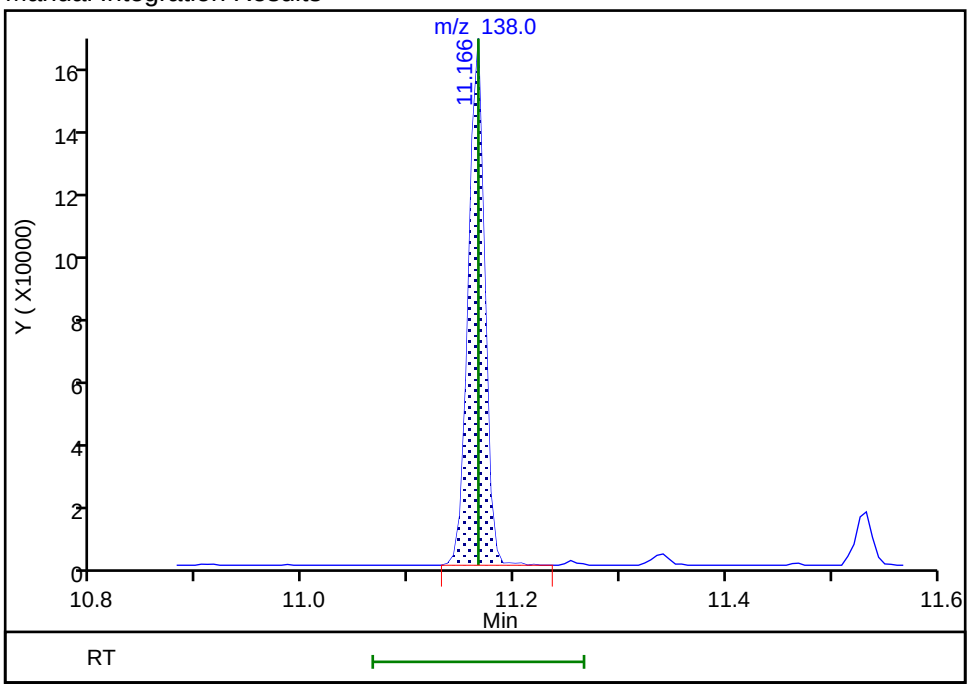
Processing Integration Results

RT: 11.25
Area: 1079
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 11.17
Area: 175200
Amount: 6.797520
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:40:28

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

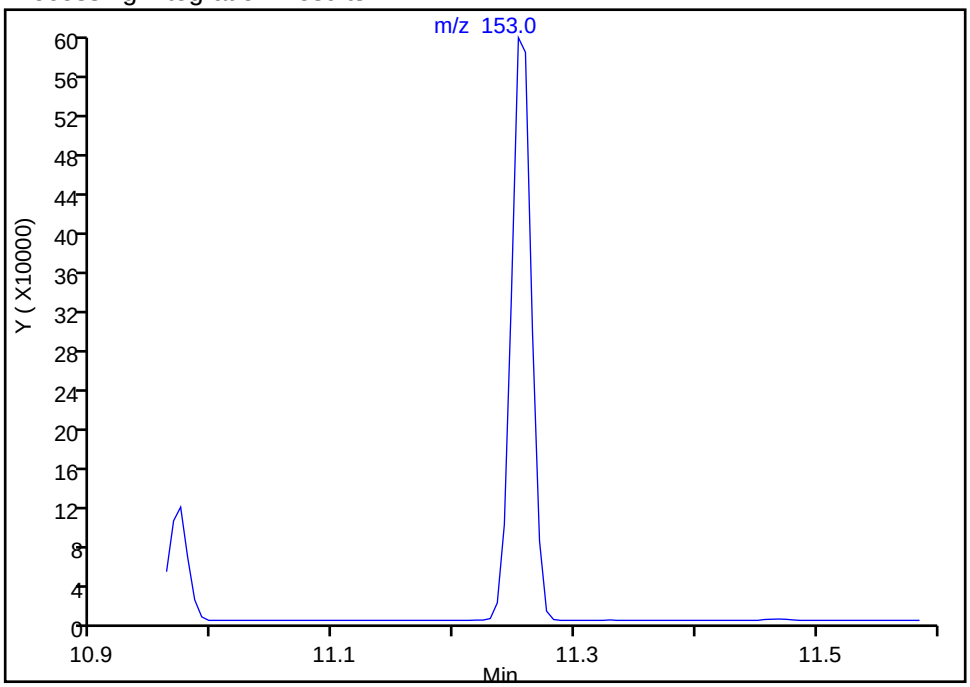
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

78 Acenaphthene, CAS: 83-32-9

Signal: 1

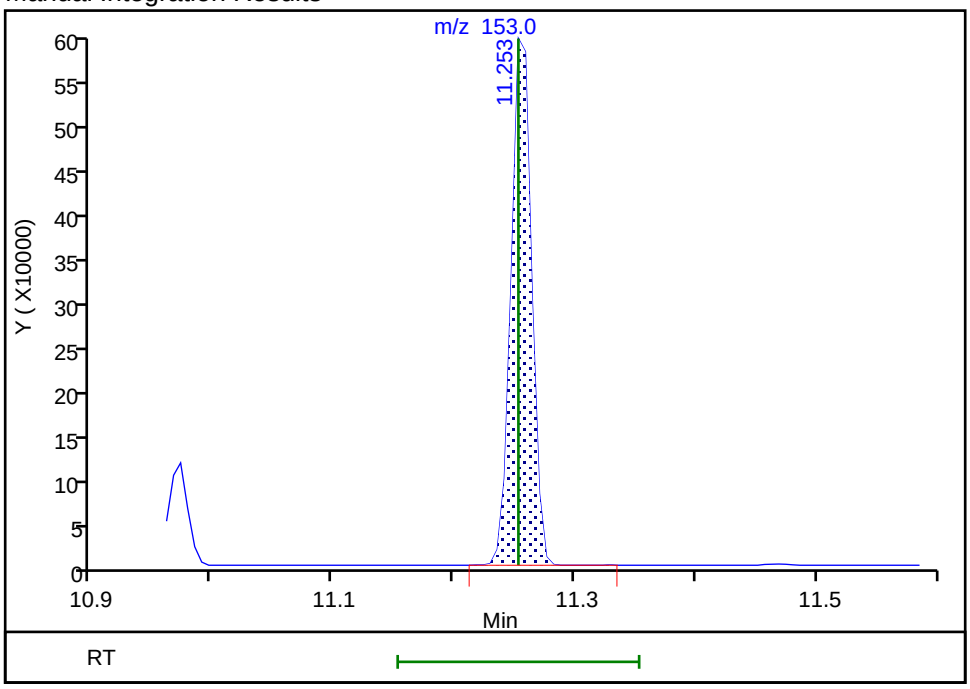
Not Detected
Expected RT: 11.25

Processing Integration Results



Manual Integration Results

RT: 11.25
Area: 706463
Amount: 7.376120
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:48:11
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

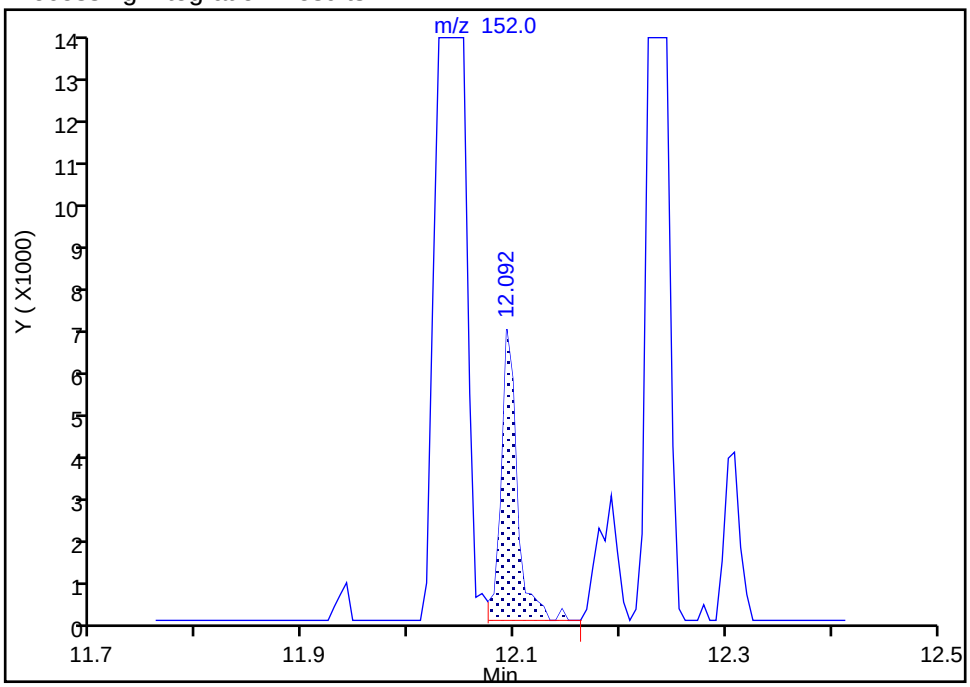
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

90 N-Nitro-o-toluidine, CAS: 99-55-8

Signal: 1

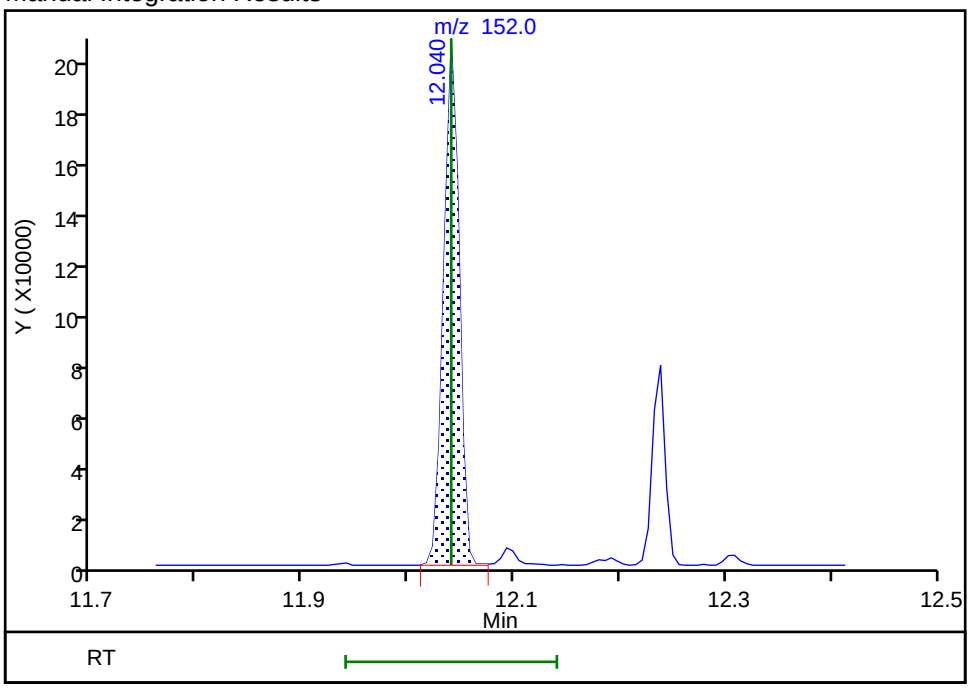
Processing Integration Results

RT: 12.09
Area: 7038
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 12.04
Area: 212691
Amount: 6.725647
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:40:49

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

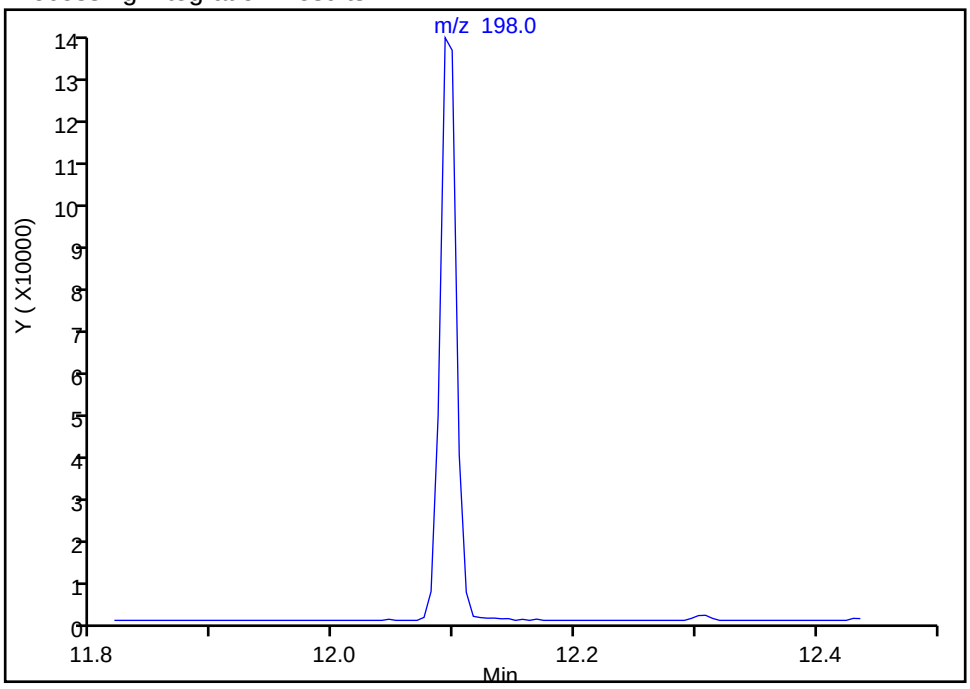
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

93 4,6-Dinitro-2-methylphenol, CAS: 534-52-1

Signal: 1

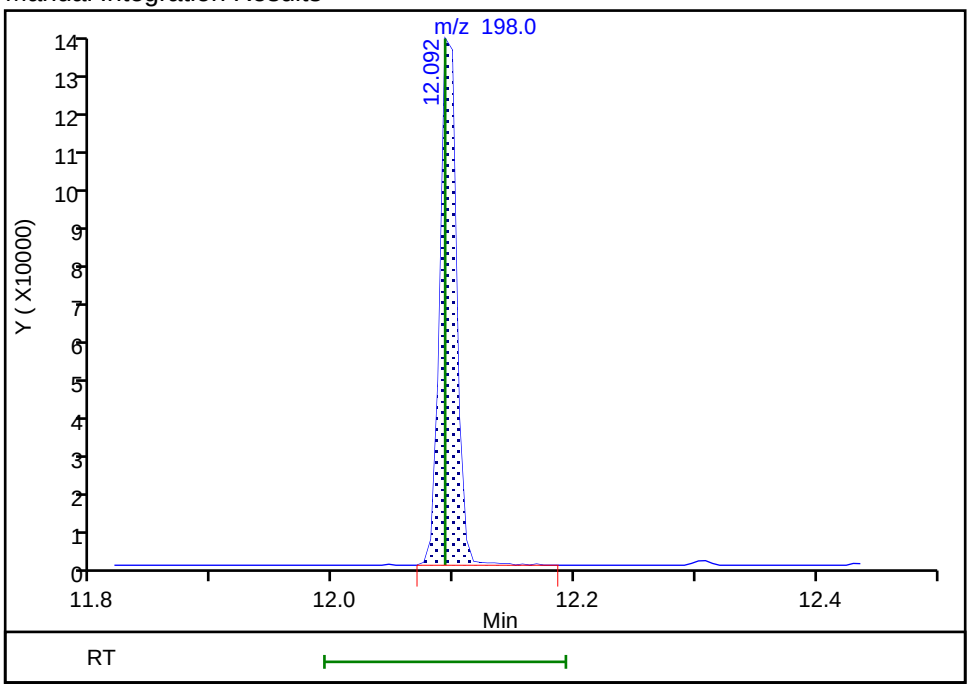
Processing Integration Results

Not Detected
Expected RT: 12.09



Manual Integration Results

RT: 12.09
Area: 133449
Amount: 7.023540
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:48:26
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

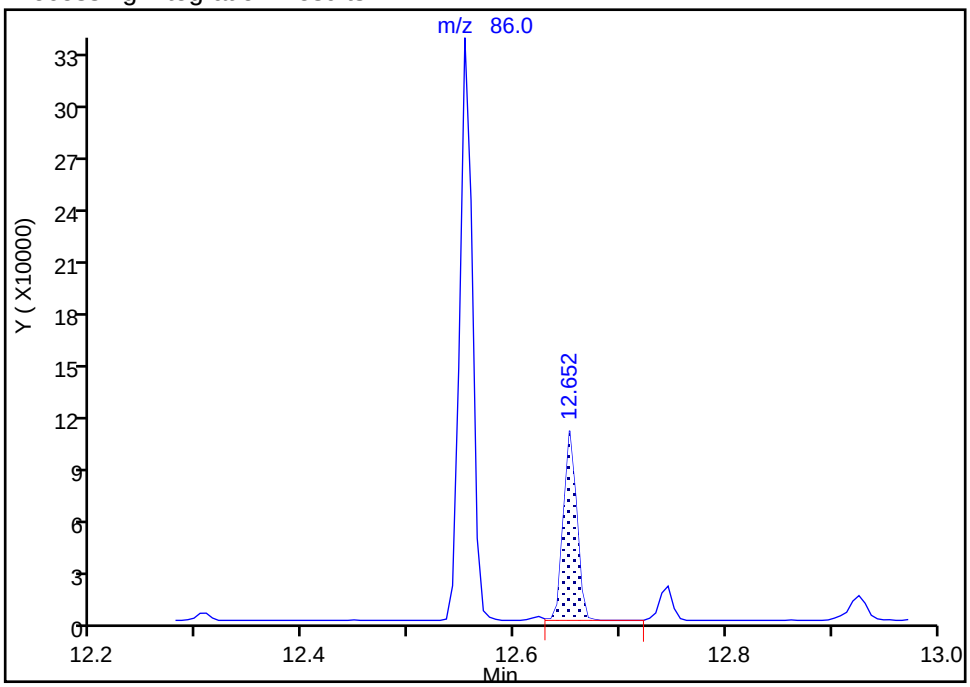
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

98 cis-Diallate, CAS: 17708-57-5

Signal: 1

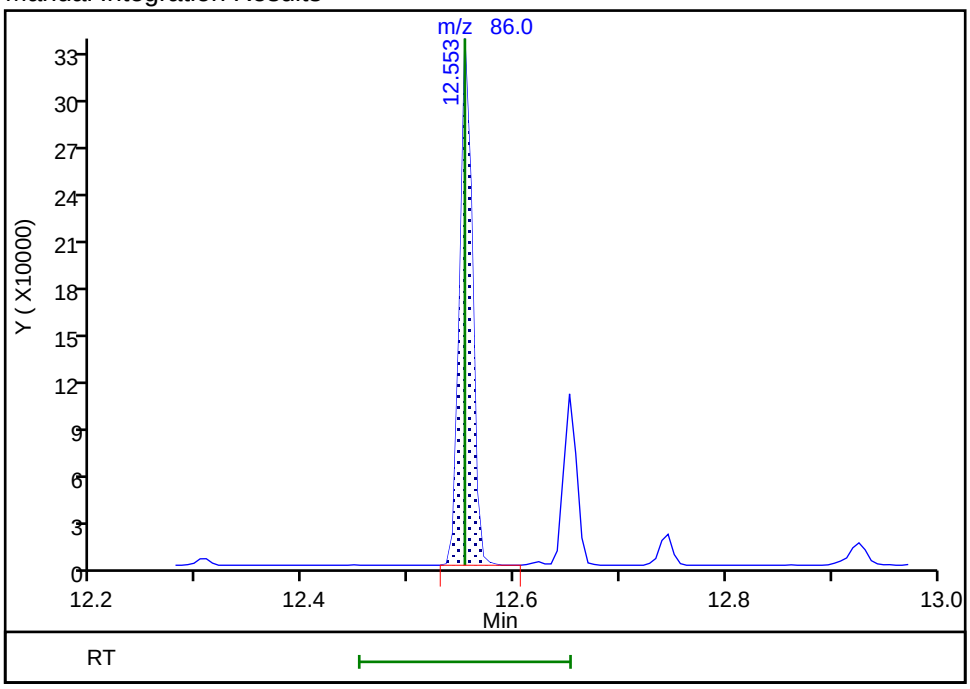
Processing Integration Results

RT: 12.65
Area: 94779
Amount: 5.550000
Amount Units: ug/ml



Manual Integration Results

RT: 12.55
Area: 280185
Amount: 5.343706
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:41:08

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

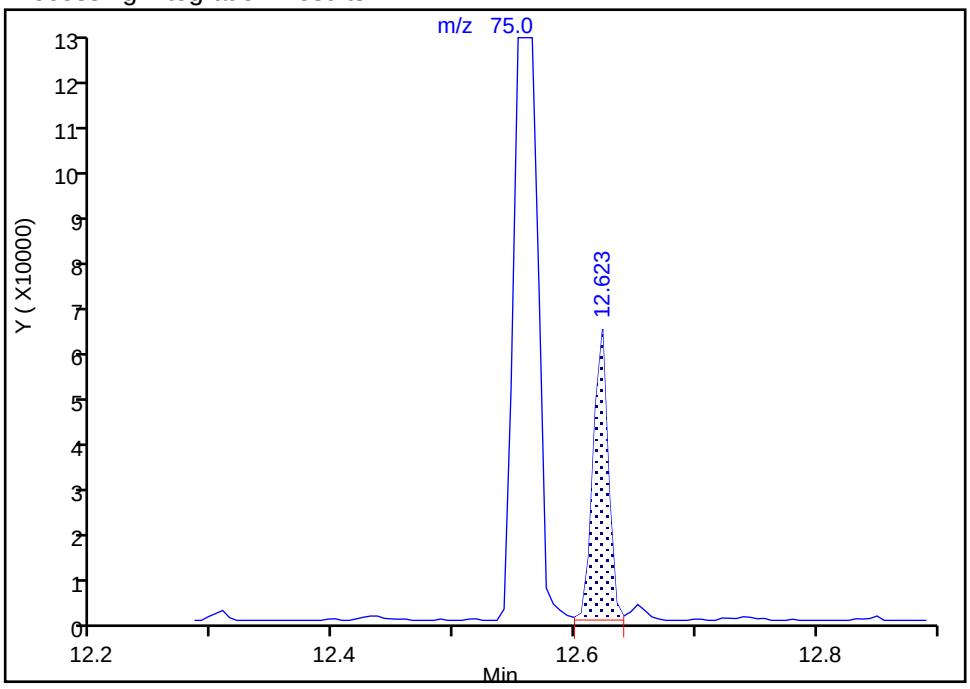
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

99 Phorate, CAS: 298-02-2

Signal: 1

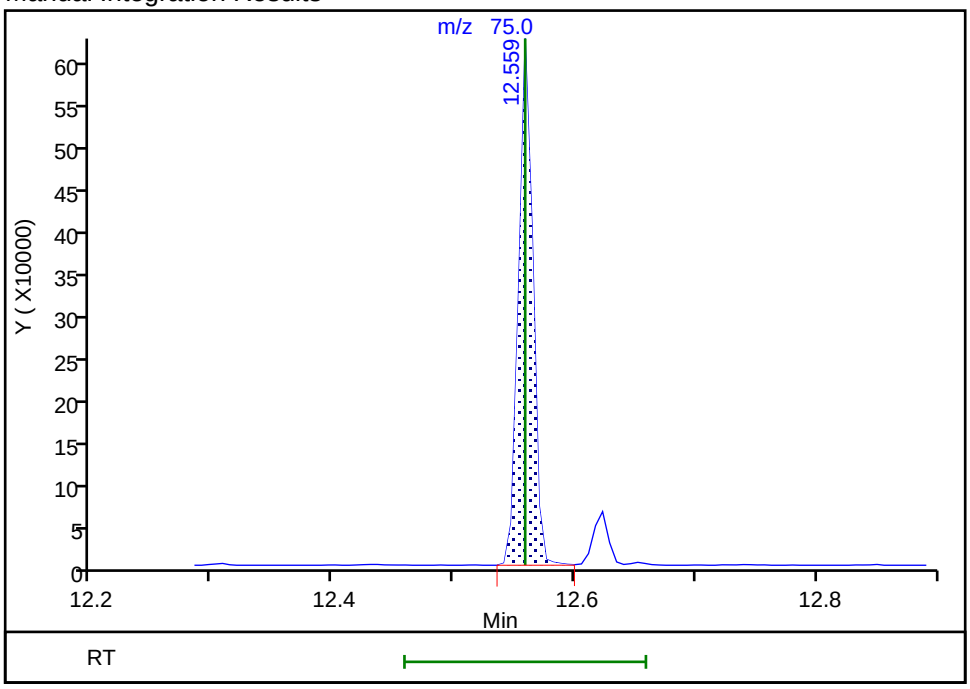
Processing Integration Results

RT: 12.62
Area: 54927
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 12.56
Area: 513192
Amount: 6.796545
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:41:00

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

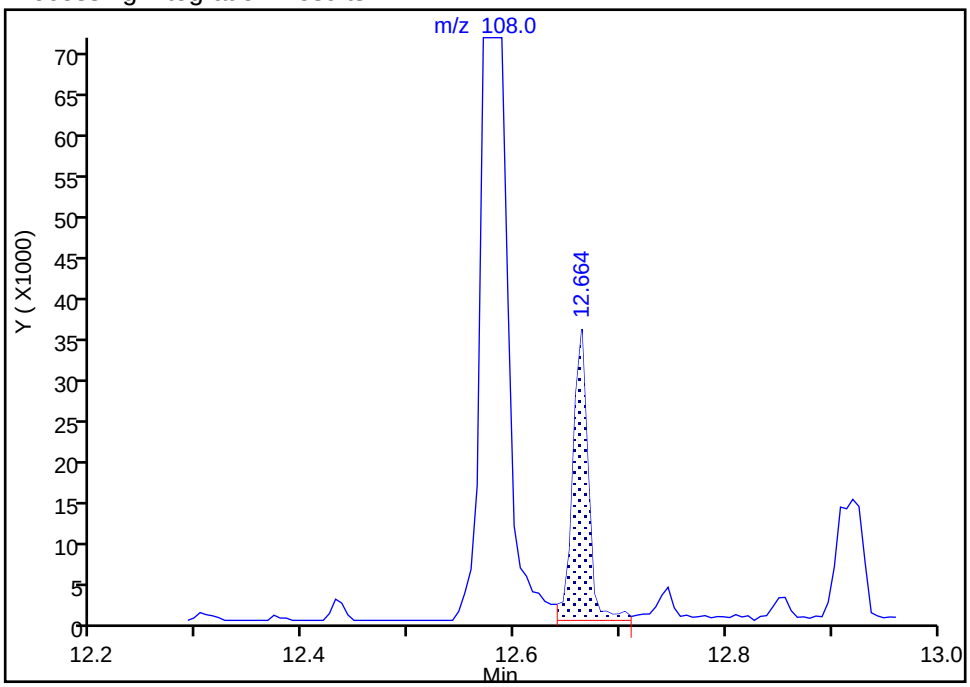
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

100 Phenacetin, CAS: 62-44-2

Signal: 1

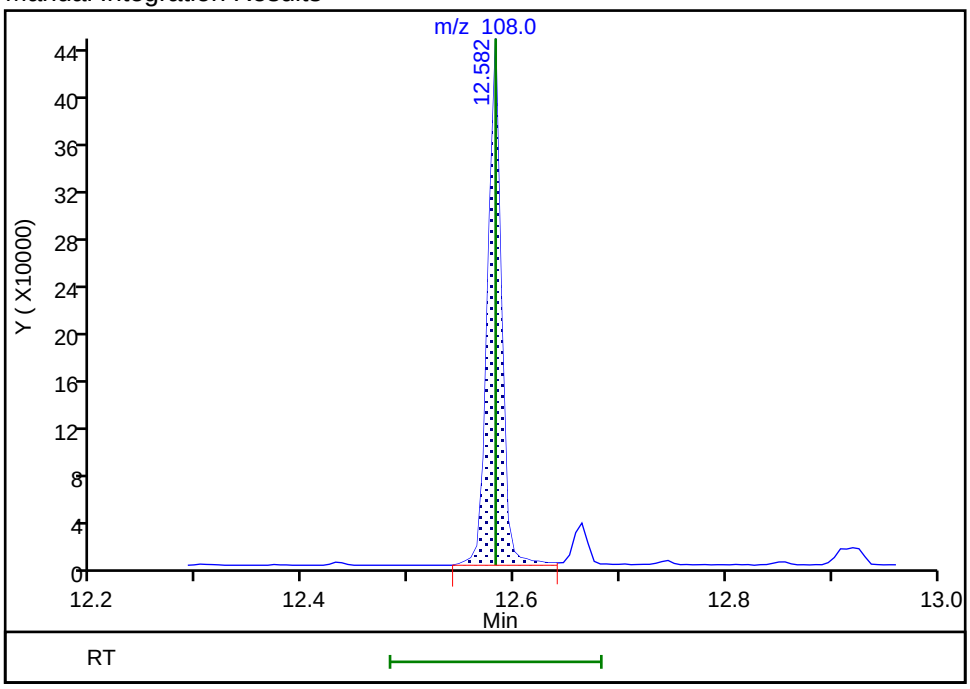
Processing Integration Results

RT: 12.66
Area: 35575
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 12.58
Area: 398920
Amount: 7.379319
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:41:17

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

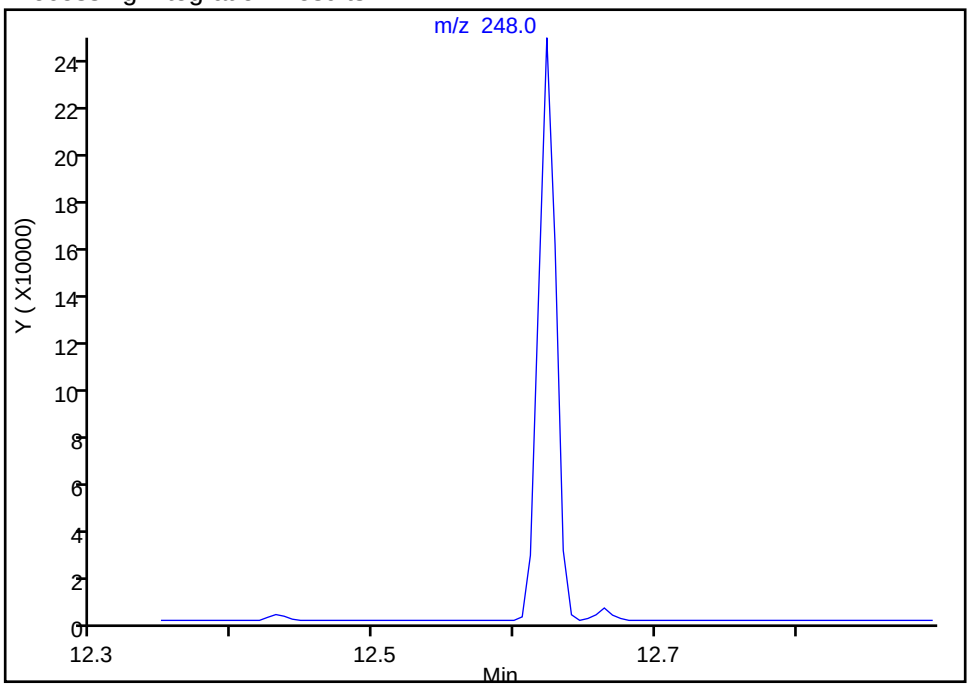
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

101 4-Bromophenyl phenyl ether, CAS: 101-55-3

Signal: 1

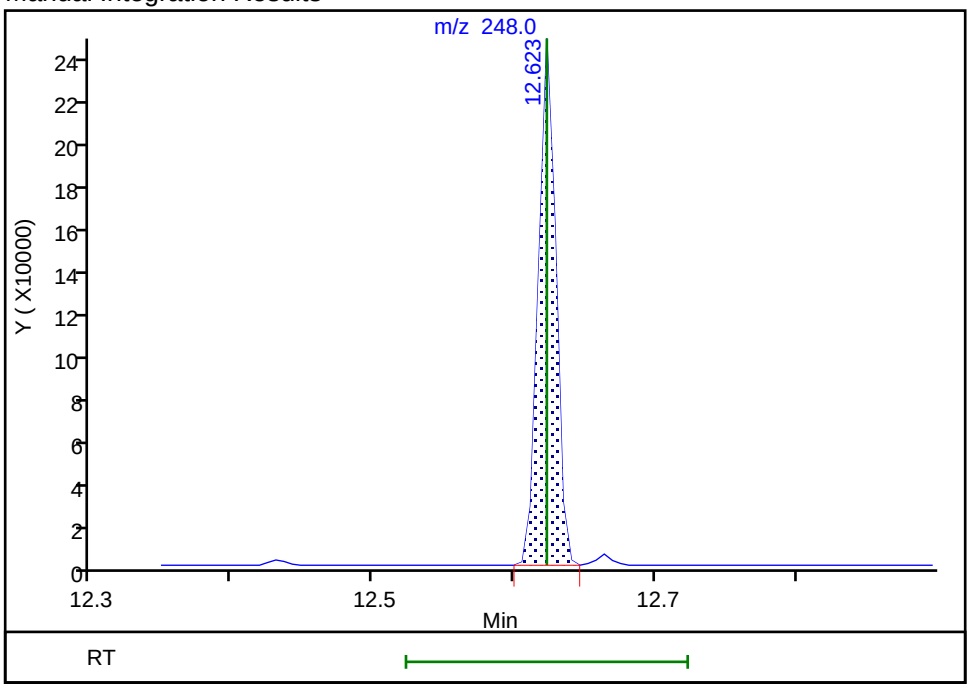
Not Detected
Expected RT: 12.62

Processing Integration Results



Manual Integration Results

RT: 12.62
Area: 206919
Amount: 7.563169
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:48:33
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

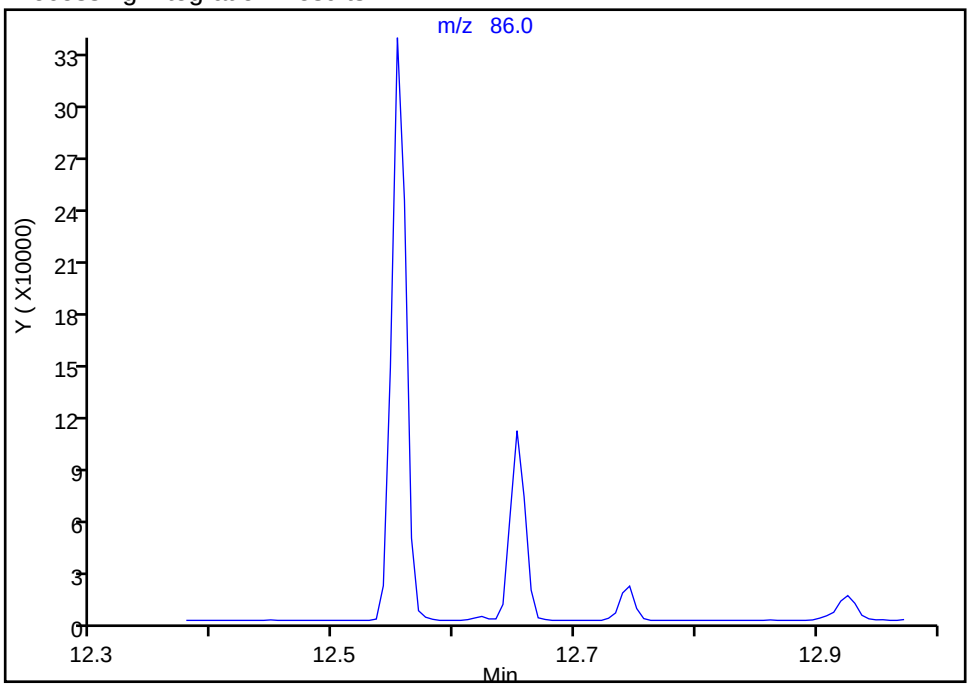
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

102 trans-Diallate, CAS: 17708-58-6

Signal: 1

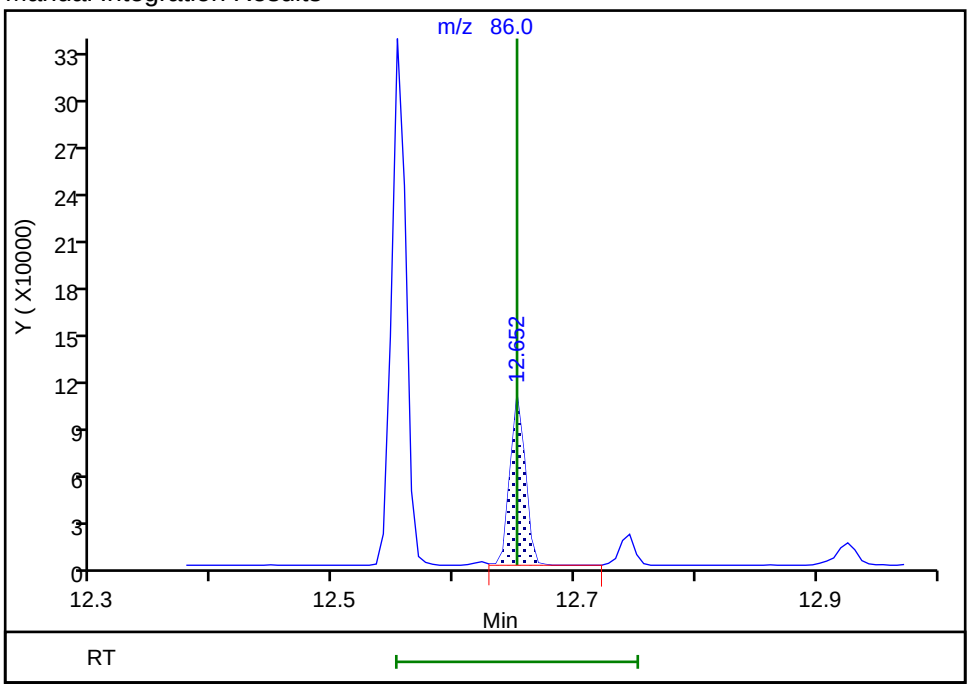
Not Detected
Expected RT: 12.65

Processing Integration Results



Manual Integration Results

RT: 12.65
Area: 94779
Amount: 1.882184
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:48:37
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

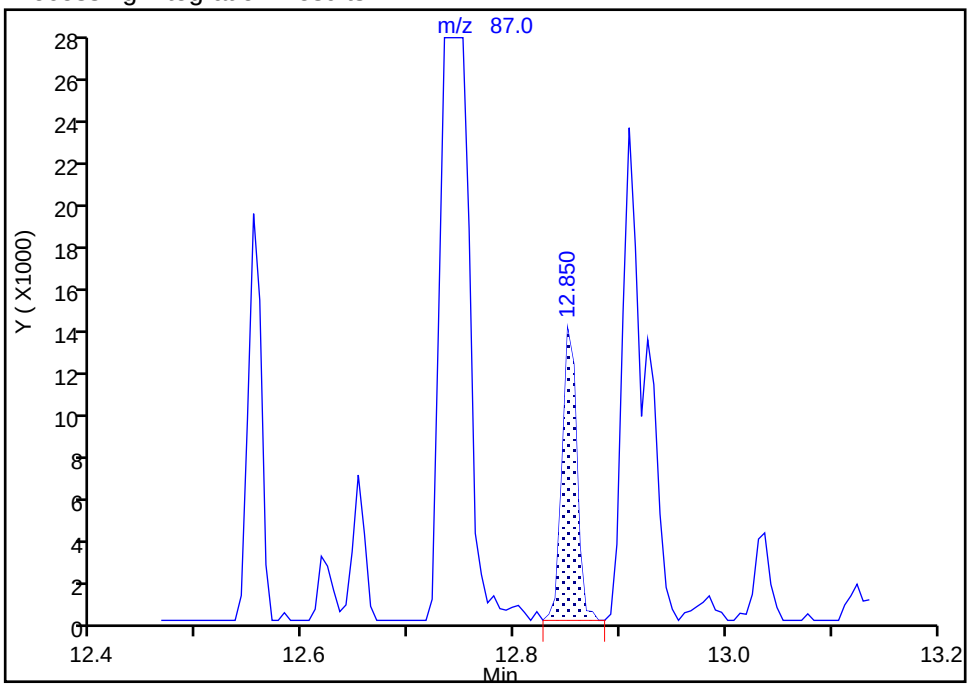
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

104 Dimethoate, CAS: 60-51-5

Signal: 1

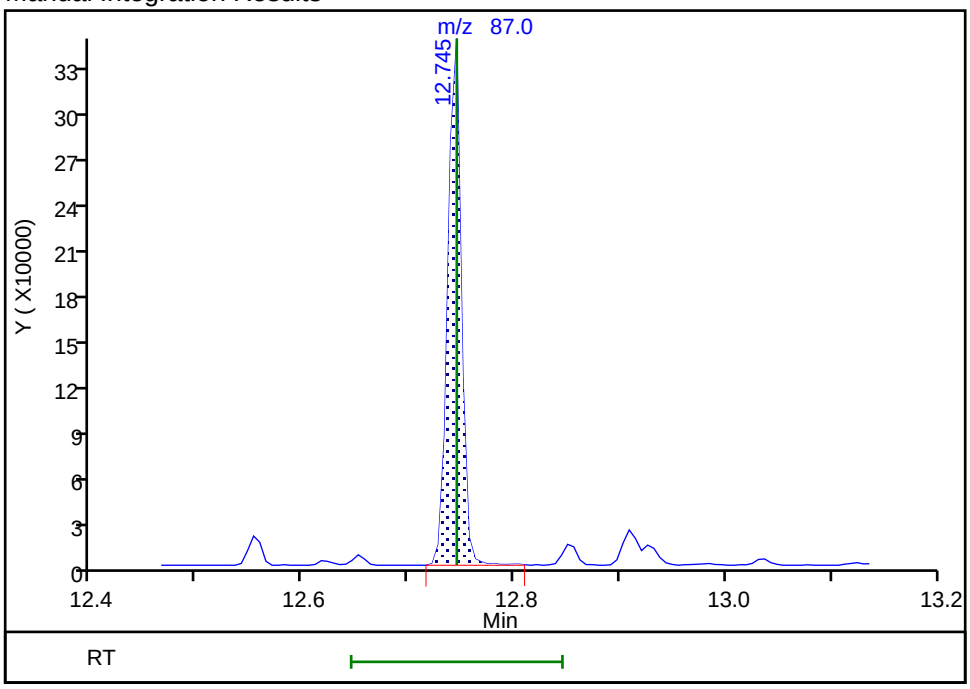
Processing Integration Results

RT: 12.85
Area: 13200
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 12.75
Area: 304256
Amount: 7.340184
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:41:24

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

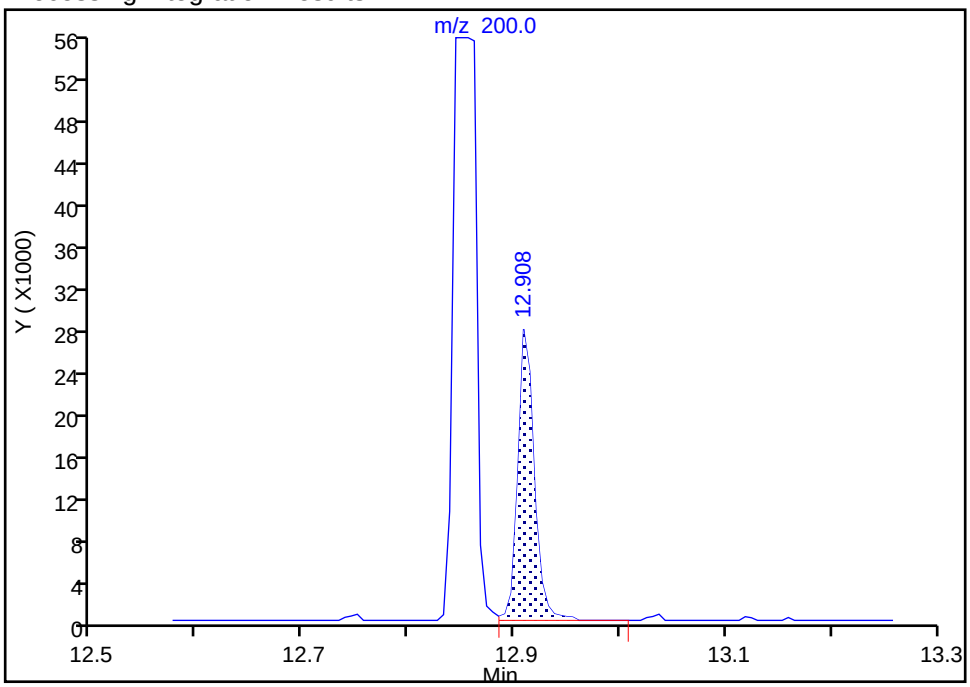
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

105 Atrazine, CAS: 1912-24-9

Signal: 1

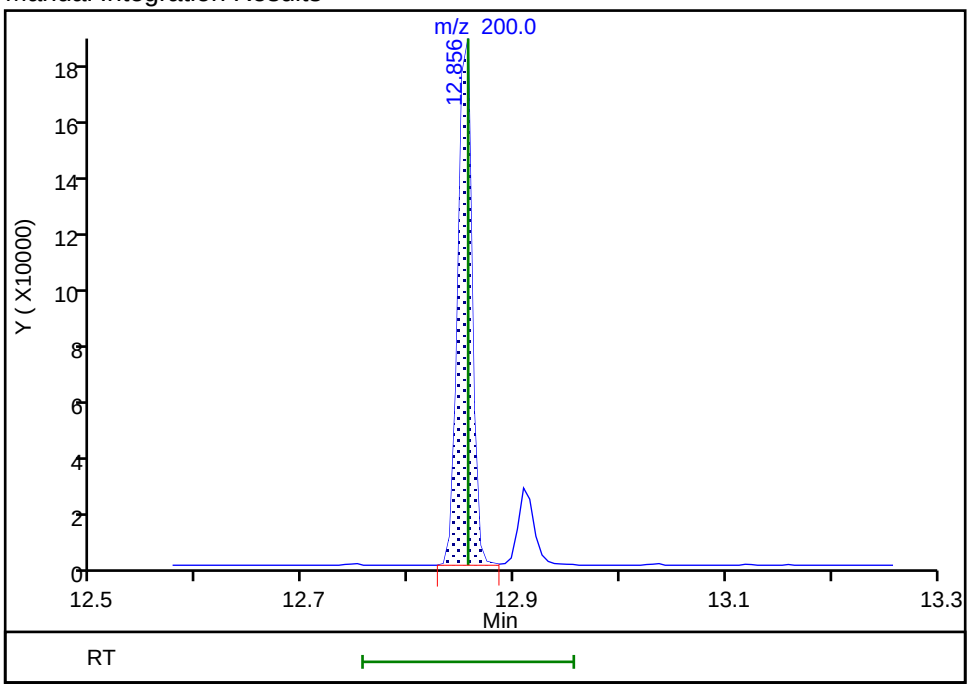
Processing Integration Results

RT: 12.91
Area: 29761
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 12.86
Area: 176803
Amount: 6.839926
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:41:30

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

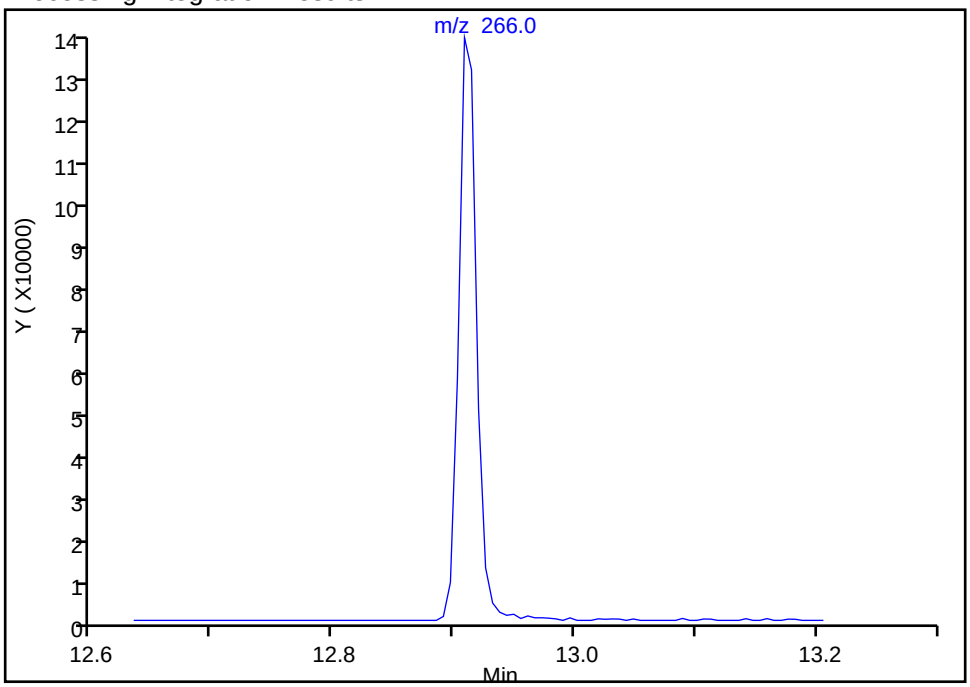
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

106 Pentachlorophenol, CAS: 87-86-5

Signal: 1

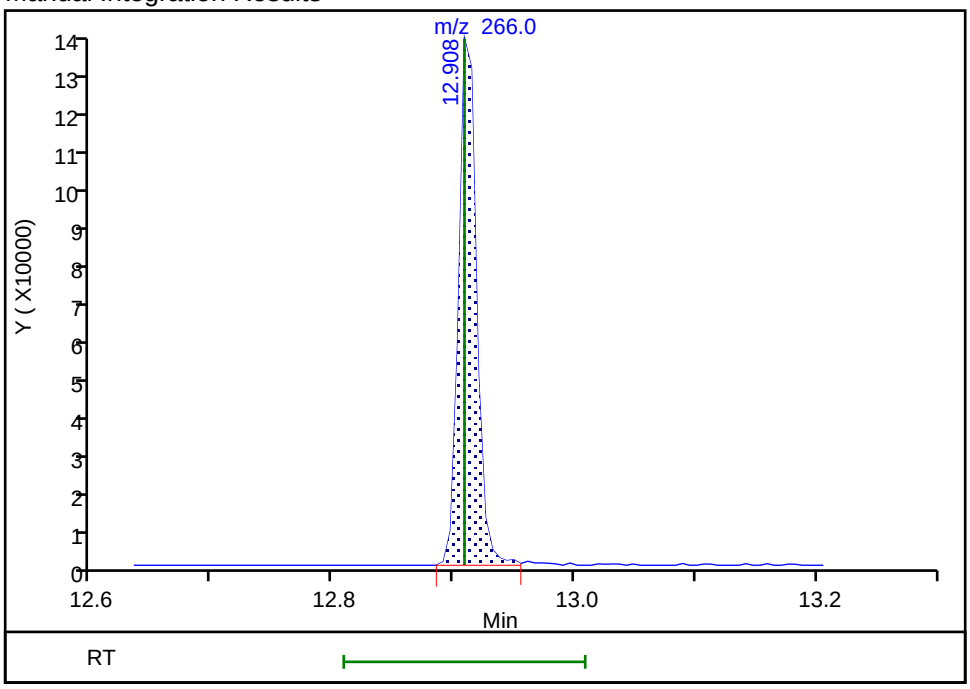
Not Detected
Expected RT: 12.91

Processing Integration Results



Manual Integration Results

RT: 12.91
Area: 139819
Amount: 7.295281
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:48:42
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

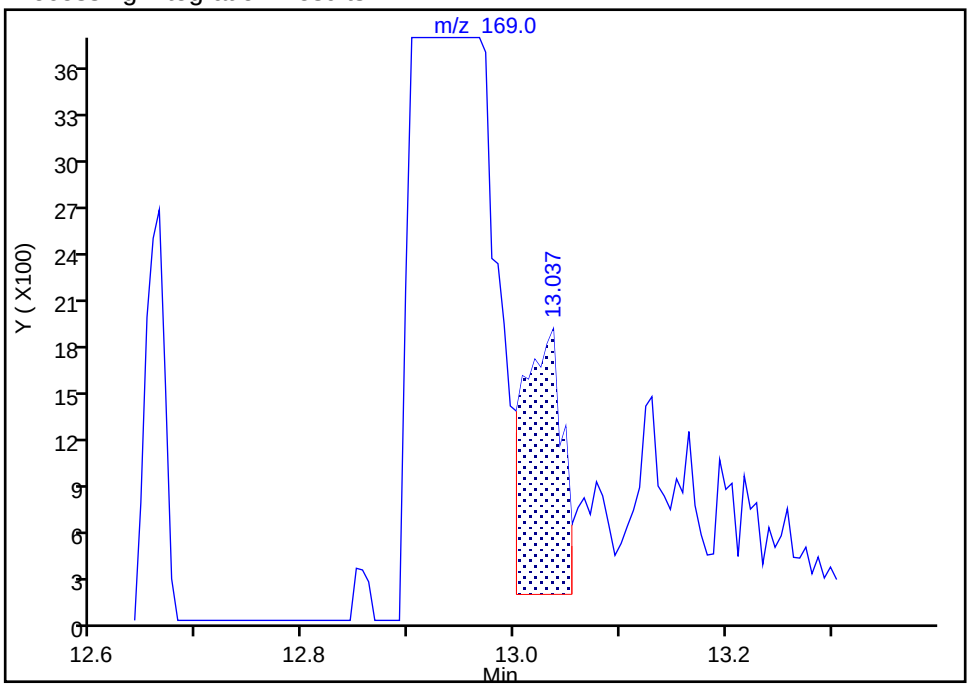
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D		
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760
Lims ID:	ICIS L5		
Client ID:			
Operator ID:	lmh00956	ALS Bottle#:	2 Worklist Smp#: 2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

108 4-Aminobiphenyl, CAS: 92-67-1

Signal: 1

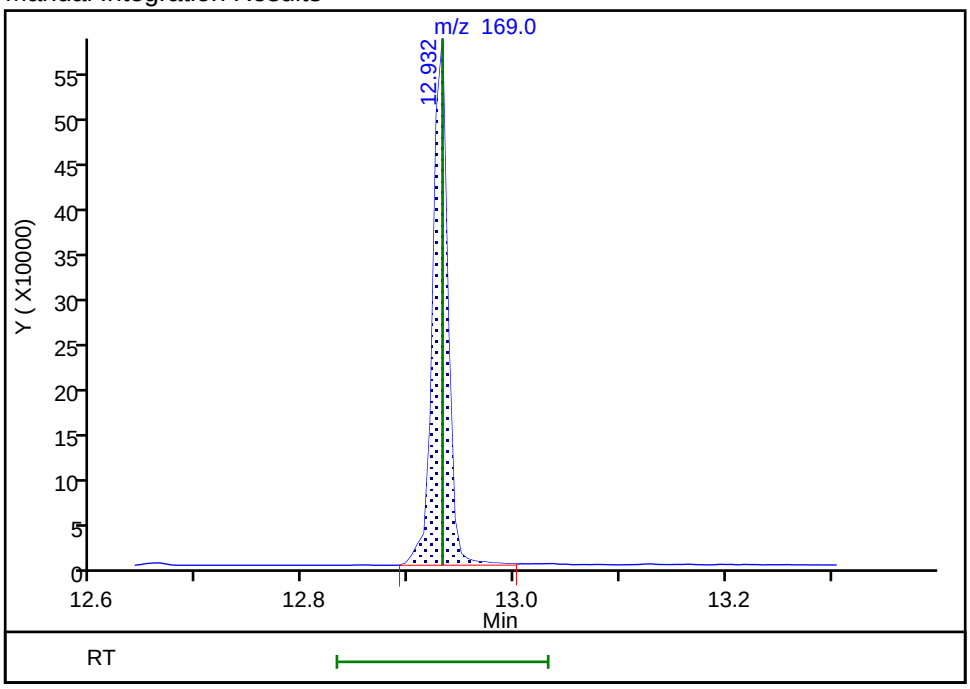
Processing Integration Results

RT: 13.04
Area: 4198
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 12.93
Area: 585219
Amount: 7.784301
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:41:40

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

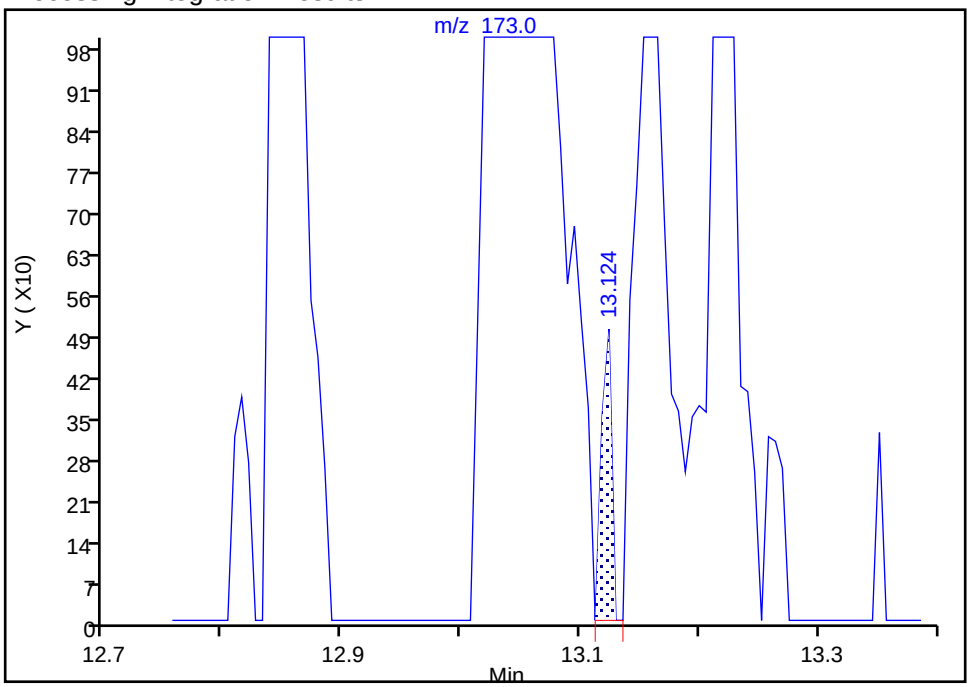
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

109 Pronamide, CAS: 23950-58-5

Signal: 1

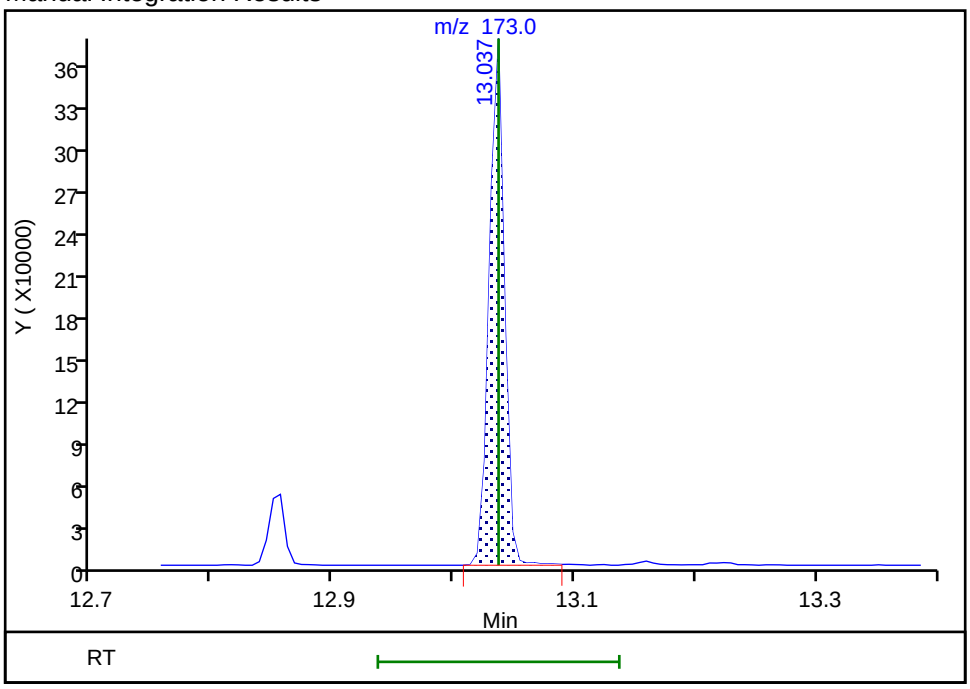
Processing Integration Results

RT: 13.12
Area: 296
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 13.04
Area: 321259
Amount: 7.315822
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:41:46

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

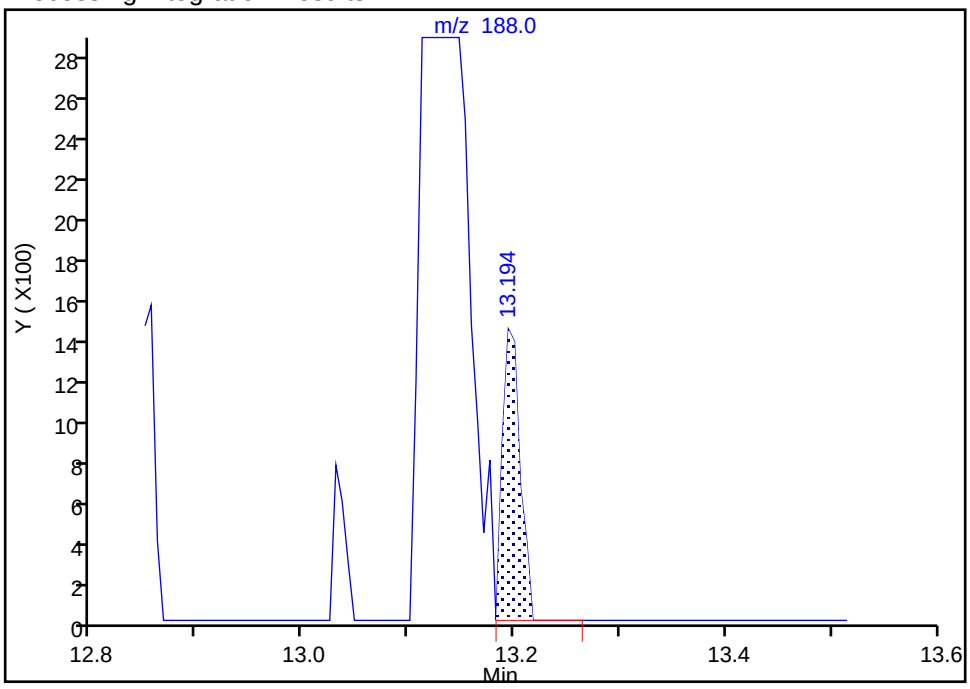
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

* 110 Phenanthrene-d10, CAS: 1517-22-2

Signal: 1

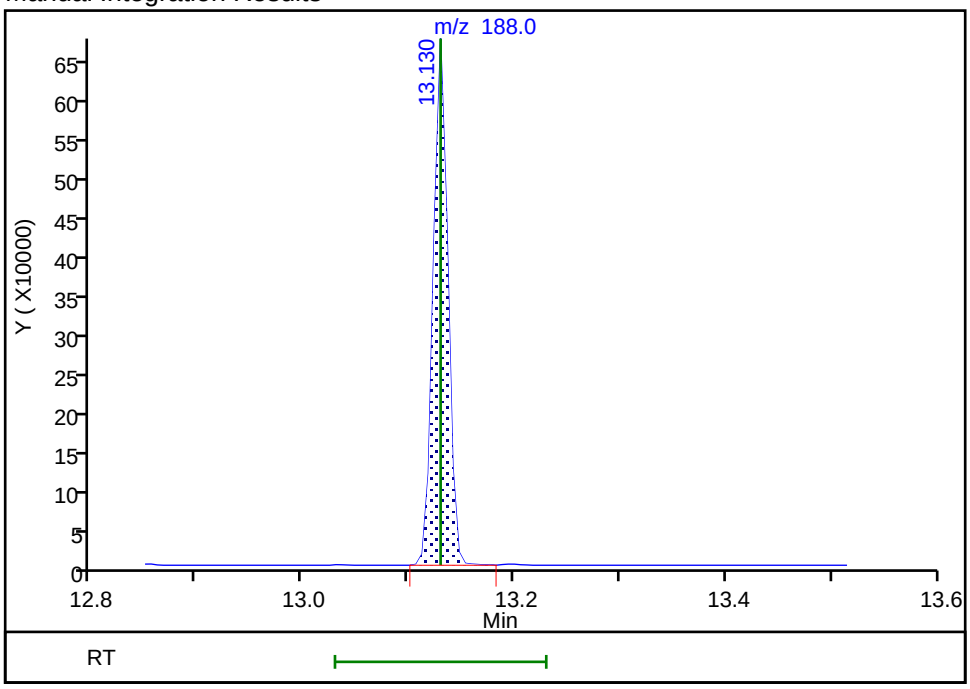
Processing Integration Results

RT: 13.19
Area: 1668
Amount: 5.000000
Amount Units: ug/ml



Manual Integration Results

RT: 13.13
Area: 642951
Amount: 5.000000
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:41:53

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

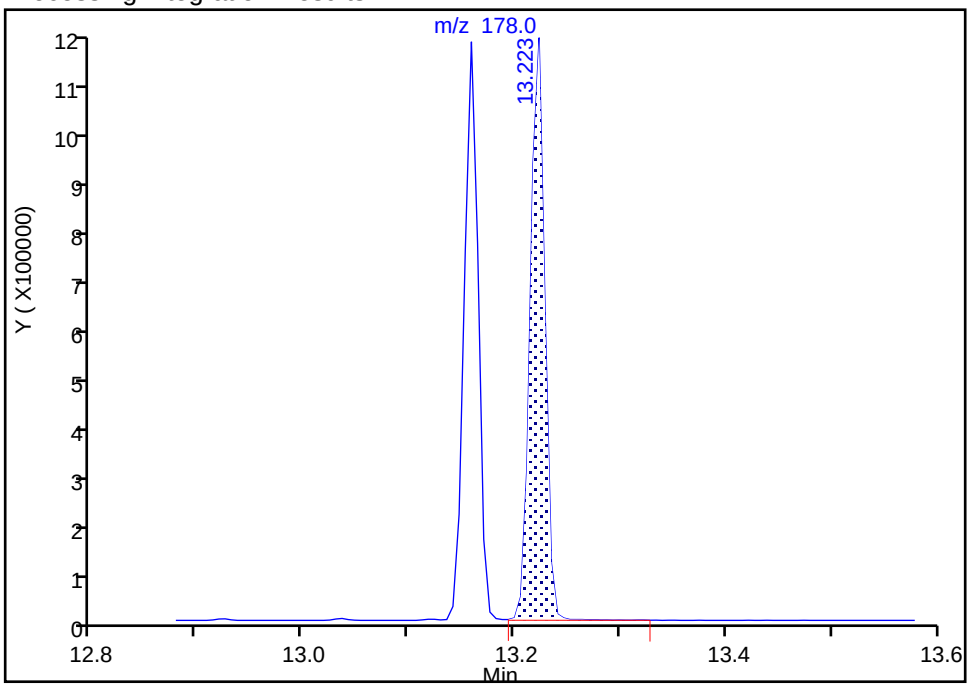
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

112 Phenanthrene, CAS: 85-01-8

Signal: 1

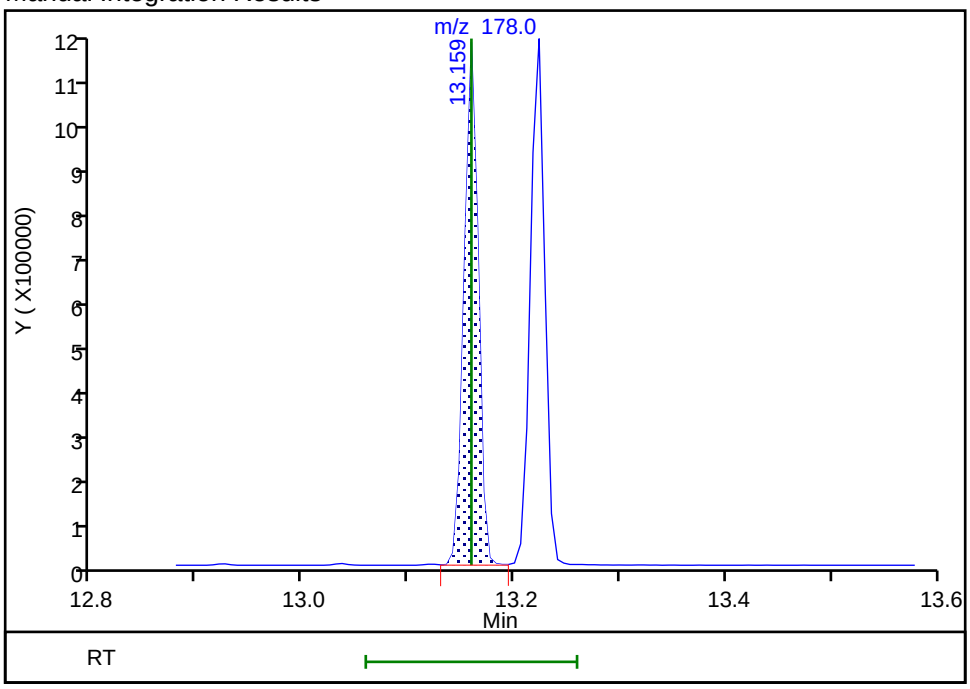
Processing Integration Results

RT: 13.22
Area: 1126957
Amount: 0.058410
Amount Units: ug/ml



Manual Integration Results

RT: 13.16
Area: 1089818
Amount: 7.337201
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:41:58

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

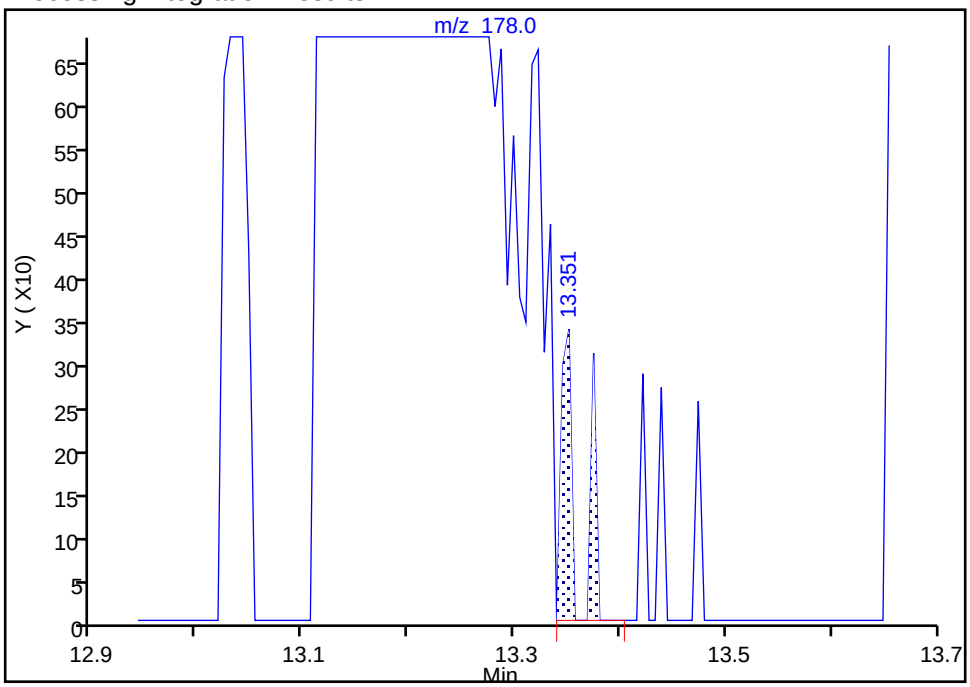
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

113 Anthracene, CAS: 120-12-7

Signal: 1

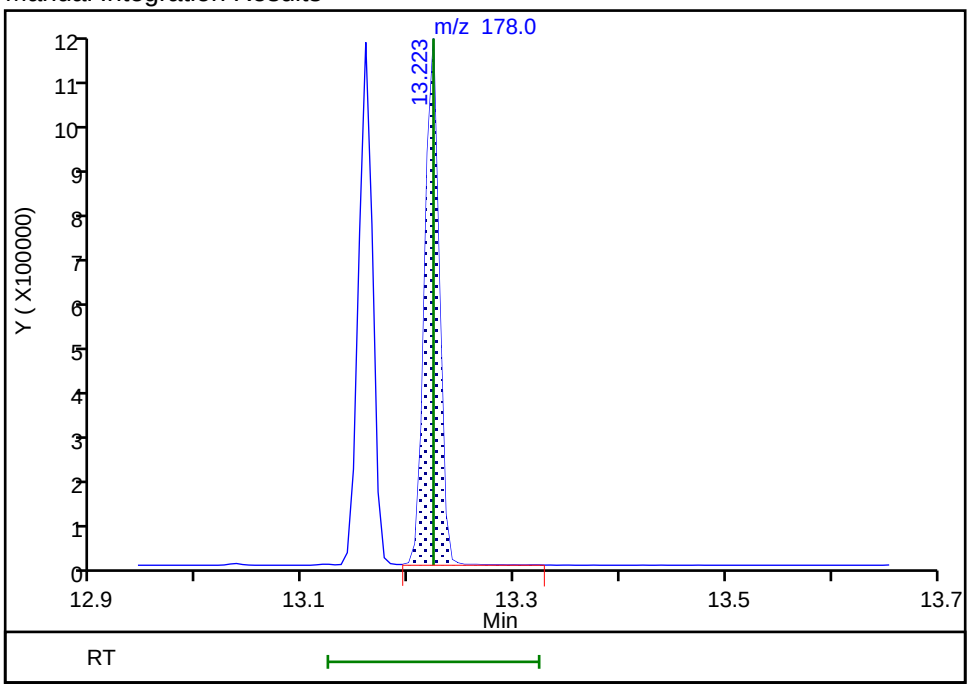
Processing Integration Results

RT: 13.35
Area: 331
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 13.22
Area: 1128622
Amount: 7.938053
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:42:04

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

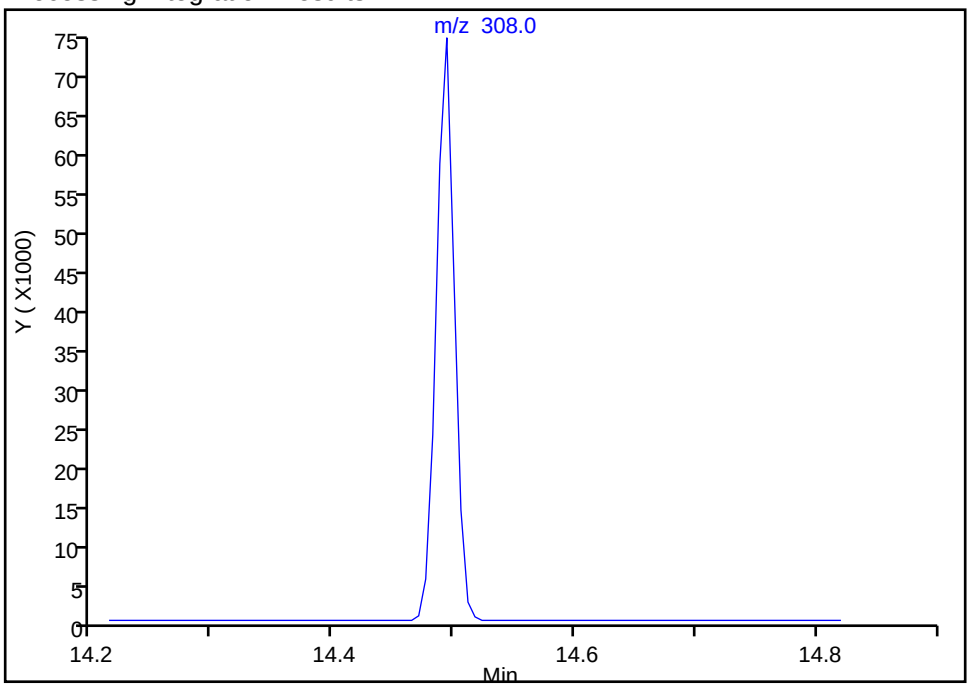
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

119 Octachlorostyrene, CAS: 29082-74-4

Signal: 1

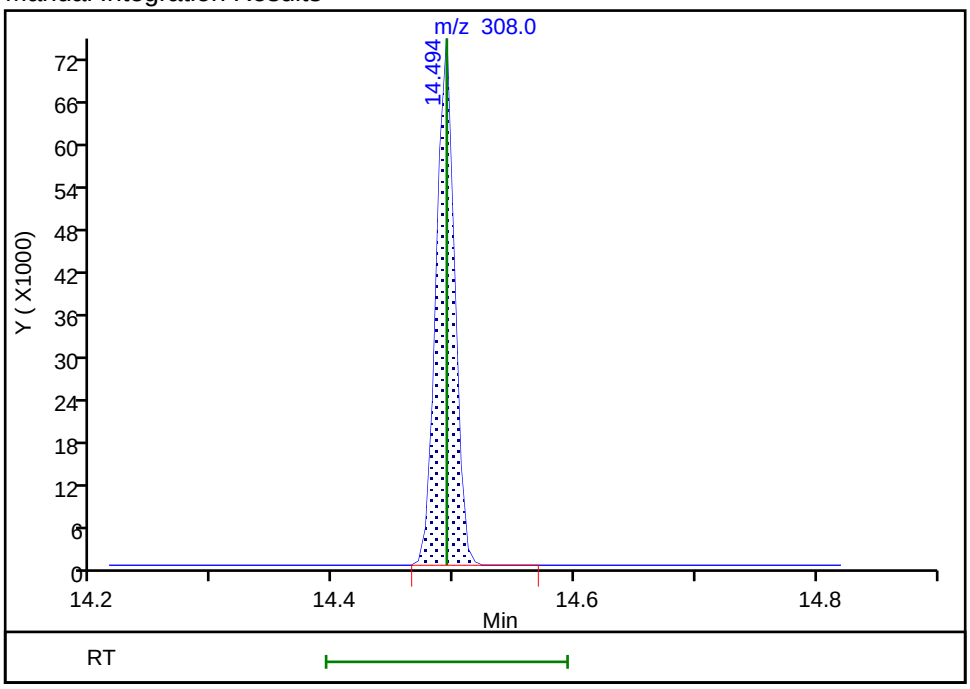
Not Detected
Expected RT: 14.49

Processing Integration Results



Manual Integration Results

RT: 14.49
Area: 77809
Amount: 7.094130
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:48:46
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

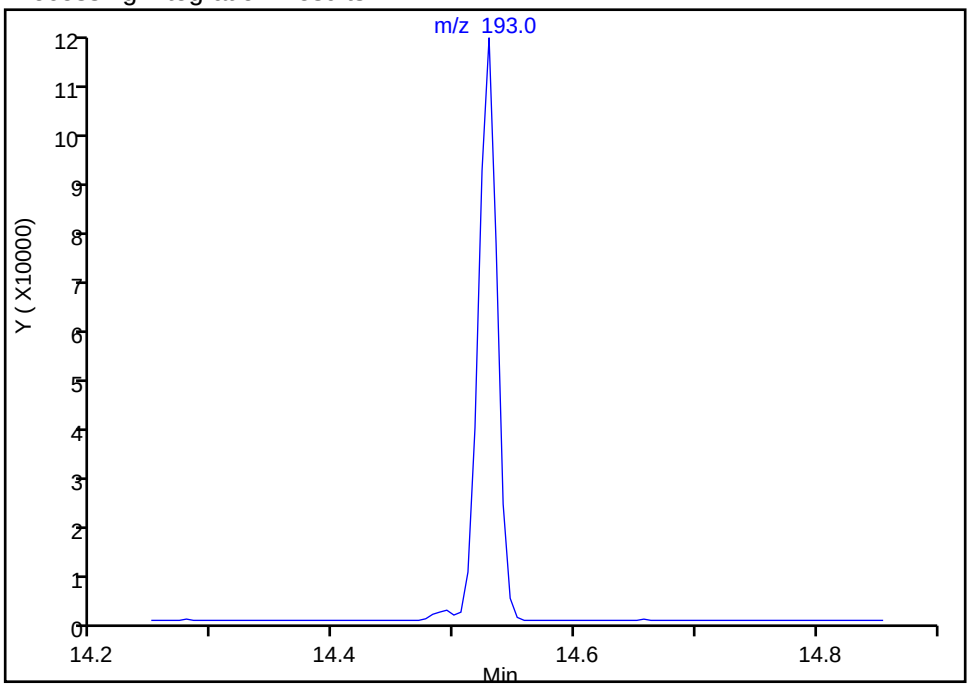
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

120 Isodrin, CAS: 465-73-6

Signal: 1

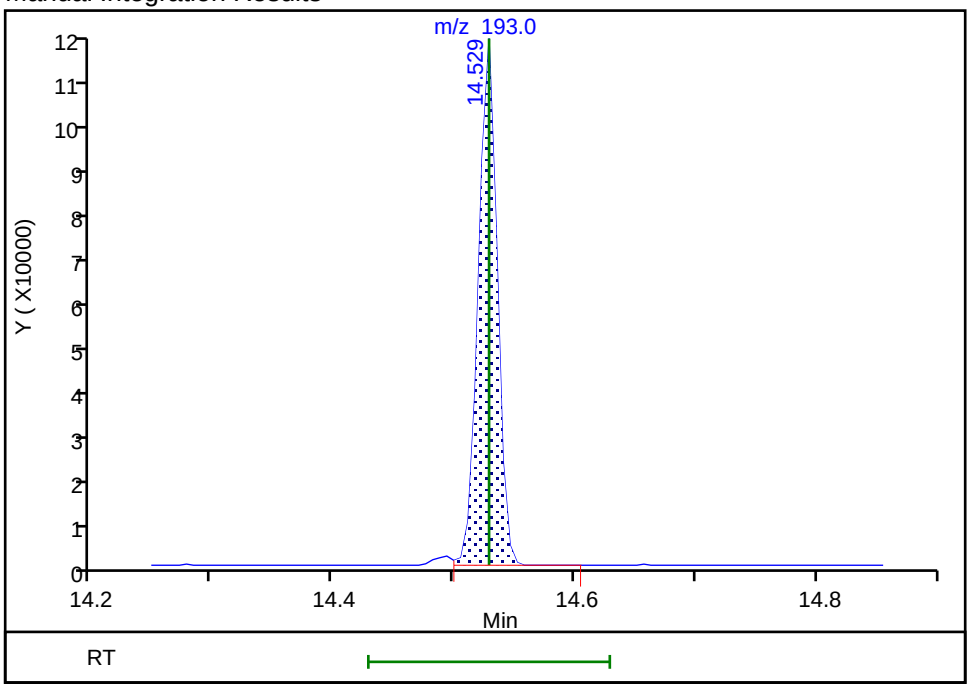
Not Detected
Expected RT: 14.53

Processing Integration Results



Manual Integration Results

RT: 14.53
Area: 126922
Amount: 7.432149
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:48:50
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

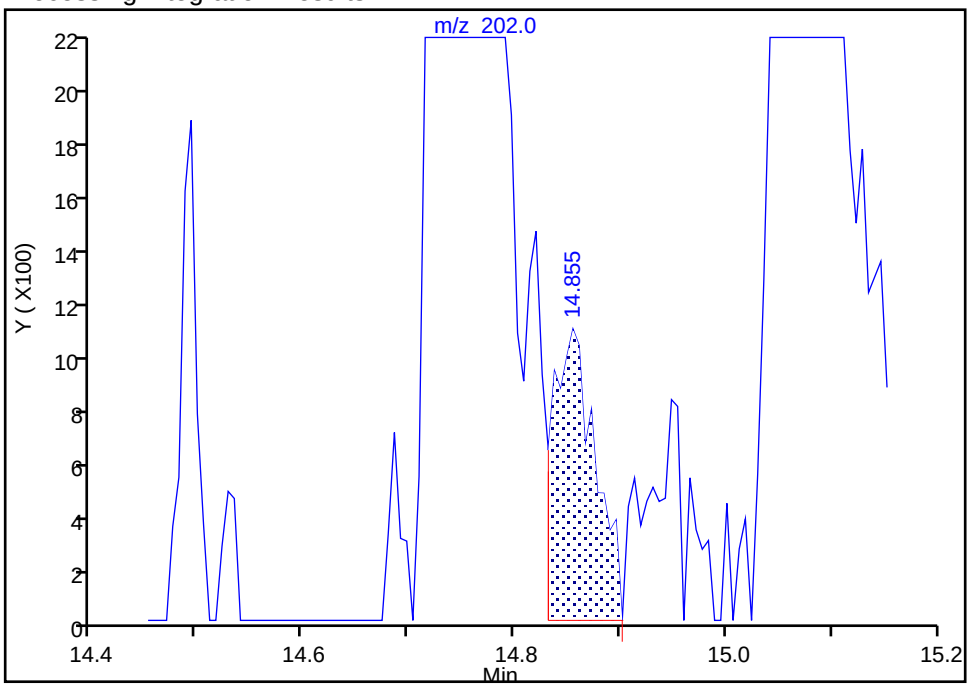
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

121 Fluoranthene, CAS: 206-44-0

Signal: 1

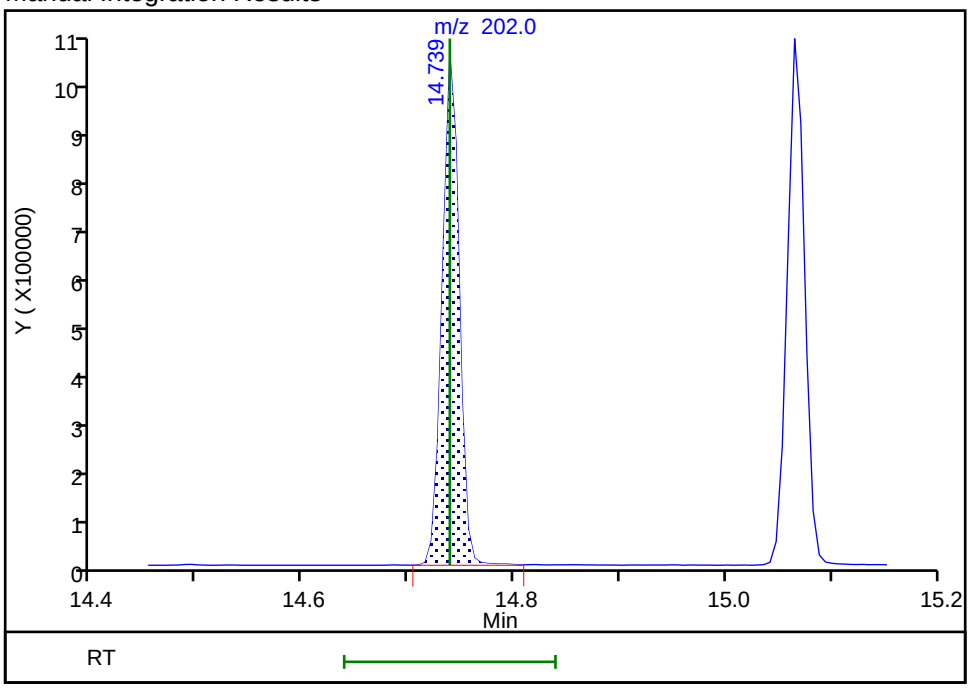
Processing Integration Results

RT: 14.86
Area: 2861
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 14.74
Area: 1176836
Amount: 7.842177
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:42:15

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

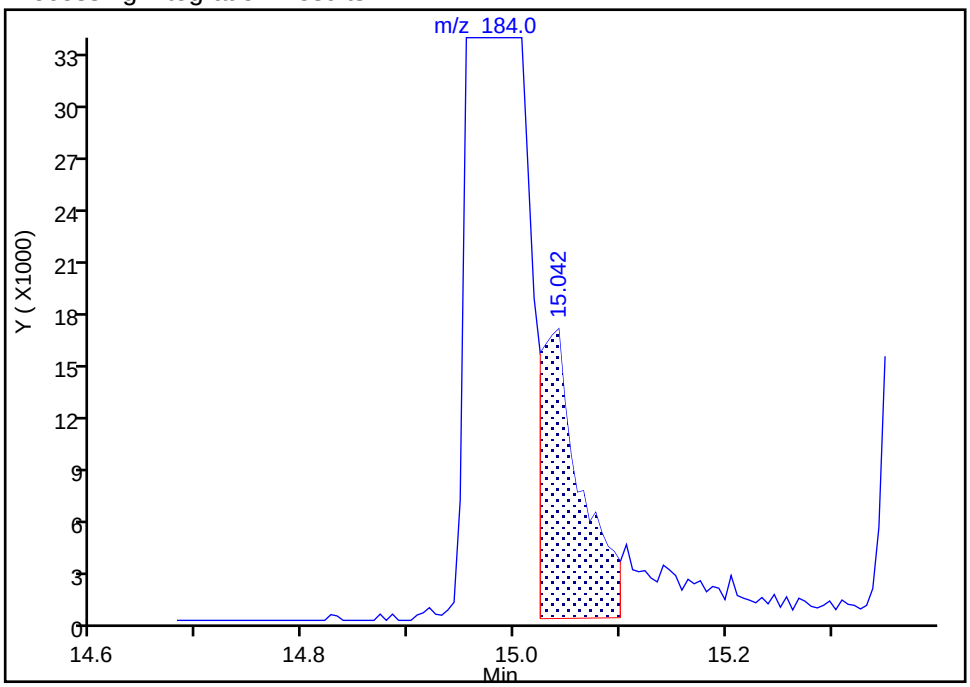
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

122 Benzidine, CAS: 92-87-5

Signal: 1

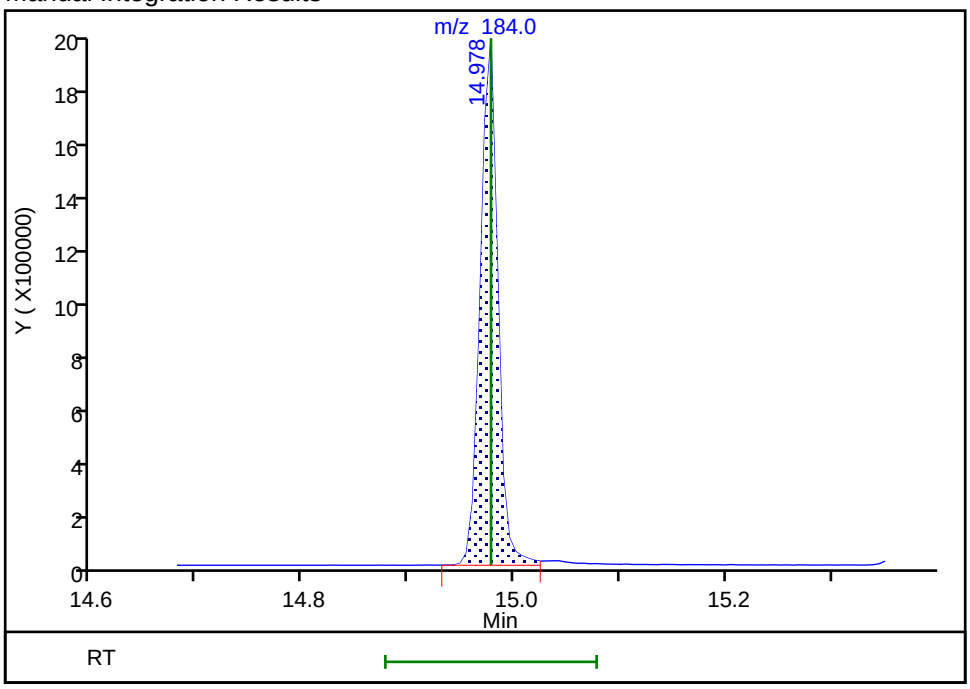
Processing Integration Results

RT: 15.04
Area: 40912
Amount: 0
Amount Units: ug/ml



Manual Integration Results

RT: 14.98
Area: 2218138
Amount: 20.581801
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:42:19

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

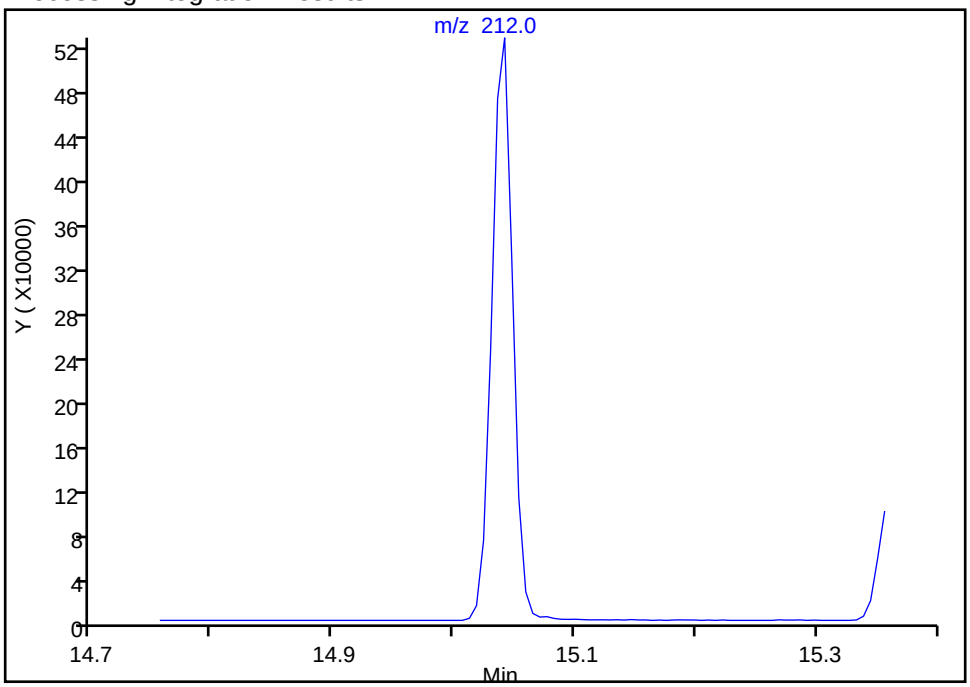
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

* 123 Pyrene-d10 (IS), CAS: 1718-52-1

Signal: 1

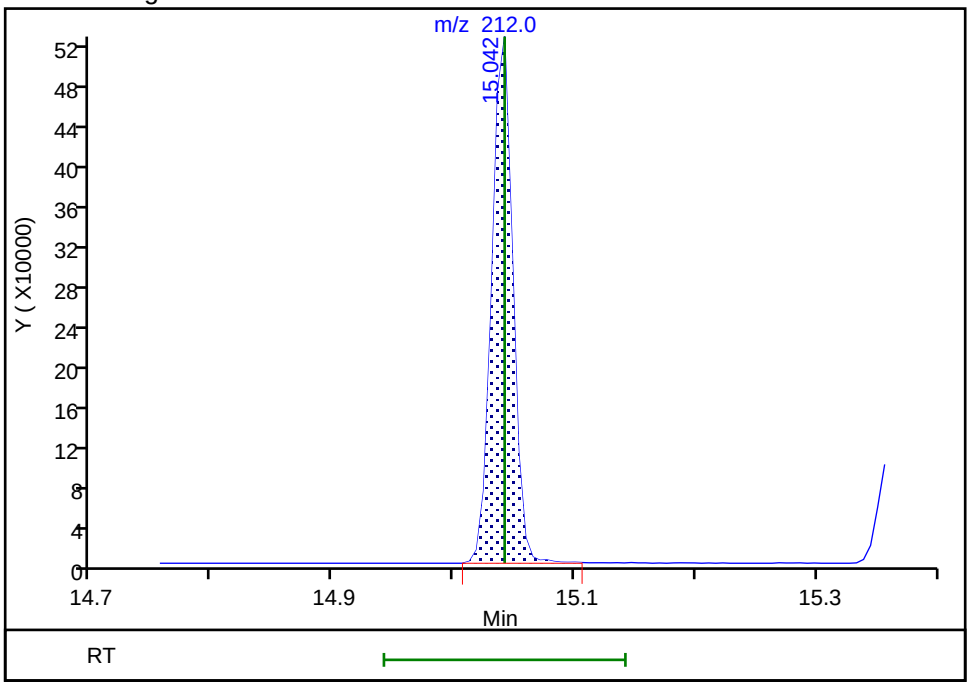
Not Detected
Expected RT: 15.04

Processing Integration Results



Manual Integration Results

RT: 15.04
Area: 632828
Amount: 5.000000
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:42:25
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

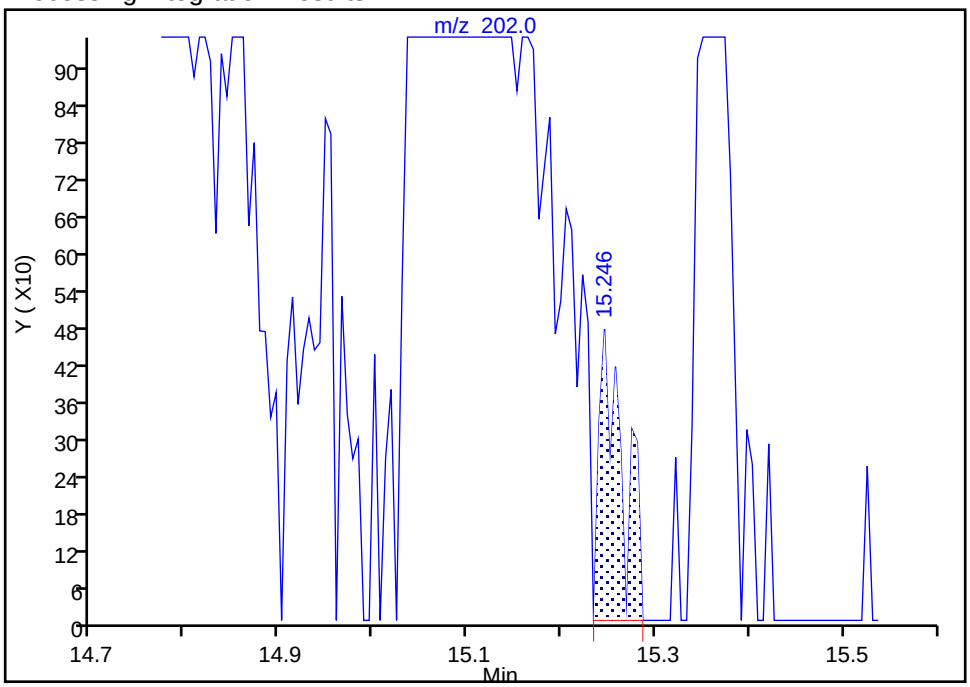
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

124 Pyrene, CAS: 129-00-0

Signal: 1

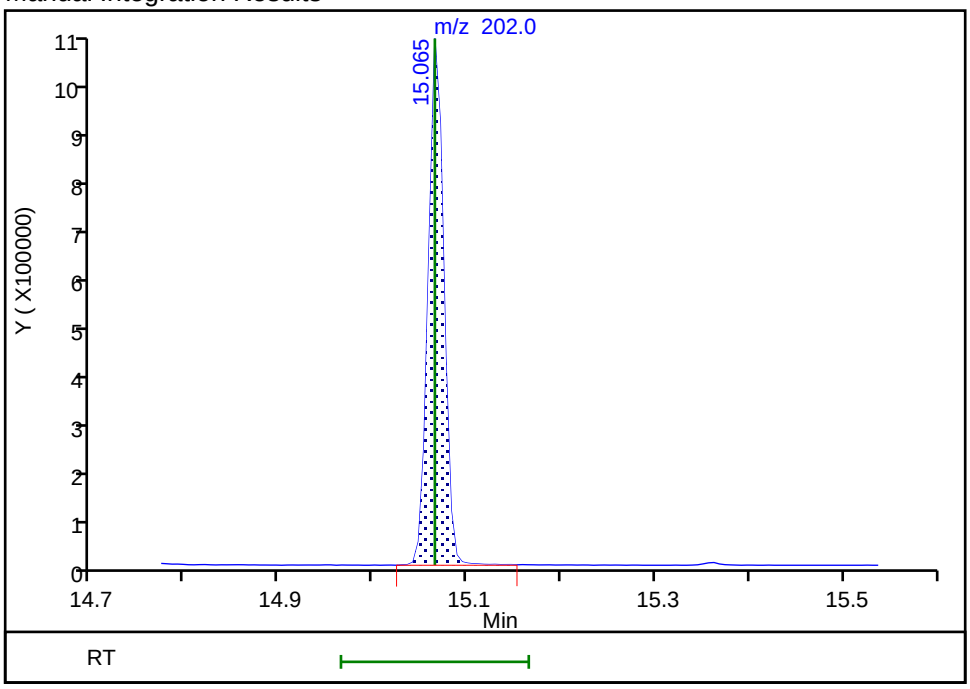
Processing Integration Results

RT: 15.25
Area: 813
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 15.07
Area: 1251983
Amount: 7.462070
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:42:30

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

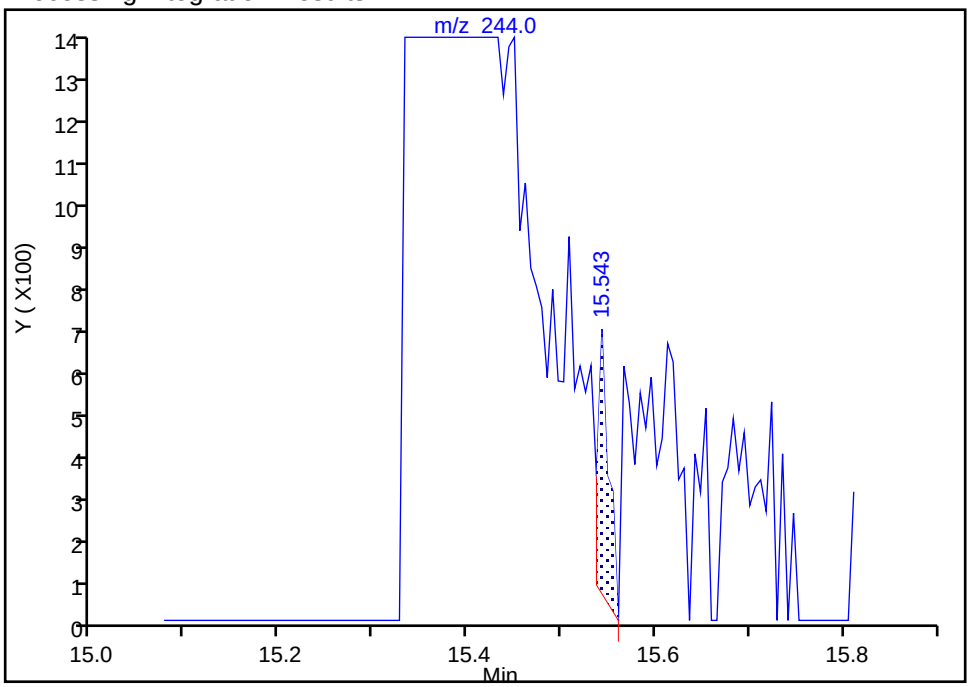
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

$ 125 p-Terphenyl-d14, CAS: 1718-51-0

Signal: 1

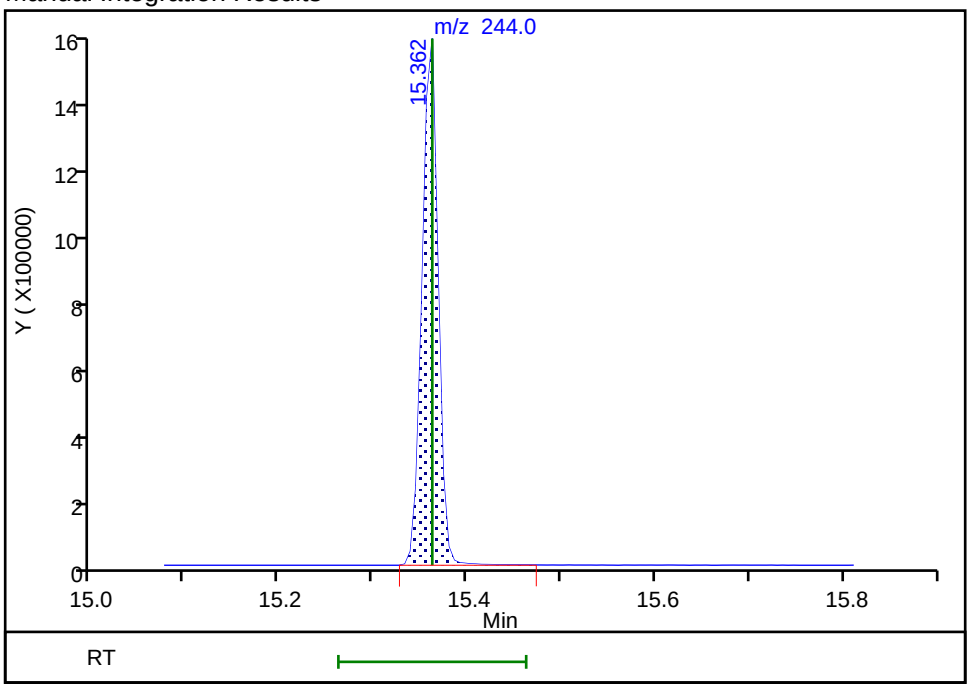
Processing Integration Results

RT: 15.54
Area: 465
Amount: 15.000000
Amount Units: ug/ml



Manual Integration Results

RT: 15.36
Area: 1789948
Amount: 14.746277
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:42:35

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

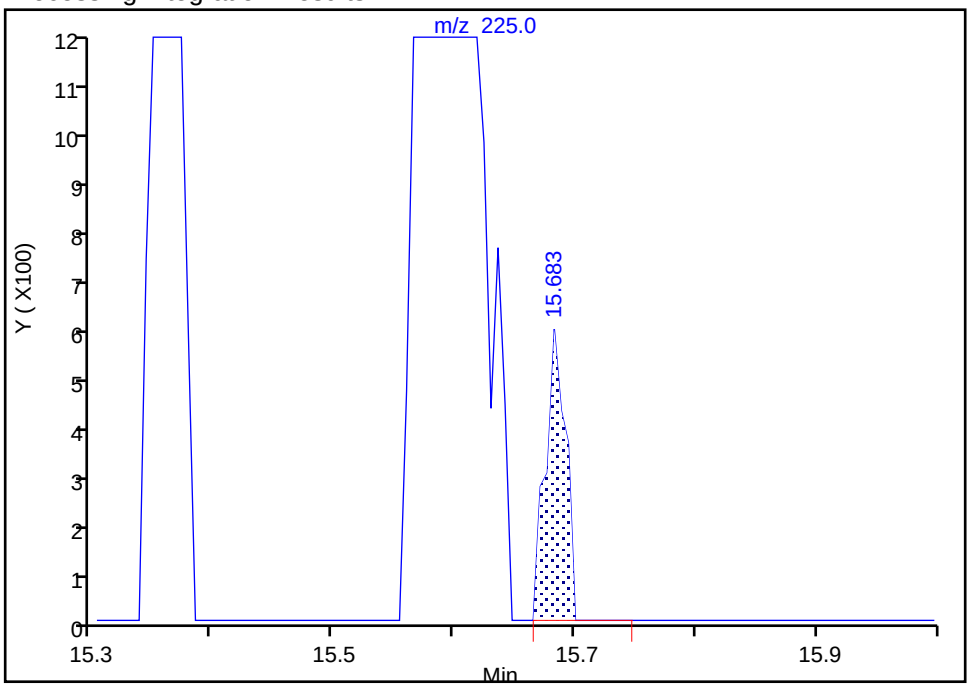
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

126 p-Dimethylamino azobenzene, CAS: 60-11-7

Signal: 1

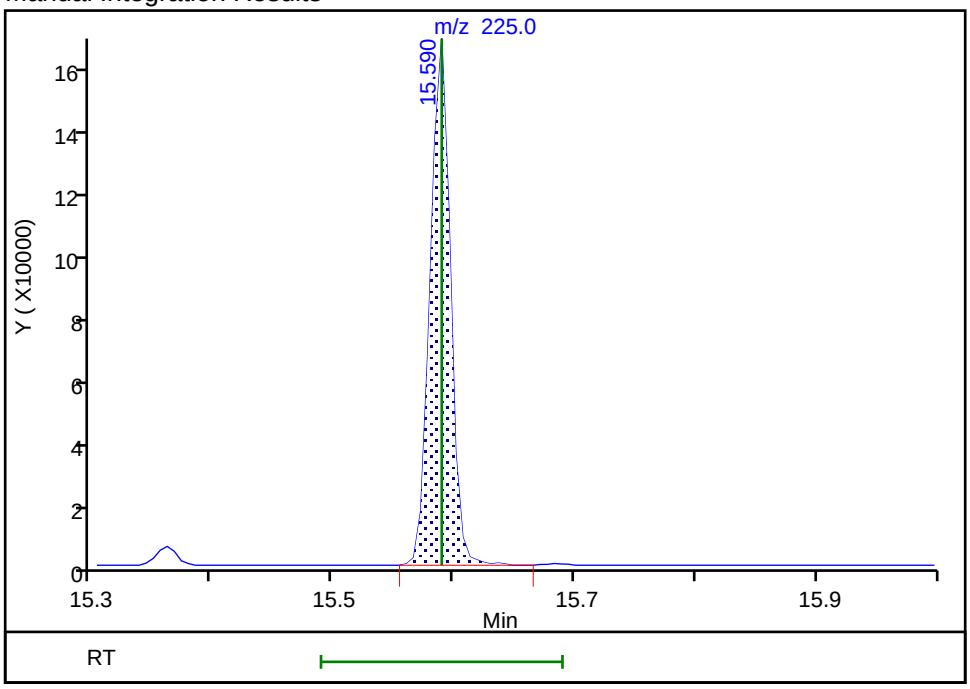
Processing Integration Results

RT: 15.68
Area: 644
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 15.59
Area: 196464
Amount: 7.069381
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:42:40

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

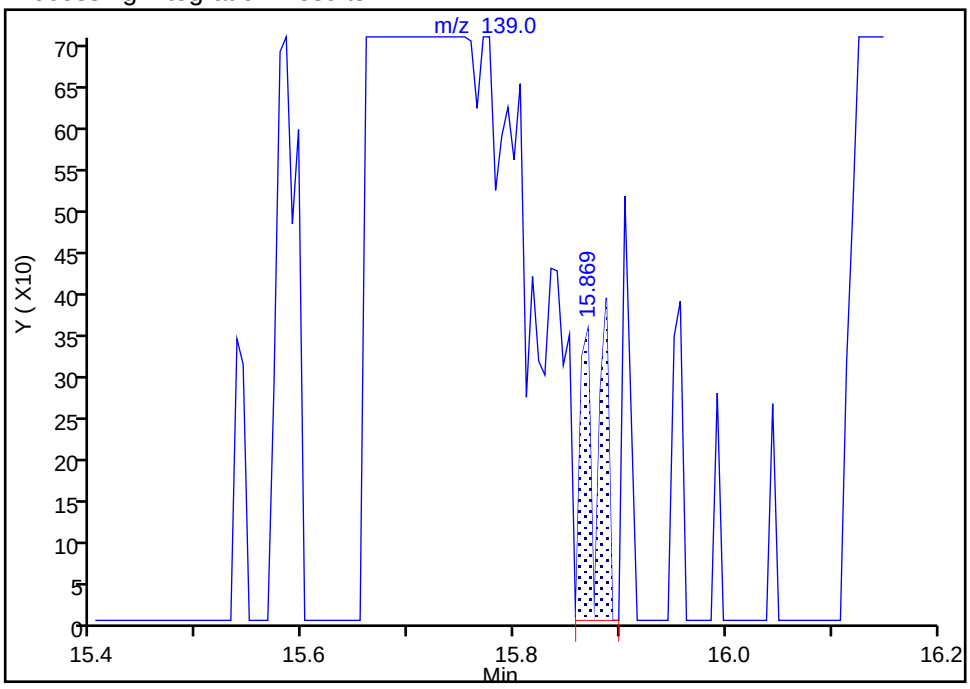
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

127 Chlorobenzilate, CAS: 510-15-6

Signal: 1

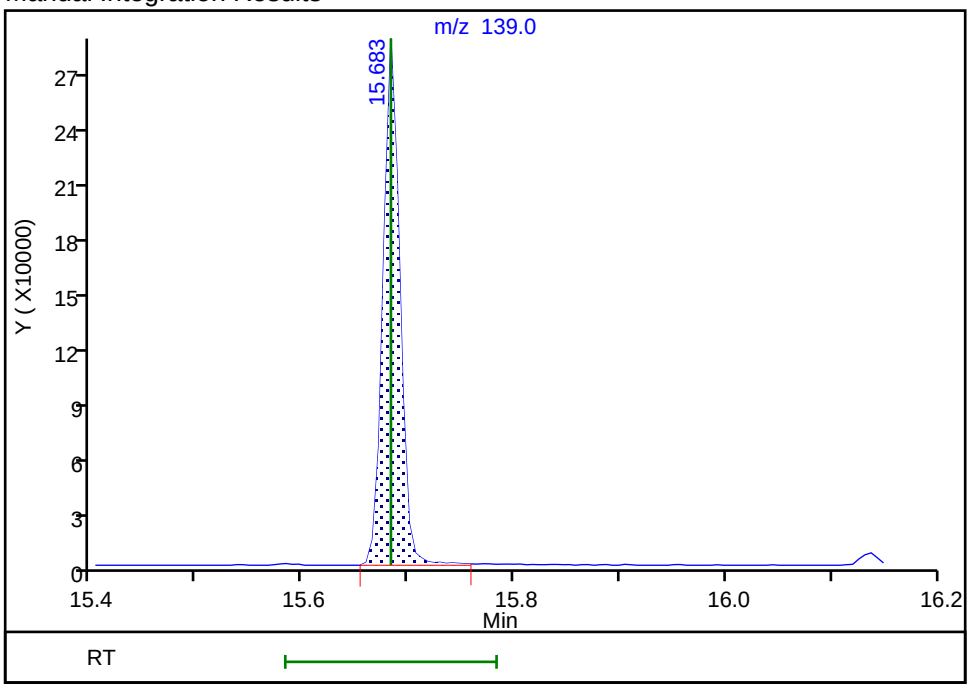
Processing Integration Results

RT: 15.87
Area: 471
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 15.68
Area: 313617
Amount: 7.238153
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:42:45

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

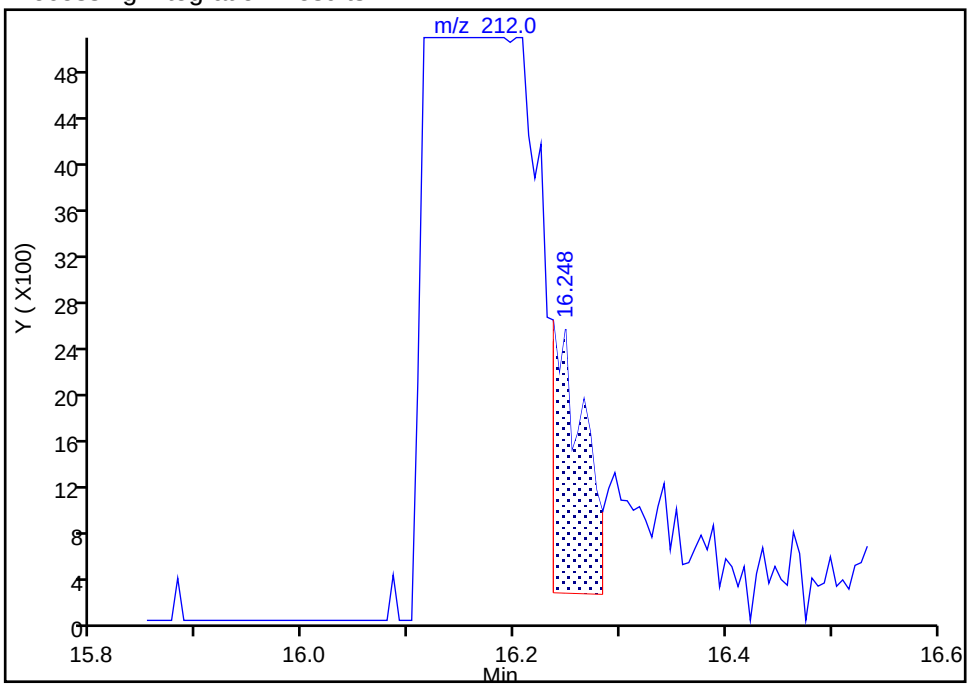
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

128 3,3'-Dimethylbenzidine, CAS: 119-93-7

Signal: 1

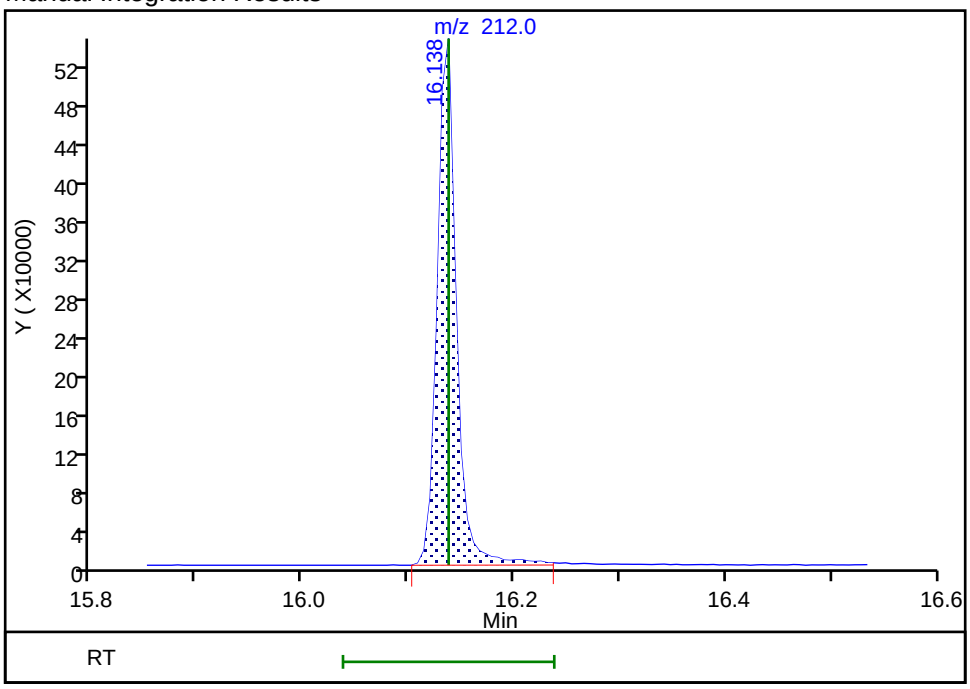
Processing Integration Results

RT: 16.25
Area: 4285
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 16.14
Area: 677944
Amount: 6.475378
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:42:50

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

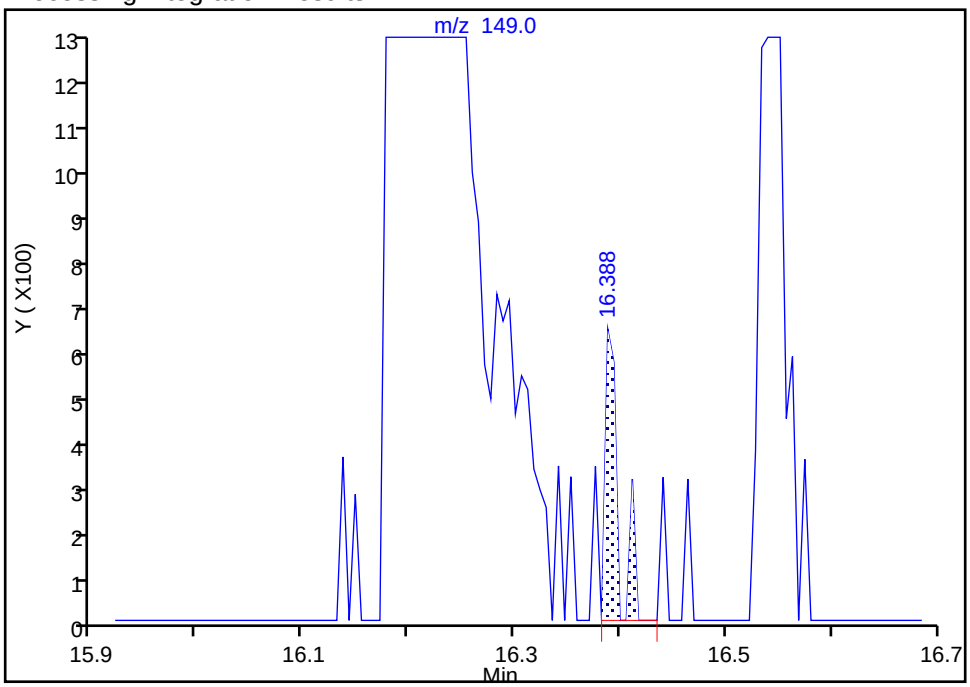
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

129 Butyl benzyl phthalate, CAS: 85-68-7

Signal: 1

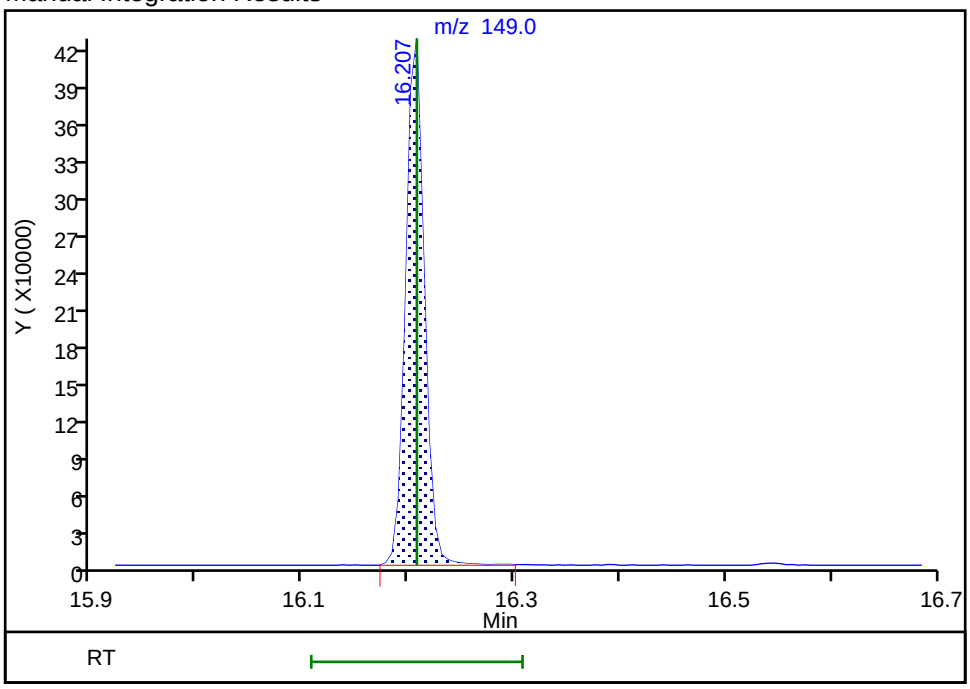
Processing Integration Results

RT: 16.39
Area: 536
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 16.21
Area: 520952
Amount: 7.296249
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:42:55

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

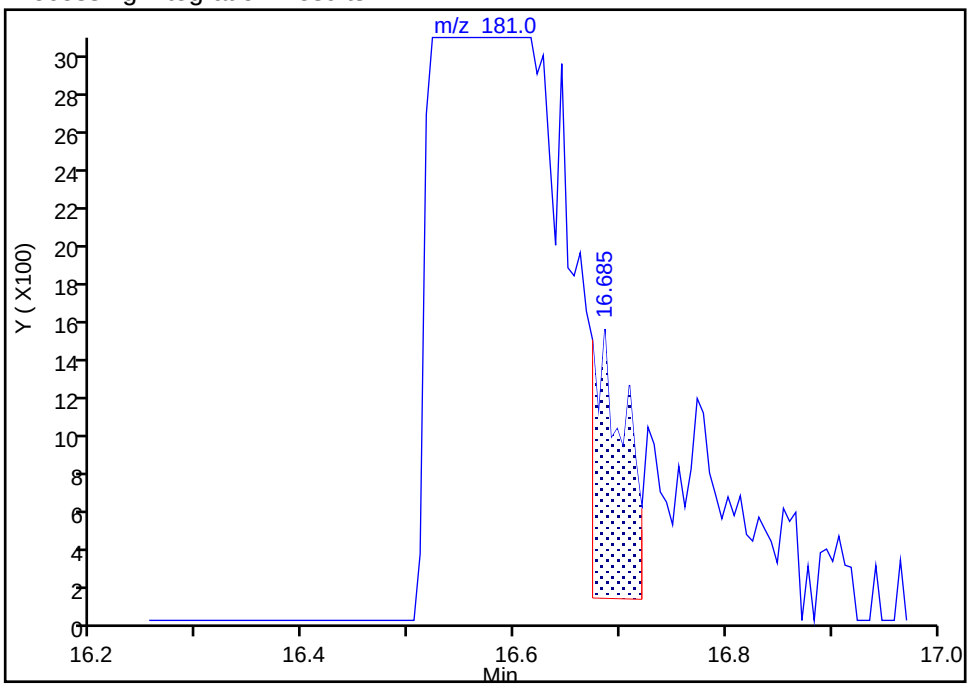
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

130 2-Acetylaminofluorene, CAS: 53-96-3

Signal: 1

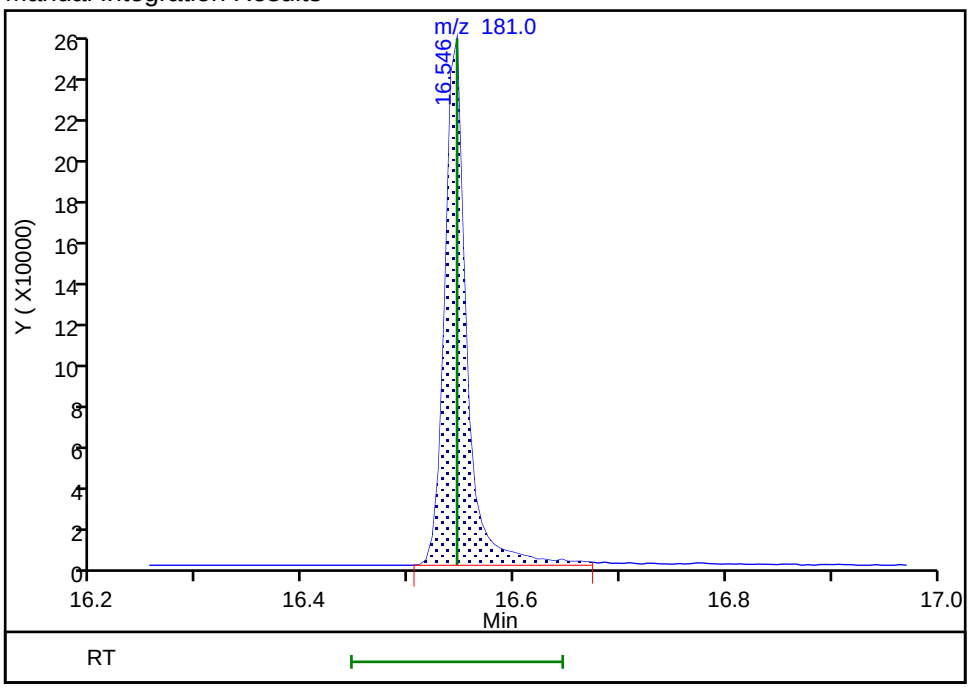
Processing Integration Results

RT: 16.69
Area: 2692
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 16.55
Area: 367646
Amount: 6.382556
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:43:00

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

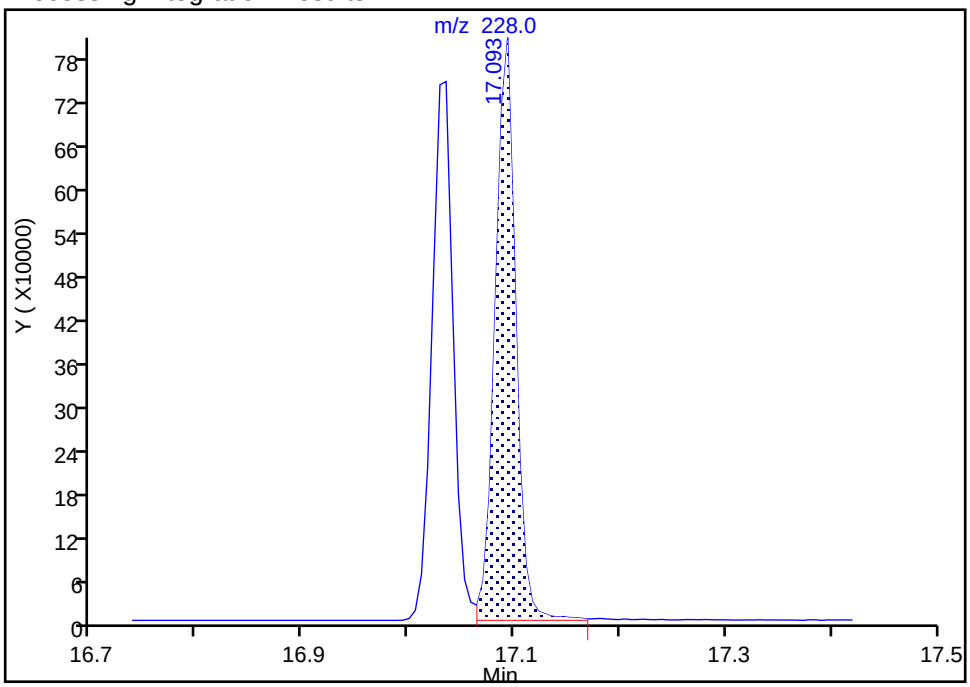
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

132 Benzo[a]anthracene, CAS: 56-55-3

Signal: 1

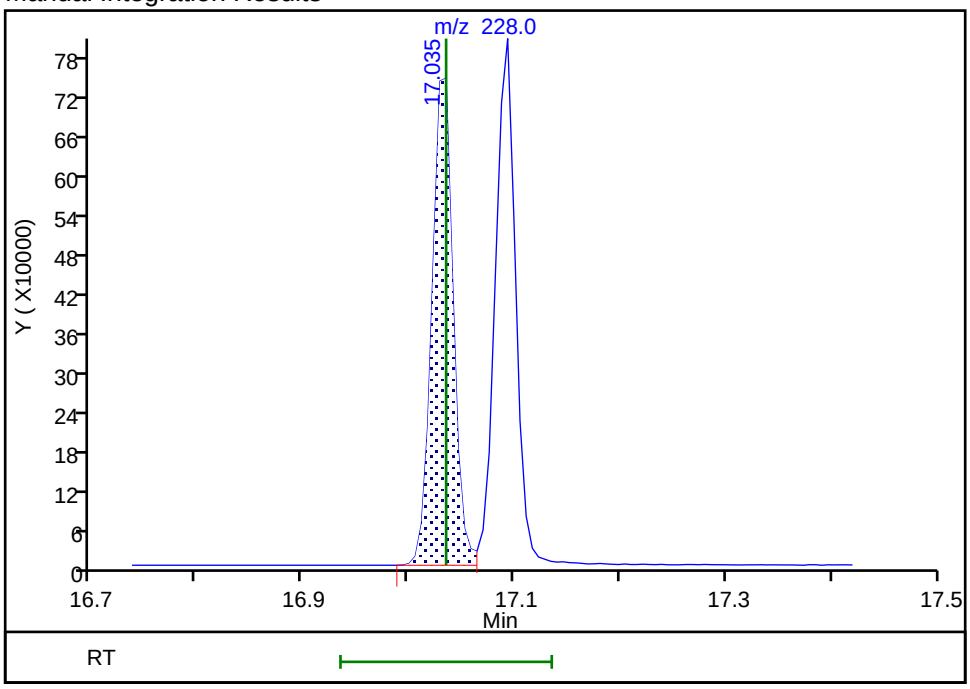
Processing Integration Results

RT: 17.09
Area: 1084746
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 17.04
Area: 1044177
Amount: 6.588534
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:43:05

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

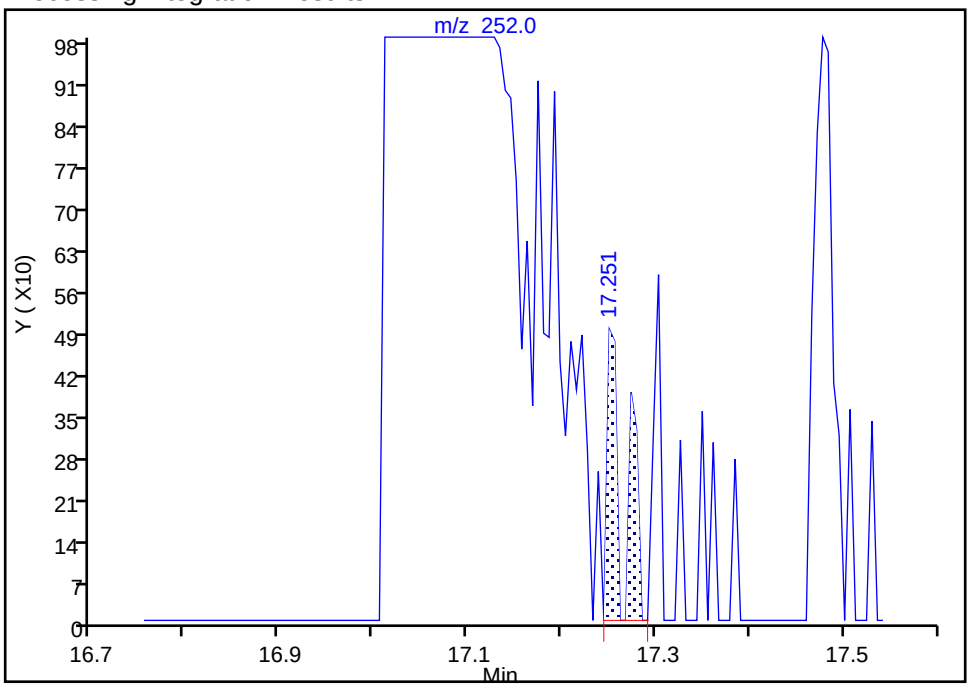
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

131 3,3'-Dichlorobenzidine, CAS: 91-94-1

Signal: 1

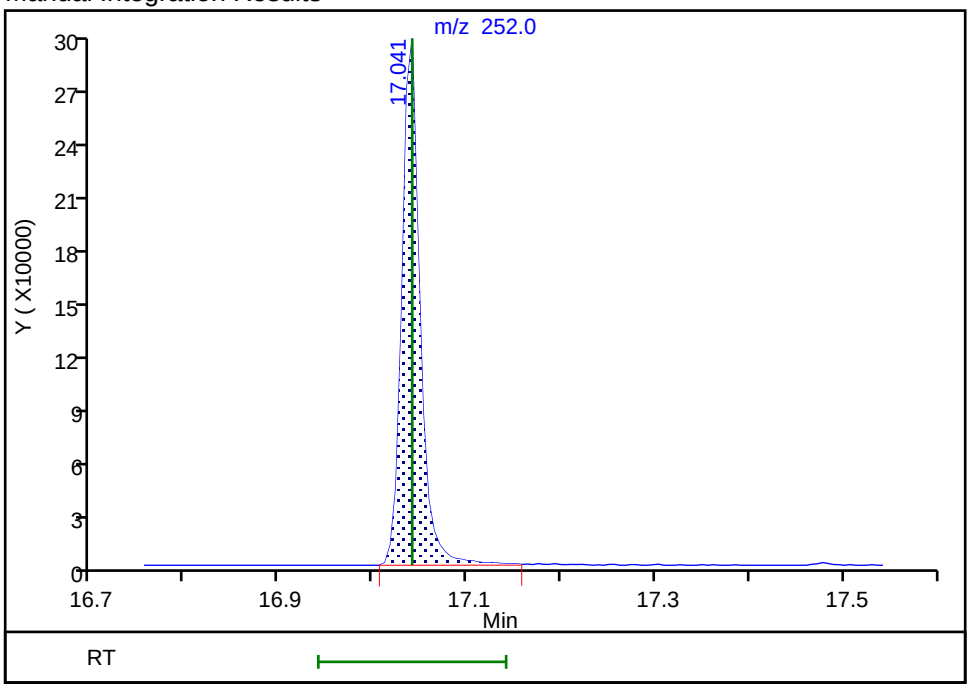
Processing Integration Results

RT: 17.25
Area: 585
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 17.04
Area: 388215
Amount: 6.509305
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:43:14

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

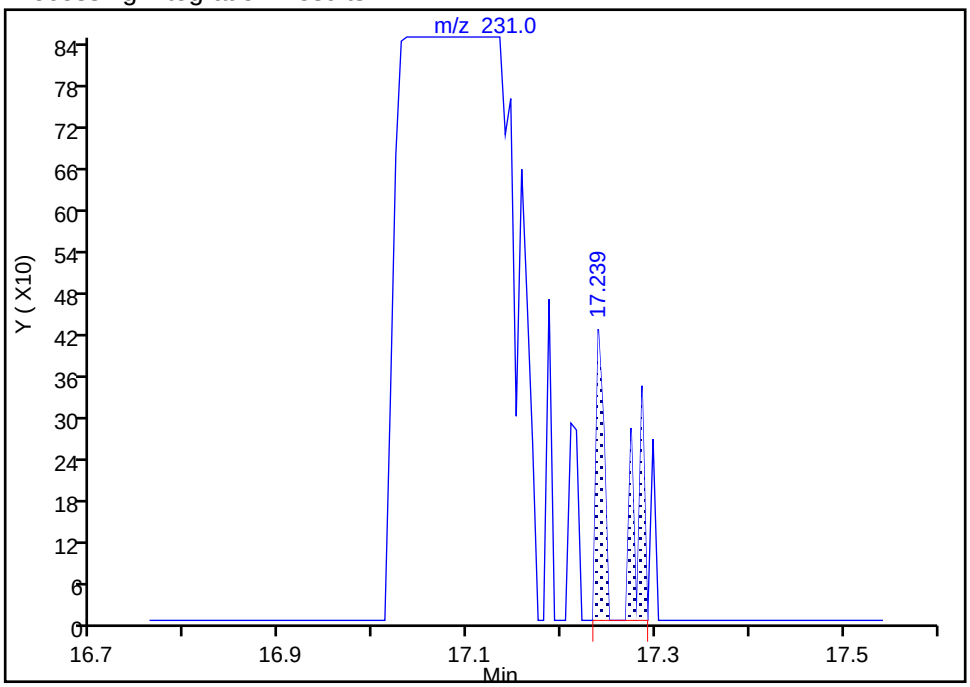
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

133 4,4'-Methylene bis(2-chloroanili, CAS: 101-14-4

Signal: 1

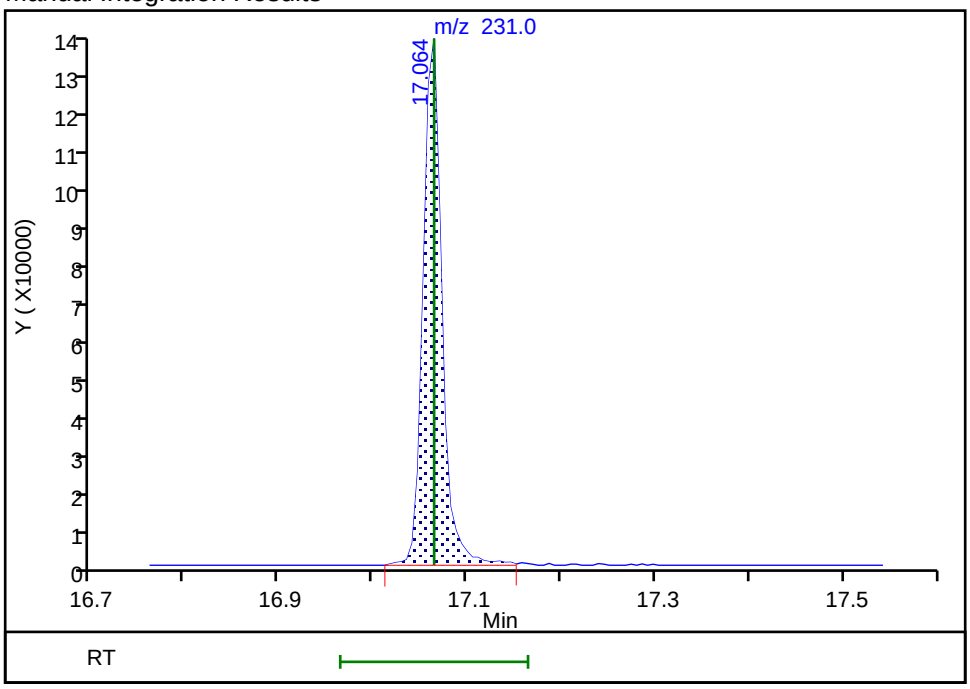
Processing Integration Results

RT: 17.24
Area: 460
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 17.06
Area: 185399
Amount: 6.501983
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:43:09

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

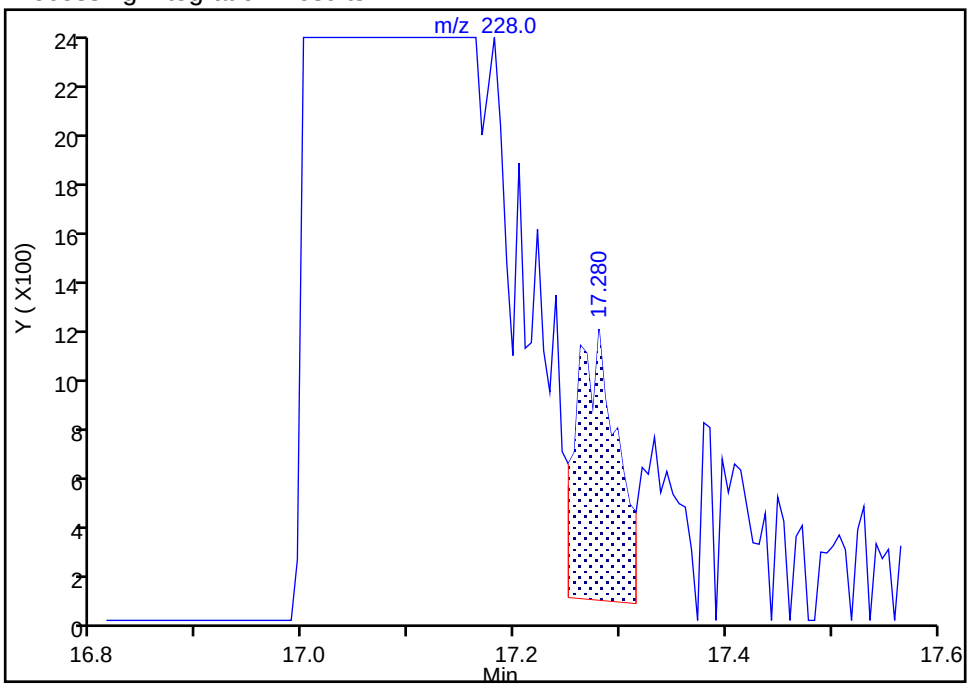
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

134 Chrysene, CAS: 218-01-9

Signal: 1

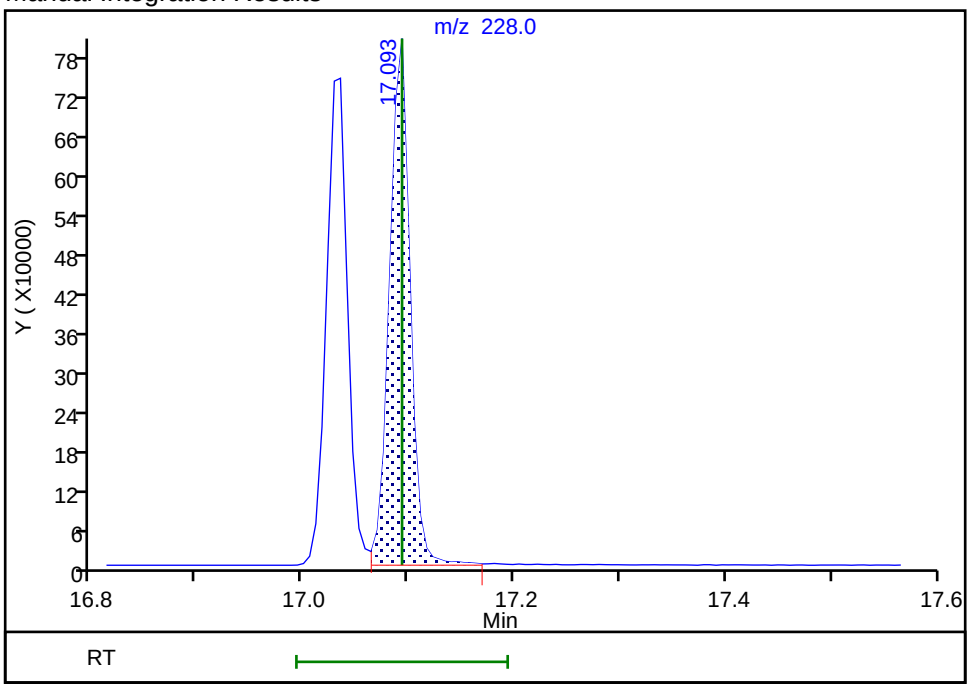
Processing Integration Results

RT: 17.28
Area: 2854
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 17.09
Area: 1084746
Amount: 7.507436
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:43:18

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

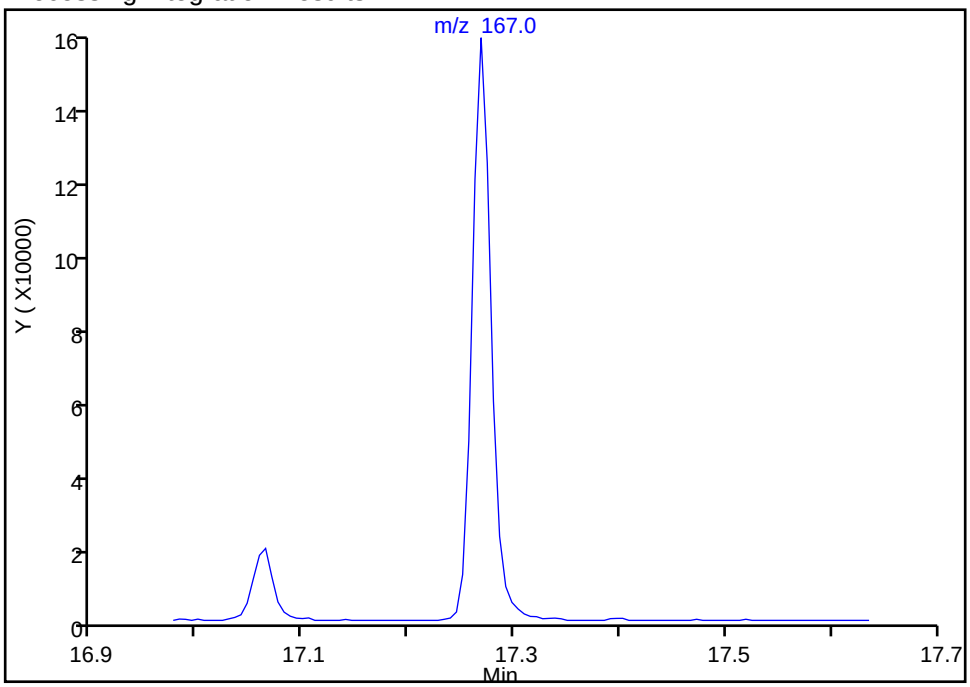
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

135 Bis(2-ethylhexyl) phthalate, CAS: 117-81-7

Signal: 2

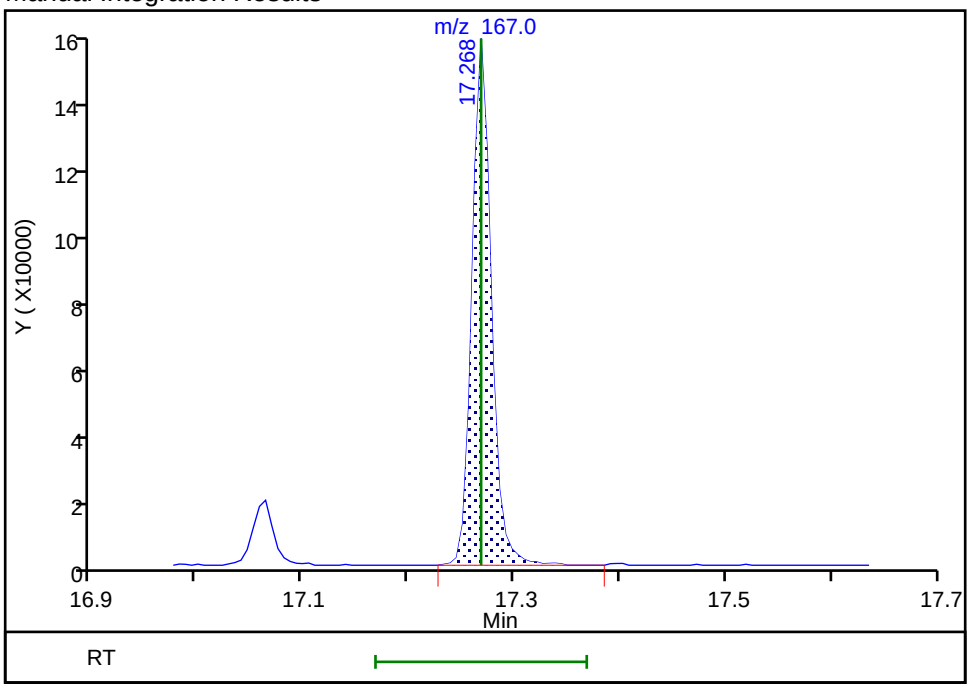
Processing Integration Results

RT: 17.38
Area: 0
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 17.27
Area: 192935
Amount: 7.209062
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:43:27

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

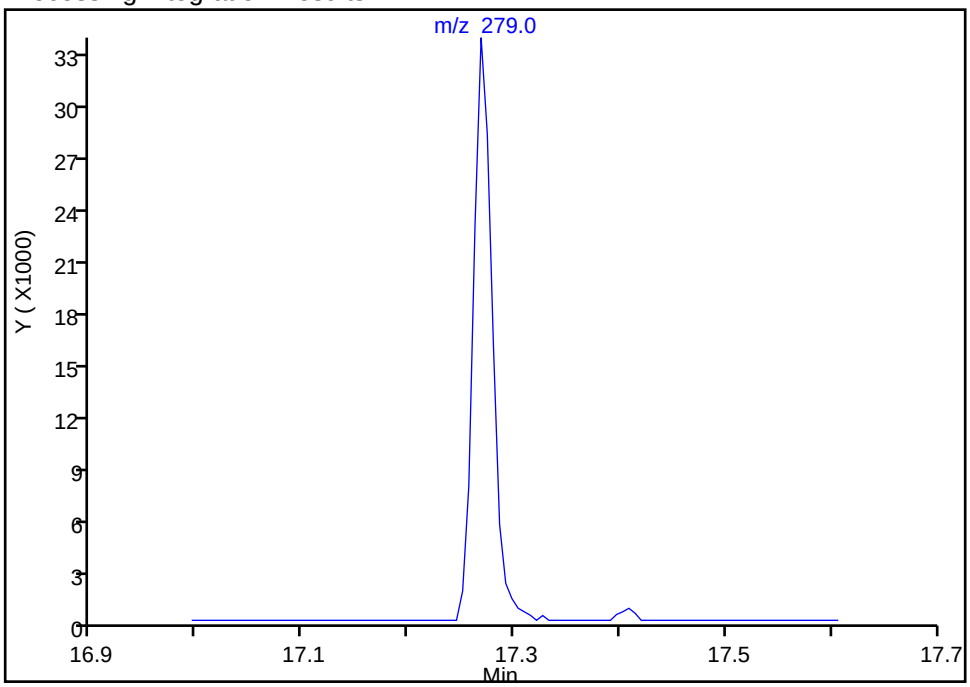
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

135 Bis(2-ethylhexyl) phthalate, CAS: 117-81-7

Signal: 3

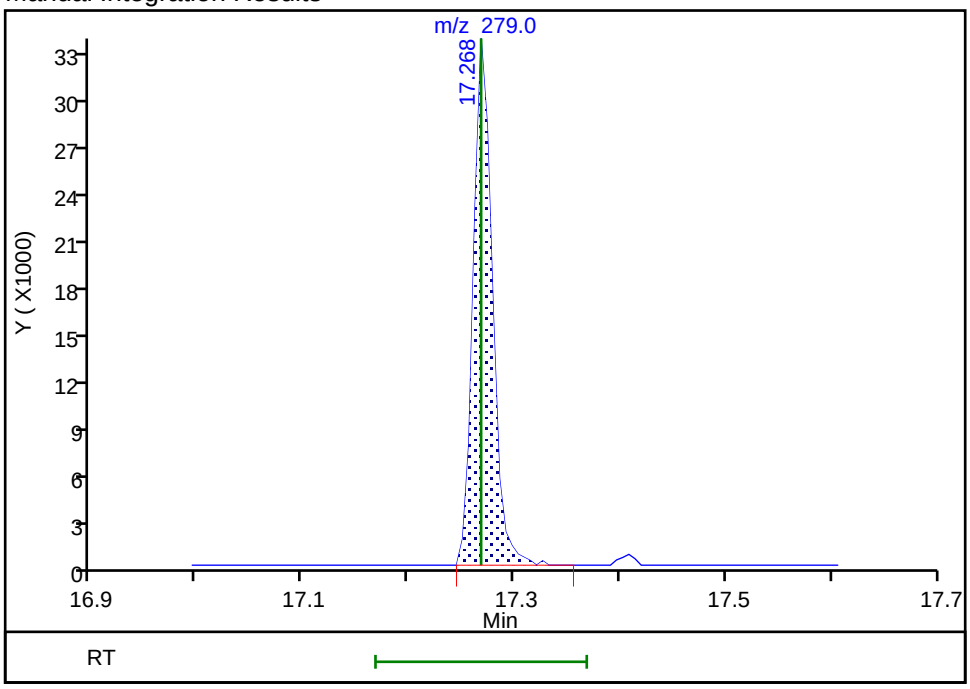
Processing Integration Results

RT: 17.38
Area: 0
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 17.27
Area: 41735
Amount: 7.209062
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:43:27
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

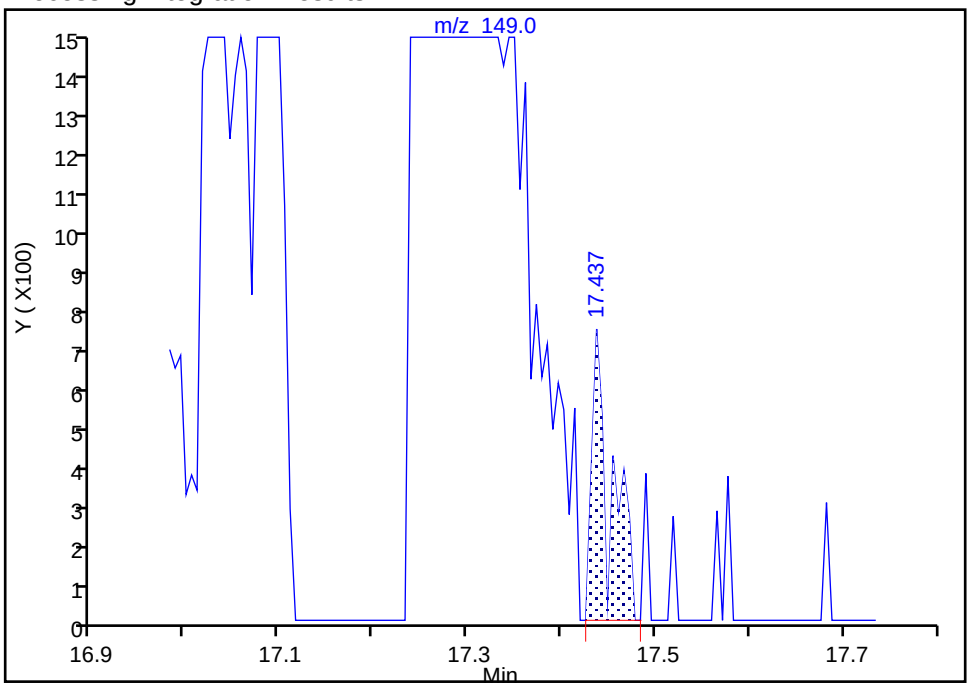
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

135 Bis(2-ethylhexyl) phthalate, CAS: 117-81-7

Signal: 1

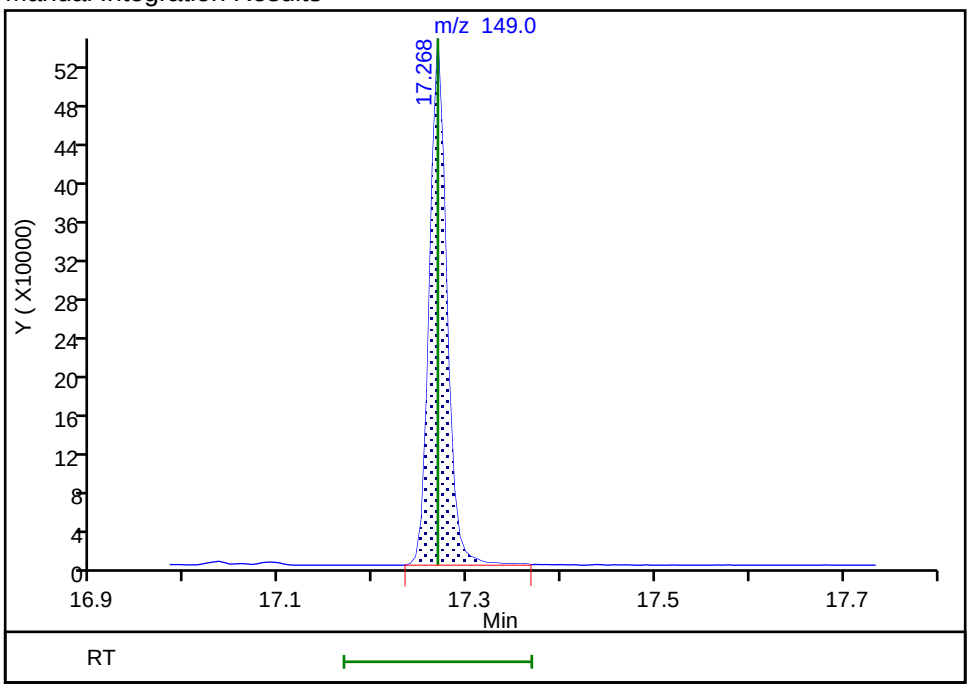
Processing Integration Results

RT: 17.44
Area: 990
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 17.27
Area: 693970
Amount: 7.209062
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:43:33

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

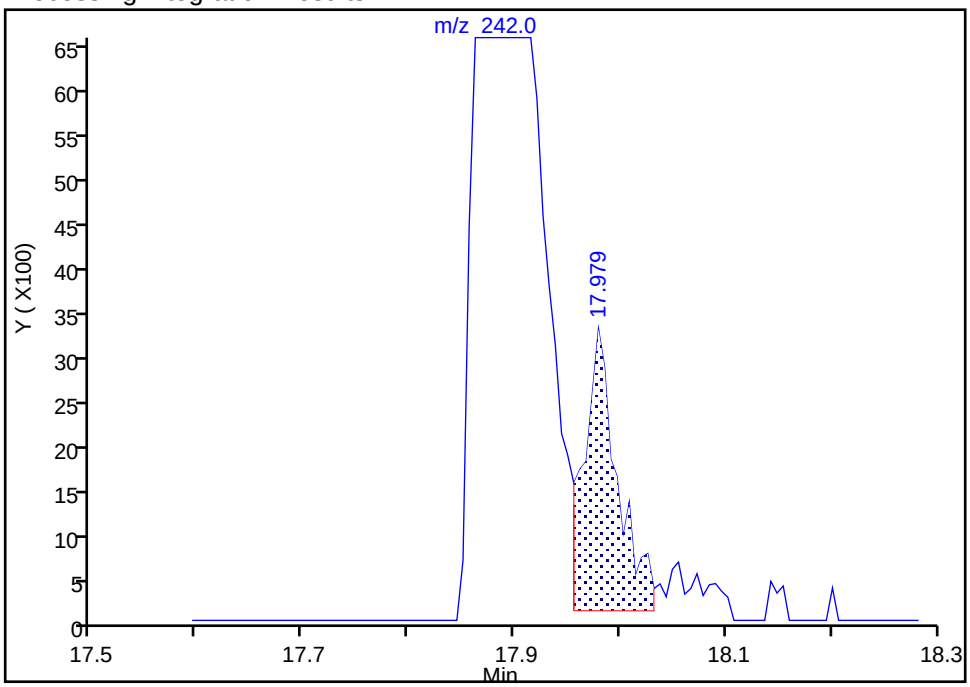
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

136 6-Methylchrysene, CAS: 1705-85-7

Signal: 1

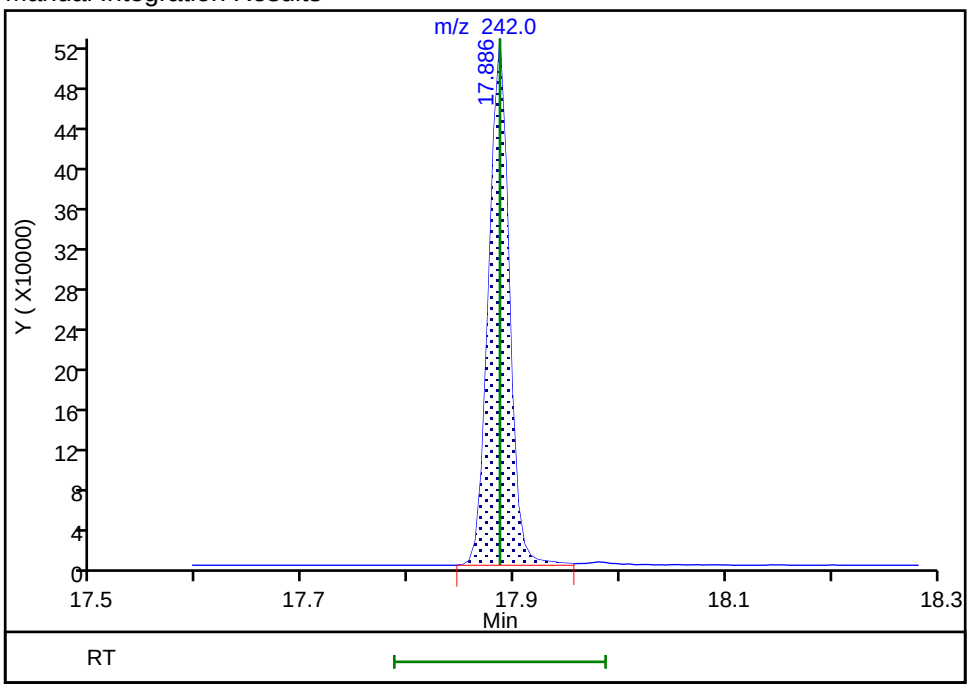
Processing Integration Results

RT: 17.98
Area: 6813
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 17.89
Area: 699512
Amount: 6.893228
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:43:41

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

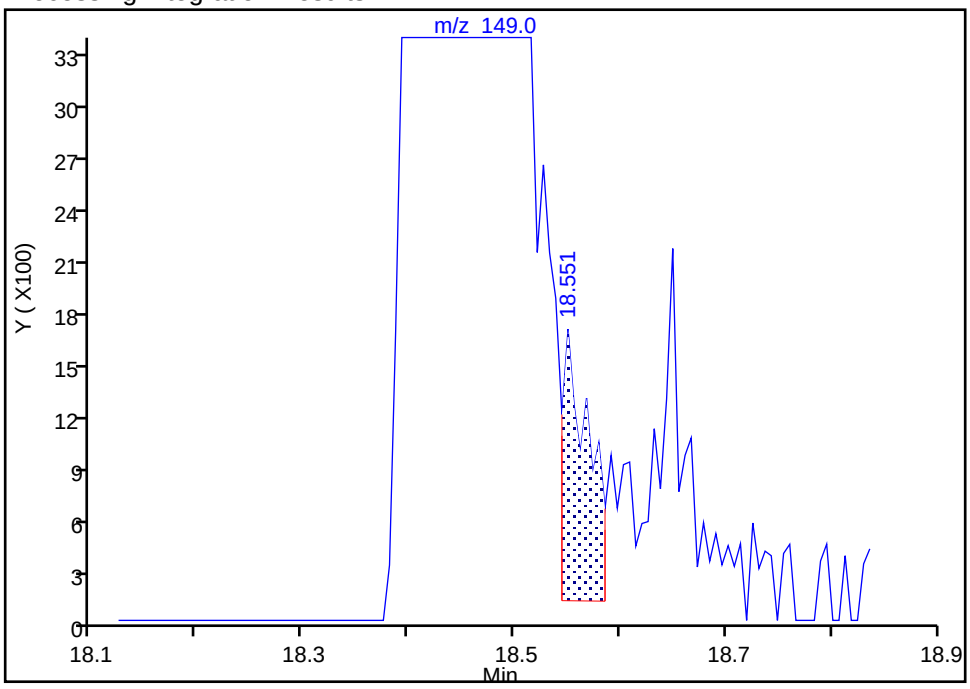
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

137 Di-n-octyl phthalate, CAS: 117-84-0

Signal: 1

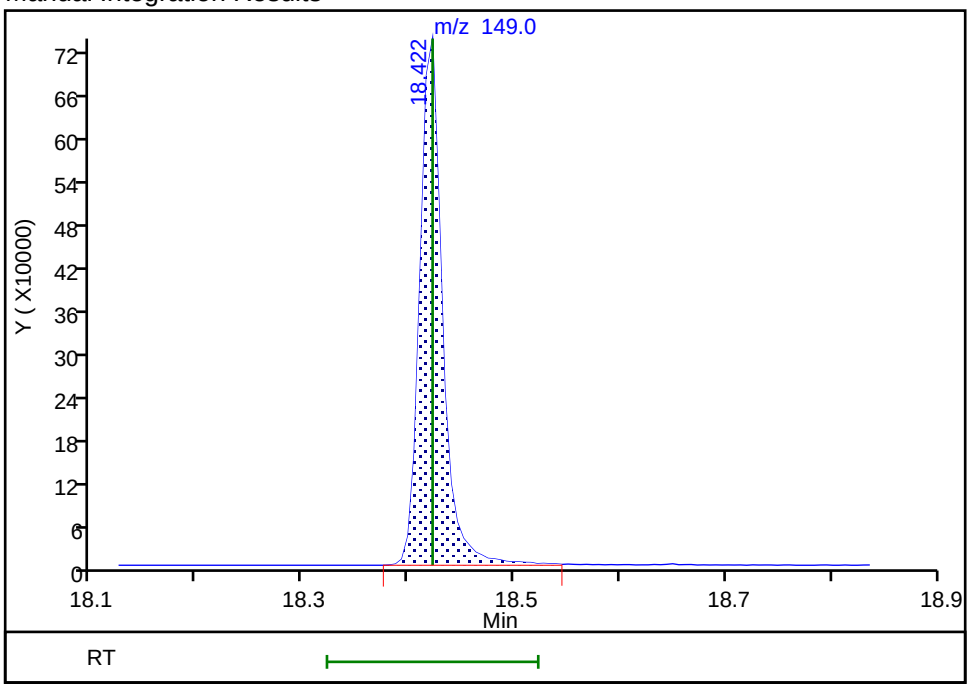
Processing Integration Results

RT: 18.55
Area: 2468
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 18.42
Area: 1097225
Amount: 7.323179
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:43:52

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

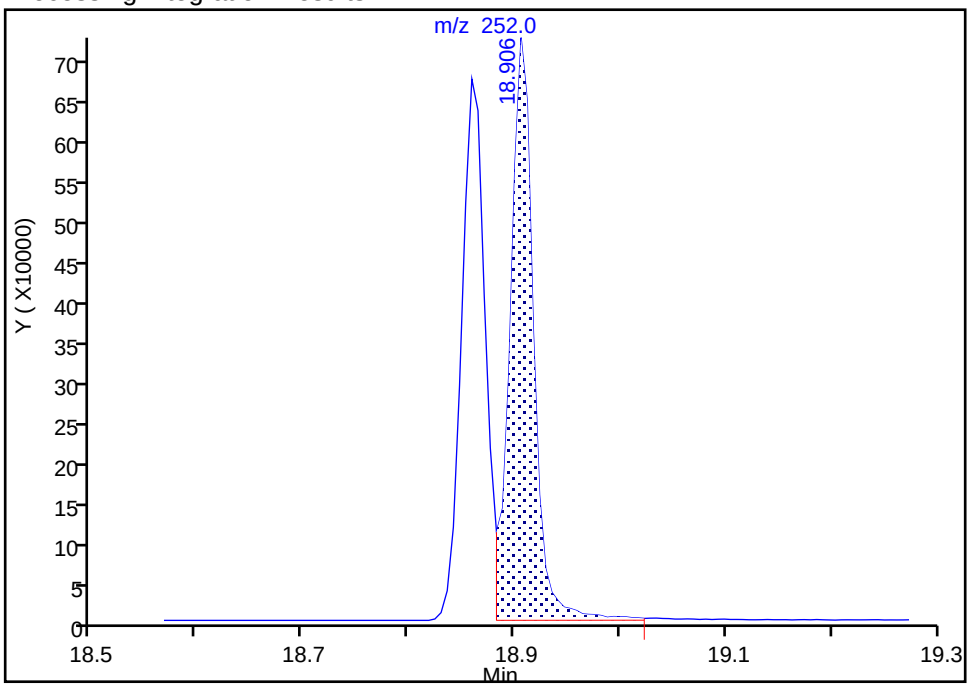
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

138 Benzo[b]fluoranthene, CAS: 205-99-2

Signal: 1

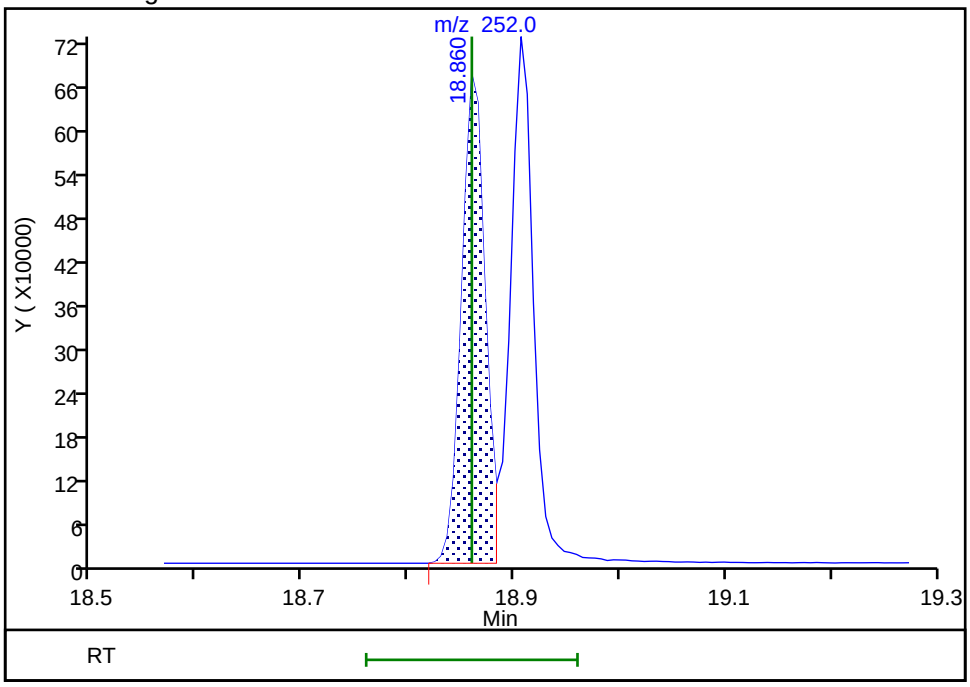
Processing Integration Results

RT: 18.91
Area: 1113441
Amount: 8.629762
Amount Units: ug/ml



Manual Integration Results

RT: 18.86
Area: 1039150
Amount: 6.890268
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:43:59

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

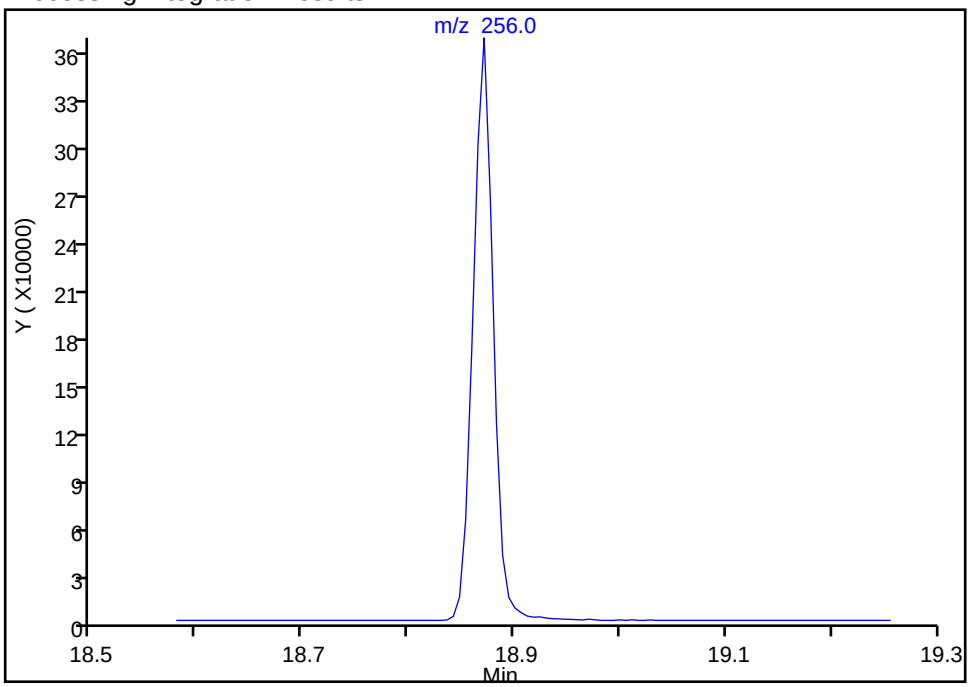
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

139 7,12-Dimethylbenz(a)anthracene, CAS: 57-97-6

Signal: 1

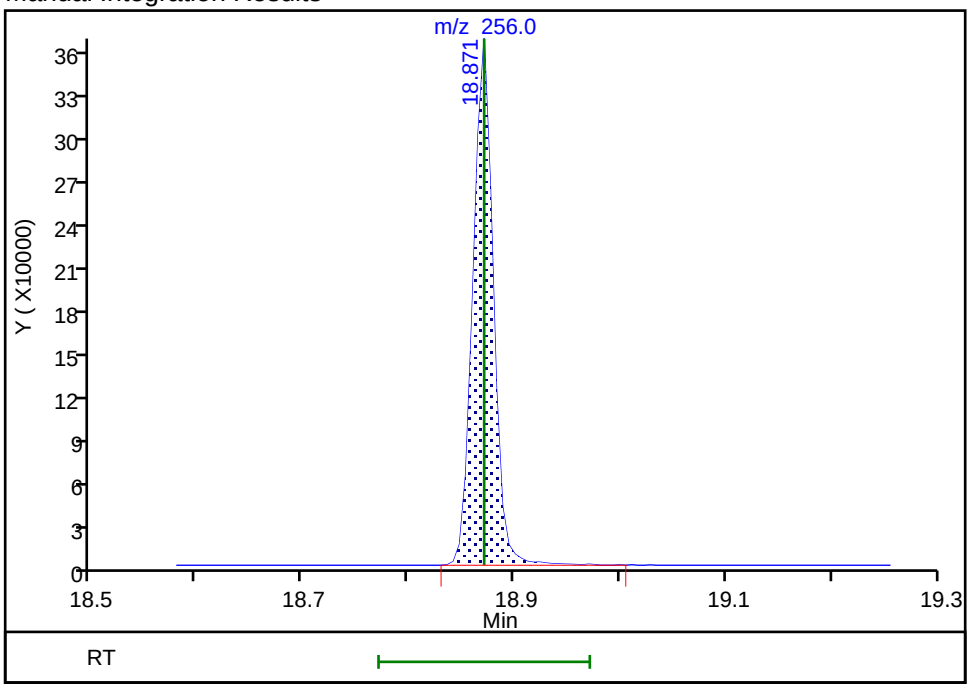
Not Detected
Expected RT: 18.87

Processing Integration Results



Manual Integration Results

RT: 18.87
Area: 486103
Amount: 6.958863
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:48:54
Audit Action: Assigned Compound ID Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

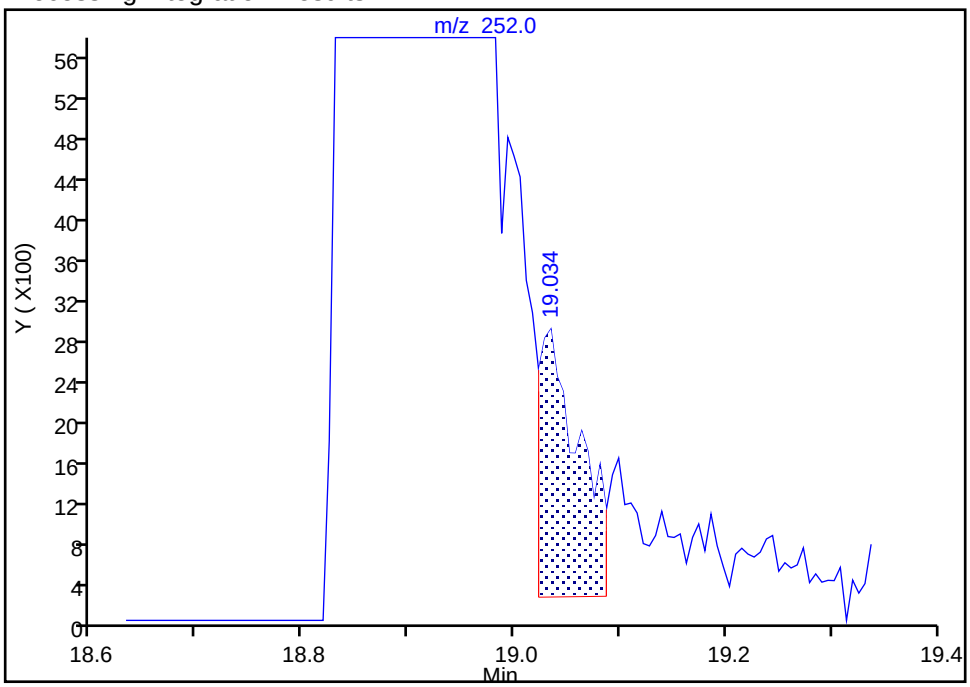
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

140 Benzo[k]fluoranthene, CAS: 207-08-9

Signal: 1

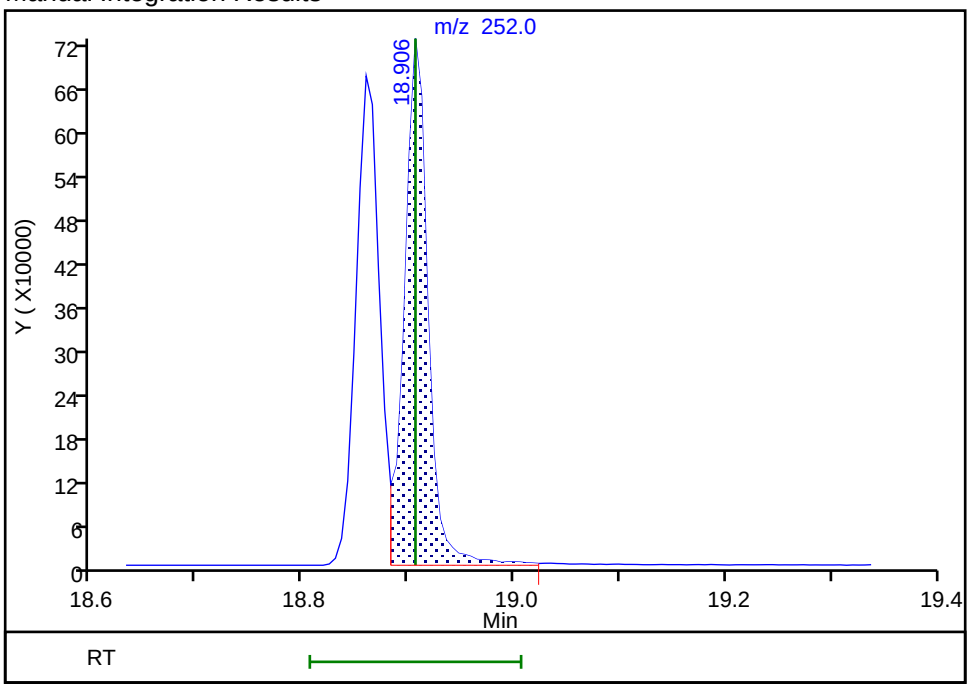
Processing Integration Results

RT: 19.03
Area: 6625
Amount: 2.115482
Amount Units: ug/ml



Manual Integration Results

RT: 18.91
Area: 1114692
Amount: 8.106345
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:44:05

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

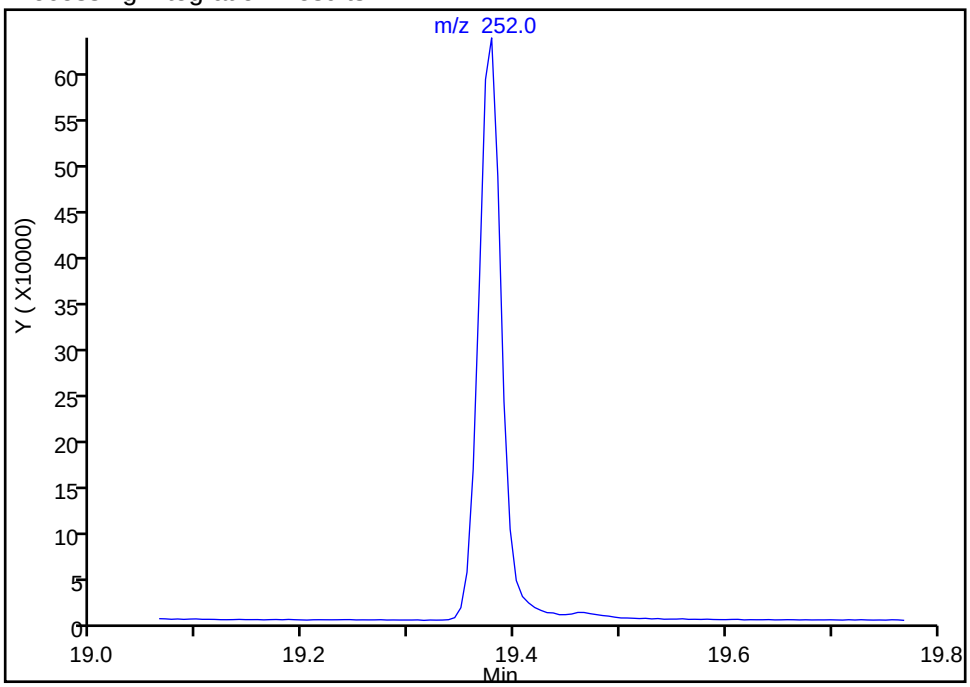
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

141 Benzo[a]pyrene, CAS: 50-32-8

Signal: 1

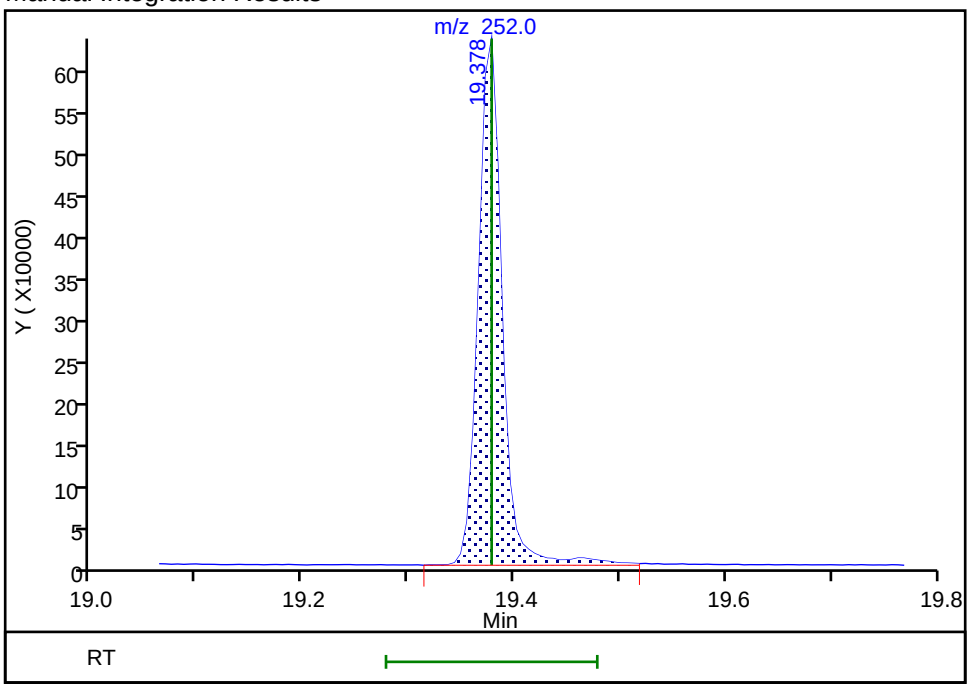
Not Detected
Expected RT: 19.38

Processing Integration Results



Manual Integration Results

RT: 19.38
Area: 995137
Amount: 7.086163
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:44:12
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

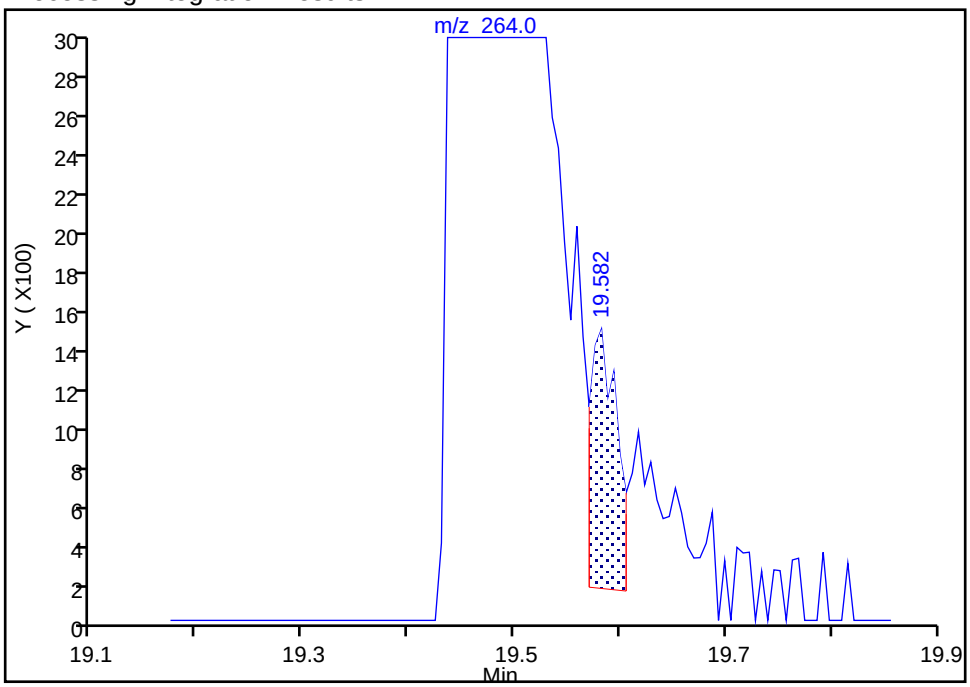
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

* 142 Perylene-d12, CAS: 1520-96-3

Signal: 1

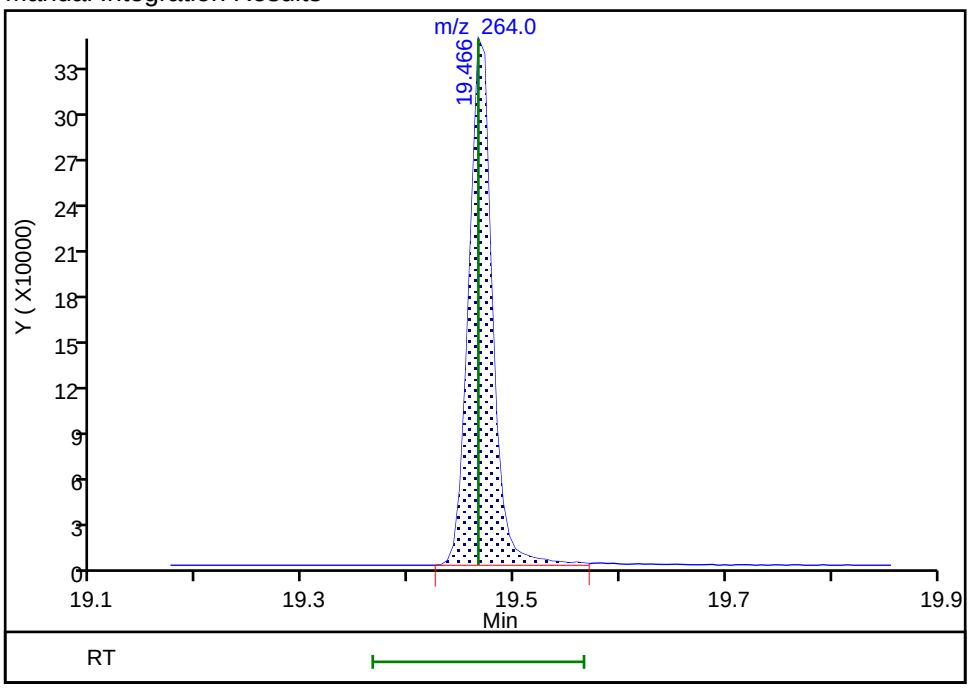
Processing Integration Results

RT: 19.58
Area: 2131
Amount: 5.000000
Amount Units: ug/ml



Manual Integration Results

RT: 19.47
Area: 535333
Amount: 5.000000
Amount Units: ug/ml



Reviewer: hartenstinel, 31-Jul-2020 16:41:14

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

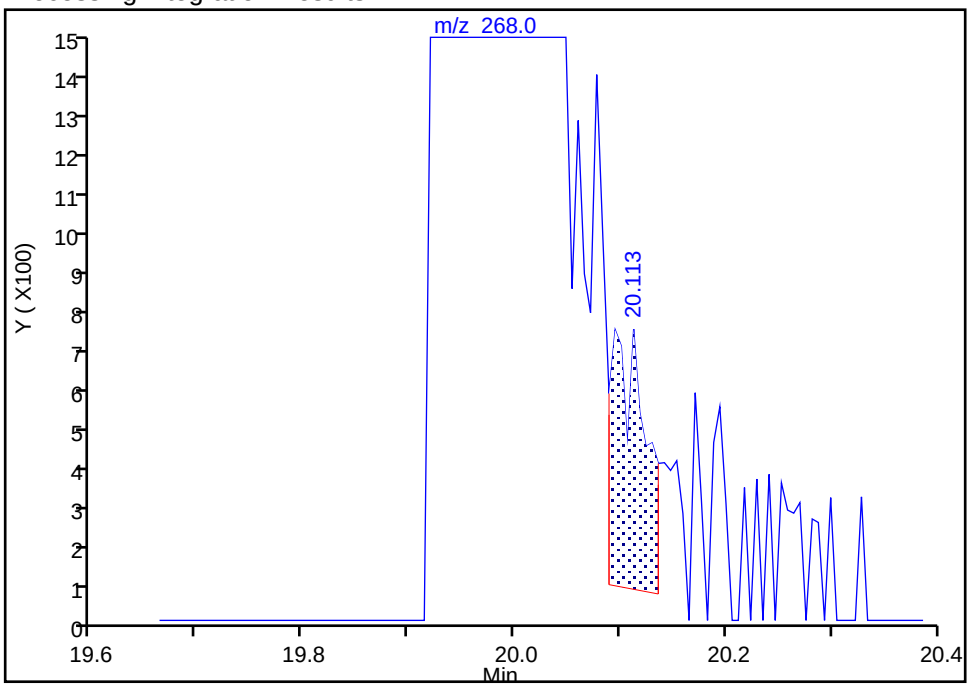
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

143 3-Methylcholanthrene, CAS: 56-49-5

Signal: 1

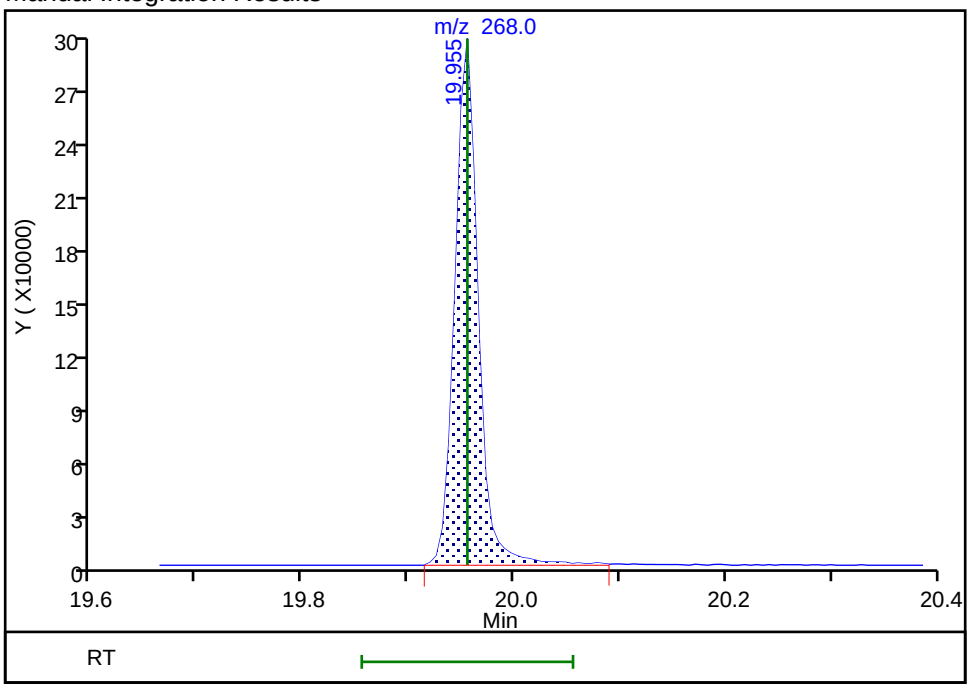
Processing Integration Results

RT: 20.11
Area: 1380
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 19.96
Area: 452694
Amount: 6.847475
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:44:17

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

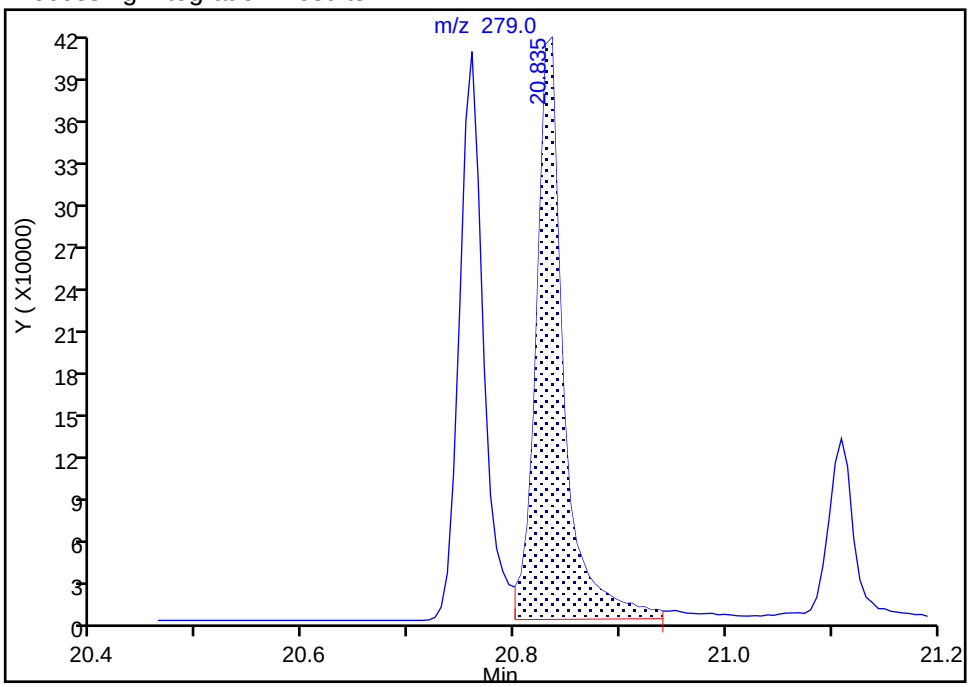
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

144 Dibenz[a,h]acridine, CAS: 226-36-8

Signal: 1

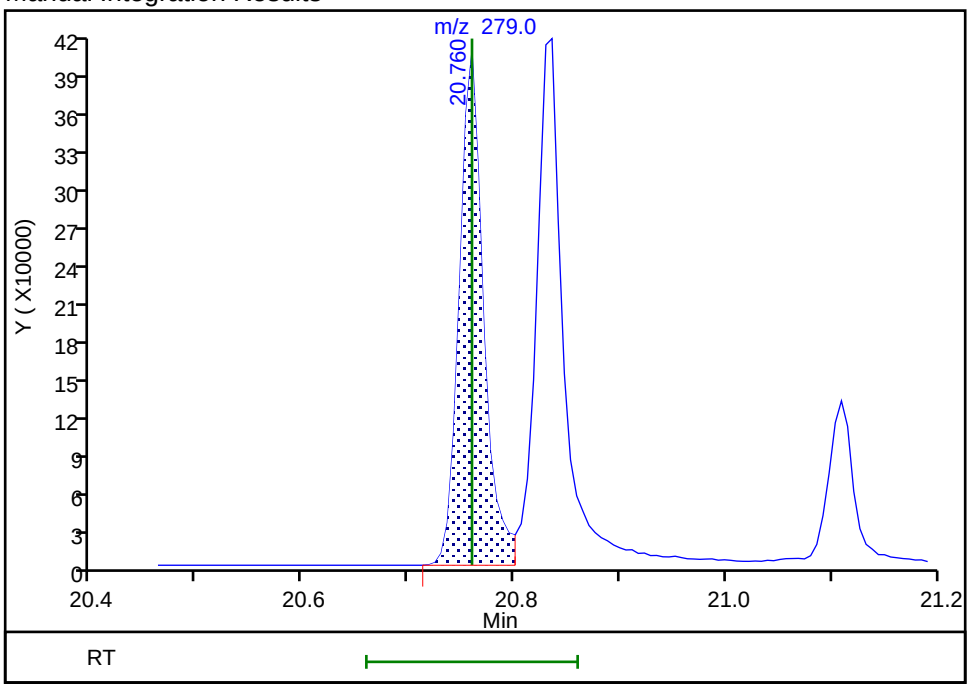
Processing Integration Results

RT: 20.84
Area: 746377
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 20.76
Area: 640530
Amount: 7.648970
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:44:23

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

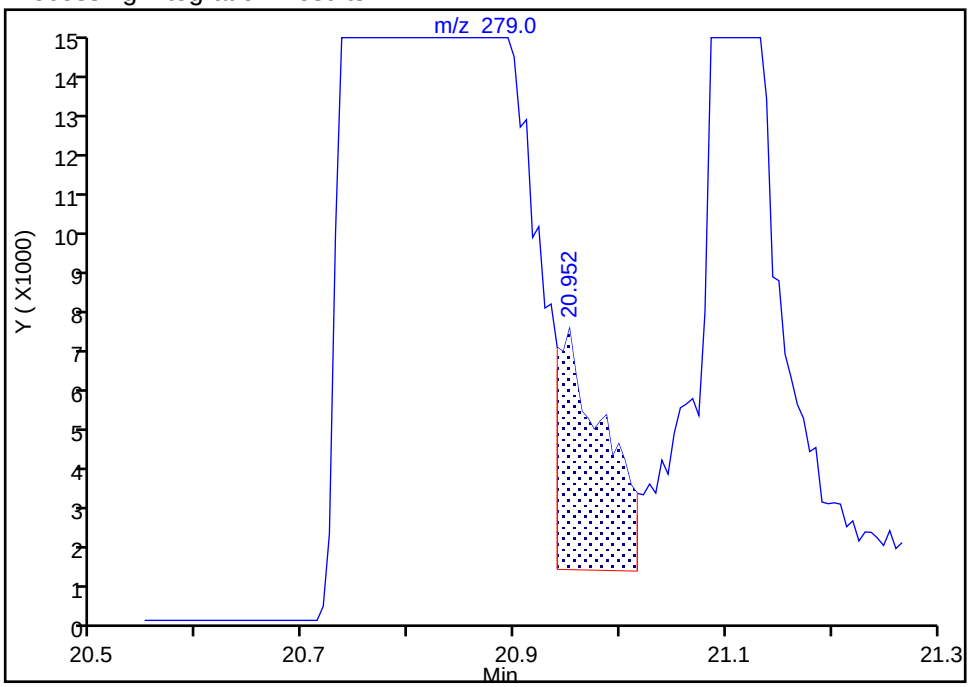
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

145 Dibenz[a,j]acridine, CAS: 224-42-0

Signal: 1

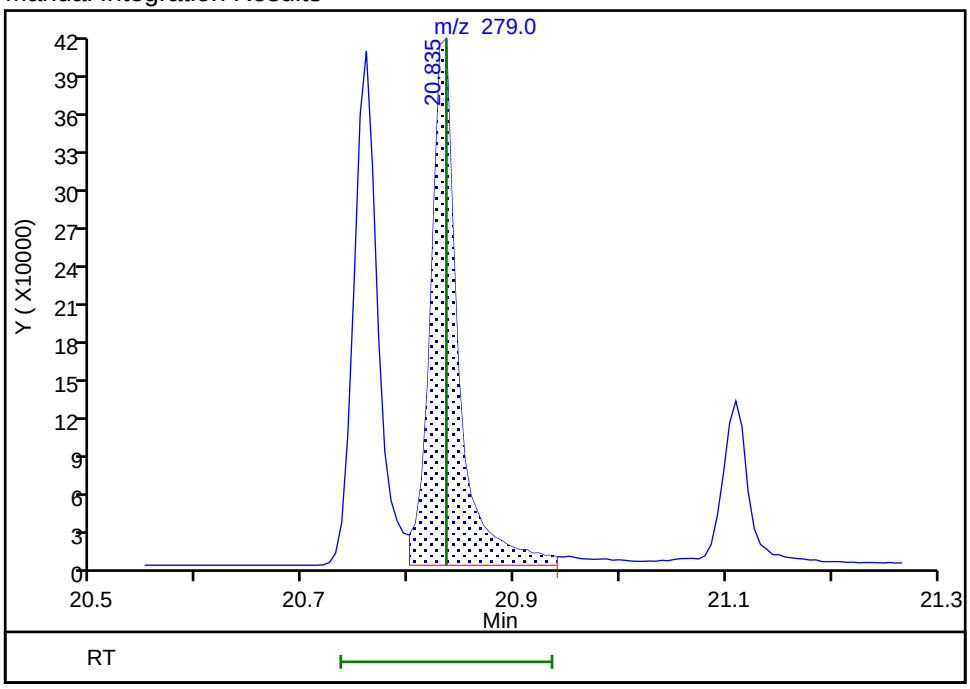
Processing Integration Results

RT: 20.95
Area: 16988
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 20.84
Area: 753674
Amount: 7.780699
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:44:29

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

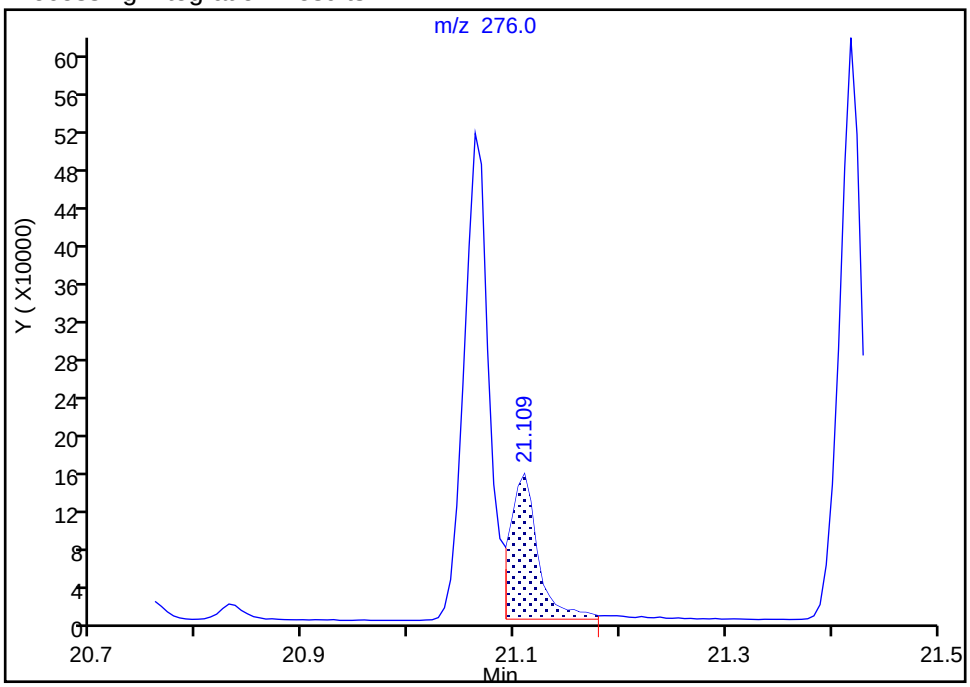
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

146 Indeno[1,2,3-cd]pyrene, CAS: 193-39-5

Signal: 1

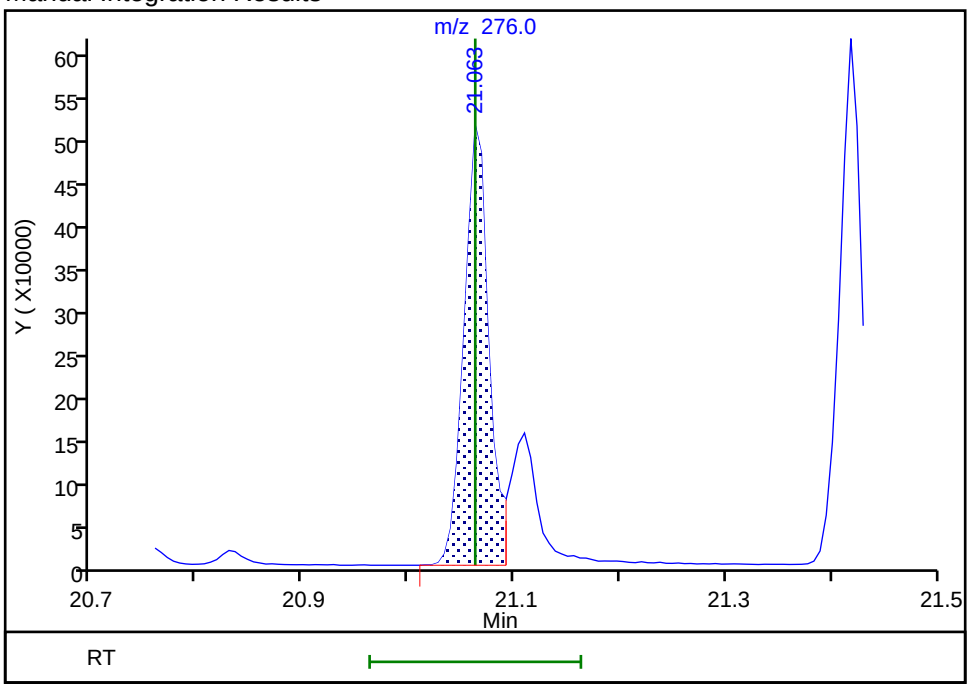
Processing Integration Results

RT: 21.11
Area: 266642
Amount: 8.741015
Amount Units: ug/ml



Manual Integration Results

RT: 21.06
Area: 830474
Amount: 7.237826
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:44:39

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

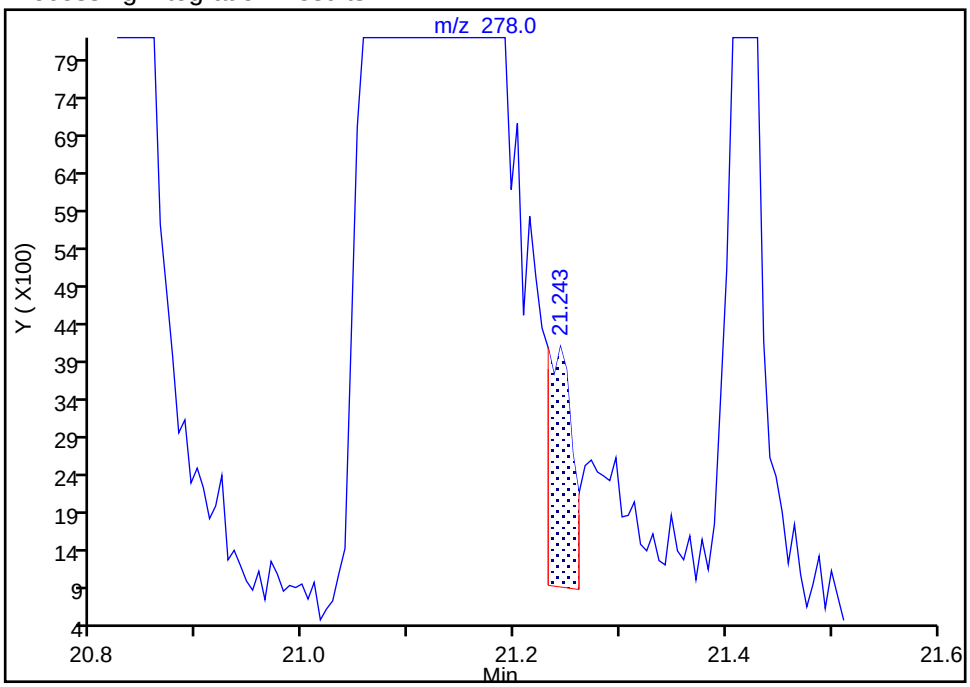
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

147 Dibenz(a,h)anthracene, CAS: 53-70-3

Signal: 1

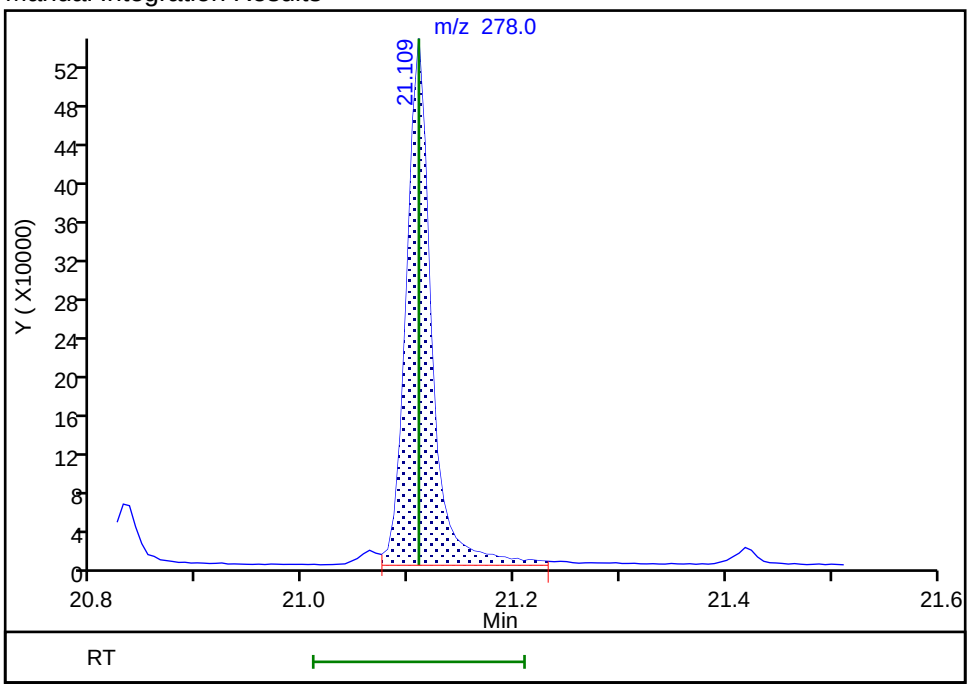
Processing Integration Results

RT: 21.24
Area: 4475
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 21.11
Area: 906038
Amount: 7.170960
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:44:46

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

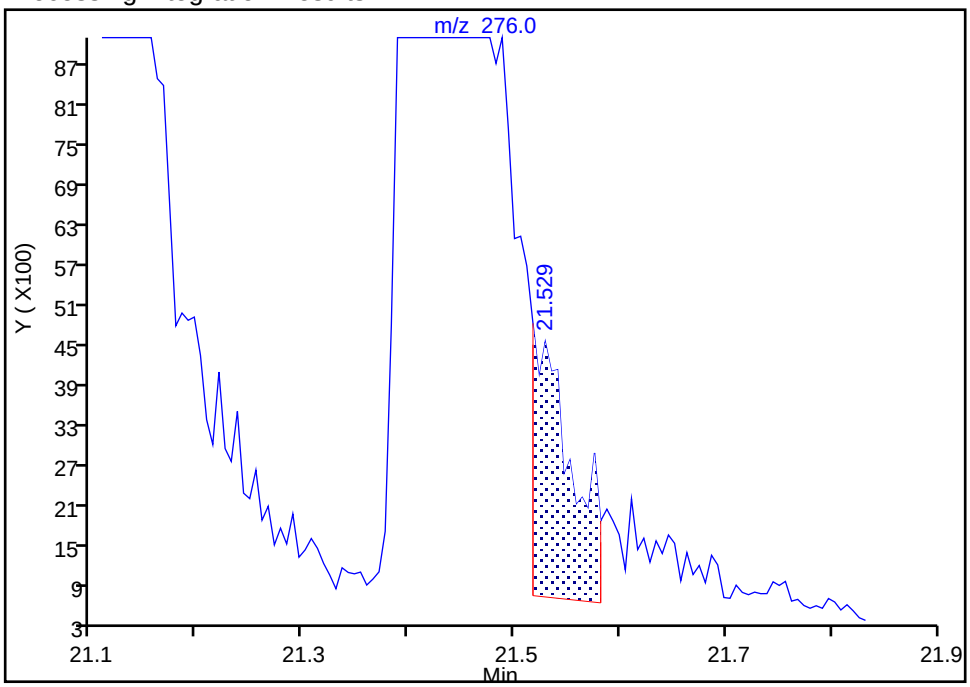
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

148 Benzo[g,h,i]perylene, CAS: 191-24-2

Signal: 1

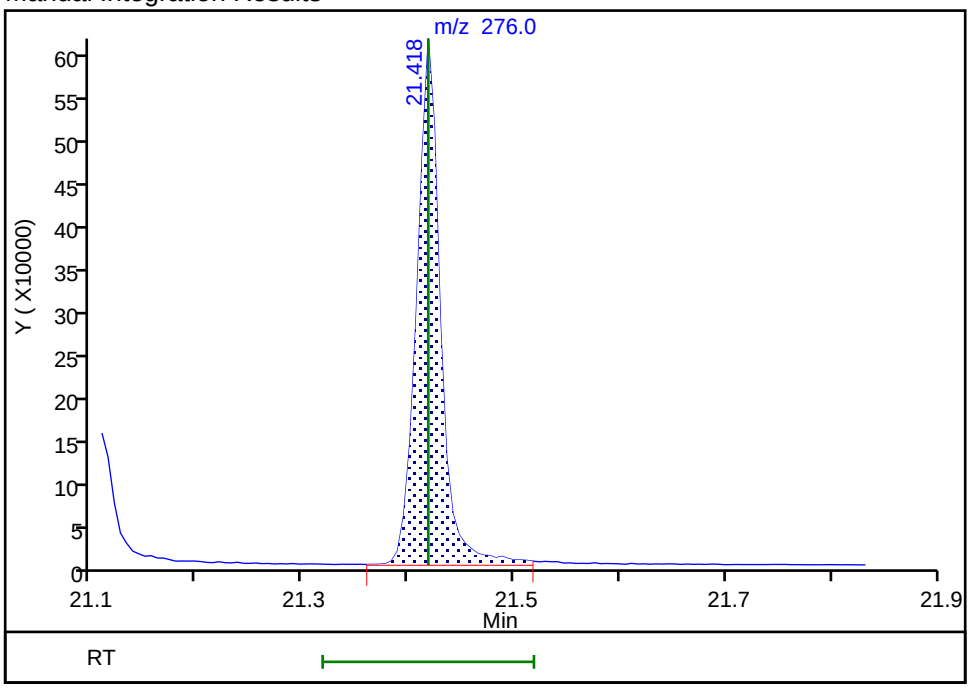
Processing Integration Results

RT: 21.53
Area: 9429
Amount: 7.500000
Amount Units: ug/ml



Manual Integration Results

RT: 21.42
Area: 961407
Amount: 7.569671
Amount Units: ug/ml



Reviewer: hartenstinel, 31-Jul-2020 16:41:20

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Report Date: 04-Aug-2020 16:10:08 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1952.D
Lims ID: IC L1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 31-Jul-2020 16:46:30 ALS Bottle#: 3 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC L1
Misc. Info.: 410-0007009-003
Operator ID: lmh00956 Instrument ID: HP19760
Sublist: chrom-MSSemi_HP19760*sub5

Method: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 04-Aug-2020 16:10:07 Calib Date: 31-Jul-2020 19:41:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1958.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1041

First Level Reviewer: transuea Date: 31-Jul-2020 18:16:59

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.816	1.782	0.034	36	2865	0.1250	0.1105	
2 N-Nitrosodimethylamine	74	2.463	2.382	0.081	52	2808	0.1250	0.0733	
3 Pyridine	79	2.551	2.423	0.128	92	8255	0.1250	0.1187	a
4 2-Picoline	93	3.728	3.664	0.064	90	7233	0.1250	0.1055	
5 N-Nitrosomethylethylamine	88	3.897	3.868	0.029	1	2122	0.1250	0.0763	
7 Methyl methanesulfonate	80	4.346	4.335	0.011	85	3751	0.1250	0.1135	
$ 8 2-Fluorophenol	112	4.573	4.574	-0.001	92	13528	0.2500	0.2335	
9 N-Nitrosodiethylamine	102	4.917	4.912	0.005	92	2532	0.1250	0.0954	
10 Ethyl methanesulfonate	109	5.384	5.384	0.000	93	3458	0.1250	0.1216	
12 Benzaldehyde	77	5.832	5.833	0.000	95	6297	0.1250	0.1205	
$ 13 Phenol-d5	99	5.972	5.978	-0.006	94	15962	0.2500	0.2172	
14 Phenol	94	5.990	5.996	-0.006	78	10702	0.1250	0.1237	
15 Aniline	93	6.001	6.002	-0.001	91	11765	0.1250	0.1167	
16 Bis(2-chloroethyl)ether	93	6.124	6.124	0.000	93	7240	0.1250	0.1111	
17 2-Chlorophenol	128	6.159	6.159	0.000	92	5879	0.1250	0.1107	
18 1,3-Dichlorobenzene	146	6.386	6.386	0.000	94	7318	0.1250	0.1219	
* 19 1,4-Dichlorobenzene-d4	152	6.479	6.479	0.000	96	185168	5.00	5.00	
20 1,4-Dichlorobenzene	146	6.503	6.503	0.000	95	7876	0.1250	0.1293	
21 Benzyl alcohol	108	6.707	6.707	0.000	89	4343	0.1250	0.1144	
22 1,2-Dichlorobenzene	146	6.724	6.718	0.006	89	7120	0.1250	0.1226	
24 Indene	115	6.858	6.858	0.000	87	9852	0.1250	0.1176	
23 2-Methylphenol	108	6.893	6.899	-0.006	94	5993	0.1250	0.1161	
25 2,2'-oxybis[1-chloropropane]	45	6.934	6.934	0.000	80	6176	0.1250	0.1200	
26 N-Nitrosopyrrolidine	100	7.056	7.062	-0.006	91	2848	0.1250	0.1079	
27 Acetophenone	105	7.097	7.097	0.000	93	10118	0.1250	0.1298	
29 N-Nitrosodi-n-propylamine	70	7.121	7.126	-0.005	75	4377	0.1250	0.0976	
30 N-Nitrosomorpholine	56	7.126	7.132	-0.006	70	2938	0.1250	0.0940	
28 4-Methylphenol	108	7.126	7.138	-0.012	86	7043	0.1250	0.1131	
31 2-Toluidine	106	7.144	7.150	-0.006	86	10306	0.1250	0.1117	
32 Hexachloroethane	117	7.231	7.231	0.000	89	3097	0.1250	0.1123	

Report Date: 04-Aug-2020 16:10:08 Chrom Revision: 2.3 30-Jun-2020 12:05:54
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1952.D

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 33 Nitrobenzene-d5	82	7.313	7.313	0.000	89	12859	0.2500	0.1893	
34 Nitrobenzene	77	7.336	7.342	-0.006	82	7281	0.1250	0.1065	
35 N-Nitrosopiperidine	114	7.575	7.575	0.000	80	2476	0.1250	0.0957	
36 Isophorone	82	7.727	7.727	0.000	96	12678	0.1250	0.1088	
37 2-Nitrophenol	139	7.832	7.838	-0.006	83	2141	0.1250	0.0824	
38 2,4-Dimethylphenol	107	7.942	7.948	-0.006	94	6151	0.1250	0.1094	
39 o,o',o''-Triethylphosphorothioat	198	8.071	8.077	-0.006	84	2586	0.1250	0.0997	
40 Benzoic acid	105	8.012	8.100	-0.088	88	13869	1.25	0.4571	
41 Bis(2-chloroethoxy)methane	93	8.100	8.106	-0.006	97	8193	0.1250	0.1109	
42 2,4-Dichlorophenol	162	8.211	8.211	-0.001	94	4445	0.1250	0.1045	
43 1,2,4-Trichlorobenzene	180	8.339	8.339	0.000	91	5507	0.1250	0.1155	
* 44 Naphthalene-d8	136	8.415	8.415	-0.001	100	693837	5.00	5.00	
45 Naphthalene	128	8.444	8.450	-0.006	98	18709	0.1250	0.1231	
46 4-Chloroaniline	127	8.560	8.560	0.000	91	6784	0.1250	0.1116	
47 2,6-Dichlorophenol	162	8.566	8.566	0.000	82	4522	0.1250	0.1093	
48 Hexachloropropene	213	8.595	8.601	-0.006	89	2737	0.1250	0.0953	
49 Hexachlorobutadiene	225	8.677	8.677	0.000	87	2766	0.1250	0.1020	
50 Quinoline	129	8.974	8.980	-0.006	96	10431	0.1250	0.1124	
52 Caprolactam	113	9.067	9.091	-0.024	81	1036	0.1250	0.0656	
53 N-Nitrosodi-n-butylamine	84	9.131	9.137	-0.006	92	2704	0.1250	0.4427	
54 4-Chloro-3-methylphenol	107	9.359	9.365	-0.006	88	4498	0.1250	0.1011	
55 Safrole, Total	162	9.452	9.452	0.000	82	4402	0.1250	0.1135	
56 2-Methylnaphthalene	142	9.551	9.551	0.000	89	10081	0.1250	0.1064	
S 51 Diallate	86				0		0.1250	0.1010	
57 1-Methylnaphthalene	142	9.697	9.703	-0.006	87	10456	0.1250	0.1165	
58 Hexachlorocyclopentadiene	237	9.819	9.819	0.000	68	2244	0.1250	0.0871	
59 1,2,4,5-Tetrachlorobenzene	216	9.819	9.819	0.000	91	5342	0.1250	0.1142	
60 Isosafrole Peak 1	162	9.918	9.918	0.000	68	626	0.0200	0.0161	
61 2,4,6-Trichlorophenol	196	10.012	10.017	-0.005	86	2995	0.1250	0.1039	
62 2,4,5-Trichlorophenol	196	10.064	10.070	-0.006	94	3409	0.1250	0.1112	
$ 63 2-Fluorobiphenyl (Surr)	172	10.163	10.169	-0.006	99	26110	0.2500	0.2396	
64 Isosafrole Peak 2	162	10.274	10.280	-0.006	81	4197	0.1050	0.0952	
65 1,1'-Biphenyl	154	10.315	10.315	0.000	93	13945	0.1250	0.1229	
66 2-Chloronaphthalene	162	10.315	10.321	-0.006	80	11214	0.1250	0.1158	
67 1-Chloronaphthalene	162	10.344	10.350	-0.006	95	9992	0.1250	0.1195	
68 Phenyl ether	170	10.495	10.495	0.000	83	7783	0.1250	0.1235	
69 2-Nitroaniline	138	10.501	10.507	-0.006	63	1915	0.1250	0.2968	
70 1,4-Naphthoquinone	158	10.606	10.612	-0.006	80	2787	0.1250	0.0771	
71 1,4-Dinitrobenzene	168	10.734	10.746	-0.012	74	891	0.1250	0.0655	
72 Dimethyl phthalate	163	10.845	10.851	-0.006	94	11044	0.1250	0.1093	
73 1,3-Dinitrobenzene	168	10.851	10.857	-0.006	45	710	0.1250	0.0439	
74 2,6-Dinitrotoluene	165	10.921	10.921	0.000	72	1131	0.1250	0.2416	
75 Acenaphthylene	152	10.967	10.973	-0.006	99	13055	0.1250	0.1083	
76 3-Nitroaniline	138	11.154	11.166	-0.012	86	1621	0.1250	0.2805	
* 77 Acenaphthene-d10	164	11.201	11.207	-0.005	98	331698	5.00	5.00	
78 Acenaphthene	153	11.253	11.253	0.000	96	11635	0.1250	0.1274	
79 2,4-Dinitrophenol	184	11.335	11.341	-0.006	79	4169	1.13	0.2988	
81 Pentachlorobenzene	250	11.469	11.469	0.000	85	4401	0.1250	0.1197	
80 4-Nitrophenol	109	11.469	11.475	-0.006	83	5862	0.6250	0.2854	
83 Dibenzofuran	168	11.527	11.533	-0.006	95	14445	0.1250	0.1181	
82 2,4-Dinitrotoluene	165	11.539	11.545	-0.006	50	1832	0.1250	0.0623	
84 1-Naphthylamine	143	11.644	11.649	-0.005	97	9613	0.1250	0.1066	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
85 2,3,4,6-Tetrachlorophenol	232	11.719	11.725	-0.006	74	1950	0.1250	0.0843	
86 2-Naphthylamine	143	11.760	11.766	-0.006	95	9396	0.1250	0.1035	
87 Diethyl phthalate	149	11.929	11.935	-0.006	96	9183	0.1250	0.0940	
89 Fluorene	166	12.005	12.005	0.000	93	10761	0.1250	0.1124	
88 Thionazin	107	12.028	12.034	-0.006	45	1417	0.1250	0.0710	
90 N-Nitro-o-toluidine	152	12.034	12.040	-0.006	64	1562	0.1250	0.2602	
91 4-Chlorophenyl phenyl ether	204	12.040	12.046	-0.006	91	6332	0.1250	0.1254	
92 4-Nitroaniline	138	12.040	12.046	-0.006	61	1108	0.1250	0.2259	
93 4,6-Dinitro-2-methylphenol	198	12.087	12.092	-0.005	72	3802	0.6250	0.2136	
94 N-Nitrosodiphenylamine	169	12.191	12.192	-0.001	65	8841	0.1250	0.1077	
95 1,2-Diphenylhydrazine	77	12.232	12.238	-0.006	97	12827	0.1250	0.1015	
$ 96 2,4,6-Tribromophenol	330	12.302	12.308	-0.006	75	1610	0.2500	0.1307	
97 Sulfotepp	97	12.430	12.431	-0.001	74	1175	0.1250	0.0598	
98 cis-Diallate	86	12.553	12.553	0.000	86	3620	0.0925	0.0737	
99 Phorate	75	12.559	12.559	0.000	90	3763	0.1250	0.2491	
100 Phenacetin	108	12.570	12.582	-0.012	90	3123	0.1250	0.0617	
101 4-Bromophenyl phenyl ether	248	12.623	12.623	0.000	71	2974	0.1250	0.1160	
102 trans-Diallate	86	12.652	12.652	0.000	44	1289	0.0325	0.0273	a
103 Hexachlorobenzene	284	12.658	12.664	-0.006	89	3190	0.1250	0.1206	
104 Dimethoate	87	12.728	12.745	-0.017	83	1871	0.1250	0.0482	
105 Atrazine	200	12.844	12.856	-0.012	84	2069	0.1250	0.0855	
106 Pentachlorophenol	266	12.903	12.908	-0.005	83	1801	0.1250	0.1003	
107 Pentachloronitrobenzene	237	12.926	12.926	0.000	43	158	0.1250	0.0131	
108 4-Aminobiphenyl	169	12.926	12.932	-0.006	89	6486	0.1250	0.0921	
109 Pronamide	173	13.031	13.037	-0.006	83	2249	0.1250	0.0547	
* 110 Phenanthrene-d10	188	13.130	13.130	0.000	98	602260	5.00	5.00	
112 Phenanthrene	178	13.153	13.159	-0.006	98	17215	0.1250	0.1237	
111 Dinoseb	211	13.159	13.165	-0.006	1	685	0.1250	1.09	
113 Anthracene	178	13.217	13.223	-0.006	98	14221	0.1250	0.1068	
114 Carbazole	167	13.433	13.439	-0.006	97	12639	0.1250	0.1044	
115 Methyl parathion	109	13.637	13.643	-0.006	81	1340	0.1250	1.32	
116 Di-n-butyl phthalate	149	13.946	13.952	-0.006	100	11749	0.1250	0.0756	
117 Ethyl Parathion	109	14.156	14.167	-0.011	65	702	0.1250	0.9039	
118 4-Nitroquinoline-1-oxide	190	14.167	14.167	0.000	61	209	0.1250	3.89	
119 Octachlorostyrene	308	14.488	14.494	-0.006	70	1113	0.1250	0.1083	
120 Isodrin	193	14.529	14.529	0.000	77	1585	0.1250	0.0991	
121 Fluoranthene	202	14.733	14.739	-0.006	98	14129	0.1250	0.1005	
122 Benzidine	184	14.966	14.978	-0.012	99	45465	1.00	0.4630	
* 123 Pyrene-d10 (IS)	212	15.036	15.042	-0.006	98	576614	5.00	5.00	
124 Pyrene	202	15.065	15.065	0.000	91	19765	0.1250	0.1293	
$ 125 p-Terphenyl-d14	244	15.356	15.362	-0.006	97	21899	0.2500	0.1980	
126 p-Dimethylamino azobenzene	225	15.578	15.590	-0.012	83	1069	0.1250	1.27	
127 Chlorobenzilate	139	15.677	15.683	-0.006	84	1897	0.1250	0.0481	
128 3,3'-Dimethylbenzidine	212	16.132	16.138	-0.006	97	3734	0.1250	0.8287	
129 Butyl benzyl phthalate	149	16.202	16.207	-0.005	93	3766	0.1250	0.0579	
130 2-Acetylaminofluorene	181	16.540	16.546	-0.006	80	1435	0.1250	1.12	
132 Benzo[a]anthracene	228	17.029	17.035	-0.006	98	9314	0.1250	0.1795	
131 3,3'-Dichlorobenzidine	252	17.029	17.041	-0.012	56	2578	0.1250	0.8103	
133 4,4'-Methylene bis(2-chloroanil	231	17.053	17.064	-0.011	1	1019	0.1250	0.0392	
134 Chrysene	228	17.082	17.093	-0.011	96	13650	0.1250	0.1037	
135 Bis(2-ethylhexyl) phthalate	149	17.268	17.268	0.000	94	4192	0.1250	0.0478	
136 6-Methylchrysene	242	17.880	17.886	-0.006	94	6279	0.1250	0.0679	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
137 Di-n-octyl phthalate	149	18.416	18.422	-0.006	98	5527	0.1250	1.00	
138 Benzo[b]fluoranthene	252	18.848	18.860	-0.012	94	9033	0.1250	0.1674	
139 7,12-Dimethylbenz(a)anthracene	256	18.859	18.871	-0.012	70	3381	0.1250	0.2379	
140 Benzo[k]fluoranthene	252	18.894	18.906	-0.012	96	11468	0.1250	0.0996	
141 Benzo[a]pyrene	252	19.372	19.378	-0.006	80	7861	0.1250	0.1648	
* 142 Perylene-d12	264	19.466	19.466	0.000	98	448166	5.00	5.00	
143 3-Methylcholanthrene	268	19.949	19.955	-0.006	90	3354	0.1250	0.3099	
144 Dibenz[a,h]acridine	279	20.748	20.760	-0.012	89	3948	0.1250	0.0563	
145 Dibenz[a,j]acridine	279	20.824	20.835	-0.011	1	4040	0.1250	0.0498	Ma
146 Indeno[1,2,3-cd]pyrene	276	21.051	21.063	-0.012	94	5604	0.1250	0.1800	
147 Dibenz(a,h)anthracene	278	21.098	21.109	-0.011	92	6836	0.1250	0.1724	
148 Benzo[g,h,i]perylene	276	21.401	21.418	-0.017	94	7269	0.1250	0.1574	
S 152 Dinitrotoluene	165				0		0.2500	0.3039	
S 170 Isosafrole	162				0		0.1250	0.1113	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

MSS_RV8270_1_00008 Amount Added: 1.00 Units: mL

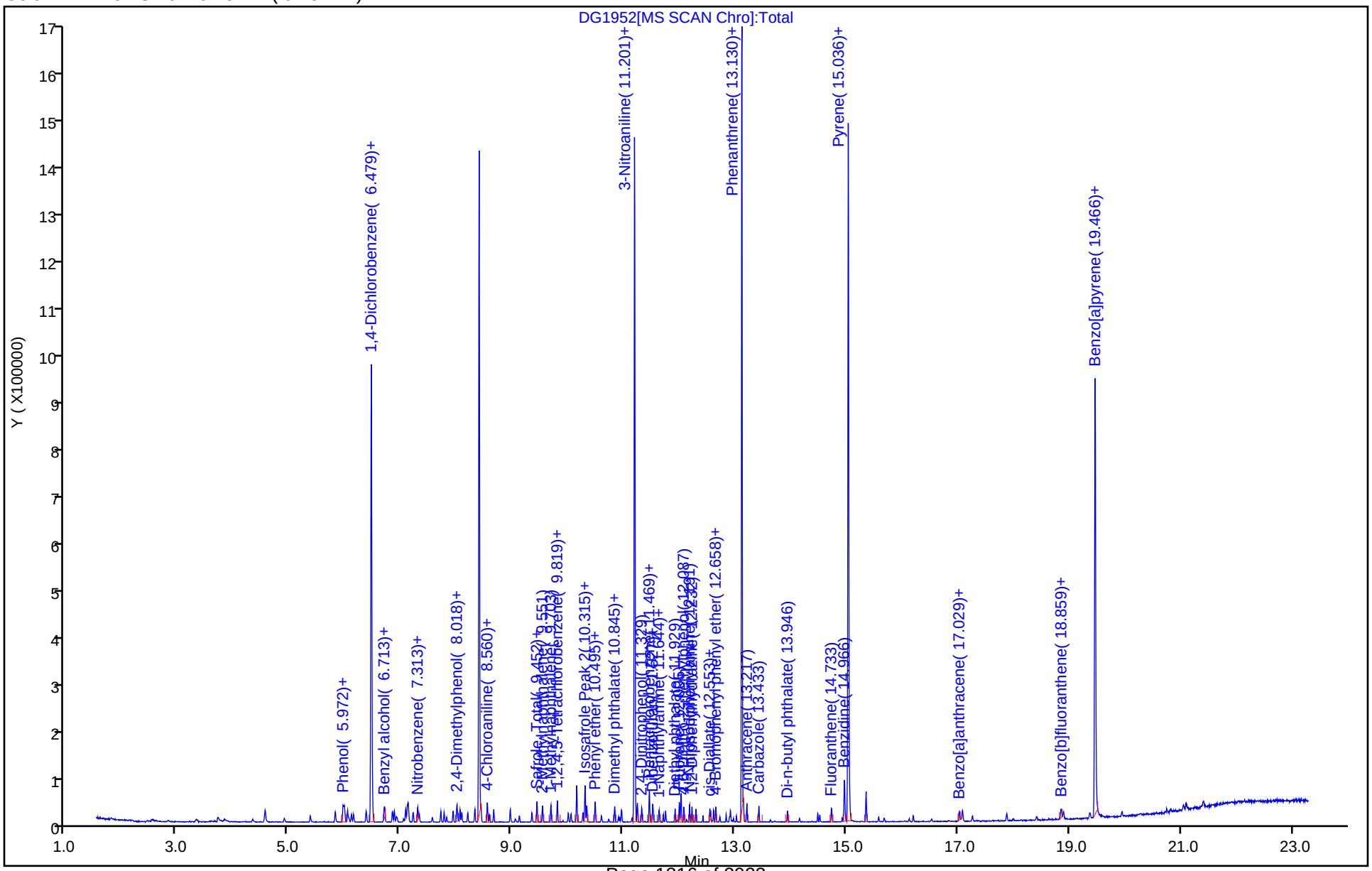
Report Date: 04-Aug-2020 16:10:08 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1952.D

Injection Date:	31-Jul-2020 16:46:30	Instrument ID:	HP19760	Operator ID:	lmh00956
Lims ID:	IC L1			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	3
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

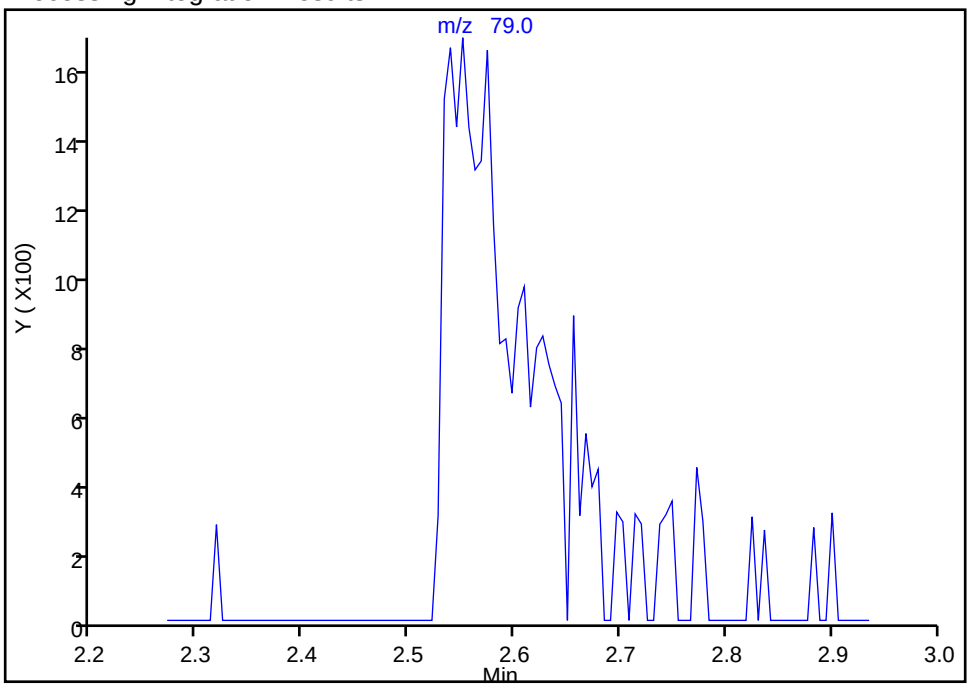
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1952.D				
Injection Date:	31-Jul-2020 16:46:30	Instrument ID:	HP19760		
Lims ID:	IC L1				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

3 Pyridine, CAS: 110-86-1

Signal: 1

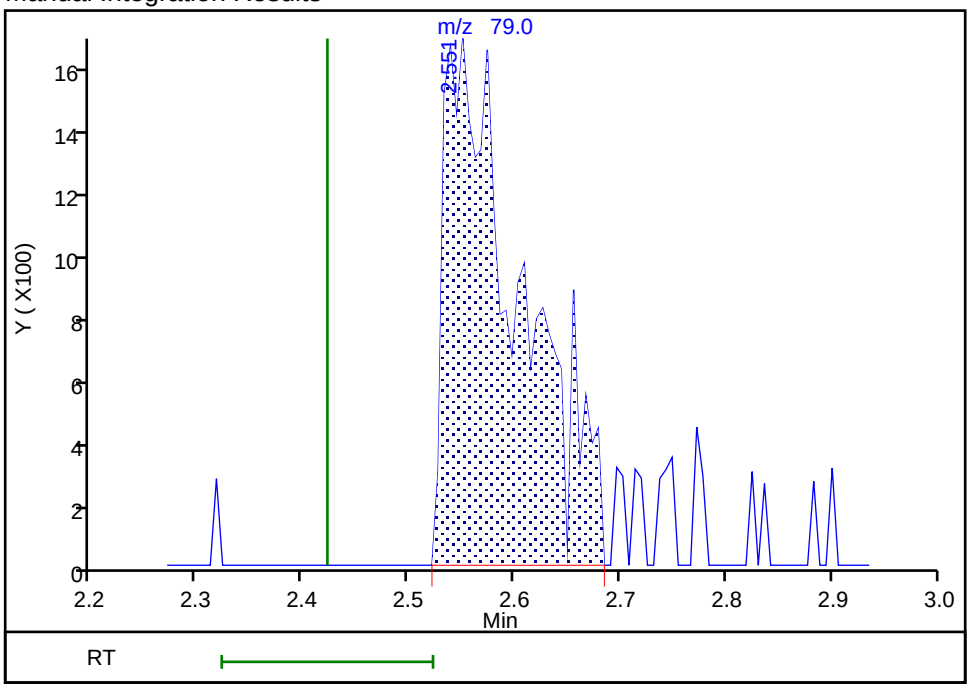
Not Detected
Expected RT: 2.42

Processing Integration Results



Manual Integration Results

RT: 2.55
Area: 8255
Amount: 0.118688
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:51:04
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

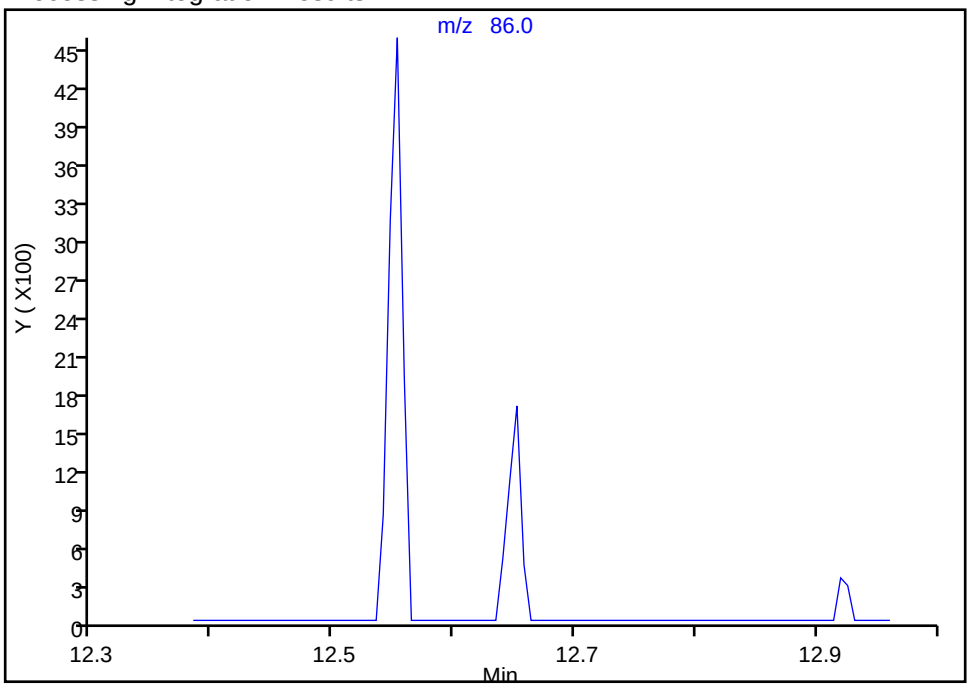
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1952.D				
Injection Date:	31-Jul-2020 16:46:30	Instrument ID:	HP19760		
Lims ID:	IC L1				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

102 trans-Diallate, CAS: 17708-58-6

Signal: 1

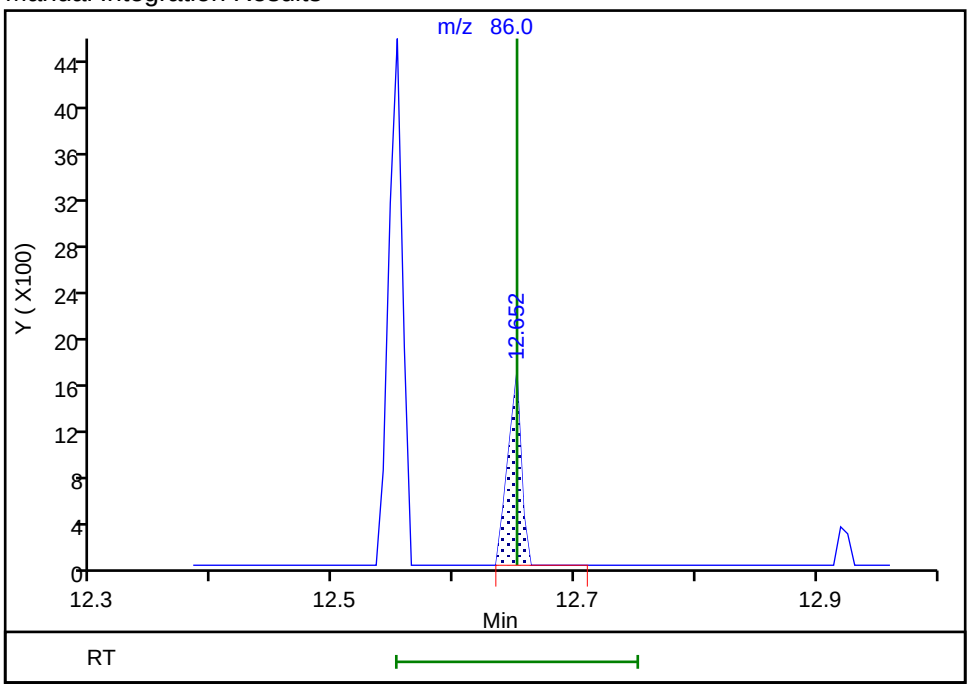
Not Detected
Expected RT: 12.65

Processing Integration Results



Manual Integration Results

RT: 12.65
Area: 1289
Amount: 0.027327
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:51:36
Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

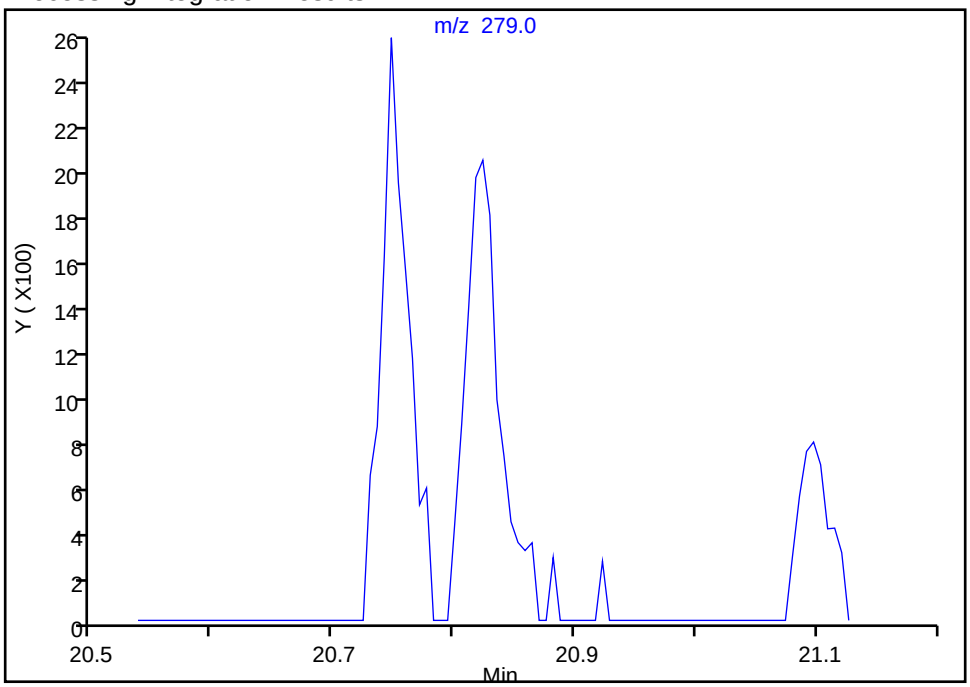
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1952.D				
Injection Date:	31-Jul-2020 16:46:30	Instrument ID:	HP19760		
Lims ID:	IC L1				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	3	Worklist Smp#:	3
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

145 Dibenz[a,j]acridine, CAS: 224-42-0

Signal: 1

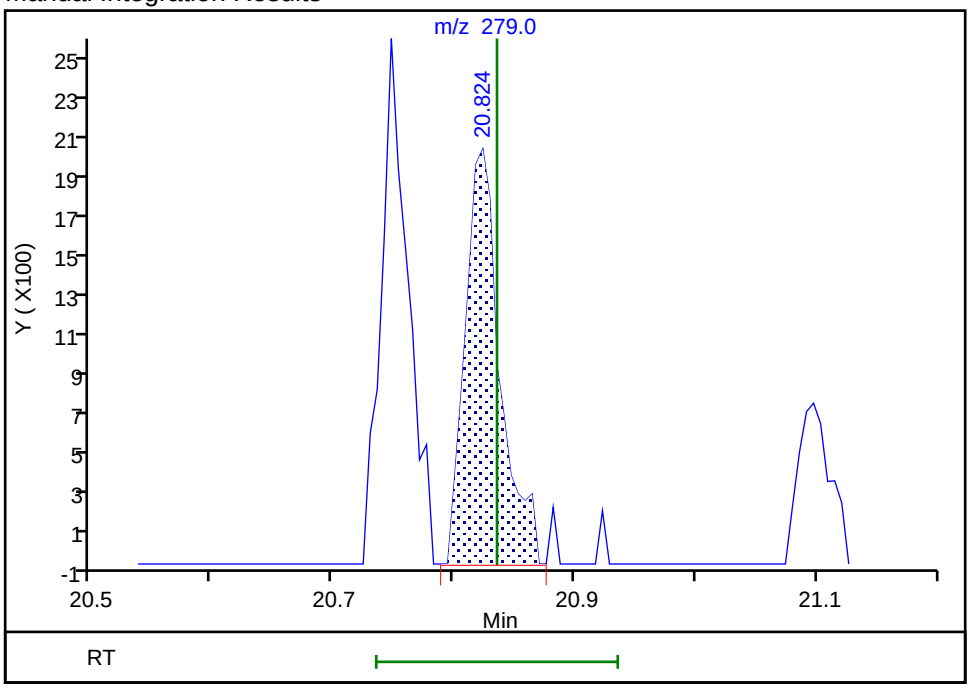
Not Detected
Expected RT: 20.84

Processing Integration Results



Manual Integration Results

RT: 20.82
Area: 4040
Amount: 0.049820
Amount Units: ug/ml



Reviewer: transuea, 31-Jul-2020 17:53:04
Audit Action: Manually Integrated Audit Reason: Baseline

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1953.D
Lims ID: IC L8
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 31-Jul-2020 17:15:30 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC L8
Misc. Info.: 410-0007009-004
Operator ID: lmh00956 Instrument ID: HP19760
Sublist: chrom-MSSemi_HP19760*sub5

Method: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 04-Aug-2020 16:10:16 Calib Date: 31-Jul-2020 19:41:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1958.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1041

First Level Reviewer: saadehw Date: 02-Aug-2020 15:11:52

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 1,4-Dioxane	88	1.787	1.782	0.005	88	788309	30.0	32.2	
	2 N-Nitrosodimethylamine	74	2.394	2.382	0.012	94	1149130	30.0	31.8	
	3 Pyridine	79	2.417	2.423	-0.006	93	2087888	30.0	31.8	
	4 2-Picoline	93	3.664	3.664	0.000	90	2086430	30.0	32.3	
	5 N-Nitrosomethylethylamine	88	3.874	3.868	0.006	87	850372	30.0	32.4	
	7 Methyl methanesulfonate	80	4.352	4.335	0.017	86	956832	30.0	30.7	
$	8 2-Fluorophenol	112	4.591	4.574	0.017	91	3465007	60.0	63.4	
	9 N-Nitrosodiethylamine	102	4.929	4.912	0.017	86	828978	30.0	33.1	
	10 Ethyl methanesulfonate	109	5.401	5.384	0.017	98	837286	30.0	31.2	
	12 Benzaldehyde	77	5.838	5.833	0.006	95	1509356	30.0	30.6	
$	13 Phenol-d5	99	5.996	5.978	0.018	95	4438736	60.0	64.1	
	14 Phenol	94	6.013	5.996	0.017	93	2681517	30.0	32.9	
	15 Aniline	93	6.007	6.002	0.005	97	3120716	30.0	32.8	
	16 Bis(2-chloroethyl)ether	93	6.136	6.124	0.012	99	1895775	30.0	30.8	
	17 2-Chlorophenol	128	6.171	6.159	0.012	94	1571973	30.0	31.4	
	18 1,3-Dichlorobenzene	146	6.392	6.386	0.006	93	1743825	30.0	30.8	
*	19 1,4-Dichlorobenzene-d4	152	6.485	6.479	0.006	96	174611	5.00	5.00	
	20 1,4-Dichlorobenzene	146	6.509	6.503	0.006	90	1785602	30.0	31.1	
	21 Benzyl alcohol	108	6.724	6.707	0.017	90	1157414	30.0	32.3	
	22 1,2-Dichlorobenzene	146	6.724	6.718	0.006	92	1723559	30.0	31.5	
	24 Indene	115	6.864	6.858	0.006	87	2454560	30.0	31.1	
	23 2-Methylphenol	108	6.905	6.899	0.006	95	1562084	30.0	32.1	
	25 2,2'-oxybis[1-chloropropane]	45	6.940	6.934	0.006	90	1472009	30.0	30.3	
	26 N-Nitrosopyrrolidine	100	7.097	7.062	0.035	90	853537	30.0	34.3	
	27 Acetophenone	105	7.115	7.097	0.018	94	2395975	30.0	32.6	
	29 N-Nitrosodi-n-propylamine	70	7.156	7.126	0.030	73	1486022	30.0	35.1	
	30 N-Nitrosomorpholine	56	7.161	7.132	0.029	89	958554	30.0	32.5	
	28 4-Methylphenol	108	7.156	7.138	0.018	92	1978394	30.0	33.7	
	31 2-Toluidine	106	7.161	7.150	0.011	85	2814762	30.0	32.4	
	32 Hexachloroethane	117	7.231	7.231	0.000	94	805807	30.0	31.0	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 33 Nitrobenzene-d5	82	7.330	7.313	0.017	86	4023629	60.0	63.9	
34 Nitrobenzene	77	7.360	7.342	0.018	83	2083520	30.0	32.9	
35 N-Nitrosopiperidine	114	7.593	7.575	0.018	87	808047	30.0	33.7	
36 Isophorone	82	7.744	7.727	0.017	96	3593203	30.0	33.3	
37 2-Nitrophenol	139	7.843	7.838	0.005	90	822879	30.0	34.2	
38 2,4-Dimethylphenol	107	7.960	7.948	0.012	97	1764115	30.0	33.9	
39 o,o',o''-Triethylphosphorothioat	198	8.088	8.077	0.011	88	781575	30.0	32.5	
40 Benzoic acid	105	8.170	8.100	0.070	87	952996	30.0	33.9	M
41 Bis(2-chloroethoxy)methane	93	8.117	8.106	0.011	99	2212013	30.0	32.3	
42 2,4-Dichlorophenol	162	8.222	8.211	0.011	96	1306201	30.0	33.1	
43 1,2,4-Trichlorobenzene	180	8.345	8.339	0.006	91	1421891	30.0	32.2	
* 44 Naphthalene-d8	136	8.420	8.415	0.005	99	642968	5.00	5.00	
45 Naphthalene	128	8.455	8.450	0.005	99	4412362	30.0	31.3	
46 4-Chloroaniline	127	8.572	8.560	0.012	95	1919725	30.0	34.1	
47 2,6-Dichlorophenol	162	8.578	8.566	0.012	94	1278436	30.0	33.3	
48 Hexachloropropene	213	8.601	8.601	0.000	89	901611	30.0	33.9	
49 Hexachlorobutadiene	225	8.683	8.677	0.006	96	814493	30.0	32.4	
50 Quinoline	129	8.986	8.980	0.006	96	2724239	30.0	31.7	
52 Caprolactam	113	9.161	9.091	0.070	84	512895	30.0	35.1	a
53 N-Nitrosodi-n-butylamine	84	9.149	9.137	0.012	90	1563068	30.0	29.8	
54 4-Chloro-3-methylphenol	107	9.382	9.365	0.017	92	1431046	30.0	34.7	
55 Safrole, Total	162	9.458	9.452	0.006	83	1181028	30.0	32.9	
56 2-Methylnaphthalene	142	9.557	9.551	0.006	91	2925617	30.0	33.3	
S 51 Diallate	86				0		30.0	33.6	
57 1-Methylnaphthalene	142	9.709	9.703	0.006	91	2755816	30.0	33.1	
59 1,2,4,5-Tetrachlorobenzene	216	9.825	9.819	0.006	97	1462985	30.0	33.1	
58 Hexachlorocyclopentadiene	237	9.819	9.819	0.000	96	878684	30.0	36.2	
60 Isosafrole Peak 1	162	9.918	9.918	0.000	86	195680	4.80	5.34	
61 2,4,6-Trichlorophenol	196	10.029	10.017	0.012	95	954216	30.0	35.1	
62 2,4,5-Trichlorophenol	196	10.082	10.070	0.012	91	976434	30.0	33.8	
$ 63 2-Fluorobiphenyl (Surr)	172	10.175	10.169	0.006	98	6443754	60.0	62.7	
64 Isosafrole Peak 2	162	10.286	10.280	0.006	85	1169274	25.2	28.1	
65 1,1'-Biphenyl	154	10.326	10.315	0.011	97	3628234	30.0	33.9	
66 2-Chloronaphthalene	162	10.326	10.321	0.005	98	3071696	30.0	33.6	
67 1-Chloronaphthalene	162	10.361	10.350	0.011	97	2429889	30.0	30.8	
68 Phenyl ether	170	10.501	10.495	0.006	86	1930992	30.0	32.5	
69 2-Nitroaniline	138	10.519	10.507	0.012	81	891249	30.0	31.7	
70 1,4-Naphthoquinone	158	10.624	10.612	0.012	80	1141665	30.0	33.5	
71 1,4-Dinitrobenzene	168	10.758	10.746	0.012	84	466619	30.0	36.4	
72 Dimethyl phthalate	163	10.863	10.851	0.012	96	3039699	30.0	31.9	
73 1,3-Dinitrobenzene	168	10.868	10.857	0.011	79	548838	30.0	35.9	
74 2,6-Dinitrotoluene	165	10.933	10.921	0.012	88	707368	30.0	31.1	
75 Acenaphthylene	152	10.979	10.973	0.006	99	3784820	30.0	33.3	
76 3-Nitroaniline	138	11.177	11.166	0.011	88	749131	30.0	31.5	
* 77 Acenaphthene-d10	164	11.206	11.207	0.000	97	312973	5.00	5.00	
78 Acenaphthene	153	11.265	11.253	0.012	97	2764369	30.0	32.1	
79 2,4-Dinitrophenol	184	11.352	11.341	0.011	84	482193	30.0	36.6	
81 Pentachlorobenzene	250	11.475	11.469	0.006	96	1118875	30.0	32.3	
80 4-Nitrophenol	109	11.498	11.475	0.023	84	638887	30.0	33.0	
83 Dibenzofuran	168	11.539	11.533	0.006	95	3639219	30.0	31.5	
82 2,4-Dinitrotoluene	165	11.562	11.545	0.017	87	950839	30.0	34.3	
84 1-Naphthylamine	143	11.661	11.649	0.012	97	2738535	30.0	32.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
85 2,3,4,6-Tetrachlorophenol	232	11.731	11.725	0.006	77	745244	30.0	34.2	
86 2-Naphthylamine	143	11.772	11.766	0.006	93	2768314	30.0	32.3	
87 Diethyl phthalate	149	11.953	11.935	0.018	97	3031841	30.0	32.9	
89 Fluorene	166	12.011	12.005	0.006	94	3070495	30.0	34.0	
88 Thionazin	107	12.046	12.034	0.012	74	689782	30.0	36.6	
90 N-Nitro-o-toluidine	152	12.057	12.040	0.017	89	925445	30.0	31.7	
92 4-Nitroaniline	138	12.069	12.046	0.023	79	799828	30.0	30.9	
91 4-Chlorophenyl phenyl ether	204	12.046	12.046	0.000	91	1628587	30.0	34.2	
93 4,6-Dinitro-2-methylphenol	198	12.110	12.092	0.018	82	612037	30.0	34.0	
94 N-Nitrosodiphenylamine	169	12.203	12.192	0.011	71	2714066	30.0	32.7	
95 1,2-Diphenylhydrazine	77	12.244	12.238	0.006	98	4044815	30.0	31.6	
$ 96 2,4,6-Tribromophenol	330	12.314	12.308	0.006	83	833876	60.0	71.7	
97 Sulfotepp	97	12.436	12.431	0.005	81	678457	30.0	34.1	
98 cis-Diallate	86	12.559	12.553	0.006	87	1254711	22.2	25.2	
99 Phorate	75	12.565	12.559	0.006	95	2318798	30.0	31.6	
100 Phenacetin	108	12.600	12.582	0.018	92	1725952	30.0	33.7	
101 4-Bromophenyl phenyl ether	248	12.629	12.623	0.006	70	872737	30.0	33.6	
102 trans-Diallate	86	12.652	12.652	0.000	95	399865	7.80	8.37	
103 Hexachlorobenzene	284	12.669	12.664	0.005	94	862289	30.0	32.2	
104 Dimethoate	87	12.757	12.745	0.012	94	1333421	30.0	33.9	
105 Atrazine	200	12.862	12.856	0.006	93	790975	30.0	32.3	
106 Pentachlorophenol	266	12.920	12.908	0.012	91	635955	30.0	35.0	
107 Pentachloronitrobenzene	237	12.932	12.926	0.006	82	434084	30.0	35.5	
108 4-Aminobiphenyl	169	12.938	12.932	0.006	91	2459253	30.0	34.5	
109 Pronamide	173	13.042	13.037	0.005	90	1407270	30.0	33.8	
* 110 Phenanthrene-d10	188	13.136	13.130	0.006	98	609842	5.00	5.00	
112 Phenanthrene	178	13.165	13.159	0.006	99	4495790	30.0	31.9	
111 Dinoseb	211	13.171	13.165	0.006	95	896389	30.0	32.2	
113 Anthracene	178	13.229	13.223	0.006	99	4413791	30.0	32.7	
114 Carbazole	167	13.445	13.439	0.006	97	3989225	30.0	32.5	
115 Methyl parathion	109	13.649	13.643	0.006	91	1144111	30.0	30.5	
116 Di-n-butyl phthalate	149	13.952	13.952	0.000	100	5148102	30.0	32.7	
117 Ethyl Parathion	109	14.173	14.167	0.006	80	774708	30.0	31.5	
118 4-Nitroquinoline-1-oxide	190	14.173	14.167	0.006	80	447085	30.0	30.8	
119 Octachlorostyrene	308	14.494	14.494	0.000	88	359596	30.0	34.6	
120 Isodrin	193	14.529	14.529	0.000	87	541507	30.0	33.4	
121 Fluoranthene	202	14.744	14.739	0.005	99	4959466	30.0	34.8	
122 Benzidine	184	14.995	14.978	0.017	98	9932745	90.0	95.9	
* 123 Pyrene-d10 (IS)	212	15.042	15.042	0.000	98	608395	5.00	5.00	
124 Pyrene	202	15.077	15.065	0.012	96	5063024	30.0	31.4	
$ 125 p-Terphenyl-d14	244	15.368	15.362	0.006	97	7579996	60.0	65.0	
126 p-Dimethylamino azobenzene	225	15.595	15.590	0.005	89	952098	30.0	30.6	
127 Chlorobenzilate	139	15.689	15.683	0.006	87	1520385	30.0	36.5	
128 3,3'-Dimethylbenzidine	212	16.143	16.138	0.005	99	3564362	30.0	31.9	
129 Butyl benzyl phthalate	149	16.213	16.207	0.006	94	2387541	30.0	34.8	
130 2-Acetylaminofluorene	181	16.563	16.546	0.017	95	2091902	30.0	32.4	
132 Benzo[a]anthracene	228	17.041	17.035	0.006	99	5028938	30.0	32.5	
131 3,3'-Dichlorobenzidine	252	17.047	17.041	0.006	74	2049333	30.0	32.3	
133 4,4'-Methylene bis(2-chloroanil	231	17.070	17.064	0.006	94	963416	30.0	35.1	
134 Chrysene	228	17.105	17.093	0.012	97	4817579	30.0	34.7	
135 Bis(2-ethylhexyl) phthalate	149	17.274	17.268	0.006	97	3343306	30.0	36.1	
136 6-Methylchrysene	242	17.898	17.886	0.012	99	3526544	30.0	36.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
137 Di-n-octyl phthalate	149	18.428	18.422	0.006	100	5841450	30.0	30.3	
138 Benzo[b]fluoranthene	252	18.883	18.860	0.023	97	5638393	30.0	32.1	
139 7,12-Dimethylbenz(a)anthracene	256	18.889	18.871	0.018	89	2599214	30.0	31.6	
140 Benzo[k]fluoranthene	252	18.935	18.906	0.029	99	5154376	30.0	32.5	
141 Benzo[a]pyrene	252	19.396	19.378	0.018	78	5144947	30.0	31.4	
* 142 Perylene-d12	264	19.471	19.466	0.005	98	617052	5.00	5.00	
143 3-Methylcholanthrene	268	19.973	19.955	0.018	91	2503849	30.0	31.9	
144 Dibenz[a,h]acridine	279	20.777	20.760	0.017	92	3472995	30.0	36.0	
145 Dibenz[a,j]acridine	279	20.853	20.835	0.018	96	3826028	30.0	34.3	
146 Indeno[1,2,3-cd]pyrene	276	21.086	21.063	0.023	99	4235670	30.0	31.6	
147 Dibenz(a,h)anthracene	278	21.133	21.109	0.024	94	4597922	30.0	31.2	
148 Benzo[g,h,i]perylene	276	21.442	21.418	0.024	97	4509765	30.0	30.5	
S 152 Dinitrotoluene	165				0		60.0	65.4	
S 170 Isosafrole	162				0		30.0	33.5	

QC Flag Legend

Review Flags

M - Manually Integrated

a - User Assigned ID

Reagents:

MSS_RV8270_8_00007 Amount Added: 1.00 Units: mL

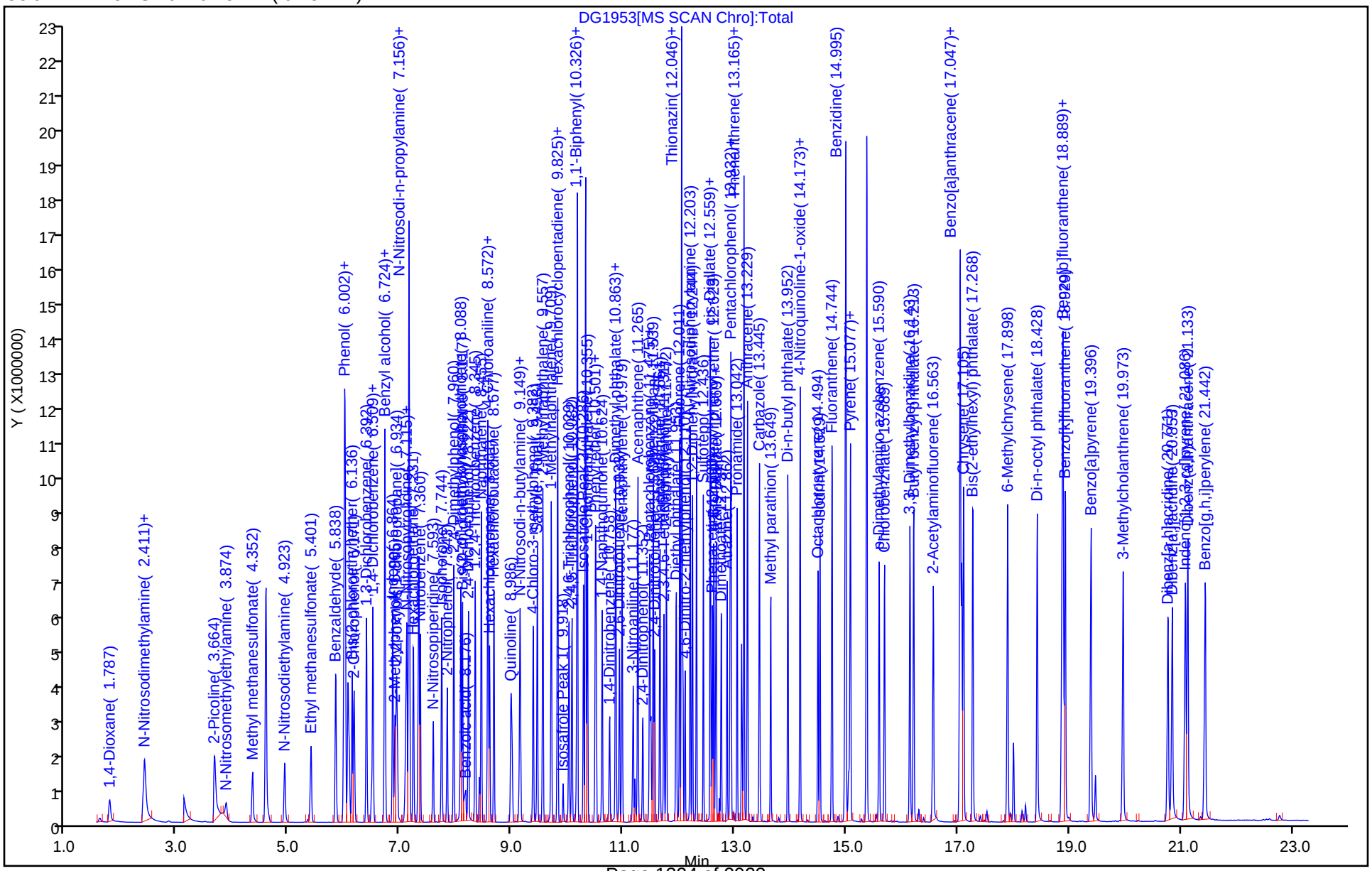
Report Date: 04-Aug-2020 16:10:17 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1953.D

Injection Date:	31-Jul-2020 17:15:30	Instrument ID:	HP19760	Operator ID:	lmh00956
Lims ID:	IC L8			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

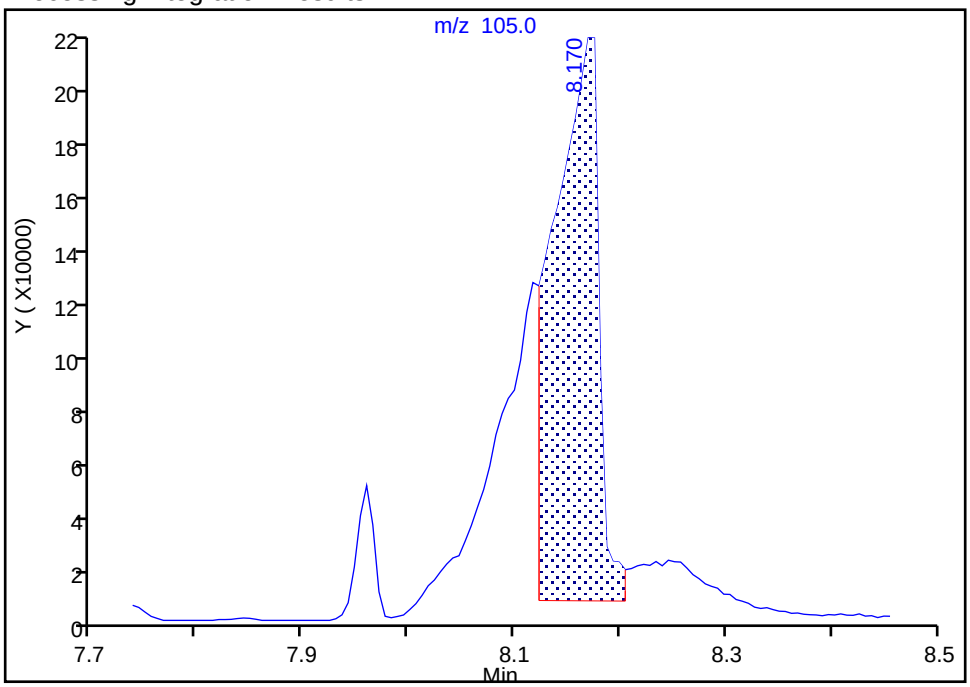
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1953.D				
Injection Date:	31-Jul-2020 17:15:30	Instrument ID:	HP19760		
Lims ID:	IC L8				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

40 Benzoic acid, CAS: 65-85-0

Signal: 1

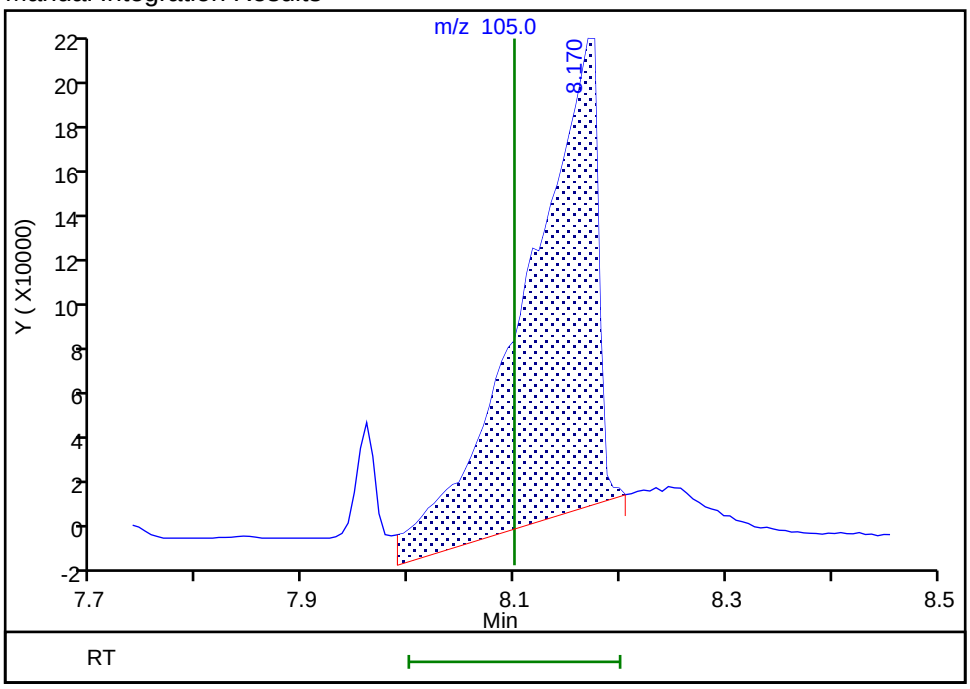
Processing Integration Results

RT: 8.17
Area: 596071
Amount: 22.807083
Amount Units: ug/ml



Manual Integration Results

RT: 8.17
Area: 952996
Amount: 33.892422
Amount Units: ug/ml



Reviewer: williamss, 02-Aug-2020 17:05:33

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

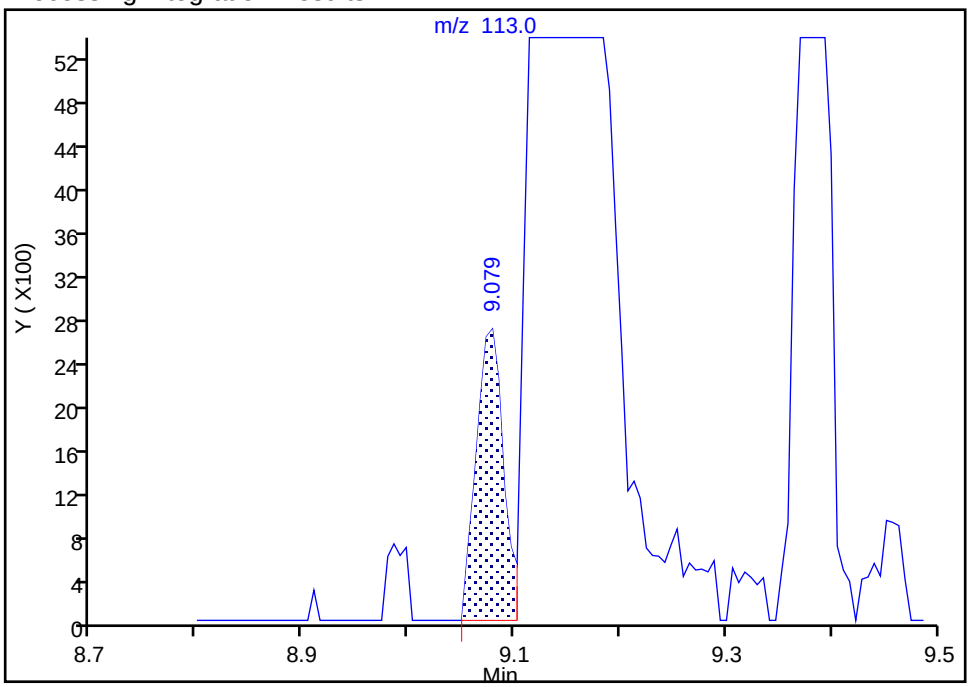
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1953.D		
Injection Date:	31-Jul-2020 17:15:30	Instrument ID:	HP19760
Lims ID:	IC L8		
Client ID:			
Operator ID:	lmh00956	ALS Bottle#:	4 Worklist Smp#: 4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN

52 Caprolactam, CAS: 105-60-2

Signal: 1

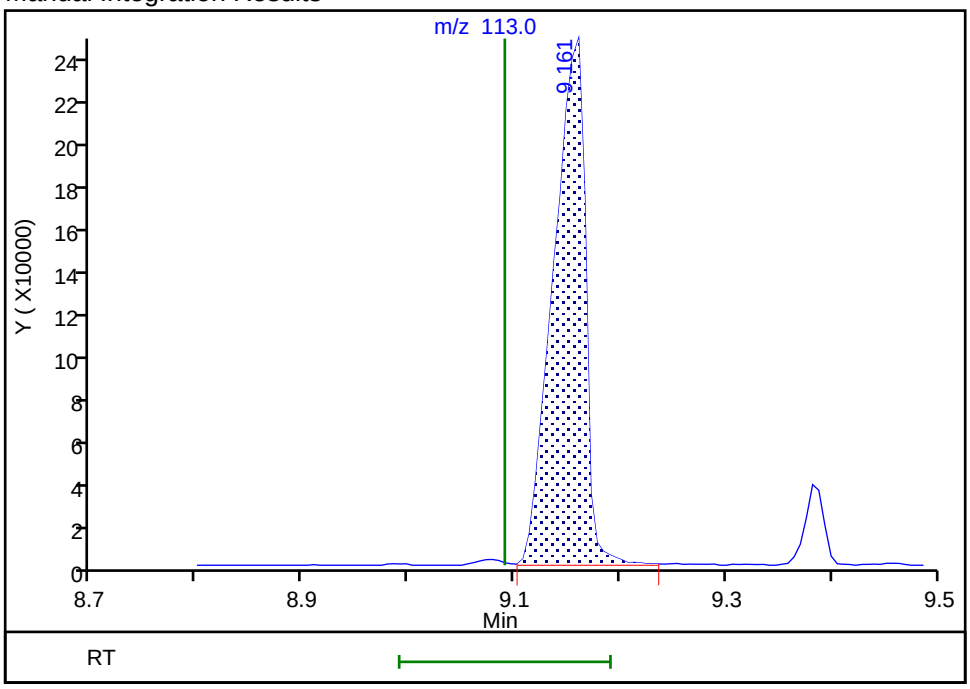
Processing Integration Results

RT: 9.08
Area: 4703
Amount: 0.398229
Amount Units: ug/ml



Manual Integration Results

RT: 9.16
Area: 512895
Amount: 35.050354
Amount Units: ug/ml



Reviewer: williamss, 02-Aug-2020 17:04:21

Audit Action: Assigned Compound ID Audit Reason: Peak assignment corrected

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1954.D
Lims ID: IC L7
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 31-Jul-2020 17:44:30 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC L7
Misc. Info.: 410-0007009-005
Operator ID: lmh00956 Instrument ID: HP19760
Sublist: chrom-MSSemi_HP19760*sub5

Method: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 04-Aug-2020 16:10:28 Calib Date: 31-Jul-2020 19:41:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1958.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1041

First Level Reviewer: williamss Date: 02-Aug-2020 16:50:15

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.787	1.782	0.005	88	536279	20.0	21.2	
2 N-Nitrosodimethylamine	74	2.388	2.382	0.006	93	788636	20.0	21.1	
3 Pyridine	79	2.417	2.423	-0.006	82	1414973	20.0	20.8	
4 2-Picoline	93	3.664	3.664	0.000	90	1389072	20.0	20.8	
5 N-Nitrosomethylethylamine	88	3.874	3.868	0.006	87	578071	20.0	21.3	
7 Methyl methanesulfonate	80	4.346	4.335	0.011	86	660723	20.0	20.5	
$ 8 2-Fluorophenol	112	4.585	4.574	0.011	91	2317562	40.0	41.0	
9 N-Nitrosodiethylamine	102	4.923	4.912	0.011	86	558845	20.0	21.6	
10 Ethyl methanesulfonate	109	5.395	5.384	0.011	98	568555	20.0	20.5	
12 Benzaldehyde	77	5.838	5.833	0.006	96	1035775	20.0	20.3	
$ 13 Phenol-d5	99	5.990	5.978	0.012	95	2934934	40.0	40.9	
14 Phenol	94	6.007	5.996	0.011	83	1788822	20.0	21.2	
15 Aniline	93	6.007	6.002	0.005	78	2050374	20.0	20.8	
16 Bis(2-chloroethyl)ether	93	6.130	6.124	0.006	99	1287832	20.0	20.2	
17 2-Chlorophenol	128	6.165	6.159	0.006	94	1068875	20.0	20.6	
18 1,3-Dichlorobenzene	146	6.392	6.386	0.006	93	1166741	20.0	19.9	
* 19 1,4-Dichlorobenzene-d4	152	6.479	6.479	0.000	96	180739	5.00	5.00	
20 1,4-Dichlorobenzene	146	6.509	6.503	0.006	90	1198307	20.0	20.1	
21 Benzyl alcohol	108	6.718	6.707	0.011	89	771627	20.0	20.8	
22 1,2-Dichlorobenzene	146	6.724	6.718	0.006	93	1147848	20.0	20.3	
24 Indene	115	6.864	6.858	0.006	87	1655178	20.0	20.2	
23 2-Methylphenol	108	6.899	6.899	0.000	95	1050538	20.0	20.9	
25 2,2'-oxybis[1-chloropropane]	45	6.940	6.934	0.006	86	997523	20.0	19.9	
26 N-Nitrosopyrrolidine	100	7.080	7.062	0.018	92	574095	20.0	22.3	
27 Acetophenone	105	7.109	7.097	0.012	95	1571929	20.0	20.7	
29 N-Nitrosodi-n-propylamine	70	7.144	7.126	0.018	76	955423	20.0	21.8	
30 N-Nitrosomorpholine	56	7.150	7.132	0.018	73	625053	20.0	20.5	
28 4-Methylphenol	108	7.150	7.138	0.012	89	1288642	20.0	21.2	
31 2-Toluidine	106	7.156	7.150	0.006	91	1857104	20.0	20.6	
32 Hexachloroethane	117	7.231	7.231	0.000	94	540002	20.0	20.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 33 Nitrobenzene-d5	82	7.325	7.313	0.012	87	2728349	40.0	41.2	
34 Nitrobenzene	77	7.354	7.342	0.012	83	1400821	20.0	21.0	
35 N-Nitrosopiperidine	114	7.587	7.575	0.012	87	542261	20.0	21.5	
36 Isophorone	82	7.738	7.727	0.011	96	2410074	20.0	21.2	
37 2-Nitrophenol	139	7.838	7.838	0.000	89	543362	20.0	21.4	
38 2,4-Dimethylphenol	107	7.954	7.948	0.006	97	1173879	20.0	21.4	
39 o,o',o''-Triethylphosphorothioat	198	8.082	8.077	0.005	88	518652	20.0	20.5	
40 Benzoic acid	105	8.141	8.100	0.041	87	628474	20.0	21.2	
41 Bis(2-chloroethoxy)methane	93	8.111	8.106	0.005	99	1445234	20.0	20.1	
42 2,4-Dichlorophenol	162	8.216	8.211	0.005	96	871110	20.0	21.0	
43 1,2,4-Trichlorobenzene	180	8.345	8.339	0.006	92	937371	20.0	20.2	
* 44 Naphthalene-d8	136	8.420	8.415	0.005	99	676915	5.00	5.00	
45 Naphthalene	128	8.450	8.450	0.000	98	2967982	20.0	20.0	
46 4-Chloroaniline	127	8.566	8.560	0.006	94	1253754	20.0	21.1	
47 2,6-Dichlorophenol	162	8.572	8.566	0.006	91	839816	20.0	20.8	
48 Hexachloropropene	213	8.601	8.601	0.000	89	595054	20.0	21.2	
49 Hexachlorobutadiene	225	8.677	8.677	0.000	96	540980	20.0	20.5	
50 Quinoline	129	8.986	8.980	0.006	95	1841775	20.0	20.3	
52 Caprolactam	113	9.131	9.091	0.040	85	326960	20.0	21.2	
53 N-Nitrosodi-n-butylamine	84	9.143	9.137	0.006	89	1013637	20.0	20.8	
54 4-Chloro-3-methylphenol	107	9.376	9.365	0.011	92	951375	20.0	21.9	
55 Safrole, Total	162	9.458	9.452	0.006	84	778615	20.0	20.6	
56 2-Methylnaphthalene	142	9.557	9.551	0.006	90	1922884	20.0	20.8	
S 51 Diallate	86				0		20.0	21.0	
57 1-Methylnaphthalene	142	9.709	9.703	0.006	91	1830624	20.0	20.9	
58 Hexachlorocyclopentadiene	237	9.819	9.819	0.000	96	562742	20.0	22.0	
59 1,2,4,5-Tetrachlorobenzene	216	9.825	9.819	0.006	98	961560	20.0	20.6	
60 Isosafrole Peak 1	162	9.918	9.918	0.000	84	128740	3.20	3.33	
61 2,4,6-Trichlorophenol	196	10.023	10.017	0.006	95	637264	20.0	22.2	
62 2,4,5-Trichlorophenol	196	10.076	10.070	0.006	92	660822	20.0	21.7	
$ 63 2-Fluorobiphenyl (Surr)	172	10.175	10.169	0.006	99	4377046	40.0	40.4	
64 Isosafrole Peak 2	162	10.286	10.280	0.006	85	747084	16.8	17.0	
65 1,1'-Biphenyl	154	10.321	10.315	0.006	96	2323151	20.0	20.6	
66 2-Chloronaphthalene	162	10.326	10.321	0.005	97	1968785	20.0	20.4	
67 1-Chloronaphthalene	162	10.356	10.350	0.006	97	1729875	20.0	20.8	
68 Phenyl ether	170	10.501	10.495	0.006	86	1285267	20.0	20.5	
69 2-Nitroaniline	138	10.513	10.507	0.006	80	591637	20.0	20.0	
70 1,4-Naphthoquinone	158	10.618	10.612	0.006	79	760328	20.0	21.1	
71 1,4-Dinitrobenzene	168	10.752	10.746	0.006	84	302921	20.0	22.4	
72 Dimethyl phthalate	163	10.857	10.851	0.006	97	2017713	20.0	20.1	
73 1,3-Dinitrobenzene	168	10.863	10.857	0.006	82	356799	20.0	22.1	
74 2,6-Dinitrotoluene	165	10.927	10.921	0.006	89	474777	20.0	19.8	
75 Acenaphthylene	152	10.973	10.973	0.000	99	2561983	20.0	21.4	
76 3-Nitroaniline	138	11.172	11.166	0.006	88	492704	20.0	19.7	
* 77 Acenaphthene-d10	164	11.206	11.207	0.000	99	330120	5.00	5.00	
78 Acenaphthene	153	11.259	11.253	0.006	97	1833157	20.0	20.2	
79 2,4-Dinitrophenol	184	11.346	11.341	0.005	84	307826	20.0	22.2	
81 Pentachlorobenzene	250	11.469	11.469	0.000	96	750088	20.0	20.5	
80 4-Nitrophenol	109	11.486	11.475	0.011	84	424713	20.0	20.8	
83 Dibenzofuran	168	11.533	11.533	0.000	95	2433649	20.0	20.0	
82 2,4-Dinitrotoluene	165	11.556	11.545	0.011	88	632939	20.0	21.6	
84 1-Naphthylamine	143	11.655	11.649	0.006	97	1817831	20.0	20.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
85 2,3,4,6-Tetrachlorophenol	232	11.725	11.725	0.000	77	492693	20.0	21.4	
86 2-Naphthylamine	143	11.772	11.766	0.006	94	1820651	20.0	20.2	
87 Diethyl phthalate	149	11.947	11.935	0.012	97	2025648	20.0	20.8	
89 Fluorene	166	12.011	12.005	0.006	94	2027649	20.0	21.3	
88 Thionazin	107	12.040	12.034	0.006	73	438773	20.0	22.1	
90 N-Nitro-o-toluidine	152	12.046	12.040	0.006	79	615652	20.0	20.1	
91 4-Chlorophenyl phenyl ether	204	12.046	12.046	0.000	86	1050780	20.0	20.9	
92 4-Nitroaniline	138	12.057	12.046	0.011	83	544311	20.0	20.0	
93 4,6-Dinitro-2-methylphenol	198	12.104	12.092	0.012	81	401940	20.0	21.6	
94 N-Nitrosodiphenylamine	169	12.197	12.192	0.005	62	1800758	20.0	21.0	
95 1,2-Diphenylhydrazine	77	12.238	12.238	0.000	98	2712985	20.0	20.5	
$ 96 2,4,6-Tribromophenol	330	12.314	12.308	0.006	87	531515	40.0	43.3	
97 Sulfotepp	97	12.436	12.431	0.005	81	442033	20.0	21.5	
98 cis-Diallate	86	12.559	12.553	0.006	84	805670	14.8	15.7	
99 Phorate	75	12.559	12.559	0.000	96	1509482	20.0	20.0	
100 Phenacetin	108	12.594	12.582	0.012	92	1145821	20.0	21.6	
101 4-Bromophenyl phenyl ether	248	12.623	12.623	0.000	72	559227	20.0	20.8	
102 trans-Diallate	86	12.652	12.652	0.000	95	261857	5.20	5.30	
103 Hexachlorobenzene	284	12.664	12.664	0.000	90	565444	20.0	20.4	
104 Dimethoate	87	12.751	12.745	0.006	93	878881	20.0	21.6	
105 Atrazine	200	12.862	12.856	0.006	93	521589	20.0	20.6	
106 Pentachlorophenol	266	12.914	12.908	0.006	90	408057	20.0	21.7	
107 Pentachloronitrobenzene	237	12.926	12.926	0.000	82	281066	20.0	22.2	
108 4-Aminobiphenyl	169	12.932	12.932	0.000	91	1589692	20.0	21.6	
109 Pronamide	173	13.037	13.037	0.000	90	936876	20.0	21.8	
* 110 Phenanthrene-d10	188	13.130	13.130	0.000	98	630347	5.00	5.00	
112 Phenanthrene	178	13.165	13.159	0.006	99	2979191	20.0	20.5	
111 Dinoseb	211	13.165	13.165	0.000	95	558482	20.0	19.8	
113 Anthracene	178	13.223	13.223	0.000	99	2976748	20.0	21.4	
114 Carbazole	167	13.439	13.439	0.000	97	2654731	20.0	21.0	
115 Methyl parathion	109	13.643	13.643	0.000	91	745299	20.0	19.7	
116 Di-n-butyl phthalate	149	13.952	13.952	0.000	100	3429302	20.0	21.1	
117 Ethyl Parathion	109	14.173	14.167	0.006	85	491898	20.0	19.7	
118 4-Nitroquinoline-1-oxide	190	14.167	14.167	0.000	83	264143	20.0	19.3	
119 Octachlorostyrene	308	14.494	14.494	0.000	89	228656	20.0	21.3	
120 Isodrin	193	14.529	14.529	0.000	87	353218	20.0	21.1	
121 Fluoranthene	202	14.744	14.739	0.005	99	3274953	20.0	22.3	
122 Benzidine	184	14.989	14.978	0.011	99	6683824	60.0	62.2	
* 123 Pyrene-d10 (IS)	212	15.042	15.042	0.000	98	630897	5.00	5.00	
124 Pyrene	202	15.071	15.065	0.006	96	3348440	20.0	20.0	
$ 125 p-Terphenyl-d14	244	15.362	15.362	0.000	98	5050373	40.0	41.7	
126 p-Dimethylamino azobenzene	225	15.590	15.590	0.000	89	609791	20.0	19.4	
127 Chlorobenzilate	139	15.683	15.683	0.000	87	973369	20.0	22.5	
128 3,3'-Dimethylbenzidine	212	16.138	16.138	0.000	99	2227930	20.0	19.5	
129 Butyl benzyl phthalate	149	16.207	16.207	0.000	94	1535265	20.0	21.6	
130 2-Acetylaminofluorene	181	16.551	16.546	0.005	95	1274055	20.0	19.5	
132 Benzo[a]anthracene	228	17.035	17.035	0.000	100	3147964	20.0	19.7	
131 3,3'-Dichlorobenzidine	252	17.041	17.041	0.000	74	1247107	20.0	19.3	
133 4,4'-Methylene bis(2-chloroanil	231	17.064	17.064	0.000	95	596835	20.0	21.0	
134 Chrysene	228	17.099	17.093	0.006	97	3133547	20.0	21.8	
135 Bis(2-ethylhexyl) phthalate	149	17.268	17.268	0.000	97	2159494	20.0	22.5	
136 6-Methylchrysene	242	17.892	17.886	0.006	99	2194210	20.0	21.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
137 Di-n-octyl phthalate	149	18.422	18.422	0.000	100	3636086	20.0	19.7	
138 Benzo[b]fluoranthene	252	18.871	18.860	0.011	97	3372741	20.0	19.7	
139 7,12-Dimethylbenz(a)anthracene	256	18.883	18.871	0.012	89	1588116	20.0	19.8	
140 Benzo[k]fluoranthene	252	18.918	18.906	0.012	99	3327470	20.0	21.5	
141 Benzo[a]pyrene	252	19.384	19.378	0.006	78	3159140	20.0	19.8	
* 142 Perylene-d12	264	19.466	19.466	0.000	97	603069	5.00	5.00	
143 3-Methylcholanthrene	268	19.961	19.955	0.006	91	1527886	20.0	20.0	
144 Dibenz[a,h]acridine	279	20.765	20.760	0.005	92	2133290	20.0	22.6	
145 Dibenz[a,j]acridine	279	20.841	20.835	0.006	96	2483447	20.0	22.8	
146 Indeno[1,2,3-cd]pyrene	276	21.080	21.063	0.017	99	2614949	20.0	20.0	
147 Dibenz(a,h)anthracene	278	21.121	21.109	0.012	94	2929655	20.0	20.4	
148 Benzo[g,h,i]perylene	276	21.436	21.418	0.018	97	2906103	20.0	20.2	
S 152 Dinitrotoluene	165				0		40.0	41.5	
S 170 Isosafrole	162				0		20.0	20.4	

Reagents:

MSS_RV8270_7_00007 Amount Added: 1.00 Units: mL

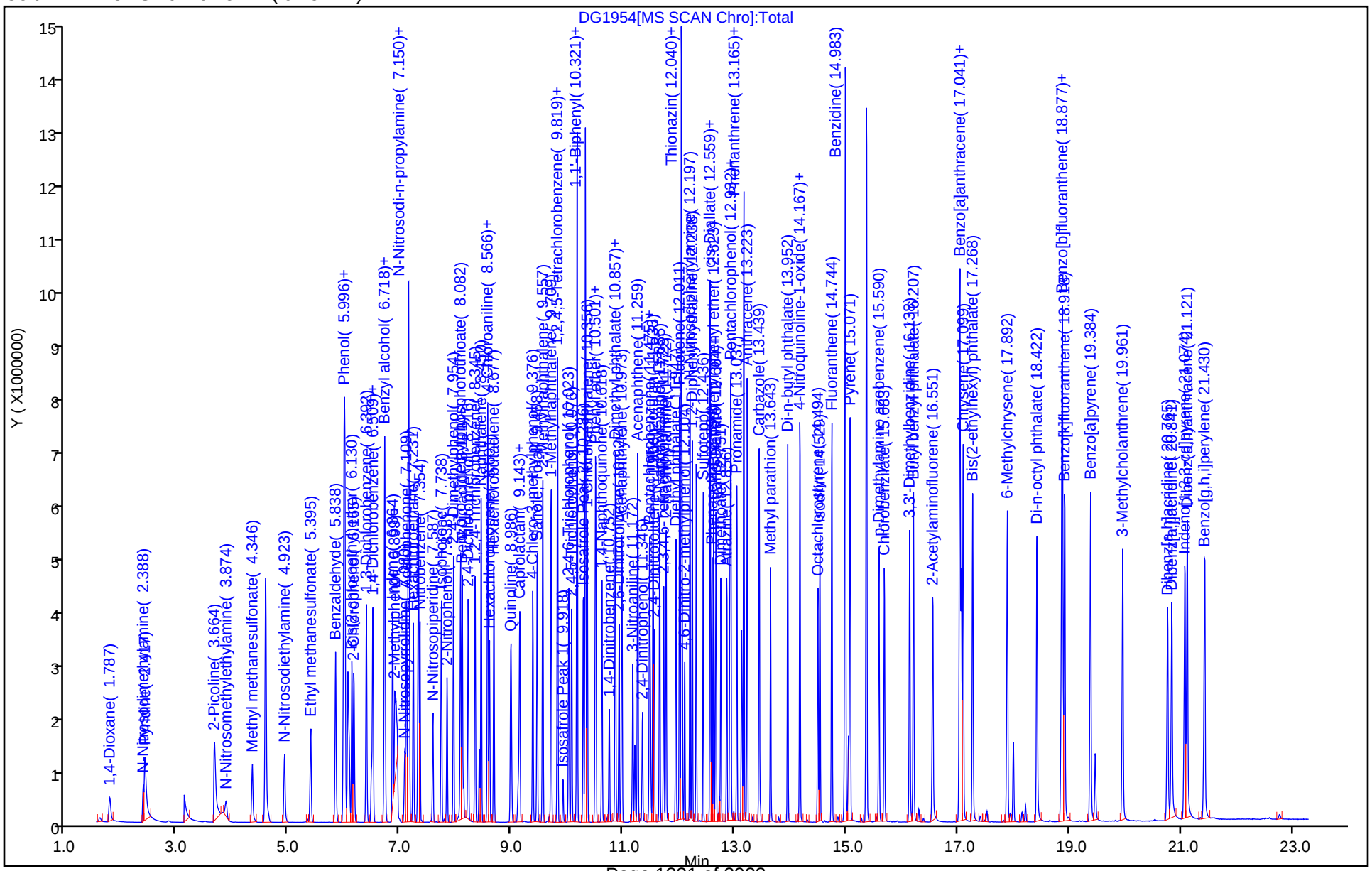
Report Date: 04-Aug-2020 16:10:29 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1954.D

Injection Date:	31-Jul-2020 17:44:30	Instrument ID:	HP19760	Operator ID:	lmh00956
Lims ID:	IC L7			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1955.D
Lims ID: IC L6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 31-Jul-2020 18:13:30 ALS Bottle#: 6 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC L6
Misc. Info.: 410-0007009-006
Operator ID: lmh00956 Instrument ID: HP19760
Sublist: chrom-MSSemi_HP19760*sub5

Method: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 04-Aug-2020 16:10:40 Calib Date: 31-Jul-2020 19:41:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1958.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1041

First Level Reviewer: williamss Date: 02-Aug-2020 16:51:05

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.788	1.782	0.006	88	317583	12.5	12.7	
2 N-Nitrosodimethylamine	74	2.388	2.382	0.006	93	475013	12.5	12.8	
3 Pyridine	79	2.423	2.423	0.000	93	805334	12.5	12.0	
4 2-Picoline	93	3.664	3.664	0.000	90	850757	12.5	12.9	
5 N-Nitrosomethylethylamine	88	3.874	3.868	0.006	87	348242	12.5	13.0	
7 Methyl methanesulfonate	80	4.340	4.335	0.005	86	401211	12.5	12.6	
$ 8 2-Fluorophenol	112	4.579	4.574	0.005	91	1405036	25.0	25.1	
9 N-Nitrosodiethylamine	102	4.917	4.912	0.005	87	336832	12.5	13.1	
10 Ethyl methanesulfonate	109	5.390	5.384	0.006	98	348605	12.5	12.7	
12 Benzaldehyde	77	5.838	5.833	0.006	96	667610	12.5	13.2	
$ 13 Phenol-d5	99	5.984	5.978	0.006	96	1786073	25.0	25.2	
14 Phenol	94	6.002	5.996	0.006	82	1070654	12.5	12.8	
15 Aniline	93	6.002	6.002	0.000	74	1228502	12.5	12.6	
16 Bis(2-chloroethyl)ether	93	6.130	6.124	0.006	100	788245	12.5	12.5	
17 2-Chlorophenol	128	6.165	6.159	0.006	95	660625	12.5	12.9	
18 1,3-Dichlorobenzene	146	6.392	6.386	0.006	94	721897	12.5	12.5	
* 19 1,4-Dichlorobenzene-d4	152	6.480	6.479	0.001	96	178798	5.00	5.00	
20 1,4-Dichlorobenzene	146	6.509	6.503	0.006	90	733568	12.5	12.5	
21 Benzyl alcohol	108	6.713	6.707	0.006	89	459678	12.5	12.5	
22 1,2-Dichlorobenzene	146	6.724	6.718	0.006	96	697281	12.5	12.4	
24 Indene	115	6.858	6.858	0.000	87	1002892	12.5	12.4	
23 2-Methylphenol	108	6.899	6.899	0.000	94	644337	12.5	12.9	
25 2,2'-oxybis[1-chloropropane]	45	6.934	6.934	0.000	86	615481	12.5	12.4	
26 N-Nitrosopyrrolidine	100	7.068	7.062	0.006	93	347239	12.5	13.6	
27 Acetophenone	105	7.103	7.097	0.006	94	992040	12.5	13.2	
29 N-Nitrosodi-n-propylamine	70	7.132	7.126	0.006	76	565043	12.5	13.0	
30 N-Nitrosomorpholine	56	7.138	7.132	0.006	70	376400	12.5	12.5	
28 4-Methylphenol	108	7.144	7.138	0.006	92	771268	12.5	12.8	
31 2-Toluidine	106	7.156	7.150	0.006	93	1122112	12.5	12.6	
32 Hexachloroethane	117	7.231	7.231	0.000	94	331026	12.5	12.4	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 33 Nitrobenzene-d5	82	7.319	7.313	0.006	86	1658312	25.0	25.2	
34 Nitrobenzene	77	7.348	7.342	0.006	83	865214	12.5	13.1	
35 N-Nitrosopiperidine	114	7.581	7.575	0.006	86	330696	12.5	13.2	
36 Isophorone	82	7.733	7.727	0.006	96	1468471	12.5	13.0	
37 2-Nitrophenol	139	7.838	7.838	0.000	90	330314	12.5	13.1	
38 2,4-Dimethylphenol	107	7.954	7.948	0.006	97	710946	12.5	13.1	
39 o,o',o''-Triethylphosphorothioat	198	8.077	8.077	0.000	90	314881	12.5	12.5	
40 Benzoic acid	105	8.112	8.100	0.012	33	399957	12.5	13.6	
41 Bis(2-chloroethoxy)methane	93	8.106	8.106	0.000	98	900687	12.5	12.6	
42 2,4-Dichlorophenol	162	8.216	8.211	0.005	95	531240	12.5	12.9	
43 1,2,4-Trichlorobenzene	180	8.339	8.339	0.000	91	575342	12.5	12.5	
* 44 Naphthalene-d8	136	8.415	8.415	0.000	100	671769	5.00	5.00	
45 Naphthalene	128	8.450	8.450	0.000	98	1834959	12.5	12.5	
46 4-Chloroaniline	127	8.560	8.560	0.000	94	750017	12.5	12.7	
47 2,6-Dichlorophenol	162	8.566	8.566	0.000	90	512429	12.5	12.8	
48 Hexachloropropene	213	8.601	8.601	0.000	89	357429	12.5	12.9	
49 Hexachlorobutadiene	225	8.677	8.677	0.000	95	326267	12.5	12.4	
50 Quinoline	129	8.980	8.980	0.000	95	1118026	12.5	12.4	
52 Caprolactam	113	9.108	9.091	0.017	87	204186	12.5	13.4	
53 N-Nitrosodi-n-butylamine	84	9.137	9.137	0.000	90	484368	12.5	11.6	
54 4-Chloro-3-methylphenol	107	9.371	9.365	0.006	92	573575	12.5	13.3	
55 Safrole, Total	162	9.452	9.452	0.000	84	472705	12.5	12.6	
56 2-Methylnaphthalene	142	9.551	9.551	0.000	93	1174140	12.5	12.8	
S 51 Diallate	86				0		12.5	12.6	
57 1-Methylnaphthalene	142	9.703	9.703	0.000	91	1104340	12.5	12.7	
59 1,2,4,5-Tetrachlorobenzene	216	9.819	9.819	0.000	97	579203	12.5	12.4	
58 Hexachlorocyclopentadiene	237	9.819	9.819	0.000	96	329682	12.5	12.8	
60 Isosafrole Peak 1	162	9.918	9.918	0.000	87	80547	2.00	2.07	
61 2,4,6-Trichlorophenol	196	10.018	10.017	0.001	95	383968	12.5	13.3	
62 2,4,5-Trichlorophenol	196	10.070	10.070	0.000	91	401746	12.5	13.1	
$ 63 2-Fluorobiphenyl (Surr)	172	10.169	10.169	0.000	99	2680733	25.0	24.6	
64 Isosafrole Peak 2	162	10.280	10.280	0.000	87	466153	10.5	10.6	
65 1,1'-Biphenyl	154	10.315	10.315	0.000	96	1459286	12.5	12.8	
66 2-Chloronaphthalene	162	10.321	10.321	0.000	98	1244212	12.5	12.8	
67 1-Chloronaphthalene	162	10.350	10.350	0.000	97	1009066	12.5	12.1	
68 Phenyl ether	170	10.495	10.495	0.000	86	786282	12.5	12.5	
69 2-Nitroaniline	138	10.507	10.507	0.000	81	353174	12.5	12.0	
70 1,4-Naphthoquinone	158	10.618	10.612	0.006	80	468483	12.5	12.9	
71 1,4-Dinitrobenzene	168	10.746	10.746	0.000	84	179347	12.5	13.2	
72 Dimethyl phthalate	163	10.851	10.851	0.000	97	1239775	12.5	12.3	
73 1,3-Dinitrobenzene	168	10.857	10.857	0.000	82	212839	12.5	13.1	
74 2,6-Dinitrotoluene	165	10.921	10.921	0.000	89	286187	12.5	12.0	
75 Acenaphthylene	152	10.973	10.973	0.000	98	1564067	12.5	13.0	
76 3-Nitroaniline	138	11.166	11.166	0.000	89	305549	12.5	12.2	
* 77 Acenaphthene-d10	164	11.207	11.207	0.001	98	332063	5.00	5.00	
78 Acenaphthene	153	11.259	11.253	0.006	96	1122097	12.5	12.3	
79 2,4-Dinitrophenol	184	11.341	11.341	0.000	84	169481	12.5	12.1	
81 Pentachlorobenzene	250	11.469	11.469	0.000	96	458437	12.5	12.5	
80 4-Nitrophenol	109	11.481	11.475	0.006	84	254498	12.5	12.4	
83 Dibenzofuran	168	11.533	11.533	0.000	96	1514555	12.5	12.4	
82 2,4-Dinitrotoluene	165	11.550	11.545	0.005	86	378505	12.5	12.9	
84 1-Naphthylamine	143	11.650	11.649	0.001	97	1089953	12.5	12.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
85 2,3,4,6-Tetrachlorophenol	232	11.725	11.725	0.000	77	283832	12.5	12.3	
86 2-Naphthylamine	143	11.766	11.766	0.000	94	1111156	12.5	12.2	
87 Diethyl phthalate	149	11.941	11.935	0.006	97	1226771	12.5	12.5	
89 Fluorene	166	12.005	12.005	0.000	94	1238446	12.5	12.9	
88 Thionazin	107	12.034	12.034	0.000	78	254323	12.5	12.7	
90 N-Nitro-o-toluidine	152	12.046	12.040	0.006	74	361047	12.5	11.8	
92 4-Nitroaniline	138	12.052	12.046	0.006	75	334834	12.5	12.3	
91 4-Chlorophenyl phenyl ether	204	12.046	12.046	0.000	87	633978	12.5	12.5	
93 4,6-Dinitro-2-methylphenol	198	12.098	12.092	0.006	81	227839	12.5	12.3	
94 N-Nitrosodiphenylamine	169	12.192	12.192	0.000	62	1082704	12.5	12.7	
95 1,2-Diphenylhydrazine	77	12.238	12.238	0.000	98	1683765	12.5	12.8	
$ 96 2,4,6-Tribromophenol	330	12.308	12.308	0.000	82	306184	25.0	24.8	
97 Sulfotepp	97	12.431	12.431	0.000	81	266604	12.5	13.1	
98 cis-Diallate	86	12.553	12.553	0.000	91	474943	9.25	9.31	
99 Phorate	75	12.559	12.559	0.000	95	884463	12.5	11.9	
100 Phenacetin	108	12.582	12.582	0.000	92	696587	12.5	13.2	
101 4-Bromophenyl phenyl ether	248	12.623	12.623	0.000	72	336950	12.5	12.7	
102 trans-Diallate	86	12.652	12.652	0.000	96	160109	3.25	3.27	
103 Hexachlorobenzene	284	12.664	12.664	0.000	90	341343	12.5	12.4	
104 Dimethoate	87	12.745	12.745	0.000	93	531119	12.5	13.2	
105 Atrazine	200	12.856	12.856	0.000	92	328731	12.5	13.1	
106 Pentachlorophenol	266	12.909	12.908	0.001	91	244315	12.5	13.1	
107 Pentachloronitrobenzene	237	12.926	12.926	0.000	82	162713	12.5	13.0	
108 4-Aminobiphenyl	169	12.932	12.932	0.000	91	973844	12.5	13.3	
109 Pronamide	173	13.037	13.037	0.000	90	562386	12.5	13.2	
* 110 Phenanthrene-d10	188	13.130	13.130	0.000	98	625449	5.00	5.00	
112 Phenanthrene	178	13.159	13.159	0.000	99	1778318	12.5	12.3	
111 Dinoseb	211	13.165	13.165	0.000	91	309865	12.5	11.6	
113 Anthracene	178	13.223	13.223	0.000	99	1811598	12.5	13.1	
114 Carbazole	167	13.439	13.439	0.000	96	1629966	12.5	13.0	
115 Methyl parathion	109	13.643	13.643	0.000	91	433266	12.5	12.1	
116 Di-n-butyl phthalate	149	13.946	13.952	-0.006	100	2104512	12.5	13.0	
117 Ethyl Parathion	109	14.168	14.167	0.001	83	287878	12.5	12.0	
118 4-Nitroquinoline-1-oxide	190	14.168	14.167	0.001	80	132814	12.5	11.7	
119 Octachlorostyrene	308	14.494	14.494	0.000	89	134304	12.5	12.6	
120 Isodrin	193	14.529	14.529	0.000	88	214111	12.5	12.9	
121 Fluoranthene	202	14.739	14.739	0.000	99	1975327	12.5	13.5	
122 Benzidine	184	14.978	14.978	0.000	99	4164450	37.5	38.4	
* 123 Pyrene-d10 (IS)	212	15.042	15.042	0.000	98	637570	5.00	5.00	
124 Pyrene	202	15.071	15.065	0.006	97	2075687	12.5	12.3	
$ 125 p-Terphenyl-d14	244	15.362	15.362	0.000	98	3094220	25.0	25.3	
126 p-Dimethylamino azobenzene	225	15.590	15.590	0.000	89	365898	12.5	12.0	
127 Chlorobenzilate	139	15.683	15.683	0.000	87	585481	12.5	13.4	
128 3,3'-Dimethylbenzidine	212	16.138	16.138	0.000	99	1349364	12.5	12.0	
129 Butyl benzyl phthalate	149	16.208	16.207	0.001	94	952253	12.5	13.2	
130 2-Acetylaminofluorene	181	16.546	16.546	0.000	95	740408	12.5	11.7	
132 Benzo[a]anthracene	228	17.035	17.035	0.000	100	1900844	12.5	11.8	
131 3,3'-Dichlorobenzidine	252	17.041	17.041	0.000	74	750403	12.5	11.8	
133 4,4'-Methylene bis(2-chloroanil	231	17.064	17.064	0.000	94	365593	12.5	12.7	
134 Chrysene	228	17.094	17.093	0.001	97	1950408	12.5	13.4	
135 Bis(2-ethylhexyl) phthalate	149	17.268	17.268	0.000	98	1316305	12.5	13.6	
136 6-Methylchrysene	242	17.886	17.886	0.000	99	1334670	12.5	13.1	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
137 Di-n-octyl phthalate	149	18.422	18.422	0.000	100	2196104	12.5	12.2	
138 Benzo[b]fluoranthene	252	18.865	18.860	0.005	97	2030597	12.5	11.8	
139 7,12-Dimethylbenz(a)anthracene	256	18.877	18.871	0.006	90	948635	12.5	11.9	
140 Benzo[k]fluoranthene	252	18.912	18.906	0.006	99	2063157	12.5	13.3	
141 Benzo[a]pyrene	252	19.378	19.378	0.000	78	1912273	12.5	12.0	
* 142 Perylene-d12	264	19.466	19.466	0.000	98	604718	5.00	5.00	
143 3-Methylcholanthrene	268	19.955	19.955	0.000	92	889807	12.5	11.7	
144 Dibenz[a,h]acridine	279	20.760	20.760	0.000	91	1245145	12.5	13.2	
145 Dibenz[a,j]acridine	279	20.835	20.835	0.000	95	1437085	12.5	13.1	
146 Indeno[1,2,3-cd]pyrene	276	21.069	21.063	0.006	99	1520409	12.5	11.7	
147 Dibenz(a,h)anthracene	278	21.109	21.109	0.000	94	1691207	12.5	11.8	
148 Benzo[g,h,i]perylene	276	21.424	21.418	0.006	98	1731722	12.5	12.0	
S 152 Dinitrotoluene	165				0		25.0	24.8	
S 170 Isosafrole	162				0		12.5	12.6	

Reagents:

MSS_RV8270_6_00007 Amount Added: 1.00 Units: mL

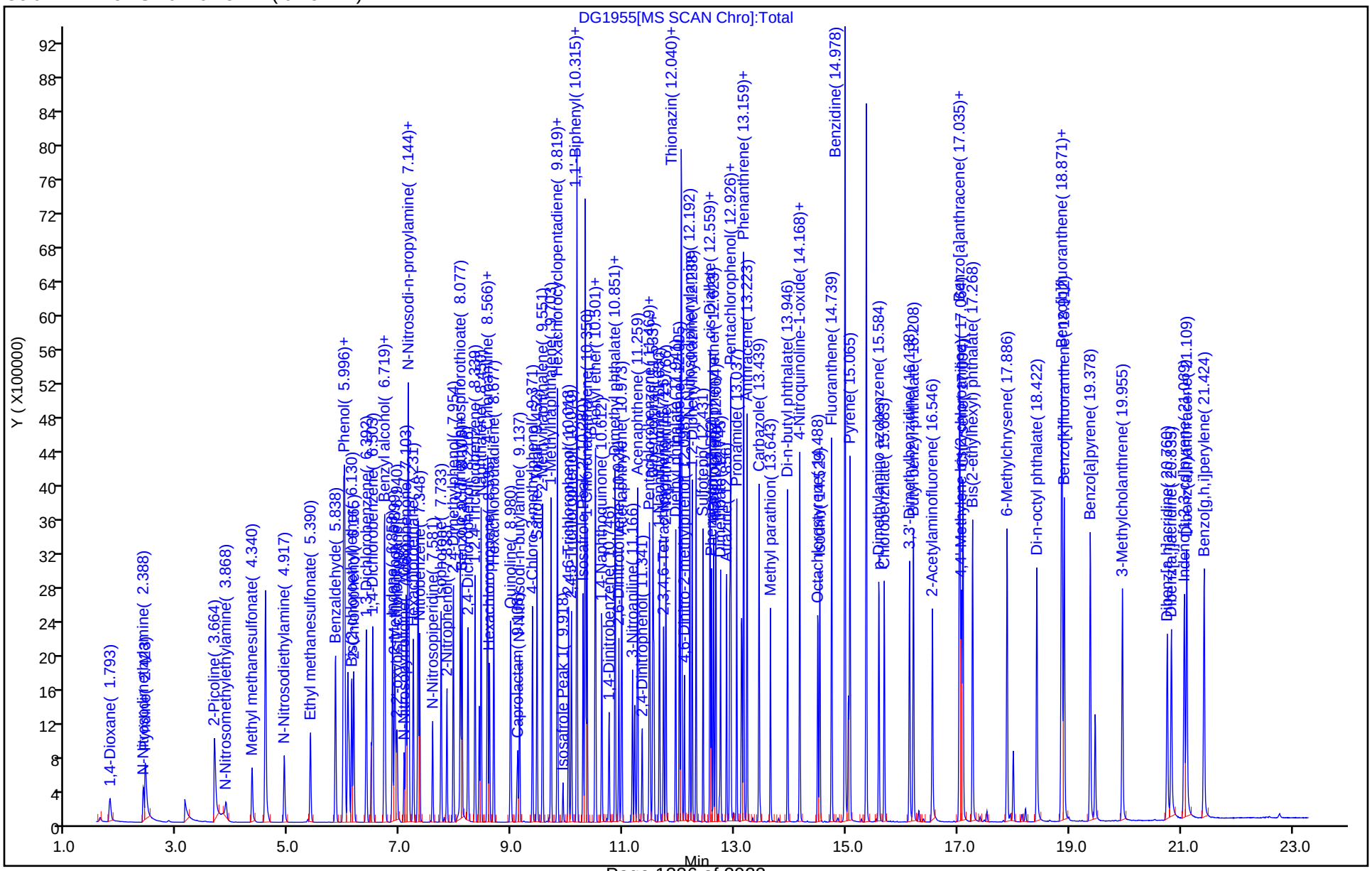
Report Date: 04-Aug-2020 16:10:41 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1955.D

Injection Date:	31-Jul-2020 18:13:30	Instrument ID:	HP19760	Operator ID:	lmh00956
Lims ID:	IC L6			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	6
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



Report Date: 04-Aug-2020 16:15:50 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1956.D
Lims ID: IC L4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 31-Jul-2020 18:42:30 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC L4
Misc. Info.: 410-0007009-007
Operator ID: lmh00956 Instrument ID: HP19760
Sublist: chrom-MSSemi_HP19760*sub5

Method: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 04-Aug-2020 16:15:49 Calib Date: 31-Jul-2020 19:41:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1958.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1041

First Level Reviewer: bauera Date: 04-Aug-2020 16:15:35

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.793	1.782	0.011	89	91448	3.75	3.59	
2 N-Nitrosodimethylamine	74	2.394	2.382	0.012	91	142694	3.75	3.79	
3 Pyridine	79	2.440	2.423	0.017	93	265402	3.75	3.89	
4 2-Picoline	93	3.676	3.664	0.012	91	248144	3.75	3.69	
5 N-Nitrosomethylethylamine	88	3.874	3.868	0.006	88	107749	3.75	3.95	
7 Methyl methanesulfonate	80	4.335	4.335	0.000	86	125821	3.75	3.88	
$ 8 2-Fluorophenol	112	4.579	4.574	0.005	91	433535	7.50	7.62	
9 N-Nitrosodiethylamine	102	4.917	4.912	0.005	87	101431	3.75	3.89	
10 Ethyl methanesulfonate	109	5.384	5.384	0.000	98	109432	3.75	3.92	
12 Benzaldehyde	77	5.833	5.833	0.001	96	204324	3.75	3.98	
$ 13 Phenol-d5	99	5.978	5.978	0.000	96	544218	7.50	7.54	
14 Phenol	94	5.996	5.996	0.000	92	329940	3.75	3.88	
15 Aniline	93	6.002	6.002	0.000	96	377238	3.75	3.81	
16 Bis(2-chloroethyl)ether	93	6.124	6.124	0.000	99	250052	3.75	3.91	
17 2-Chlorophenol	128	6.159	6.159	0.000	94	207144	3.75	3.97	
18 1,3-Dichlorobenzene	146	6.386	6.386	0.000	94	230016	3.75	3.90	
* 19 1,4-Dichlorobenzene-d4	152	6.480	6.479	0.001	96	181758	5.00	5.00	
20 1,4-Dichlorobenzene	146	6.503	6.503	0.000	91	233495	3.75	3.90	
21 Benzyl alcohol	108	6.707	6.707	0.000	90	138929	3.75	3.73	
22 1,2-Dichlorobenzene	146	6.719	6.718	0.000	93	219330	3.75	3.85	
24 Indene	115	6.858	6.858	0.000	87	314174	3.75	3.82	
23 2-Methylphenol	108	6.893	6.899	-0.006	95	200248	3.75	3.95	
25 2,2'-oxybis[1-chloropropane]	45	6.940	6.934	0.006	88	198200	3.75	3.92	
26 N-Nitrosopyrrolidine	100	7.057	7.062	-0.005	94	100779	3.75	3.89	
27 Acetophenone	105	7.097	7.097	0.000	95	305744	3.75	3.99	
29 N-Nitrosodi-n-propylamine	70	7.127	7.126	0.000	77	171894	3.75	3.90	
30 N-Nitrosomorpholine	56	7.132	7.132	0.000	84	114159	3.75	3.72	
28 4-Methylphenol	108	7.138	7.138	0.000	92	238675	3.75	3.91	
31 2-Toluidine	106	7.150	7.150	0.000	94	350930	3.75	3.88	
32 Hexachloroethane	117	7.231	7.231	0.000	94	103210	3.75	3.81	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 33 Nitrobenzene-d5	82	7.313	7.313	0.000	87	515174	7.50	7.71	
34 Nitrobenzene	77	7.342	7.342	0.000	83	270992	3.75	4.03	
35 N-Nitrosopiperidine	114	7.575	7.575	0.000	87	105390	3.75	4.14	
36 Isophorone	82	7.727	7.727	0.000	96	455454	3.75	3.97	
37 2-Nitrophenol	139	7.832	7.838	-0.006	91	97042	3.75	3.80	
38 2,4-Dimethylphenol	107	7.948	7.948	0.000	97	218461	3.75	3.95	
39 o,o',o''-Triethylphosphorothioat	198	8.071	8.077	-0.006	90	98063	3.75	3.84	
40 Benzoic acid	105	8.082	8.100	-0.018	87	214124	7.50	7.17	
41 Bis(2-chloroethoxy)methane	93	8.106	8.106	0.000	99	288128	3.75	3.96	
42 2,4-Dichlorophenol	162	8.211	8.211	0.000	95	166279	3.75	3.97	
43 1,2,4-Trichlorobenzene	180	8.339	8.339	0.000	92	183922	3.75	3.92	
* 44 Naphthalene-d8	136	8.415	8.415	0.000	99	682800	5.00	5.00	
45 Naphthalene	128	8.450	8.450	0.000	98	593604	3.75	3.97	
46 4-Chloroaniline	127	8.560	8.560	0.000	94	236367	3.75	3.95	
47 2,6-Dichlorophenol	162	8.566	8.566	0.000	92	161913	3.75	3.98	
48 Hexachloropropene	213	8.601	8.601	0.000	89	105426	3.75	3.73	
49 Hexachlorobutadiene	225	8.677	8.677	0.000	95	104079	3.75	3.90	
50 Quinoline	129	8.974	8.980	-0.006	95	350355	3.75	3.84	
52 Caprolactam	113	9.073	9.091	-0.018	88	58392	3.75	3.76	
53 N-Nitrosodi-n-butylamine	84	9.137	9.137	0.000	92	143516	3.75	4.11	
54 4-Chloro-3-methylphenol	107	9.365	9.365	0.000	92	175291	3.75	4.00	
55 Safrole, Total	162	9.452	9.452	0.000	84	144521	3.75	3.79	
56 2-Methylnaphthalene	142	9.551	9.551	0.000	90	373601	3.75	4.01	
S 51 Diallate	86				0		3.75	3.87	
57 1-Methylnaphthalene	142	9.703	9.703	0.000	92	353514	3.75	4.00	
59 1,2,4,5-Tetrachlorobenzene	216	9.819	9.819	0.000	97	182272	3.75	3.85	
58 Hexachlorocyclopentadiene	237	9.814	9.819	-0.005	95	91949	3.75	3.53	
60 Isosafrole Peak 1	162	9.918	9.918	0.000	81	23459	0.6000	0.5959	
61 2,4,6-Trichlorophenol	196	10.018	10.017	0.001	95	116292	3.75	3.98	
62 2,4,5-Trichlorophenol	196	10.064	10.070	-0.006	92	123766	3.75	3.99	
$ 63 2-Fluorobiphenyl (Surr)	172	10.163	10.169	-0.006	99	858283	7.50	7.78	
64 Isosafrole Peak 2	162	10.280	10.280	0.000	86	141297	3.15	3.17	
65 1,1'-Biphenyl	154	10.315	10.315	0.000	95	443358	3.75	3.86	
66 2-Chloronaphthalene	162	10.315	10.321	-0.006	98	381977	3.75	3.89	
67 1-Chloronaphthalene	162	10.350	10.350	0.000	97	338781	3.75	4.00	
68 Phenyl ether	170	10.495	10.495	0.000	86	251485	3.75	3.94	
69 2-Nitroaniline	138	10.501	10.507	-0.006	78	98334	3.75	3.47	
70 1,4-Naphthoquinone	158	10.612	10.612	0.000	81	140877	3.75	3.85	
71 1,4-Dinitrobenzene	168	10.740	10.746	-0.006	84	49829	3.75	3.62	
72 Dimethyl phthalate	163	10.845	10.851	-0.006	97	396424	3.75	3.87	
73 1,3-Dinitrobenzene	168	10.851	10.857	-0.006	81	58858	3.75	3.59	
74 2,6-Dinitrotoluene	165	10.915	10.921	-0.006	89	87719	3.75	3.76	
75 Acenaphthylene	152	10.968	10.973	-0.005	99	495855	3.75	4.06	
76 3-Nitroaniline	138	11.160	11.166	-0.006	89	86643	3.75	3.59	
* 77 Acenaphthene-d10	164	11.201	11.207	-0.005	98	335922	5.00	5.00	
78 Acenaphthene	153	11.253	11.253	0.000	96	358183	3.75	3.87	
79 2,4-Dinitrophenol	184	11.335	11.341	-0.006	83	87284	7.50	6.18	
81 Pentachlorobenzene	250	11.463	11.469	-0.006	96	145281	3.75	3.90	
80 4-Nitrophenol	109	11.469	11.475	-0.006	84	73284	3.75	3.52	
83 Dibenzofuran	168	11.527	11.533	-0.006	96	490413	3.75	3.96	
82 2,4-Dinitrotoluene	165	11.545	11.545	0.000	86	110121	3.75	3.70	
84 1-Naphthylamine	143	11.644	11.649	-0.005	97	342095	3.75	3.74	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
85 2,3,4,6-Tetrachlorophenol	232	11.719	11.725	-0.006	76	89224	3.75	3.81	
86 2-Naphthylamine	143	11.760	11.766	-0.006	94	340964	3.75	3.71	
87 Diethyl phthalate	149	11.935	11.935	0.000	97	376741	3.75	3.81	
89 Fluorene	166	12.005	12.005	0.000	93	380170	3.75	3.92	
88 Thionazin	107	12.028	12.034	-0.006	75	71254	3.75	3.53	
90 N-Nitro-o-toluidine	152	12.034	12.040	-0.006	81	103823	3.75	3.50	
92 4-Nitroaniline	138	12.040	12.046	-0.006	77	96572	3.75	3.64	
91 4-Chlorophenyl phenyl ether	204	12.040	12.046	-0.006	90	198905	3.75	3.89	
93 4,6-Dinitro-2-methylphenol	198	12.093	12.092	0.000	81	59197	3.75	3.25	
94 N-Nitrosodiphenylamine	169	12.192	12.192	0.000	62	335454	3.75	3.99	
95 1,2-Diphenylhydrazine	77	12.232	12.238	-0.006	98	521656	3.75	4.03	
$ 96 2,4,6-Tribromophenol	330	12.302	12.308	-0.006	81	91193	7.50	7.31	
97 Sulfotepp	97	12.431	12.431	0.000	81	73904	3.75	3.68	
98 cis-Diallate	86	12.553	12.553	0.000	85	142672	2.78	2.84	
99 Phorate	75	12.559	12.559	0.000	96	250279	3.75	3.55	
100 Phenacetin	108	12.576	12.582	-0.006	92	197643	3.75	3.81	
101 4-Bromophenyl phenyl ether	248	12.623	12.623	0.000	73	103649	3.75	3.95	
102 trans-Diallate	86	12.652	12.652	0.000	97	49603	0.9750	1.03	
103 Hexachlorobenzene	284	12.658	12.664	-0.006	90	107610	3.75	3.98	
104 Dimethoate	87	12.739	12.745	-0.006	93	152916	3.75	3.85	
105 Atrazine	200	12.850	12.856	-0.006	93	100811	3.75	4.07	
106 Pentachlorophenol	266	12.909	12.908	0.001	91	66651	3.75	3.63	
107 Pentachloronitrobenzene	237	12.920	12.926	-0.006	83	45815	3.75	3.71	
108 4-Aminobiphenyl	169	12.926	12.932	-0.006	91	289397	3.75	4.01	
109 Pronamide	173	13.031	13.037	-0.006	90	156747	3.75	3.72	
* 110 Phenanthrene-d10	188	13.124	13.130	-0.006	98	616499	5.00	5.00	
112 Phenanthrene	178	13.153	13.159	-0.006	99	558947	3.75	3.92	
111 Dinoseb	211	13.165	13.165	0.000	94	69833	3.75	3.47	
113 Anthracene	178	13.217	13.223	-0.006	98	557836	3.75	4.09	
114 Carbazole	167	13.433	13.439	-0.006	96	502915	3.75	4.06	
115 Methyl parathion	109	13.637	13.643	-0.006	91	110131	3.75	4.06	
116 Di-n-butyl phthalate	149	13.946	13.952	-0.006	100	605263	3.75	3.81	
117 Ethyl Parathion	109	14.168	14.167	0.001	82	73101	3.75	3.74	
118 4-Nitroquinoline-1-oxide	190	14.162	14.167	-0.005	71	21571	3.75	5.16	
119 Octachlorostyrene	308	14.488	14.494	-0.006	86	38380	3.75	3.65	
120 Isodrin	193	14.523	14.529	-0.006	86	63087	3.75	3.85	
121 Fluoranthene	202	14.739	14.739	0.000	98	592462	3.75	4.12	
122 Benzidine	184	14.972	14.978	-0.006	99	1147574	11.3	10.8	
* 123 Pyrene-d10 (IS)	212	15.036	15.042	-0.006	99	623606	5.00	5.00	
124 Pyrene	202	15.065	15.065	0.000	97	639539	3.75	3.87	
$ 125 p-Terphenyl-d14	244	15.357	15.362	-0.005	98	892529	7.50	7.46	
126 p-Dimethylamino azobenzene	225	15.584	15.590	-0.006	89	92956	3.75	4.04	
127 Chlorobenzilate	139	15.683	15.683	0.000	87	153191	3.75	3.59	
128 3,3'-Dimethylbenzidine	212	16.132	16.138	-0.006	99	339128	3.75	3.68	
129 Butyl benzyl phthalate	149	16.202	16.207	-0.005	94	262631	3.75	3.73	
130 2-Acetylaminofluorene	181	16.540	16.546	-0.006	96	169723	3.75	3.57	
132 Benzo[a]anthracene	228	17.029	17.035	-0.006	100	511971	3.75	3.34	
131 3,3'-Dichlorobenzidine	252	17.035	17.041	-0.006	74	194995	3.75	3.69	
133 4,4'-Methylene bis(2-chloroanil	231	17.059	17.064	-0.006	92	94175	3.75	3.35	
134 Chrysene	228	17.088	17.093	-0.005	97	580737	3.75	4.08	
135 Bis(2-ethylhexyl) phthalate	149	17.268	17.268	0.000	97	347799	3.75	3.67	
136 6-Methylchrysene	242	17.880	17.886	-0.006	99	365012	3.75	3.65	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
137 Di-n-octyl phthalate	149	18.417	18.422	-0.005	100	516141	3.75	3.89	
138 Benzo[b]fluoranthene	252	18.854	18.860	-0.006	97	523168	3.75	3.44	
139 7,12-Dimethylbenz(a)anthracene	256	18.865	18.871	-0.006	90	247429	3.75	3.55	
140 Benzo[k]fluoranthene	252	18.900	18.906	-0.006	99	587727	3.75	4.18	
141 Benzo[a]pyrene	252	19.372	19.378	-0.006	78	511742	3.75	3.61	
* 142 Perylene-d12	264	19.466	19.466	0.000	98	547698	5.00	5.00	
143 3-Methylcholanthrene	268	19.950	19.955	-0.005	92	221952	3.75	3.41	
144 Dibenz[a,h]acridine	279	20.754	20.760	-0.006	91	308428	3.75	3.60	
145 Dibenz[a,j]acridine	279	20.824	20.835	-0.011	96	360648	3.75	3.64	
146 Indeno[1,2,3-cd]pyrene	276	21.057	21.063	-0.006	98	403563	3.75	3.50	
147 Dibenz(a,h)anthracene	278	21.104	21.109	-0.005	94	439365	3.75	3.46	
148 Benzo[g,h,i]perylene	276	21.412	21.418	-0.006	96	473775	3.75	3.69	
S 152 Dinitrotoluene	165				0		7.50	7.46	
S 170 Isosafrole	162				0		3.75	3.76	

Reagents:

MSS_RV8270_4_00007 Amount Added: 1.00 Units: mL

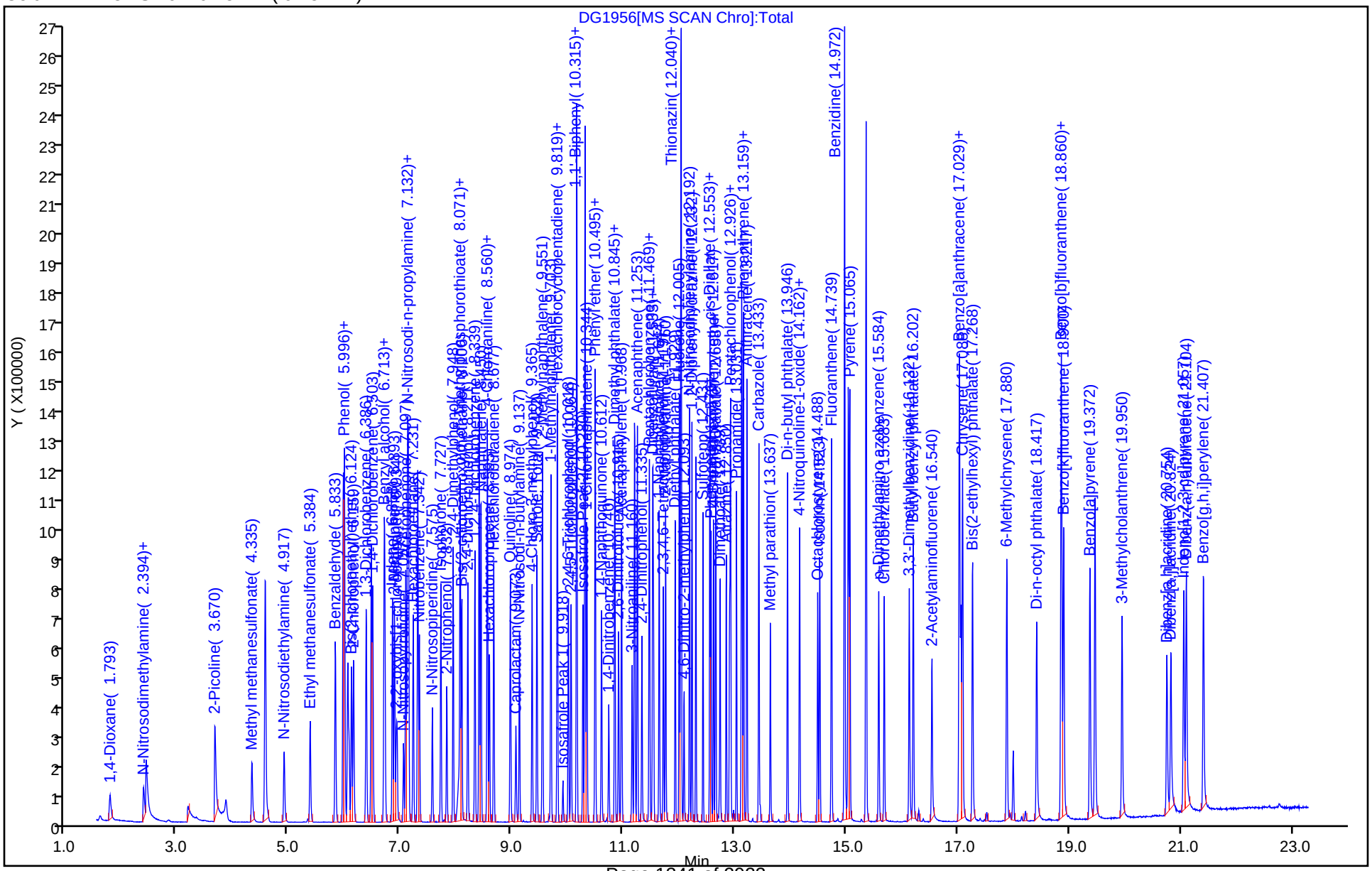
Report Date: 04-Aug-2020 16:15:50 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1956.D

Injection Date:	31-Jul-2020 18:42:30	Instrument ID:	HP19760	Operator ID:	lmh00956
Lims ID:	IC L4			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	7
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1957.D
Lims ID: IC L3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 31-Jul-2020 19:12:30 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC L3
Misc. Info.: 410-0007009-008
Operator ID: lmh00956 Instrument ID: HP19760
Sublist: chrom-MSSemi_HP19760*sub5

Method: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 04-Aug-2020 16:10:50 Calib Date: 31-Jul-2020 19:41:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1958.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1041

First Level Reviewer: williamss Date: 02-Aug-2020 16:53:38

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.799	1.782	0.017	86	27432	1.25	1.08	
2 N-Nitrosodimethylamine	74	2.411	2.382	0.029	96	40071	1.25	1.06	
3 Pyridine	79	2.475	2.423	0.052	93	76899	1.25	1.12	
4 2-Picoline	93	3.687	3.664	0.023	90	74199	1.25	1.10	
5 N-Nitrosomethylethylamine	88	3.880	3.868	0.012	90	25293	1.25	0.9244	
7 Methyl methanesulfonate	80	4.340	4.335	0.005	87	37641	1.25	1.16	
$ 8 2-Fluorophenol	112	4.573	4.574	-0.001	91	127837	2.50	2.24	
9 N-Nitrosodiethylamine	102	4.917	4.912	0.005	88	30022	1.25	1.15	
10 Ethyl methanesulfonate	109	5.384	5.384	0.000	98	31756	1.25	1.14	
12 Benzaldehyde	77	5.832	5.833	0.000	94	57368	1.25	1.12	
$ 13 Phenol-d5	99	5.972	5.978	-0.006	96	163155	2.50	2.26	
14 Phenol	94	5.990	5.996	-0.006	91	99493	1.25	1.17	
15 Aniline	93	5.996	6.002	-0.006	96	114559	1.25	1.16	
16 Bis(2-chloroethyl)ether	93	6.124	6.124	0.000	99	77954	1.25	1.22	
17 2-Chlorophenol	128	6.159	6.159	0.000	95	61982	1.25	1.19	
18 1,3-Dichlorobenzene	146	6.386	6.386	0.000	95	71360	1.25	1.21	
* 19 1,4-Dichlorobenzene-d4	152	6.479	6.479	0.000	96	182080	5.00	5.00	
20 1,4-Dichlorobenzene	146	6.503	6.503	0.000	94	70526	1.25	1.18	
21 Benzyl alcohol	108	6.707	6.707	0.000	89	41563	1.25	1.11	
22 1,2-Dichlorobenzene	146	6.718	6.718	0.000	93	68908	1.25	1.21	
24 Indene	115	6.858	6.858	0.000	85	97436	1.25	1.18	
23 2-Methylphenol	108	6.893	6.899	-0.006	94	60228	1.25	1.19	
25 2,2'-oxybis[1-chloropropane]	45	6.940	6.934	0.006	87	61939	1.25	1.22	
26 N-Nitrosopyrrolidine	100	7.056	7.062	-0.006	93	27673	1.25	1.07	
27 Acetophenone	105	7.097	7.097	0.000	94	84536	1.25	1.10	
29 N-Nitrosodi-n-propylamine	70	7.121	7.126	-0.005	79	49363	1.25	1.12	
30 N-Nitrosomorpholine	56	7.126	7.132	-0.006	77	35078	1.25	1.14	
28 4-Methylphenol	108	7.132	7.138	-0.006	89	69926	1.25	1.14	
31 2-Toluidine	106	7.144	7.150	-0.006	93	105899	1.25	1.17	
32 Hexachloroethane	117	7.231	7.231	0.000	93	32624	1.25	1.20	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 33 Nitrobenzene-d5	82	7.313	7.313	0.000	87	151727	2.50	2.22	
34 Nitrobenzene	77	7.336	7.342	-0.006	84	81140	1.25	1.18	
35 N-Nitrosopiperidine	114	7.575	7.575	0.000	87	30195	1.25	1.16	
36 Isophorone	82	7.727	7.727	0.000	96	131054	1.25	1.12	
37 2-Nitrophenol	139	7.832	7.838	-0.006	85	23898	1.25	0.9127	
38 2,4-Dimethylphenol	107	7.948	7.948	0.000	97	64211	1.25	1.13	
39 o,o',o''-Triethylphosphorothioat	198	8.071	8.077	-0.006	89	28814	1.25	1.10	
40 Benzoic acid	105	8.041	8.100	-0.059	86	75601	3.75	2.47	
41 Bis(2-chloroethoxy)methane	93	8.100	8.106	-0.006	99	87293	1.25	1.17	
42 2,4-Dichlorophenol	162	8.211	8.211	-0.001	95	47986	1.25	1.12	
43 1,2,4-Trichlorobenzene	180	8.339	8.339	0.000	92	56064	1.25	1.17	
* 44 Naphthalene-d8	136	8.415	8.415	-0.001	99	699265	5.00	5.00	
45 Naphthalene	128	8.444	8.450	-0.006	98	183525	1.25	1.20	
46 4-Chloroaniline	127	8.560	8.560	0.000	95	70746	1.25	1.15	
47 2,6-Dichlorophenol	162	8.560	8.566	-0.006	91	47363	1.25	1.14	
48 Hexachloropropene	213	8.595	8.601	-0.006	91	29380	1.25	1.02	
49 Hexachlorobutadiene	225	8.677	8.677	0.000	95	31860	1.25	1.17	
50 Quinoline	129	8.974	8.980	-0.006	96	106658	1.25	1.14	
52 Caprolactam	113	9.061	9.091	-0.030	86	15367	1.25	0.9656	
53 N-Nitrosodi-n-butylamine	84	9.137	9.137	0.000	93	38662	1.25	1.40	
54 4-Chloro-3-methylphenol	107	9.359	9.365	-0.006	92	48968	1.25	1.09	
55 Safrole, Total	162	9.452	9.452	0.000	87	42499	1.25	1.09	
56 2-Methylnaphthalene	142	9.551	9.551	0.000	91	114966	1.25	1.20	
S 51 Diallate	86				0		1.25	1.04	
57 1-Methylnaphthalene	142	9.703	9.703	0.000	92	106891	1.25	1.18	
58 Hexachlorocyclopentadiene	237	9.819	9.819	0.000	71	25450	1.25	0.9669	
59 1,2,4,5-Tetrachlorobenzene	216	9.819	9.819	0.000	96	56513	1.25	1.18	
60 Isosafrole Peak 1	162	9.918	9.918	0.000	79	6779	0.2000	0.1706	
61 2,4,6-Trichlorophenol	196	10.017	10.017	0.000	94	32660	1.25	1.11	
62 2,4,5-Trichlorophenol	196	10.064	10.070	-0.006	92	35468	1.25	1.13	
$ 63 2-Fluorobiphenyl (Surr)	172	10.163	10.169	-0.006	100	262136	2.50	2.35	
64 Isosafrole Peak 2	162	10.280	10.280	0.000	87	41106	1.05	0.9124	
65 1,1'-Biphenyl	154	10.315	10.315	0.000	96	127143	1.25	1.10	
66 2-Chloronaphthalene	162	10.315	10.321	-0.006	96	120407	1.25	1.22	
67 1-Chloronaphthalene	162	10.344	10.350	-0.006	98	102451	1.25	1.20	
68 Phenyl ether	170	10.495	10.495	0.000	87	77843	1.25	1.21	
69 2-Nitroaniline	138	10.495	10.507	-0.012	74	23241	1.25	0.99	
70 1,4-Naphthoquinone	158	10.612	10.612	0.000	81	34927	1.25	0.9446	
71 1,4-Dinitrobenzene	168	10.740	10.746	-0.006	84	11510	1.25	0.8282	
72 Dimethyl phthalate	163	10.845	10.851	-0.006	93	122270	1.25	1.18	
73 1,3-Dinitrobenzene	168	10.851	10.857	-0.006	50	14429	1.25	0.8719	
74 2,6-Dinitrotoluene	165	10.915	10.921	-0.006	87	23431	1.25	1.14	
75 Acenaphthylene	152	10.967	10.973	-0.006	99	148259	1.25	1.20	
76 3-Nitroaniline	138	11.160	11.166	-0.006	90	23032	1.25	1.10	
* 77 Acenaphthene-d10	164	11.201	11.207	-0.005	98	339074	5.00	5.00	
78 Acenaphthene	153	11.253	11.253	0.000	97	111464	1.25	1.19	
79 2,4-Dinitrophenol	184	11.335	11.341	-0.006	83	28814	3.75	2.02	
81 Pentachlorobenzene	250	11.469	11.469	0.000	94	46241	1.25	1.23	
80 4-Nitrophenol	109	11.469	11.475	-0.006	84	39447	2.50	1.88	
83 Dibenzofuran	168	11.527	11.533	-0.006	96	150508	1.25	1.20	
82 2,4-Dinitrotoluene	165	11.539	11.545	-0.006	81	29416	1.25	0.9787	
84 1-Naphthylamine	143	11.644	11.649	-0.005	97	101499	1.25	1.10	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
85 2,3,4,6-Tetrachlorophenol	232	11.719	11.725	-0.006	77	24671	1.25	1.04	
86 2-Naphthylamine	143	11.760	11.766	-0.006	95	101300	1.25	1.09	
87 Diethyl phthalate	149	11.929	11.935	-0.006	97	110390	1.25	1.10	
89 Fluorene	166	12.005	12.005	0.000	93	117586	1.25	1.20	
88 Thionazin	107	12.028	12.034	-0.006	77	19973	1.25	0.9790	
90 N-Nitro-o-toluidine	152	12.034	12.040	-0.006	82	28222	1.25	1.10	
91 4-Chlorophenyl phenyl ether	204	12.040	12.046	-0.006	91	60246	1.25	1.17	
92 4-Nitroaniline	138	12.040	12.046	-0.006	76	26806	1.25	1.13	
93 4,6-Dinitro-2-methylphenol	198	12.087	12.092	-0.005	81	30489	2.50	1.61	
94 N-Nitrosodiphenylamine	169	12.191	12.192	-0.001	62	100918	1.25	1.16	
95 1,2-Diphenylhydrazine	77	12.232	12.238	-0.006	98	157027	1.25	1.17	
$ 96 2,4,6-Tribromophenol	330	12.302	12.308	-0.006	82	25891	2.50	2.06	
97 Sulfotepp	97	12.430	12.431	-0.001	81	21011	1.25	1.01	
98 cis-Diallate	86	12.553	12.553	0.000	89	39164	0.9250	0.7515	
99 Phorate	75	12.553	12.559	-0.006	95	66474	1.25	1.06	
100 Phenacetin	108	12.570	12.582	-0.012	91	49474	1.25	0.9208	
101 4-Bromophenyl phenyl ether	248	12.617	12.623	-0.006	73	32699	1.25	1.20	
102 trans-Diallate	86	12.646	12.652	-0.006	96	14348	0.3250	0.2867	
103 Hexachlorobenzene	284	12.658	12.664	-0.006	89	32831	1.25	1.17	
104 Dimethoate	87	12.734	12.745	-0.011	91	37580	1.25	0.9122	
105 Atrazine	200	12.844	12.856	-0.012	92	27394	1.25	1.07	
106 Pentachlorophenol	266	12.903	12.908	-0.005	90	18093	1.25	0.9498	
107 Pentachloronitrobenzene	237	12.920	12.926	-0.006	82	11305	1.25	0.8823	
108 4-Aminobiphenyl	169	12.926	12.932	-0.006	90	81409	1.25	1.09	
109 Pronamide	173	13.031	13.037	-0.006	90	41700	1.25	0.9554	
* 110 Phenanthrene-d10	188	13.124	13.130	-0.006	98	639040	5.00	5.00	
112 Phenanthrene	178	13.153	13.159	-0.006	99	175815	1.25	1.19	
111 Dinoseb	211	13.159	13.165	-0.006	93	14024	1.25	1.53	
113 Anthracene	178	13.217	13.223	-0.006	98	167708	1.25	1.19	
114 Carbazole	167	13.433	13.439	-0.006	97	147952	1.25	1.15	
115 Methyl parathion	109	13.637	13.643	-0.006	90	22277	1.25	1.83	
116 Di-n-butyl phthalate	149	13.946	13.952	-0.006	100	165551	1.25	1.00	
117 Ethyl Parathion	109	14.162	14.167	-0.005	82	14002	1.25	1.40	
118 4-Nitroquinoline-1-oxide	190	14.156	14.167	-0.011	67	4874	1.25	4.16	
119 Octachlorostyrene	308	14.488	14.494	-0.006	84	11699	1.25	1.07	
120 Isodrin	193	14.523	14.529	-0.006	86	18897	1.25	1.11	
121 Fluoranthene	202	14.733	14.739	-0.006	99	171858	1.25	1.15	
122 Benzidine	184	14.966	14.978	-0.012	99	330772	3.75	3.05	
* 123 Pyrene-d10 (IS)	212	15.036	15.042	-0.006	98	636037	5.00	5.00	
124 Pyrene	202	15.059	15.065	-0.006	97	196067	1.25	1.16	
$ 125 p-Terphenyl-d14	244	15.356	15.362	-0.006	98	269620	2.50	2.21	
126 p-Dimethylamino azobenzene	225	15.584	15.590	-0.006	89	20022	1.25	1.83	
127 Chlorobenzilate	139	15.683	15.683	0.000	85	36028	1.25	0.8273	
128 3,3'-Dimethylbenzidine	212	16.132	16.138	-0.006	99	78071	1.25	1.45	
129 Butyl benzyl phthalate	149	16.202	16.207	-0.005	94	65928	1.25	0.9187	
130 2-Acetylaminofluorene	181	16.534	16.546	-0.012	93	29192	1.25	1.51	
132 Benzo[a]anthracene	228	17.029	17.035	-0.006	100	140264	1.25	0.9812	
131 3,3'-Dichlorobenzidine	252	17.035	17.041	-0.006	74	46708	1.25	1.46	
133 4,4'-Methylene bis(2-chloroanil	231	17.058	17.064	-0.006	90	22678	1.25	0.7913	
134 Chrysene	228	17.088	17.093	-0.005	97	172782	1.25	1.19	
135 Bis(2-ethylhexyl) phthalate	149	17.268	17.268	0.000	97	78130	1.25	0.8075	
136 6-Methylchrysene	242	17.880	17.886	-0.006	99	98656	1.25	0.9673	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
137 Di-n-octyl phthalate	149	18.416	18.422	-0.006	99	97346	1.25	1.54	
138 Benzo[b]fluoranthene	252	18.854	18.860	-0.006	98	140175	1.25	1.03	
139 7,12-Dimethylbenz(a)anthracene	256	18.865	18.871	-0.006	90	62552	1.25	1.07	
140 Benzo[k]fluoranthene	252	18.900	18.906	-0.006	100	160005	1.25	1.19	
141 Benzo[a]pyrene	252	19.372	19.378	-0.006	78	134998	1.25	1.07	
* 142 Perylene-d12	264	19.466	19.466	0.000	97	523450	5.00	5.00	
143 3-Methylcholanthrene	268	19.949	19.955	-0.006	92	50436	1.25	1.00	
144 Dibenz[a,h]acridine	279	20.754	20.760	-0.006	92	65205	1.25	0.7963	
145 Dibenz[a,j]acridine	279	20.824	20.835	-0.011	95	78286	1.25	0.8265	
146 Indeno[1,2,3-cd]pyrene	276	21.051	21.063	-0.012	98	95264	1.25	0.9574	
147 Dibenz(a,h)anthracene	278	21.103	21.109	-0.006	95	108826	1.25	0.9763	
148 Benzo[g,h,i]perylene	276	21.407	21.418	-0.011	94	115784	1.25	1.01	
S 152 Dinitrotoluene	165				0		2.50	2.12	
S 170 Isosafrole	162				0		1.25	1.08	

Reagents:

MSS_RV8270_3_00007 Amount Added: 1.00 Units: mL

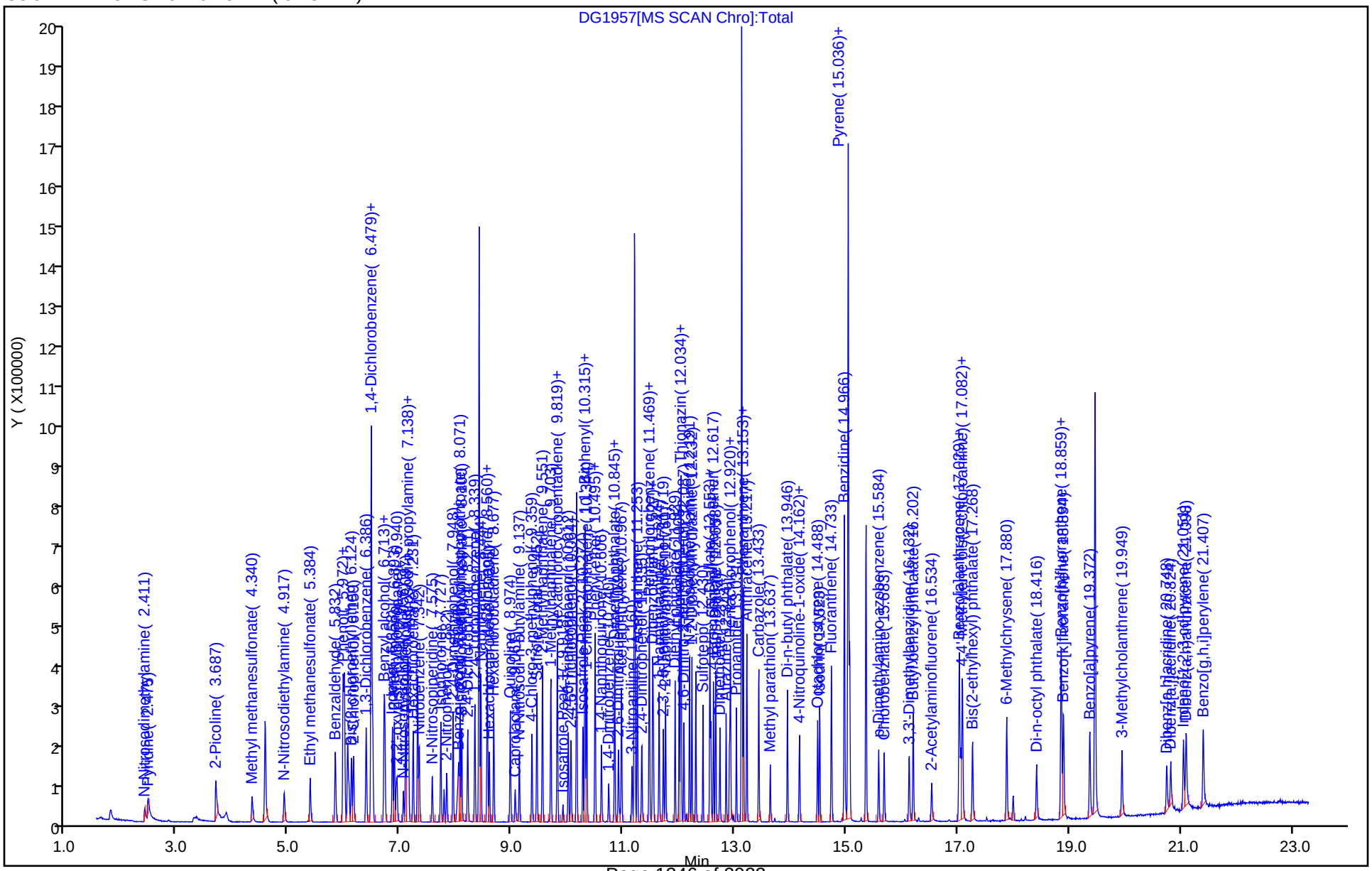
Report Date: 04-Aug-2020 16:10:52 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1957.D

Injection Date:	31-Jul-2020 19:12:30	Instrument ID:	HP19760	Operator ID:	lmh00956
Lims ID:	IC L3			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	8
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1958.D
Lims ID: IC L2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 31-Jul-2020 19:41:30 ALS Bottle#: 9 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: IC L2
Misc. Info.: 410-0007009-009
Operator ID: lmh00956 Instrument ID: HP19760
Sublist: chrom-MSSemi_HP19760*sub5

Method: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 04-Aug-2020 16:11:01 Calib Date: 31-Jul-2020 19:41:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1958.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1041

First Level Reviewer: williamss Date: 02-Aug-2020 16:55:01

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.817	1.782	0.035	93	4875	0.2500	0.1919	
2 N-Nitrosodimethylamine	74	2.440	2.382	0.058	90	6742	0.2500	0.1797	
3 Pyridine	79	2.516	2.423	0.093	90	12649	0.2500	0.1856	
4 2-Picoline	93	3.711	3.664	0.047	89	12386	0.2500	0.1844	
5 N-Nitrosomethylethylamine	88	3.833	3.868	-0.035	31	4833	0.2500	0.1773	
7 Methyl methanesulfonate	80	4.346	4.335	0.011	88	7216	0.2500	0.2229	
$ 8 2-Fluorophenol	112	4.579	4.574	0.005	90	23749	0.5000	0.4184	
9 N-Nitrosodiethylamine	102	4.917	4.912	0.005	83	5083	0.2500	0.1955	
10 Ethyl methanesulfonate	109	5.384	5.384	0.000	98	6718	0.2500	0.2412	
12 Benzaldehyde	77	5.827	5.833	-0.005	94	12329	0.2500	0.2409	
$ 13 Phenol-d5	99	5.972	5.978	-0.006	96	30431	0.5000	0.4227	
14 Phenol	94	5.990	5.996	-0.006	79	17662	0.2500	0.2083	
15 Aniline	93	6.002	6.002	0.000	89	22313	0.2500	0.2260	
16 Bis(2-chloroethyl)ether	93	6.124	6.124	0.000	97	14907	0.2500	0.2335	
17 2-Chlorophenol	128	6.159	6.159	0.000	94	11289	0.2500	0.2170	
18 1,3-Dichlorobenzene	146	6.386	6.386	0.000	94	14164	0.2500	0.2409	
* 19 1,4-Dichlorobenzene-d4	152	6.479	6.479	0.000	97	181399	5.00	5.00	
20 1,4-Dichlorobenzene	146	6.509	6.503	0.006	90	14713	0.2500	0.2465	
21 Benzyl alcohol	108	6.707	6.707	0.000	91	7050	0.2500	0.1896	
22 1,2-Dichlorobenzene	146	6.718	6.718	0.000	92	13585	0.2500	0.2389	
24 Indene	115	6.858	6.858	0.000	87	17620	0.2500	0.2148	
23 2-Methylphenol	108	6.893	6.899	-0.006	92	10385	0.2500	0.2054	
25 2,2'-oxybis[1-chloropropane]	45	6.934	6.934	0.000	86	12299	0.2500	0.2439	
26 N-Nitrosopyrrolidine	100	7.057	7.062	-0.006	89	4716	0.2500	0.1824	
27 Acetophenone	105	7.097	7.097	0.000	95	17941	0.2500	0.2349	
29 N-Nitrosodi-n-propylamine	70	7.121	7.126	-0.005	80	8075	0.2500	0.1838	
30 N-Nitrosomorpholine	56	7.126	7.132	-0.006	61	5837	0.2500	0.1907	
28 4-Methylphenol	108	7.132	7.138	-0.006	85	12497	0.2500	0.2049	
31 2-Toluidine	106	7.144	7.150	-0.006	93	20429	0.2500	0.2261	
32 Hexachloroethane	117	7.226	7.231	-0.005	90	5727	0.2500	0.2119	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 33 Nitrobenzene-d5	82	7.307	7.313	-0.006	87	25147	0.5000	0.3761	
34 Nitrobenzene	77	7.342	7.342	0.000	83	13029	0.2500	0.1937	
35 N-Nitrosopiperidine	114	7.569	7.575	-0.006	84	4521	0.2500	0.1775	
36 Isophorone	82	7.727	7.727	0.000	96	23412	0.2500	0.2041	
37 2-Nitrophenol	139	7.832	7.838	-0.006	84	3565	0.2500	0.1394	
38 2,4-Dimethylphenol	107	7.948	7.948	0.000	93	10666	0.2500	0.1927	
39 o,o',o''-Triethylphosphorothioat	198	8.071	8.077	-0.006	91	5323	0.2500	0.2086	
40 Benzoic acid	105	8.036	8.100	-0.064	89	34442	2.50	1.15	
41 Bis(2-chloroethoxy)methane	93	8.100	8.106	-0.006	98	16755	0.2500	0.2304	
42 2,4-Dichlorophenol	162	8.211	8.211	0.000	93	8832	0.2500	0.2109	
43 1,2,4-Trichlorobenzene	180	8.339	8.339	0.000	89	11144	0.2500	0.2375	
* 44 Naphthalene-d8	136	8.415	8.415	0.000	99	682949	5.00	5.00	
45 Naphthalene	128	8.444	8.450	-0.006	98	35782	0.2500	0.2391	
46 4-Chloroaniline	127	8.560	8.560	0.000	83	12042	0.2500	0.2012	
47 2,6-Dichlorophenol	162	8.566	8.566	0.000	79	8539	0.2500	0.2097	
48 Hexachloropropene	213	8.595	8.601	-0.006	89	5475	0.2500	0.1938	
49 Hexachlorobutadiene	225	8.677	8.677	0.000	90	6311	0.2500	0.2365	
50 Quinoline	129	8.974	8.980	-0.006	96	18548	0.2500	0.2031	
52 Caprolactam	113	9.056	9.091	-0.035	82	2280	0.2500	0.1467	
53 N-Nitrosodi-n-butylamine	84	9.131	9.137	-0.006	92	5570	0.2500	0.5237	
54 4-Chloro-3-methylphenol	107	9.359	9.365	-0.006	92	7669	0.2500	0.1751	
55 Safrole, Total	162	9.446	9.452	-0.006	85	7574	0.2500	0.1984	
56 2-Methylnaphthalene	142	9.551	9.551	0.000	92	21528	0.2500	0.2307	
S 51 Diallate	86				0		0.2500	0.1728	
57 1-Methylnaphthalene	142	9.703	9.703	0.000	89	19181	0.2500	0.2172	
59 1,2,4,5-Tetrachlorobenzene	216	9.819	9.819	0.000	95	11035	0.2500	0.2359	
58 Hexachlorocyclopentadiene	237	9.813	9.819	-0.006	75	3766	0.2500	0.1463	
60 Isosafrole Peak 1	162	9.913	9.918	-0.005	79	1450	0.0400	0.0373	
61 2,4,6-Trichlorophenol	196	10.012	10.017	-0.005	91	4882	0.2500	0.1695	
62 2,4,5-Trichlorophenol	196	10.064	10.070	-0.006	90	5724	0.2500	0.1868	
$ 63 2-Fluorobiphenyl (Surr)	172	10.163	10.169	-0.006	99	48659	0.5000	0.4467	
64 Isosafrole Peak 2	162	10.274	10.280	-0.006	85	6816	0.2100	0.1547	
65 1,1'-Biphenyl	154	10.309	10.315	-0.006	94	27822	0.2500	0.2452	
66 2-Chloronaphthalene	162	10.315	10.321	-0.006	93	21090	0.2500	0.2178	
67 1-Chloronaphthalene	162	10.344	10.350	-0.006	97	18390	0.2500	0.2201	
68 Phenyl ether	170	10.495	10.495	0.000	85	14005	0.2500	0.2222	
69 2-Nitroaniline	138	10.495	10.507	-0.012	60	3256	0.2500	0.3415	
70 1,4-Naphthoquinone	158	10.606	10.612	-0.006	80	5105	0.2500	0.1412	
71 1,4-Dinitrobenzene	168	10.734	10.746	-0.012	80	1464	0.2500	0.1077	
72 Dimethyl phthalate	163	10.845	10.851	-0.006	94	21361	0.2500	0.2115	
73 1,3-Dinitrobenzene	168	10.851	10.857	-0.006	46	1645	0.2500	0.1016	
74 2,6-Dinitrotoluene	165	10.915	10.921	-0.006	75	2205	0.2500	0.2859	
75 Acenaphthylene	152	10.968	10.973	-0.005	98	25040	0.2500	0.2078	
76 3-Nitroaniline	138	11.160	11.166	-0.006	84	2362	0.2500	0.3097	
* 77 Acenaphthene-d10	164	11.201	11.207	-0.005	98	331590	5.00	5.00	
78 Acenaphthene	153	11.253	11.253	0.000	96	21676	0.2500	0.2374	
79 2,4-Dinitrophenol	184	11.329	11.341	-0.012	82	10258	2.25	0.7355	
81 Pentachlorobenzene	250	11.463	11.469	-0.006	93	8331	0.2500	0.2268	
80 4-Nitrophenol	109	11.469	11.475	-0.006	81	13779	1.25	0.6710	
83 Dibenzofuran	168	11.527	11.533	-0.006	96	28620	0.2500	0.2341	
82 2,4-Dinitrotoluene	165	11.539	11.545	-0.006	77	3831	0.2500	0.1303	
84 1-Naphthylamine	143	11.644	11.649	-0.005	96	17303	0.2500	0.1919	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
85 2,3,4,6-Tetrachlorophenol	232	11.719	11.725	-0.006	71	4222	0.2500	0.1827	
86 2-Naphthylamine	143	11.760	11.766	-0.006	95	17567	0.2500	0.1936	
87 Diethyl phthalate	149	11.929	11.935	-0.006	96	17800	0.2500	0.1822	
89 Fluorene	166	12.005	12.005	0.000	91	19999	0.2500	0.2089	
88 Thionazin	107	12.028	12.034	-0.006	77	2904	0.2500	0.1456	
90 N-Nitro-o-toluidine	152	12.034	12.040	-0.006	74	3468	0.2500	0.3215	
92 4-Nitroaniline	138	12.040	12.046	-0.006	70	2951	0.2500	0.2927	
91 4-Chlorophenyl phenyl ether	204	12.040	12.046	-0.006	89	10623	0.2500	0.2104	
93 4,6-Dinitro-2-methylphenol	198	12.087	12.092	-0.005	80	9218	1.25	0.5178	
94 N-Nitrosodiphenylamine	169	12.186	12.192	-0.006	64	17574	0.2500	0.2141	
95 1,2-Diphenylhydrazine	77	12.232	12.238	-0.006	98	26751	0.2500	0.2116	
$ 96 2,4,6-Tribromophenol	330	12.302	12.308	-0.006	77	3953	0.5000	0.3209	
97 Sulfotepp	97	12.431	12.431	-0.001	76	3059	0.2500	0.1558	
98 cis-Diallate	86	12.547	12.553	-0.006	88	5919	0.1850	0.1205	
99 Phorate	75	12.553	12.559	-0.006	95	9200	0.2500	0.3237	
100 Phenacetin	108	12.570	12.582	-0.012	87	6733	0.2500	0.1329	
101 4-Bromophenyl phenyl ether	248	12.617	12.623	-0.006	73	5124	0.2500	0.1999	
102 trans-Diallate	86	12.646	12.652	-0.006	52	2468	0.0650	0.0523	
103 Hexachlorobenzene	284	12.658	12.664	-0.006	89	6335	0.2500	0.2395	
104 Dimethoate	87	12.734	12.745	-0.011	91	4823	0.2500	0.1242	
105 Atrazine	200	12.844	12.856	-0.012	89	4197	0.2500	0.1733	
106 Pentachlorophenol	266	12.908	12.908	0.000	89	2605	0.2500	0.1451	
107 Pentachloronitrobenzene	237	12.920	12.926	-0.006	79	1621	0.2500	0.1342	
108 4-Aminobiphenyl	169	12.926	12.932	-0.006	89	12796	0.2500	0.1817	
109 Pronamide	173	13.031	13.037	-0.006	86	4704	0.2500	0.1143	
* 110 Phenanthrene-d10	188	13.124	13.130	-0.006	98	602396	5.00	5.00	
112 Phenanthrene	178	13.153	13.159	-0.006	98	33446	0.2500	0.2403	
111 Dinoseb	211	13.159	13.165	-0.006	62	1650	0.2500	1.13	
113 Anthracene	178	13.217	13.223	-0.006	98	27980	0.2500	0.2100	
114 Carbazole	167	13.433	13.439	-0.006	96	24293	0.2500	0.2006	
115 Methyl parathion	109	13.637	13.643	-0.006	86	2801	0.2500	1.35	
116 Di-n-butyl phthalate	149	13.946	13.952	-0.006	99	21087	0.2500	0.1357	
117 Ethyl Parathion	109	14.167	14.167	0.000	75	1391	0.2500	0.9315	
118 4-Nitroquinoline-1-oxide	190	14.156	14.167	-0.011	66	560	0.2500	3.91	
119 Octachlorostyrene	308	14.488	14.494	-0.006	74	2279	0.2500	0.2218	
120 Isodrin	193	14.523	14.529	-0.006	82	3563	0.2500	0.2227	
121 Fluoranthene	202	14.733	14.739	-0.006	99	27190	0.2500	0.1934	
122 Benzidine	184	14.966	14.978	-0.012	99	104345	2.00	1.05	
* 123 Pyrene-d10 (IS)	212	15.036	15.042	-0.006	98	583682	5.00	5.00	
124 Pyrene	202	15.059	15.065	-0.006	98	37895	0.2500	0.2449	
$ 125 p-Terphenyl-d14	244	15.356	15.362	-0.006	97	45746	0.5000	0.4086	
126 p-Dimethylamino azobenzene	225	15.584	15.590	-0.006	87	2268	0.2500	1.31	
127 Chlorobenzilate	139	15.677	15.683	-0.006	86	3696	0.2500	0.0925	
128 3,3'-Dimethylbenzidine	212	16.132	16.138	-0.006	96	9421	0.2500	0.8799	
129 Butyl benzyl phthalate	149	16.196	16.207	-0.011	87	7045	0.2500	0.1070	
130 2-Acetylaminofluorene	181	16.534	16.546	-0.012	90	3514	0.2500	1.15	
132 Benzo[a]anthracene	228	17.023	17.035	-0.012	98	19809	0.2500	0.2492	
131 3,3'-Dichlorobenzidine	252	17.035	17.041	-0.006	56	5399	0.2500	0.8550	
133 4,4'-Methylene bis(2-chloroanil	231	17.053	17.064	-0.011	87	2434	0.2500	0.0925	
134 Chrysene	228	17.088	17.093	-0.005	96	27138	0.2500	0.2036	
135 Bis(2-ethylhexyl) phthalate	149	17.262	17.268	-0.006	95	8275	0.2500	0.0932	
136 6-Methylchrysene	242	17.880	17.886	-0.006	96	13445	0.2500	0.1436	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
137 Di-n-octyl phthalate	149	18.411	18.422	-0.011	97	12295	0.2500	1.04	
138 Benzo[b]fluoranthene	252	18.854	18.860	-0.006	96	20845	0.2500	0.2493	
139 7,12-Dimethylbenz(a)anthracene	256	18.859	18.871	-0.012	90	8698	0.2500	0.3172	
140 Benzo[k]fluoranthene	252	18.894	18.906	-0.012	99	25685	0.2500	0.2089	
141 Benzo[a]pyrene	252	19.372	19.378	-0.006	80	16806	0.2500	0.2308	
* 142 Perylene-d12	264	19.466	19.466	0.000	98	478692	5.00	5.00	
143 3-Methylcholanthrene	268	19.944	19.955	-0.011	91	5615	0.2500	0.3430	
144 Dibenz[a,h]acridine	279	20.748	20.760	-0.012	90	8696	0.2500	0.1161	
145 Dibenz[a,j]acridine	279	20.818	20.835	-0.017	94	8975	0.2500	0.1036	
146 Indeno[1,2,3-cd]pyrene	276	21.051	21.063	-0.012	95	10900	0.2500	0.2271	
147 Dibenz(a,h)anthracene	278	21.104	21.109	-0.005	92	15062	0.2500	0.2401	
148 Benzo[g,h,i]perylene	276	21.407	21.418	-0.011	92	16993	0.2500	0.2377	
S 152 Dinitrotoluene	165				0		0.5000	0.4162	
S 170 Isosafrole	162				0		0.2500	0.1920	

Reagents:

MSS_RV8270_2_00007 Amount Added: 1.00 Units: mL

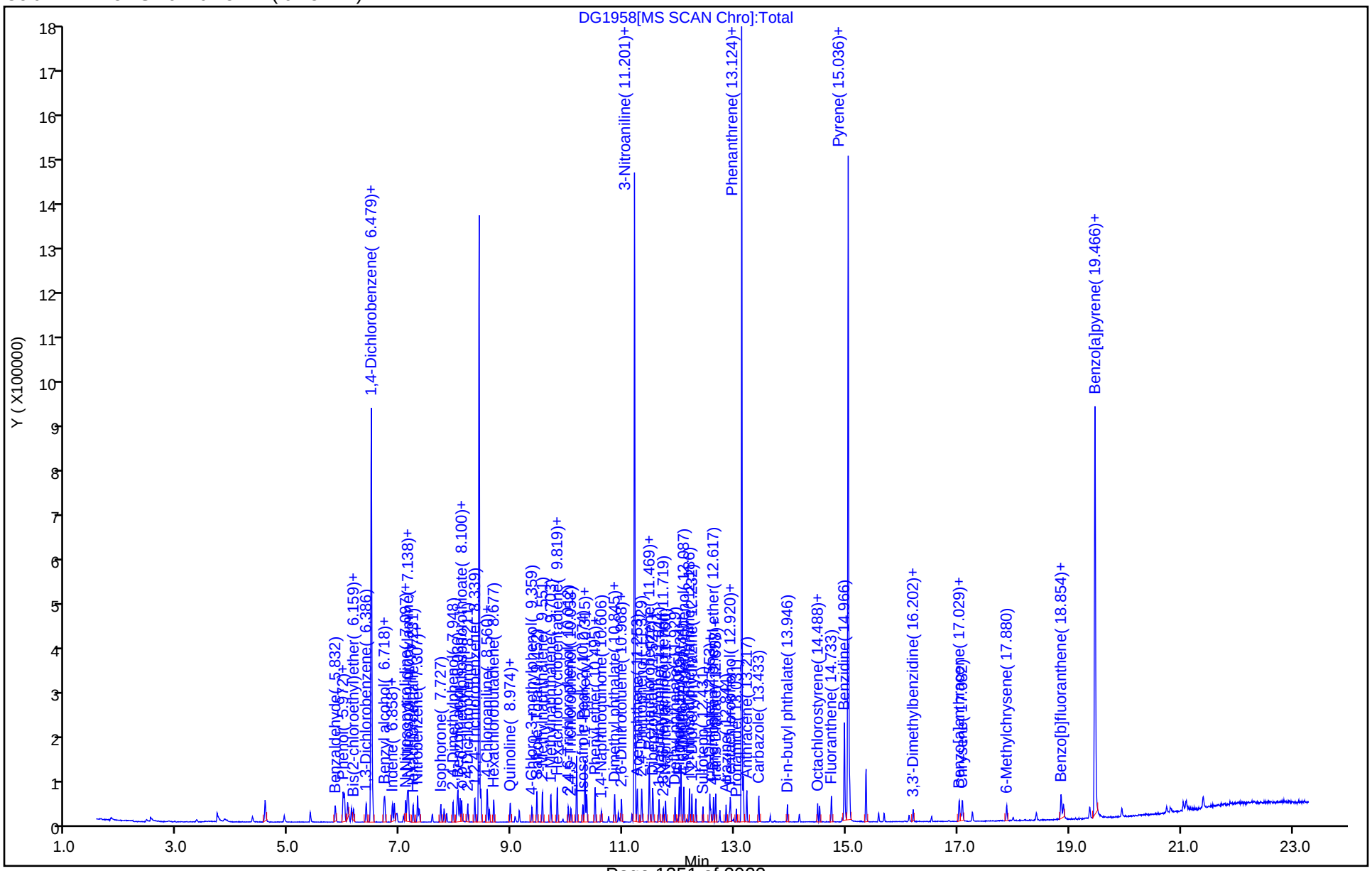
Report Date: 04-Aug-2020 16:11:02 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1958.D

Injection Date:	31-Jul-2020 19:41:30	Instrument ID:	HP19760	Operator ID:	lmh00956
Lims ID:	IC L2			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	9
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab Sample ID (1): ICIS 410-28519/2 Instrument ID (1): HP19760

GC Column (1): DB-5MS 30m 0. ID: 0.25(mm) Date Analyzed (1): 07/31/2020 16:07

ANALYTE	RT	RESOLUTION (%)
Benzo[b]fluoranthene	18.86	15.70

Resolution Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1951.D				
Injection Date:	31-Jul-2020 16:07:30	Instrument ID:	HP19760		
Lims ID:	ICIS L5				
Client ID:					
Operator ID:	lmh00956	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

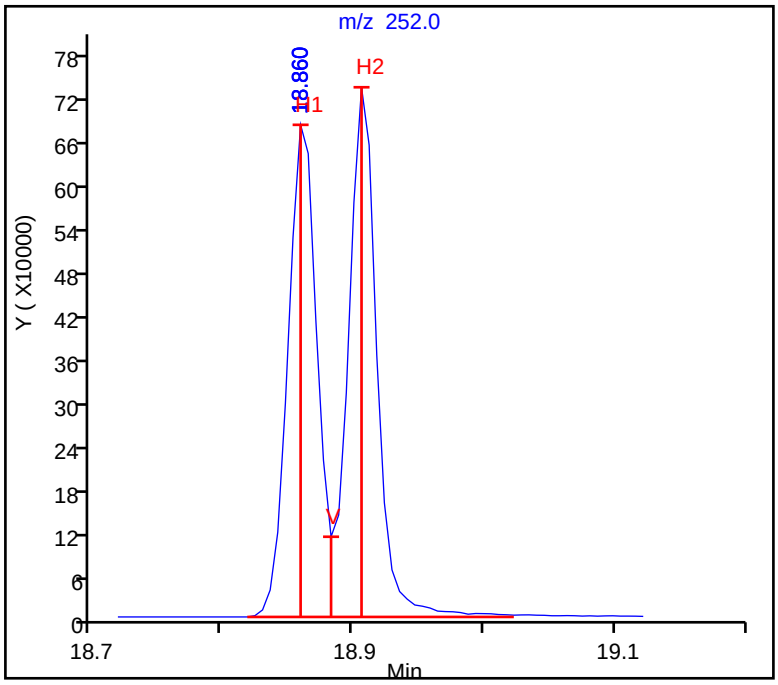
138 Benzo[b]fluoranthene - 140 Benzo[k]fluoranthene

SW-846 Method

Version D: %R = (V / ((H1 + H2)/2)) * 100

V (Valley Height) = 110200
H1(138 Benzo[b]fluoranthen) = 676352
H2(140 Benzo[k]fluoranthen) = 728000

Version D: %R = 15.7 <= 50.0
Passed



FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab Sample ID (1): CCVIS 410-34301/2 Instrument ID (1): HP19760

GC Column (1): DB-5MS 30m 0. ID: 0.25(mm) Date Analyzed (1): 08/18/2020 10:03

ANALYTE	RT	RESOLUTION (%)
Benzo[b]fluoranthene	18.68	17.50

Resolution Report

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1001.D
Injection Date: 18-Aug-2020 10:03:30 Instrument ID: HP19760
Lims ID: CCVIS L5
Client ID:
Operator ID: em10340 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI

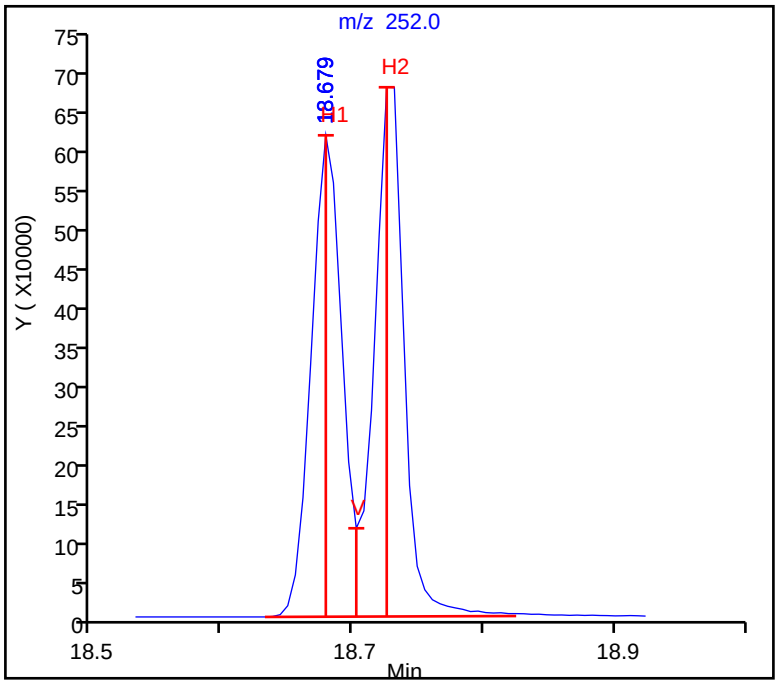
138 Benzo[b]fluoranthene - 140 Benzo[k]fluoranthene

SW-846 Method

Version D: %R = (V / ((H1 + H2)/2)) * 100

V (Valley Height) = 113072
H1(138 Benzo[b]fluoranthen) = 616166
H2(140 Benzo[k]fluoranthen) = 677387

Version D: %R = 17.5 <= 50.0
Passed



FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab Sample ID (1): CCVIS 410-34776/2 Instrument ID (1): HP19760

GC Column (1): DB-5MS 30m 0. ID: 0.25(mm) Date Analyzed (1): 08/19/2020 08:30

ANALYTE	RT	RESOLUTION (%)
Benzo[b]fluoranthene	18.68	16.20

Resolution Report

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200819-8418.b\DH1051.D
Injection Date: 19-Aug-2020 08:30:30 Instrument ID: HP19760
Lims ID: CCVIS L5
Client ID:
Operator ID: em10340 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI

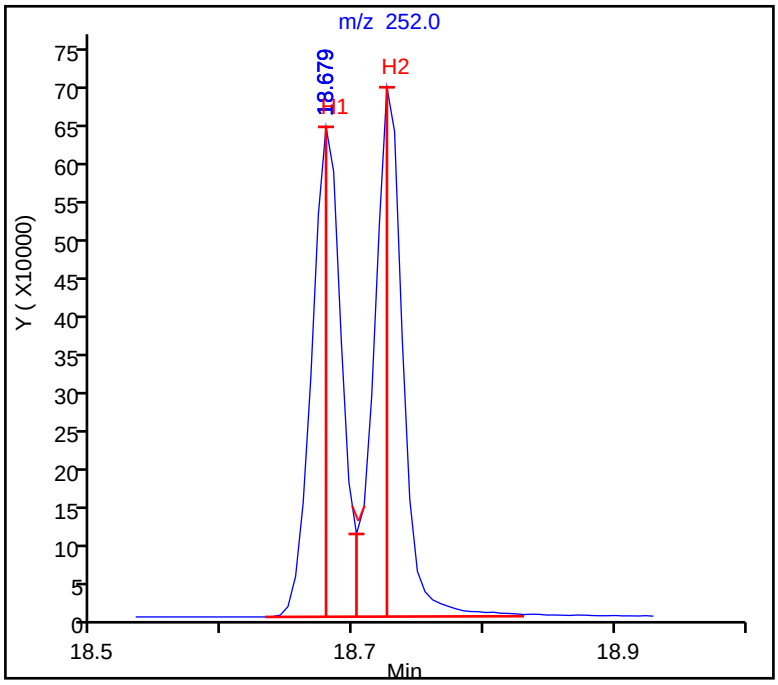
138 Benzo[b]fluoranthene - 140 Benzo[k]fluoranthene

SW-846 Method

Version D: %R = (V / ((H1 + H2)/2)) * 100

V (Valley Height) = 109030
H1(138 Benzo[b]fluoranthen) = 645663
H2(140 Benzo[k]fluoranthen) = 697661

Version D: %R = 16.2 <= 50.0
Passed



FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab Sample ID (1): CCVIS 410-36695/2 Instrument ID (1): HP19760

GC Column (1): DB-5MS 30m 0. ID: 0.25(mm) Date Analyzed (1): 08/24/2020 20:52

ANALYTE	RT	RESOLUTION (%)
Benzo[b]fluoranthene	18.59	18.00

Resolution Report

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1401.D
Injection Date: 24-Aug-2020 20:52:30 Instrument ID: HP19760
Lims ID: CCVIS L5
Client ID:
Operator ID: sw30417 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI

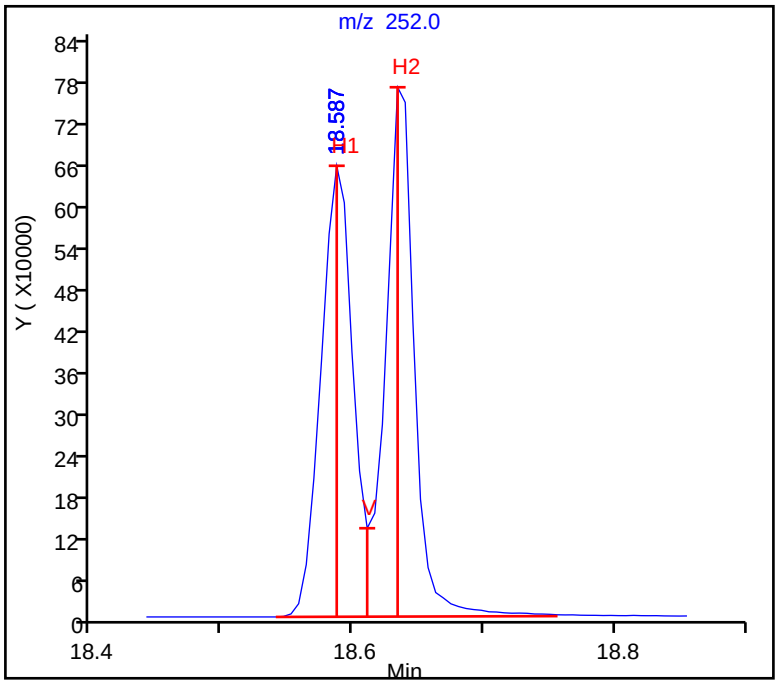
138 Benzo[b]fluoranthene - 140 Benzo[k]fluoranthene

SW-846 Method

Version D: %R = (V / ((H1 + H2)/2)) * 100

V (Valley Height) = 128437
H1(138 Benzo[b]fluoranthen) = 654846
H2(140 Benzo[k]fluoranthen) = 768636

Version D: %R = 18.0 <= 50.0
Passed



FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab Sample ID (1): CCVIS 410-36891/2 Instrument ID (1): HP19760

GC Column (1): DB-5MS 30m 0. ID: 0.25(mm) Date Analyzed (1): 08/25/2020 09:57

ANALYTE	RT	RESOLUTION (%)
Benzo[b]fluoranthene	18.59	18.20

Resolution Report

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1451.D
Injection Date: 25-Aug-2020 09:57:30 Instrument ID: HP19760
Lims ID: CCVIS L5
Client ID:
Operator ID: em10340 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI

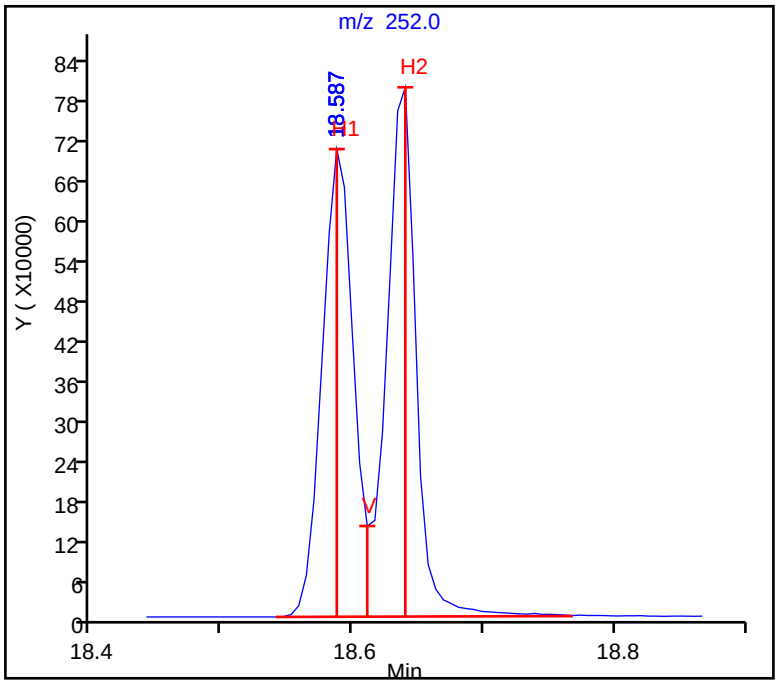
138 Benzo[b]fluoranthene - 140 Benzo[k]fluoranthene

SW-846 Method

Version D: %R = (V / ((H1 + H2)/2)) * 100

V (Valley Height) = 135986
H1(138 Benzo[b]fluoranthen) = 701367
H2(140 Benzo[k]fluoranthen) = 793804

Version D: %R = 18.2 <= 50.0
Passed



FORM VI
RESOLUTION CHECK SUMMARY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab Sample ID (1): CCVIS 410-37350/2 Instrument ID (1): HP19760

GC Column (1): DB-5MS 30m 0. ID: 0.25(mm) Date Analyzed (1): 08/26/2020 12:17

ANALYTE	RT	RESOLUTION (%)
Benzo[b]fluoranthene	18.54	18.30

Resolution Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200826-8979.b\DH1511.D				
Injection Date:	26-Aug-2020 12:17:30	Instrument ID:	HP19760		
Lims ID:	CCVIS L5				
Client ID:					
Operator ID:	em10340	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

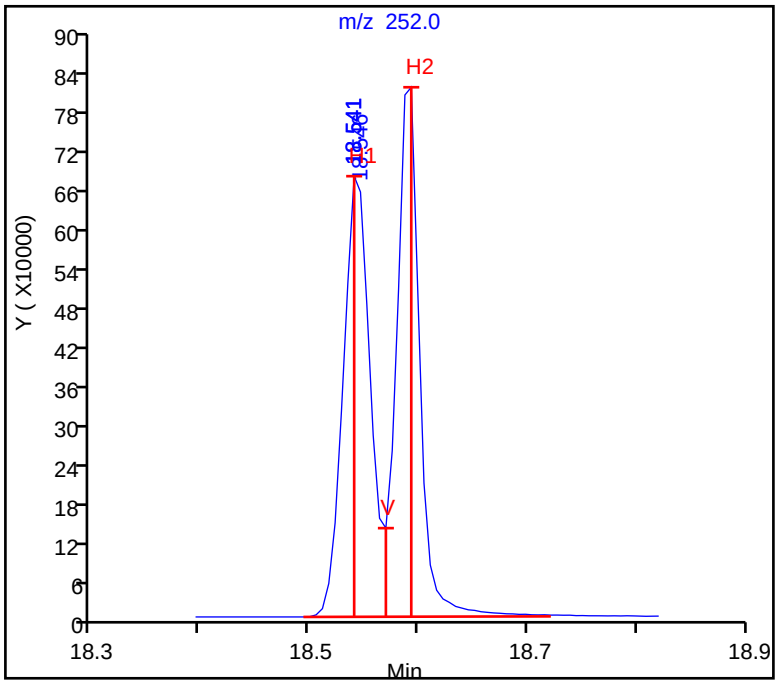
138 Benzo[b]fluoranthene - 140 Benzo[k]fluoranthene

SW-846 Method

Version D: %R = (V / ((H1 + H2)/2)) * 100

V (Valley Height) = 135579
H1(138 Benzo[b]fluoranthen) = 674188
H2(140 Benzo[k]fluoranthen) = 810049

Version D: %R = 18.3 <= 50.0
Passed



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICV 410-28519/12 Calibration Date: 07/31/2020 21:08

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DG1961.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.7002	0.6573		11.7	12.5	-6.1	30.0
N-Nitrosodimethylamine	Ave	1.034	1.010		12.2	12.5	-2.4	30.0
Pyridine	Ave	1.878	1.616		10.8	12.5	-14.0	30.0
2-Picoline	Ave	1.851	1.781		12.0	12.5	-3.8	30.0
N-Nitrosomethylethylamine	Ave	0.7513	0.7454		12.4	12.5	-0.8	30.0
Methyl methanesulfonate	Ave	0.8925	0.997		14.0	12.5	11.8	30.0
N-Nitrosodiethylamine	Ave	0.7166	0.7578		13.2	12.5	5.7	30.0
Ethyl methanesulfonate	Ave	0.7677	0.7599		12.4	12.5	-1.0	30.0
Aniline	Ave	2.721	2.301		10.6	12.5	-15.4	30.0
Phenol	Ave	2.337	2.302	0.8000	12.3	12.5	-1.5	30.0
Bis(2-chloroethyl)ether	Ave	1.760	1.694	0.7000	12.0	12.5	-3.8	30.0
2-Chlorophenol	Ave	1.434	1.443	0.8000	12.6	12.5	0.7	30.0
1,3-Dichlorobenzene	Ave	1.621	1.605		12.4	12.5	-0.9	30.0
1,4-Dichlorobenzene	Ave	1.645	1.641		12.5	12.5	-0.3	30.0
Benzyl alcohol	Ave	1.025	1.041		12.7	12.5	1.6	30.0
1,2-Dichlorobenzene	Ave	1.568	1.566		12.5	12.5	-0.1	30.0
Indene	Ave	2.261	2.746		15.2	12.5	21.4	30.0
2-Methylphenol	Ave	1.394	1.426	0.7000	12.8	12.5	2.3	30.0
2,2'-oxybis[1-chloropropane]	Ave	1.390	1.328	0.0100	11.9	12.5	-4.4	30.0
N-Nitrosopyrrolidine	Ave	0.7126	0.7839		13.7	12.5	10.0	30.0
Acetophenone	Ave	2.106	2.189	0.0100	13.0	12.5	4.0	30.0
N-Nitrosodi-n-propylamine	Ave	1.211	1.292	0.5000	13.3	12.5	6.7	30.0
4-Methylphenol	Ave	1.681	1.728	0.6000	12.9	12.5	2.8	30.0
N-Nitrosomorpholine	Ave	0.8436	0.8711		12.9	12.5	3.3	30.0
o-Toluidine	Ave	2.491	2.455		12.3	12.5	-1.4	30.0
Hexachloroethane	Ave	0.7449	0.7285	0.3000	12.2	12.5	-2.2	30.0
Nitrobenzene	Ave	0.4925	0.4737	0.2000	12.0	12.5	-3.8	30.0
N-Nitrosopiperidine	Ave	0.1865	0.1901		12.7	12.5	1.9	30.0
Isophorone	Ave	0.8397	0.8227	0.4000	12.2	12.5	-2.0	30.0
2-Nitrophenol	Ave	0.1872	0.1885	0.1000	12.6	12.5	0.7	30.0
2,4-Dimethylphenol	Ave	0.4052	0.3174	0.2000	9.79	12.5	-21.7	30.0
o,o',o''-Triethylphosphorothioate	Ave	0.1869	0.1886		12.6	12.5	0.9	30.0
Bis(2-chloroethoxy)methane	Ave	0.5324	0.5298	0.3000	12.4	12.5	-0.5	30.0
Benzoic acid	Ave	0.2187	0.2407		27.5	25.0	10.1	30.0
2,4-Dichlorophenol	Ave	0.3066	0.3096	0.2000	12.6	12.5	1.0	30.0
1,2,4-Trichlorobenzene	Ave	0.3435	0.3419		12.4	12.5	-0.5	30.0
Naphthalene	Ave	1.095	1.082	0.7000	12.3	12.5	-1.3	30.0
4-Chloroaniline	Ave	0.4382	0.4379	0.0100	12.5	12.5	-0.0	30.0
2,6-Dichlorophenol	Ave	0.2982	0.3093		13.0	12.5	3.7	30.0
Hexachloropropene	Ave	0.2069	0.2343		14.2	12.5	13.3	30.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICV 410-28519/12 Calibration Date: 07/31/2020 21:08

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DG1961.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Hexachlorobutadiene	Ave	0.1954	0.1969	0.0100	12.6	12.5	0.8	30.0
Quinoline	Ave	0.6687	0.6649		12.4	12.5	-0.6	30.0
N-Nitrosodi-n-butylamine	Qua		0.2813		11.4	12.5	-8.7	30.0
4-Chloro-3-methylphenol	Ave	0.3206	0.3378	0.2000	13.2	12.5	5.4	30.0
Safrole, Total	Ave	0.2795	0.2810		12.6	12.5	0.5	30.0
2-Methylnaphthalene	Ave	0.6830	0.7006	0.4000	12.8	12.5	2.6	30.0
1-Methylnaphthalene	Ave	0.6466	0.6280		12.1	12.5	-2.9	30.0
1,2,4,5-Tetrachlorobenzene	Ave	0.7054	0.7039	0.0100	12.5	12.5	-0.2	30.0
Hexachlorocyclopentadiene	Ave	0.3881	0.2895	0.0500	18.6	25.0	-25.4	30.0
Isosafrole Peak 1	Ave	0.5859	0.5912		1.51	1.50	0.9	30.0
2,4,6-Trichlorophenol	Ave	0.4344	0.4506	0.2000	13.0	12.5	3.7	30.0
2,4,5-Trichlorophenol	Ave	0.4621	0.4701	0.2000	12.7	12.5	1.7	30.0
Isosafrole Peak 2	Ave	0.6644	0.6707		11.1	11.0	1.0	30.0
1,1'-Biphenyl	Ave	1.711	1.739	0.0100	12.7	12.5	1.6	30.0
2-Chloronaphthalene	Ave	1.460	1.490	0.8000	12.8	12.5	2.1	30.0
1-Chloronaphthalene	Ave	1.260	1.212		12.0	12.5	-3.8	30.0
Diphenyl ether	Ave	0.9503	0.9449		12.4	12.5	-0.6	30.0
2-Nitroaniline	Lin1		0.4244	0.0100	11.9	12.5	-4.4	30.0
1,4-Naphthoquinone	Ave	0.5452	0.5606		16.1	15.6	2.8	30.0
1,4-Dinitrobenzene	Ave	0.2049	0.2195		13.4	12.5	7.1	30.0
Dimethyl phthalate	Ave	1.523	1.455	0.0100	11.9	12.5	-4.4	30.0
1,3-Dinitrobenzene	Ave	0.2440	0.2600		13.3	12.5	6.5	30.0
2,6-Dinitrotoluene	Lin1		0.3406	0.2000	11.8	12.5	-5.4	30.0
Acenaphthylene	Ave	1.817	1.838	0.9000	12.6	12.5	1.2	30.0
3-Nitroaniline	Lin1		0.3657	0.0100	12.2	12.5	-2.7	30.0
Acenaphthene	Ave	1.377	1.323	0.9000	12.0	12.5	-3.9	30.0
2,4-Dinitrophenol	Ave	0.2103	0.2291	0.0100	27.2	25.0	8.9	30.0
Pentachlorobenzene	Ave	0.5540	0.5583		12.6	12.5	0.8	30.0
4-Nitrophenol	Ave	0.3096	0.3101	0.0100	12.5	12.5	0.2	30.0
Dibenzofuran	Ave	1.843	1.810	0.8000	12.3	12.5	-1.8	30.0
2,4-Dinitrotoluene	Ave	0.4432	0.4573	0.2000	12.9	12.5	3.2	30.0
1-Naphthylamine	Ave	1.360	1.137		20.9	25.0	-16.4	30.0
2,3,4,6-Tetrachlorophenol	Ave	0.3485	0.3747	0.0100	13.4	12.5	7.5	30.0
2-Naphthylamine	Ave	1.368	1.033		18.9	25.0	-24.5	30.0
Diethyl phthalate	Ave	1.473	1.455	0.0100	12.3	12.5	-1.2	30.0
Fluorene	Ave	1.443	1.479	0.9000	12.8	12.5	2.4	30.0
Thionazin	Ave	0.3008	0.3163		13.1	12.5	5.1	30.0
4-Chlorophenyl-phenyl ether	Ave	0.7612	0.7668	0.4000	12.6	12.5	0.7	30.0
5-Nitro-o-toluidine	Lin1		0.4519		12.2	12.5	-2.0	30.0
4-Nitroaniline	Lin1		0.3910	0.0100	11.9	12.5	-4.6	30.0
4,6-Dinitro-2-methylphenol	Ave	0.1478	0.1526	0.0100	12.9	12.5	3.3	30.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICV 410-28519/12 Calibration Date: 07/31/2020 21:08

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DG1961.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
N-Nitrosodiphenylamine	Ave	0.6814	0.6859	0.0100	12.6	12.5	0.7	30.0
1,2-Diphenylhydrazine	Ave	1.049	1.095		13.0	12.5	4.3	30.0
Sulfotepp	Ave	0.1630	0.1681		12.9	12.5	3.1	30.0
cis-Diallate	Ave	0.4078	0.4166		9.58	9.38	2.2	30.0
Phorate	Lin1		0.5840		12.3	12.5	-1.9	30.0
Phenacetin	Ave	0.4204	0.4352		12.9	12.5	3.5	30.0
4-Bromophenyl-phenylether	Ave	0.2128	0.2160	0.1000	12.7	12.5	1.5	30.0
trans-Diallate	Ave	0.3916	0.3804		3.04	3.13	-2.9	30.0
Hexachlorobenzene	Ave	0.2195	0.2141	0.1000	12.2	12.5	-2.5	30.0
Dimethoate	Ave	0.3223	0.3375		13.1	12.5	4.7	30.0
Pentachlorophenol	Ave	0.1490	0.1592	0.0500	13.4	12.5	6.8	30.0
Pentachloronitrobenzene	Ave	0.1002	0.1054		13.1	12.5	5.2	30.0
4-Aminobiphenyl	Ave	0.5846	0.8629		18.5	12.5	47.6*	30.0
Pronamide	Ave	0.3415	0.3596		13.2	12.5	5.3	30.0
Phenanthrene	Ave	1.155	1.174	0.7000	12.7	12.5	1.7	30.0
Dinoseb	Lin1		0.2246		13.0	12.5	3.6	30.0
Anthracene	Ave	1.106	1.134	0.7000	12.8	12.5	2.5	30.0
Carbazole	Ave	1.005	1.045	0.0100	13.0	12.5	4.0	30.0
Methyl parathion	Lin		0.2886		12.5	12.5	0.1	30.0
Di-n-butyl phthalate	Ave	1.290	1.318	0.0100	12.8	12.5	2.2	30.0
Parathion	Lin1		0.2238		14.4	12.5	15.0	30.0
4-Nitroquinoline-1-oxide	Lin		0.1662		187	150	24.8	30.0
Octachlorostyrene	Ave	0.0853	0.0823		12.1	12.5	-3.6	30.0
Isodrin	Ave	0.1328	0.1353		12.7	12.5	1.9	30.0
Fluoranthene	Ave	1.167	1.227	0.6000	13.1	12.5	5.1	30.0
Benzidine	Ave	0.8515	0.6853		50.3	62.5	-19.5	30.0
Pyrene	Ave	1.326	1.241	0.6000	11.7	12.5	-6.4	30.0
p-Dimethylamino azobenzene	Lin		0.2462		12.8	12.5	2.4	30.0
Chlorobenzilate	Ave	0.3423	0.3673		13.4	12.5	7.3	30.0
3,3'-Dimethylbenzidine	Lin1		0.6662		18.5	25.0	-26.2	30.0
Butylbenzylphthalate	Ave	0.5641	0.5785	0.0100	12.8	12.5	2.5	30.0
2-Acetylaminofluorene	Lin1		0.4743		11.9	12.5	-4.9	30.0
Benzo[a]anthracene	Lin1		1.194	0.8000	11.8	12.5	-5.4	30.0
3,3'-Dichlorobenzidine	Lin1		0.4623	0.0100	11.6	12.5	-7.3	30.0
4,4'-Methylene bis(2-chloroaniline)	Ave	0.2253	0.2309			12.5	2.5	30.0
Chrysene	Ave	1.142	1.154	0.7000	12.6	12.5	1.1	30.0
Bis(2-ethylhexyl) phthalate	Ave	0.7606	0.8024	0.0100	13.2	12.5	5.5	30.0
6-Methylchrysene	Ave	0.8018	0.7947		12.4	12.5	-0.9	30.0
Di-n-octyl phthalate	Lin		1.396	0.0100	11.8	12.5	-5.7	30.0
Benzo[b]fluoranthene	Lin1		1.324	0.7000	11.7	12.5	-6.6	30.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICV 410-28519/12 Calibration Date: 07/31/2020 21:08

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DG1961.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
7,12-Dimethylbenz(a)anthracene	Lin1		0.6221		11.8	12.5	-5.7	30.0
Benzo[k]fluoranthene	Ave	1.284	1.401	0.7000	13.6	12.5	9.0	30.0
Benzo[a]pyrene	Lin1		1.198	0.7000	11.4	12.5	-9.1	30.0
3-Methylcholanthrene	Lin1		0.6047		12.0	12.5	-3.6	30.0
Dibenz[a,h]acridine	Ave	0.7821	0.8324		13.3	12.5	6.4	30.0
Dibenz[a,j]acridine	Ave	0.9047	0.9217		12.7	12.5	1.9	30.0
Indeno[1,2,3-cd]pyrene	Lin1		0.9497	0.5000	11.0	12.5	-11.9	30.0
Dibenz(a,h)anthracene	Lin1		1.111	0.4000	11.7	12.5	-6.4	30.0
Benzo[g,h,i]perylene	Lin1		1.098	0.5000	11.5	12.5	-7.9	30.0

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1961.D
Lims ID: ICV FULL
Client ID:
Sample Type: ICV
Inject. Date: 31-Jul-2020 21:08:30 ALS Bottle#: 11 Worklist Smp#: 12
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV FULL
Misc. Info.: 410-0007009-012
Operator ID: lmh00956 Instrument ID: HP19760
Sublist:

Method: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 04-Aug-2020 16:11:01 Calib Date: 31-Jul-2020 19:41:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1958.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1041

First Level Reviewer: williamss Date: 02-Aug-2020 16:59:03

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.799	1.782	0.017	88	345212	12.5	11.7	
2 N-Nitrosodimethylamine	74	2.394	2.382	0.012	94	530192	12.5	12.2	
3 Pyridine	79	2.429	2.423	0.006	93	848575	12.5	10.8	
4 2-Picoline	93	3.664	3.664	0.000	91	935476	12.5	12.0	
5 N-Nitrosomethylethylamine	88	3.874	3.868	0.006	87	391449	12.5	12.4	
7 Methyl methanesulfonate	80	4.340	4.335	0.005	86	523836	12.5	14.0	
9 N-Nitrosodiethylamine	102	4.917	4.912	0.005	86	397966	12.5	13.2	
10 Ethyl methanesulfonate	109	5.390	5.384	0.006	98	399088	12.5	12.4	
14 Phenol	94	6.002	5.996	0.006	82	1208788	12.5	12.3	
15 Aniline	93	6.002	6.002	0.000	73	1208491	12.5	10.6	
16 Bis(2-chloroethyl)ether	93	6.130	6.124	0.006	100	889416	12.5	12.0	
17 2-Chlorophenol	128	6.165	6.159	0.006	95	757896	12.5	12.6	
18 1,3-Dichlorobenzene	146	6.392	6.386	0.006	94	843153	12.5	12.4	
* 19 1,4-Dichlorobenzene-d4	152	6.480	6.479	0.001	96	210073	5.00	5.00	
20 1,4-Dichlorobenzene	146	6.509	6.503	0.006	91	861639	12.5	12.5	
21 Benzyl alcohol	108	6.713	6.707	0.006	89	546886	12.5	12.7	
22 1,2-Dichlorobenzene	146	6.724	6.718	0.006	94	822363	12.5	12.5	
24 Indene	115	6.864	6.858	0.006	87	1442247	12.5	15.2	
23 2-Methylphenol	108	6.899	6.899	0.000	94	749031	12.5	12.8	
25 2,2'-oxybis[1-chloropropane]	45	6.946	6.934	0.012	85	697659	12.5	11.9	
26 N-Nitrosopyrrolidine	100	7.074	7.062	0.012	93	411690	12.5	13.7	
27 Acetophenone	105	7.103	7.097	0.006	95	1149857	12.5	13.0	
29 N-Nitrosodi-n-propylamine	70	7.132	7.126	0.006	77	678625	12.5	13.3	
30 N-Nitrosomorpholine	56	7.144	7.132	0.012	72	457482	12.5	12.9	
28 4-Methylphenol	108	7.144	7.138	0.006	94	907736	12.5	12.9	
31 2-Toluidine	106	7.156	7.150	0.006	93	1289274	12.5	12.3	
32 Hexachloroethane	117	7.231	7.231	0.000	94	382618	12.5	12.2	
34 Nitrobenzene	77	7.348	7.342	0.006	84	953131	12.5	12.0	
35 N-Nitrosopiperidine	114	7.581	7.575	0.006	87	382548	12.5	12.7	
36 Isophorone	82	7.733	7.727	0.006	96	1655418	12.5	12.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
37 2-Nitrophenol	139	7.838	7.838	0.000	90	379369	12.5	12.6	
38 2,4-Dimethylphenol	107	7.954	7.948	0.006	97	638690	12.5	9.79	
39 o,o',o''-Triethylphosphorothioat	198	8.077	8.077	0.000	90	379542	12.5	12.6	
40 Benzoic acid	105	8.170	8.100	0.070	87	968702	25.0	27.5	
41 Bis(2-chloroethoxy)methane	93	8.106	8.106	0.000	98	1066190	12.5	12.4	
42 2,4-Dichlorophenol	162	8.216	8.211	0.005	95	622981	12.5	12.6	
43 1,2,4-Trichlorobenzene	180	8.339	8.339	0.000	92	688065	12.5	12.4	
* 44 Naphthalene-d8	136	8.415	8.415	0.000	100	804919	5.00	5.00	
45 Naphthalene	128	8.450	8.450	0.000	98	2176451	12.5	12.3	
46 4-Chloroaniline	127	8.566	8.560	0.006	93	881198	12.5	12.5	
47 2,6-Dichlorophenol	162	8.572	8.566	0.006	94	622409	12.5	13.0	
48 Hexachloropropene	213	8.601	8.601	0.000	89	471548	12.5	14.2	
49 Hexachlorobutadiene	225	8.677	8.677	0.000	95	396198	12.5	12.6	
50 Quinoline	129	8.986	8.980	0.006	95	1337896	12.5	12.4	
53 N-Nitrosodi-n-butylamine	84	9.143	9.137	0.006	91	566115	12.5	11.4	
54 4-Chloro-3-methylphenol	107	9.365	9.365	0.000	92	679760	12.5	13.2	
55 Safrole, Total	162	9.452	9.452	0.000	84	565490	12.5	12.6	
56 2-Methylnaphthalene	142	9.551	9.551	0.000	90	1409780	12.5	12.8	
S 51 Diallate	86				0		12.5	12.6	
57 1-Methylnaphthalene	142	9.703	9.703	0.000	92	1263781	12.5	12.1	
58 Hexachlorocyclopentadiene	237	9.819	9.819	0.000	96	578880	25.0	18.6	
59 1,2,4,5-Tetrachlorobenzene	216	9.819	9.819	0.000	97	703832	12.5	12.5	
60 Isosafrole Peak 1	162	9.918	9.918	0.000	85	70941	1.50	1.51	
61 2,4,6-Trichlorophenol	196	10.018	10.017	0.001	95	450548	12.5	13.0	
62 2,4,5-Trichlorophenol	196	10.064	10.070	-0.006	91	470082	12.5	12.7	
64 Isosafrole Peak 2	162	10.280	10.280	0.000	87	590190	11.0	11.1	
65 1,1'-Biphenyl	154	10.315	10.315	0.000	95	1738697	12.5	12.7	
66 2-Chloronaphthalene	162	10.321	10.321	0.000	97	1489940	12.5	12.8	
67 1-Chloronaphthalene	162	10.350	10.350	0.000	97	1212100	12.5	12.0	
68 Phenyl ether	170	10.501	10.495	0.006	86	944784	12.5	12.4	
69 2-Nitroaniline	138	10.507	10.507	0.000	78	424332	12.5	11.9	
70 1,4-Naphthoquinone	158	10.618	10.612	0.006	80	700716	15.6	16.1	
71 1,4-Dinitrobenzene	168	10.746	10.746	0.000	85	219508	12.5	13.4	
72 Dimethyl phthalate	163	10.857	10.851	0.006	97	1455171	12.5	11.9	
73 1,3-Dinitrobenzene	168	10.863	10.857	0.006	81	259933	12.5	13.3	
74 2,6-Dinitrotoluene	165	10.927	10.921	0.006	89	340588	12.5	11.8	
75 Acenaphthylene	152	10.973	10.973	0.000	98	1838013	12.5	12.6	
76 3-Nitroaniline	138	11.172	11.166	0.006	88	365633	12.5	12.2	
* 77 Acenaphthene-d10	164	11.207	11.207	0.001	98	399969	5.00	5.00	
78 Acenaphthene	153	11.259	11.253	0.006	97	1322451	12.5	12.0	
79 2,4-Dinitrophenol	184	11.346	11.341	0.005	84	458140	25.0	27.2	
81 Pentachlorobenzene	250	11.469	11.469	0.000	96	558219	12.5	12.6	
80 4-Nitrophenol	109	11.486	11.475	0.011	84	310096	12.5	12.5	
83 Dibenzofuran	168	11.533	11.533	0.000	96	1809379	12.5	12.3	
82 2,4-Dinitrotoluene	165	11.556	11.545	0.011	88	457261	12.5	12.9	
84 1-Naphthylamine	143	11.655	11.649	0.006	97	2274727	25.0	20.9	
85 2,3,4,6-Tetrachlorophenol	232	11.725	11.725	0.000	77	374654	12.5	13.4	
86 2-Naphthylamine	143	11.772	11.766	0.006	94	2066380	25.0	18.9	
87 Diethyl phthalate	149	11.941	11.935	0.006	97	1455008	12.5	12.3	
89 Fluorene	166	12.011	12.005	0.006	94	1478412	12.5	12.8	
88 Thionazin	107	12.034	12.034	0.000	76	316261	12.5	13.1	
90 N-Nitro-o-toluidine	152	12.046	12.040	0.006	78	451865	12.5	12.2	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
91 4-Chlorophenyl phenyl ether	204	12.046	12.046	0.000	87	766693	12.5	12.6	
92 4-Nitroaniline	138	12.058	12.046	0.012	80	390964	12.5	11.9	
93 4,6-Dinitro-2-methylphenol	198	12.098	12.092	0.006	85	286971	12.5	12.9	
94 N-Nitrosodiphenylamine	169	12.197	12.192	0.005	62	1289823	12.5	12.6	
95 1,2-Diphenylhydrazine	77	12.238	12.238	0.000	98	2059051	12.5	13.0	
97 Sulfotepp	97	12.431	12.431	0.000	81	316132	12.5	12.9	
98 cis-Diallate	86	12.553	12.553	0.000	95	587559	9.38	9.58	
99 Phorate	75	12.559	12.559	0.000	95	1098178	12.5	12.3	
100 Phenacetin	108	12.588	12.582	0.006	92	818436	12.5	12.9	
101 4-Bromophenyl phenyl ether	248	12.623	12.623	0.000	71	406137	12.5	12.7	
102 trans-Diallate	86	12.652	12.652	0.000	96	178817	3.13	3.04	
103 Hexachlorobenzene	284	12.664	12.664	0.000	90	402597	12.5	12.2	
104 Dimethoate	87	12.751	12.745	0.006	93	634733	12.5	13.1	
106 Pentachlorophenol	266	12.914	12.908	0.006	90	299434	12.5	13.4	
107 Pentachloronitrobenzene	237	12.926	12.926	0.000	82	198286	12.5	13.1	
108 4-Aminobiphenyl	169	12.932	12.932	0.000	91	1622740	12.5	18.5	
109 Pronamide	173	13.037	13.037	0.000	90	676244	12.5	13.2	
* 110 Phenanthrene-d10	188	13.130	13.130	0.000	98	752192	5.00	5.00	
112 Phenanthrene	178	13.159	13.159	0.000	99	2208405	12.5	12.7	
111 Dinoseb	211	13.165	13.165	0.000	94	422434	12.5	13.0	
113 Anthracene	178	13.223	13.223	0.000	99	2131811	12.5	12.8	
114 Carbazole	167	13.439	13.439	0.000	97	1965575	12.5	13.0	
115 Methyl parathion	109	13.643	13.643	0.000	91	542723	12.5	12.5	
116 Di-n-butyl phthalate	149	13.964	13.952	0.012	100	2478064	12.5	12.8	
117 Ethyl Parathion	109	14.173	14.167	0.006	83	420808	12.5	14.4	
118 4-Nitroquinoline-1-oxide	190	14.202	14.167	0.035	88	3750504	150.0	187.1	E
119 Octachlorostyrene	308	14.494	14.494	0.000	88	154701	12.5	12.1	
120 Isodrin	193	14.529	14.529	0.000	86	254428	12.5	12.7	
121 Fluoranthene	202	14.745	14.739	0.006	99	2307195	12.5	13.1	
122 Benzidine	184	14.989	14.978	0.011	99	6723144	62.5	50.3	
* 123 Pyrene-d10 (IS)	212	15.042	15.042	0.000	98	784846	5.00	5.00	
124 Pyrene	202	15.071	15.065	0.006	97	2434117	12.5	11.7	
126 p-Dimethylamino azobenzene	225	15.590	15.590	0.000	89	483026	12.5	12.8	
127 Chlorobenzilate	139	15.683	15.683	0.000	87	720723	12.5	13.4	
128 3,3'-Dimethylbenzidine	212	16.143	16.138	0.005	99	2614226	25.0	18.5	
129 Butyl benzyl phthalate	149	16.208	16.207	0.001	94	1135084	12.5	12.8	
130 2-Acetylaminofluorene	181	16.551	16.546	0.005	95	930606	12.5	11.9	
132 Benzo[a]anthracene	228	17.035	17.035	0.000	100	2343404	12.5	11.8	
131 3,3'-Dichlorobenzidine	252	17.041	17.041	0.000	74	907139	12.5	11.6	
133 4,4'-Methylene bis(2-chloroanil	231	17.064	17.064	0.000	94	453039	12.5	12.8	
134 Chrysene	228	17.099	17.093	0.006	97	2264526	12.5	12.6	
135 Bis(2-ethylhexyl) phthalate	149	17.268	17.268	0.000	97	1574479	12.5	13.2	
136 6-Methylchrysene	242	17.886	17.886	0.000	99	1559256	12.5	12.4	
137 Di-n-octyl phthalate	149	18.422	18.422	0.000	100	2510920	12.5	11.8	
138 Benzo[b]fluoranthene	252	18.865	18.860	0.005	97	2381147	12.5	11.7	
139 7,12-Dimethylbenz(a)anthracene	256	18.877	18.871	0.006	90	1119130	12.5	11.8	
140 Benzo[k]fluoranthene	252	18.918	18.906	0.012	100	2519310	12.5	13.6	
141 Benzo[a]pyrene	252	19.384	19.378	0.006	78	2155909	12.5	11.4	
* 142 Perylene-d12	264	19.466	19.466	0.000	98	719540	5.00	5.00	
143 3-Methylcholanthrene	268	19.961	19.955	0.006	92	1087853	12.5	12.0	
144 Dibenz[a,h]acridine	279	20.766	20.760	0.006	92	1497331	12.5	13.3	
145 Dibenz[a,j]acridine	279	20.835	20.835	0.000	96	1658053	12.5	12.7	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
146 Indeno[1,2,3-cd]pyrene	276	21.069	21.063	0.006	99	1708426	12.5	11.0	
147 Dibenz(a,h)anthracene	278	21.115	21.109	0.006	95	1997887	12.5	11.7	
148 Benzo[g,h,i]perylene	276	21.424	21.418	0.006	97	1974331	12.5	11.5	
S 170 Isosafrole	162				0		12.5	12.6	

QC Flag Legend

Processing Flags

E - Exceeded Maximum Amount

Reagents:

MSS_RV8270ICV_00004 Amount Added: 1.00 Units: mL

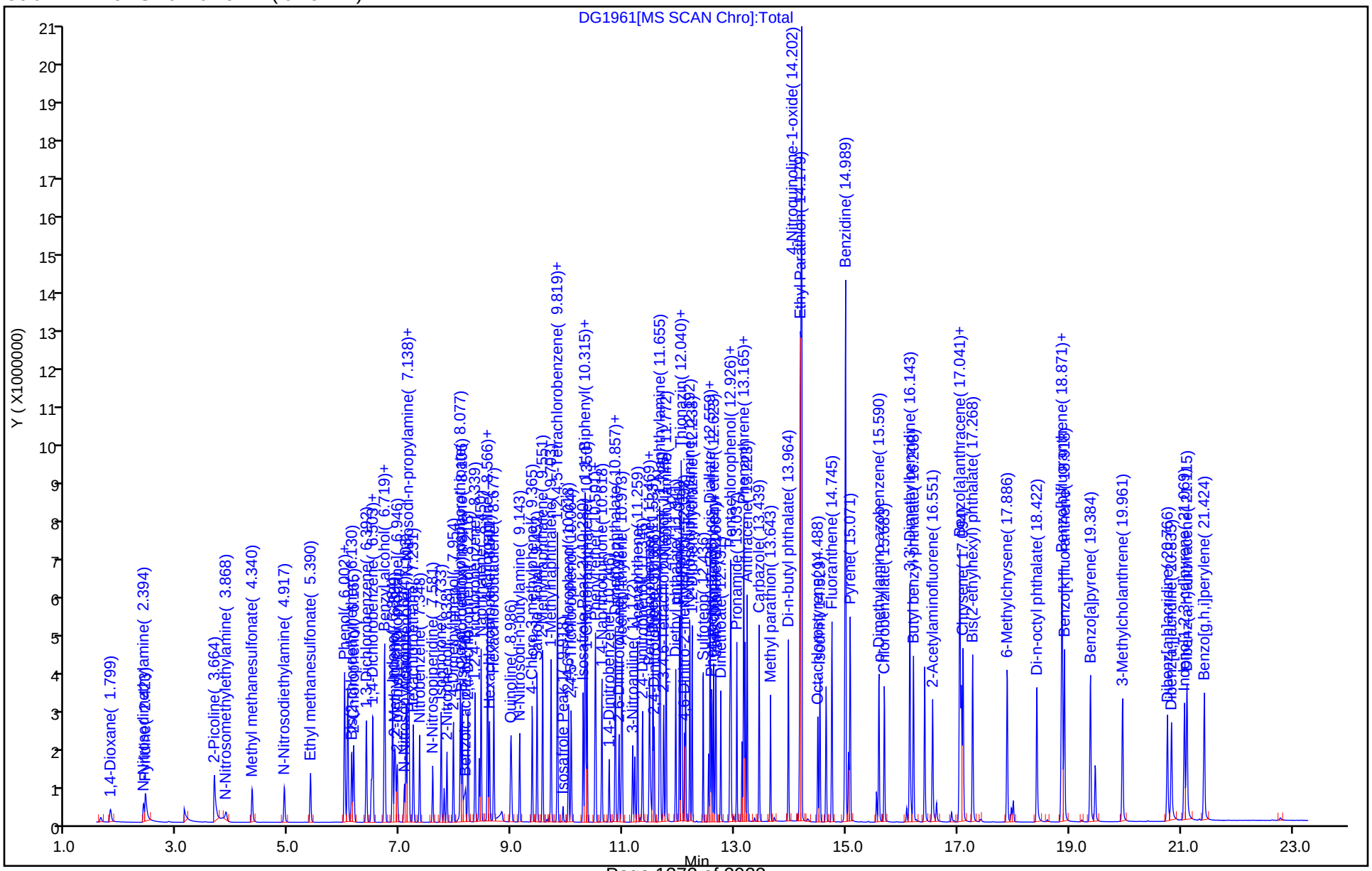
Report Date: 04-Aug-2020 16:11:21 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1961.D

Injection Date:	31-Jul-2020 21:08:30	Instrument ID:	HP19760	Operator ID:	lmh00956
Lims ID:	ICV FULL			Worklist Smp#:	12
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICV 410-28519/13 Calibration Date: 07/31/2020 21:37

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DG1962.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Benzaldehyde	Ave	1.411	1.567	0.0100	55.5	50.0	11.1	30.0
Caprolactam	Ave	0.1138	0.1166	0.0100	51.2	50.0	2.4	30.0
Atrazine	Ave	0.2010	0.2129	0.0100	53.0	50.0	5.9	30.0

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1962.D
Lims ID: ICV BAS
Client ID:
Sample Type: ICV
Inject. Date: 31-Jul-2020 21:37:30 ALS Bottle#: 12 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV BAS
Misc. Info.: 410-0007009-013
Operator ID: lmh00956 Instrument ID: HP19760
Sublist:

Method: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 04-Aug-2020 16:11:01 Calib Date: 31-Jul-2020 19:41:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1958.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1041

First Level Reviewer: williamss Date: 02-Aug-2020 16:59:43

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
12 Benzaldehyde	77	5.832	5.833	0.000	96	726572	50.0	55.5	E
* 19 1,4-Dichlorobenzene-d4	152	6.479	6.479	0.000	96	185521	20.0	20.0	
* 44 Naphthalene-d8	136	8.415	8.415	0.000	99	701332	20.0	20.0	
52 Caprolactam	113	9.073	9.091	-0.018	87	204398	50.0	51.2	E
* 77 Acenaphthene-d10	164	11.201	11.207	-0.005	98	331754	20.0	20.0	
105 Atrazine	200	12.850	12.856	-0.006	92	336797	50.0	53.0	E
* 110 Phenanthrene-d10	188	13.124	13.130	-0.006	97	632736	20.0	20.0	
* 123 Pyrene-d10 (IS)	212	15.036	15.042	-0.006	98	572915	20.0	20.0	
* 142 Perylene-d12	264	19.466	19.466	0.000	97	450107	20.0	20.0	

QC Flag Legend

Processing Flags
E - Exceeded Maximum Amount

Reagents:

MSS_FVICV_BAS_00001 Amount Added: 1.00 Units: mL

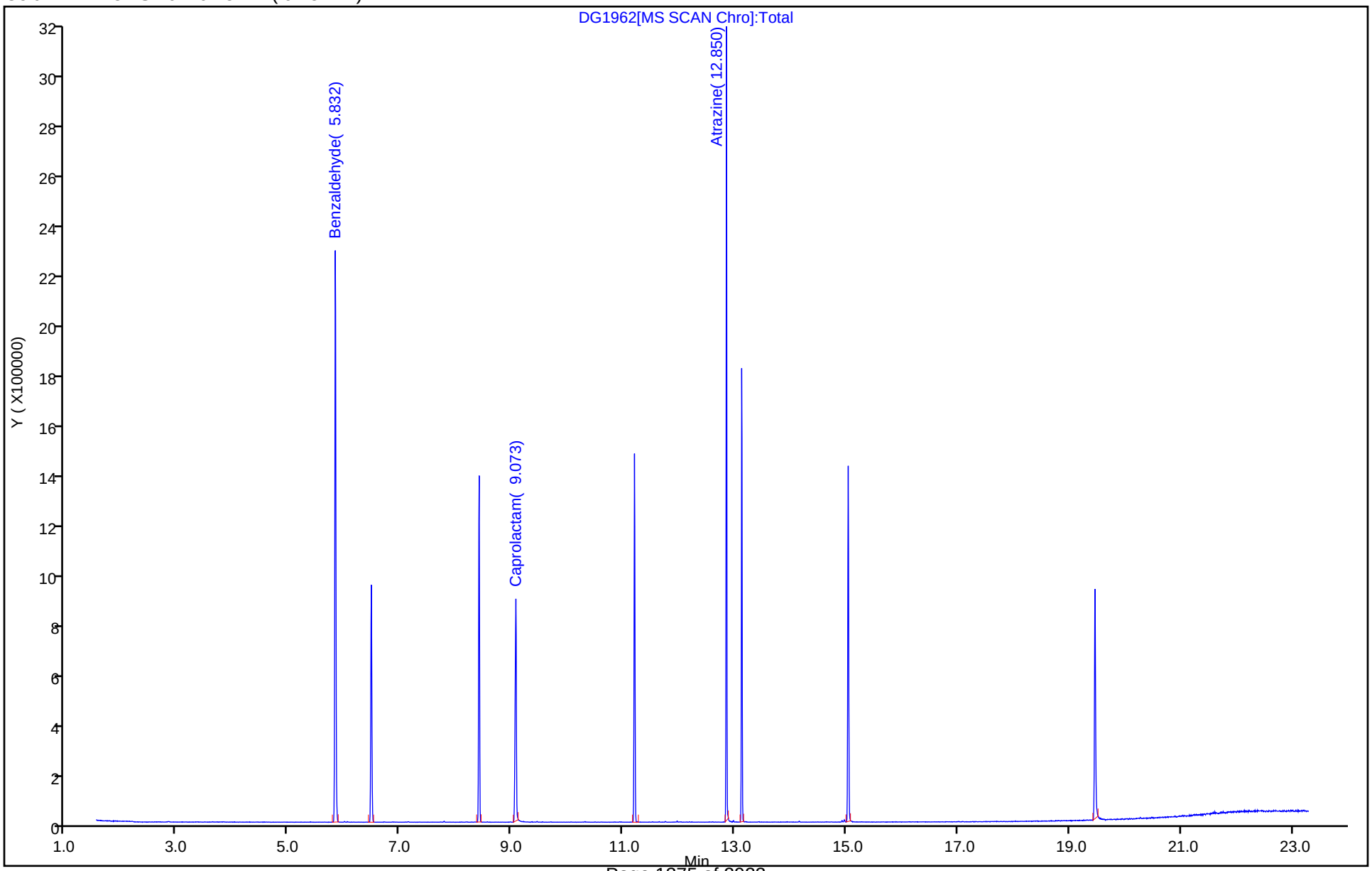
Report Date: 04-Aug-2020 16:11:30 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1962.D

Injection Date:	31-Jul-2020 21:37:30	Instrument ID:	HP19760	Operator ID:	lmh00956
Lims ID:	ICV BAS			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	12
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICV 410-28519/14 Calibration Date: 07/31/2020 22:06

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DG1963.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Hexachlorocyclopentadiene	Ave	0.3881	0.4492	0.0500	28.9	25.0	15.7	30.0

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1963.D
Lims ID: ICV HCCPD
Client ID:
Sample Type: ICV
Inject. Date: 31-Jul-2020 22:06:30 ALS Bottle#: 13 Worklist Smp#: 14
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV HCCPD
Misc. Info.: 410-0007009-014
Operator ID: lmh00956 Instrument ID: HP19760
Sublist:

Method: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 04-Aug-2020 16:11:01 Calib Date: 31-Jul-2020 19:41:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1958.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1041

First Level Reviewer: williamss Date: 02-Aug-2020 16:59:49

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 19 1,4-Dichlorobenzene-d4	152	6.480	6.479	0.001	96	204140	5.00	5.00	
* 44 Naphthalene-d8	136	8.415	8.415	0.000	99	764362	5.00	5.00	
58 Hexachlorocyclopentadiene	237	9.819	9.819	0.000	96	807153	25.0	28.9	
* 77 Acenaphthene-d10	164	11.201	11.207	-0.005	98	359335	5.00	5.00	
* 110 Phenanthrene-d10	188	13.124	13.130	-0.006	98	659652	5.00	5.00	
* 123 Pyrene-d10 (IS)	212	15.036	15.042	-0.006	98	619037	5.00	5.00	
* 142 Perylene-d12	264	19.466	19.466	0.000	98	485441	5.00	5.00	

Reagents:

MSS_RVHCPICV_00005 Amount Added: 1.00 Units: mL

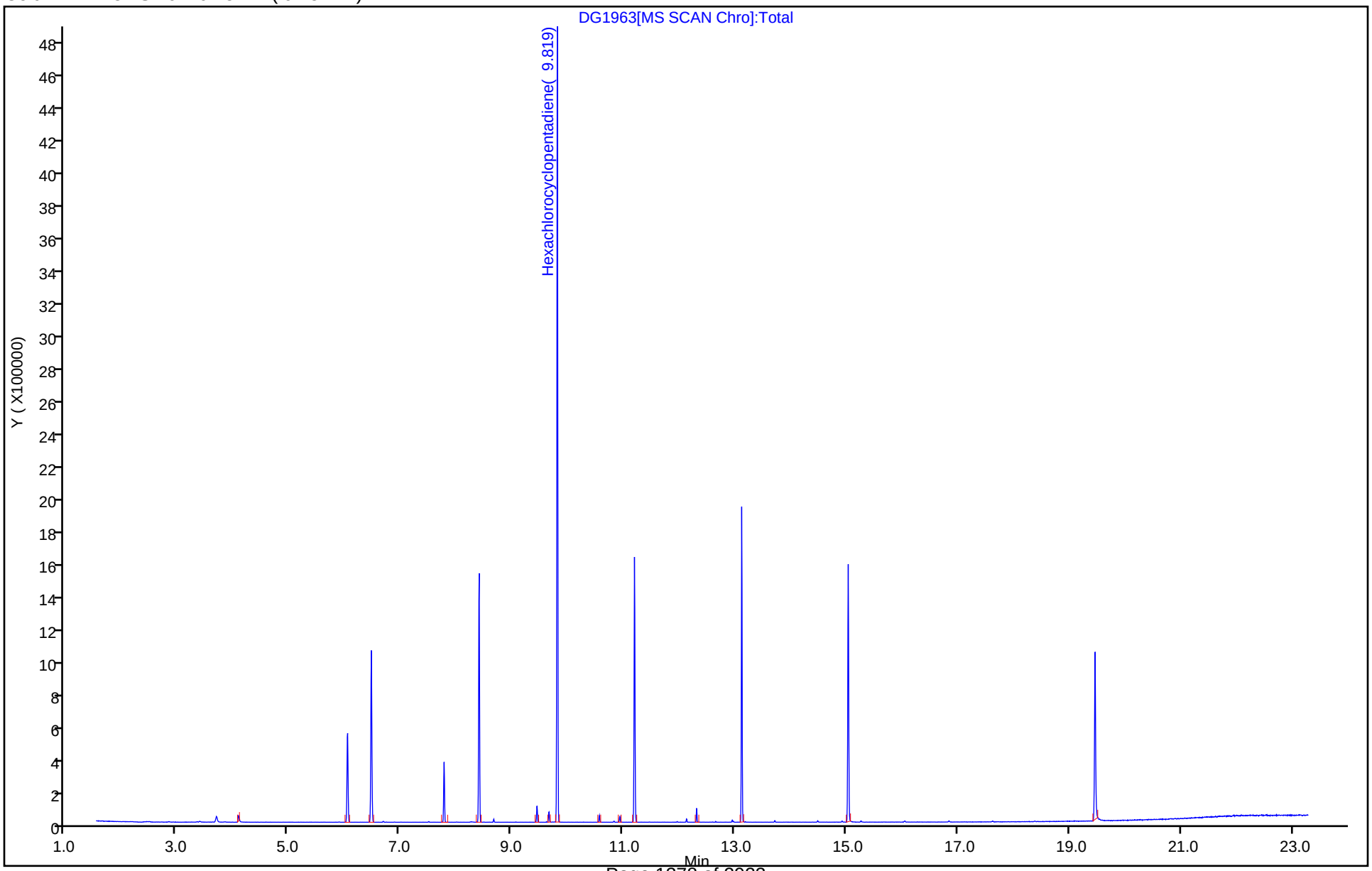
Report Date: 04-Aug-2020 16:11:32 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1963.D

Injection Date:	31-Jul-2020 22:06:30	Instrument ID:	HP19760	Operator ID:	lmh00956
Lims ID:	ICV HCCPD			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	13
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICV 410-28519/15 Calibration Date: 07/31/2020 22:35

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DG1964.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,4-Dimethylphenol	Ave	0.4052	0.3902	0.2000	12.0	12.5	-3.7	30.0

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1964.D
Lims ID: ICV DMP
Client ID:
Sample Type: ICV
Inject. Date: 31-Jul-2020 22:35:30 ALS Bottle#: 14 Worklist Smp#: 15
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV DMP
Misc. Info.: 410-0007009-015
Operator ID: lmh00956 Instrument ID: HP19760
Sublist:

Method: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 04-Aug-2020 16:11:01 Calib Date: 31-Jul-2020 19:41:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1958.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1041

First Level Reviewer: williamss Date: 02-Aug-2020 17:00:10

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
* 19 1,4-Dichlorobenzene-d4	152	6.480	6.479	0.001	96	209195	5.00	5.00	
38 2,4-Dimethylphenol	107	7.948	7.948	0.000	97	774243	12.5	12.0	
* 44 Naphthalene-d8	136	8.415	8.415	0.000	99	793616	5.00	5.00	
* 77 Acenaphthene-d10	164	11.201	11.207	-0.005	98	374107	5.00	5.00	
* 110 Phenanthrene-d10	188	13.124	13.130	-0.006	98	680581	5.00	5.00	
* 123 Pyrene-d10 (IS)	212	15.036	15.042	-0.006	98	653679	5.00	5.00	
* 142 Perylene-d12	264	19.466	19.466	0.000	97	501824	5.00	5.00	

Reagents:

MSS_RVICV_DMP_00001 Amount Added: 1.00 Units: mL

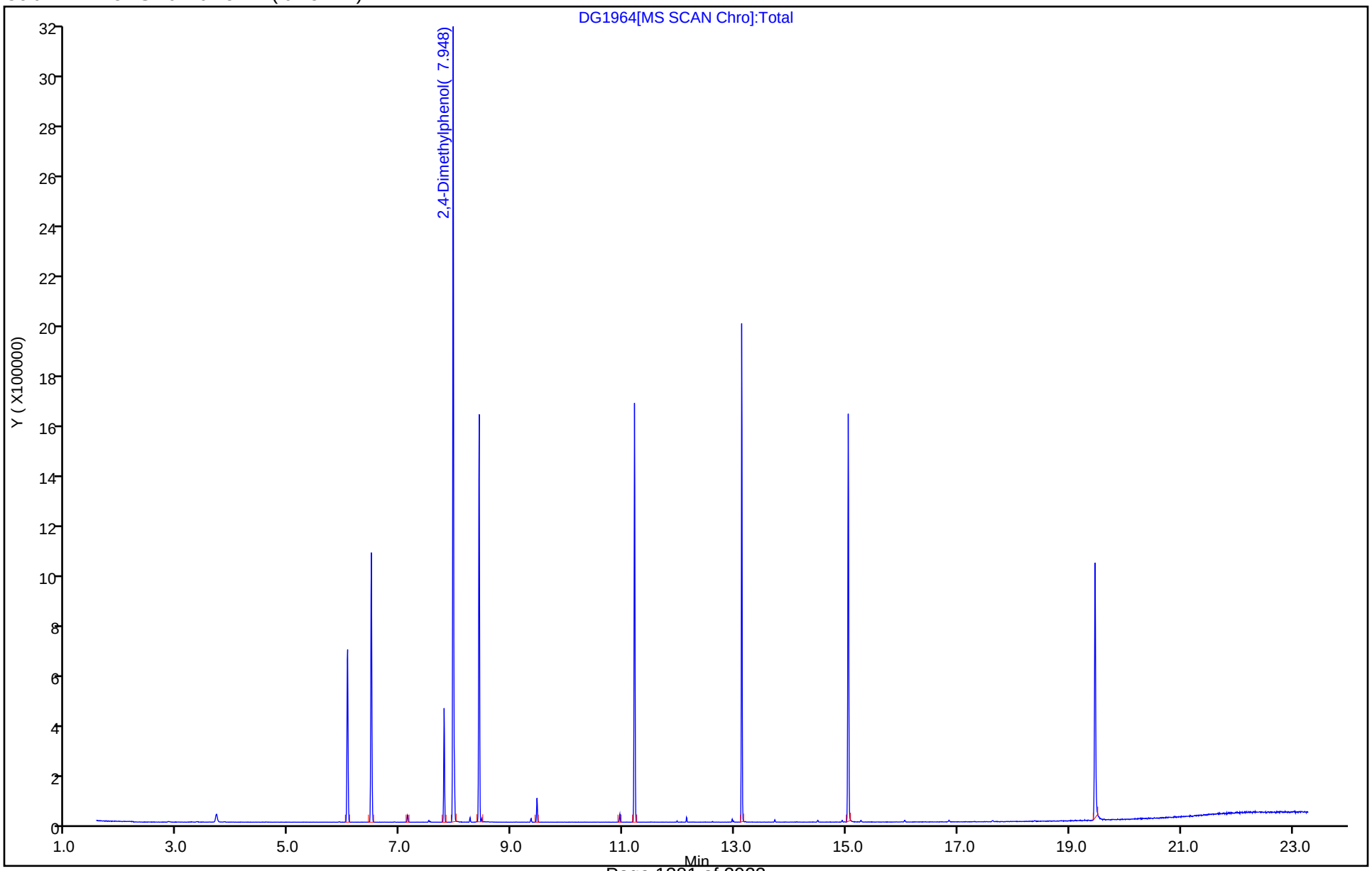
Report Date: 04-Aug-2020 16:11:34 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1964.D

Injection Date:	31-Jul-2020 22:35:30	Instrument ID:	HP19760	Operator ID:	lmh00956
Lims ID:	ICV DMP			Worklist Smp#:	15
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	14
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-34301/2 Calibration Date: 08/18/2020 10:03

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DH1001.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.7002	0.7326		7.85	7.50	4.6	20.0
N-Nitrosodimethylamine	Ave	1.034	1.057		7.66	7.50	2.2	20.0
Pyridine	Ave	1.878	1.719		6.87	7.50	-8.5	20.0
2-Picoline	Ave	1.851	1.890		7.66	7.50	2.1	20.0
N-Nitrosomethylethylamine	Ave	0.7513	0.8319		8.30	7.50	10.7	20.0
Methyl methanesulfonate	Ave	0.8925	0.9465		7.95	7.50	6.1	20.0
N-Nitrosodiethylamine	Ave	0.7166	0.7795		8.16	7.50	8.8	20.0
Ethyl methanesulfonate	Ave	0.7677	0.7838		7.66	7.50	2.1	20.0
Benzaldehyde	Ave	1.411	1.346	0.0100	7.16	7.50	-4.5	20.0
Aniline	Ave	2.721	2.840		7.83	7.50	4.4	20.0
Phenol	Ave	2.337	2.467	0.8000	7.92	7.50	5.6	20.0
Bis(2-chloroethyl)ether	Ave	1.760	1.844	0.7000	7.86	7.50	4.8	20.0
2-Chlorophenol	Ave	1.434	1.470	0.8000	7.69	7.50	2.5	20.0
1,3-Dichlorobenzene	Ave	1.621	1.582		7.32	7.50	-2.4	20.0
1,4-Dichlorobenzene	Ave	1.645	1.622		7.39	7.50	-1.4	20.0
Benzyl alcohol	Ave	1.025	1.042		7.63	7.50	1.7	20.0
1,2-Dichlorobenzene	Ave	1.568	1.539		7.36	7.50	-1.8	20.0
Indene	Ave	2.261	2.220		7.36	7.50	-1.8	20.0
2-Methylphenol	Ave	1.394	1.466	0.7000	7.89	7.50	5.2	20.0
2,2'-oxybis[1-chloropropane]	Ave	1.390	1.365	0.0100	7.36	7.50	-1.8	20.0
N-Nitrosopyrrolidine	Ave	0.7126	0.8233		8.66	7.50	15.5	20.0
Acetophenone	Ave	2.106	2.058	0.0100	7.33	7.50	-2.3	20.0
N-Nitrosodi-n-propylamine	Ave	1.211	1.318	0.5000	8.16	7.50	8.8	20.0
N-Nitrosomorpholine	Ave	0.8436	0.8502		7.56	7.50	0.8	20.0
4-Methylphenol	Ave	1.681	1.741	0.6000	7.77	7.50	3.6	20.0
o-Toluidine	Ave	2.491	2.543		7.66	7.50	2.1	20.0
Hexachloroethane	Ave	0.7449	0.7283	0.3000	7.33	7.50	-2.2	20.0
Nitrobenzene	Ave	0.4925	0.5415	0.2000	8.25	7.50	10.0	20.0
N-Nitrosopiperidine	Ave	0.1865	0.2020		8.13	7.50	8.3	20.0
Isophorone	Ave	0.8397	0.9239	0.4000	8.25	7.50	10.0	20.0
2-Nitrophenol	Ave	0.1872	0.1997	0.1000	8.00	7.50	6.7	20.0
2,4-Dimethylphenol	Ave	0.4052	0.4380	0.2000	8.11	7.50	8.1	20.0
o,o',o''-Triethylphosphorothioate	Ave	0.1869	0.1898		7.62	7.50	1.6	20.0
Bis(2-chloroethoxy)methane	Ave	0.5324	0.5688	0.3000	8.01	7.50	6.8	20.0
Benzoic acid	Ave	0.2187	0.2414		11.0	10.0	10.4	20.0
2,4-Dichlorophenol	Ave	0.3066	0.3173	0.2000	7.76	7.50	3.5	20.0
1,2,4-Trichlorobenzene	Ave	0.3435	0.3429		7.49	7.50	-0.2	20.0
Naphthalene	Ave	1.095	1.093	0.7000	7.48	7.50	-0.2	20.0
4-Chloroaniline	Ave	0.4382	0.4504	0.0100	7.71	7.50	2.8	20.0
2,6-Dichlorophenol	Ave	0.2982	0.3047		7.66	7.50	2.2	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-34301/2 Calibration Date: 08/18/2020 10:03

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DH1001.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Hexachloropropene	Ave	0.2069	0.2138		7.75	7.50	3.3	20.0
Hexachlorobutadiene	Ave	0.1954	0.1974	0.0100	7.58	7.50	1.0	20.0
Quinoline	Ave	0.6687	0.6635		7.44	7.50	-0.8	20.0
Caprolactam	Ave	0.1138	0.1155	0.0100	7.61	7.50	1.5	20.0
N-Nitrosodi-n-butylamine	Qua		0.3133		8.16	7.50	8.8	20.0
4-Chloro-3-methylphenol	Ave	0.3206	0.3607	0.2000	8.44	7.50	12.5	20.0
Safrole, Total	Ave	0.2795	0.2836		7.61	7.50	1.5	20.0
2-Methylnaphthalene	Ave	0.6830	0.7076	0.4000	7.77	7.50	3.6	20.0
1-Methylnaphthalene	Ave	0.6466	0.6750		7.83	7.50	4.4	20.0
Hexachlorocyclopentadiene	Ave	0.3881	0.3742	0.0500	7.23	7.50	-3.6	20.0
1,2,4,5-Tetrachlorobenzene	Ave	0.7054	0.7124	0.0100	7.57	7.50	1.0	20.0
Isosafrole Peak 1	Ave	0.5859	0.5973		1.22	1.20	1.9	20.0
2,4,6-Trichlorophenol	Ave	0.4344	0.4614	0.2000	7.97	7.50	6.2	20.0
2,4,5-Trichlorophenol	Ave	0.4621	0.4884	0.2000	7.93	7.50	5.7	20.0
Isosafrole Peak 2	Ave	0.6644	0.6825		6.47	6.30	2.7	20.0
1,1'-Biphenyl	Ave	1.711	1.601	0.0100	7.02	7.50	-6.4	20.0
2-Chloronaphthalene	Ave	1.460	1.466	0.8000	7.53	7.50	0.4	20.0
1-Chloronaphthalene	Ave	1.260	1.250		7.44	7.50	-0.8	20.0
Diphenyl ether	Ave	0.9503	0.9779		7.72	7.50	2.9	20.0
2-Nitroaniline	Lin1		0.4514	0.0100	7.71	7.50	2.8	20.0
1,4-Naphthoquinone	Ave	0.5452	0.5340		7.35	7.50	-2.1	20.0
1,4-Dinitrobenzene	Ave	0.2049	0.2273		8.32	7.50	10.9	20.0
Dimethyl phthalate	Ave	1.523	1.535	0.0100	7.56	7.50	0.8	20.0
1,3-Dinitrobenzene	Ave	0.2440	0.2630		8.08	7.50	7.8	20.0
2,6-Dinitrotoluene	Lin1		0.3593	0.2000	7.56	7.50	0.8	20.0
Acenaphthylene	Ave	1.817	1.892	0.9000	7.81	7.50	4.1	20.0
3-Nitroaniline	Lin1		0.3579	0.0100	7.23	7.50	-3.6	20.0
Acenaphthene	Ave	1.377	1.354	0.9000	7.38	7.50	-1.7	20.0
2,4-Dinitrophenol	Ave	0.2103	0.2174	0.0100	10.3	10.0	3.4	20.0
Pentachlorobenzene	Ave	0.5540	0.5627		7.62	7.50	1.6	20.0
4-Nitrophenol	Ave	0.3096	0.2859	0.0100	6.92	7.50	-7.7	20.0
Dibenzofuran	Ave	1.843	1.853	0.8000	7.54	7.50	0.5	20.0
2,4-Dinitrotoluene	Ave	0.4432	0.4679	0.2000	7.92	7.50	5.6	20.0
1-Naphthylamine	Ave	1.360	1.332		7.34	7.50	-2.1	20.0
2,3,4,6-Tetrachlorophenol	Ave	0.3485	0.3682	0.0100	7.92	7.50	5.6	20.0
2-Naphthylamine	Ave	1.368	1.332		7.30	7.50	-2.6	20.0
Diethyl phthalate	Ave	1.473	1.514	0.0100	7.71	7.50	2.8	20.0
Fluorene	Ave	1.443	1.521	0.9000	7.90	7.50	5.4	20.0
Thionazin	Ave	0.3008	0.3178		7.92	7.50	5.6	20.0
4-Chlorophenyl-phenyl ether	Ave	0.7612	0.7676	0.4000	7.56	7.50	0.8	20.0
5-Nitro-o-toluidine	Lin1		0.4325		7.12	7.50	-5.0	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-34301/2 Calibration Date: 08/18/2020 10:03

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DH1001.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
4-Nitroaniline	Lin1		0.4119	0.0100	7.60	7.50	1.4	20.0
4,6-Dinitro-2-methylphenol	Ave	0.1478	0.1509	0.0100	7.66	7.50	2.1	20.0
N-Nitrosodiphenylamine	Ave	0.6814	0.7027	0.0100	7.73	7.50	3.1	20.0
1,2-Diphenylhydrazine	Ave	1.049	1.062		7.59	7.50	1.2	20.0
Sulfotepp	Ave	0.1630	0.1701		7.82	7.50	4.3	20.0
cis-Diallate	Ave	0.4078	0.4238		5.77	5.55	3.9	20.0
Phorate	Lin1		0.6057		7.71	7.50	2.8	20.0
Phenacetin	Ave	0.4204	0.4599		8.21	7.50	9.4	20.0
4-Bromophenyl-phenylether	Ave	0.2128	0.2250	0.1000	7.93	7.50	5.8	20.0
trans-Diallate	Ave	0.3916	0.4247		2.11	1.95	8.5	20.0
Hexachlorobenzene	Ave	0.2195	0.2240	0.1000	7.65	7.50	2.0	20.0
Dimethoate	Ave	0.3223	0.3906		9.09	7.50	21.2*	20.0
Atrazine	Ave	0.2010	0.2047	0.0100	7.64	7.50	1.8	20.0
Pentachlorophenol	Ave	0.1490	0.1590	0.0500	8.00	7.50	6.7	20.0
Pentachloronitrobenzene	Ave	0.1002	0.1071		8.02	7.50	6.9	20.0
4-Aminobiphenyl	Ave	0.5846	0.6532		8.38	7.50	11.7	20.0
Pronamide	Ave	0.3415	0.3606		7.92	7.50	5.6	20.0
Phenanthrene	Ave	1.155	1.163	0.7000	7.55	7.50	0.7	20.0
Dinoseb	Lin1		0.2040		7.54	7.50	0.6	20.0
Anthracene	Ave	1.106	1.190	0.7000	8.07	7.50	7.7	20.0
Carbazole	Ave	1.005	1.057	0.0100	7.89	7.50	5.2	20.0
Methyl parathion	Lin		0.3005		8.30	7.50	10.6	20.0
Di-n-butyl phthalate	Ave	1.290	1.397	0.0100	8.13	7.50	8.4	20.0
4-Nitroquinoline-1-oxide	Lin		0.0933		9.02	7.50	20.3*	20.0
Parathion	Lin1		0.1970		8.01	7.50	6.8	20.0
Octachlorostyrene	Ave	0.0853	0.0956		8.41	7.50	12.1	20.0
Isodrin	Ave	0.1328	0.1365		7.71	7.50	2.8	20.0
Fluoranthene	Ave	1.167	1.301	0.6000	8.36	7.50	11.5	20.0
Benzidine	Ave	0.8515	0.8929		23.6	22.5	4.9	20.0
Pyrene	Ave	1.326	1.346	0.6000	7.62	7.50	1.6	20.0
p-Dimethylamino azobenzene	Lin		0.2339		7.83	7.50	4.4	20.0
Chlorobenzilate	Ave	0.3423	0.4055		8.88	7.50	18.5	20.0
3,3'-Dimethylbenzidine	Lin1		0.8899		7.87	7.50	5.0	20.0
Butylbenzylphthalate	Ave	0.5641	0.6211	0.0100	8.26	7.50	10.1	20.0
2-Acetylaminofluorene	Lin1		0.4811		7.66	7.50	2.2	20.0
Benzo[a]anthracene	Lin1		1.207	0.8000	7.22	7.50	-3.8	20.0
3,3'-Dichlorobenzidine	Lin1		0.4833	0.0100	7.55	7.50	0.7	20.0
4,4'-Methylene bis(2-chloroaniline)	Ave	0.2253	0.2472			7.50	9.7	20.0
Chrysene	Ave	1.142	1.288	0.7000	8.46	7.50	12.8	20.0
Bis(2-ethylhexyl) phthalate	Ave	0.7606	0.8528	0.0100	8.41	7.50	12.1	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-34301/2 Calibration Date: 08/18/2020 10:03

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DH1001.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
6-Methylchrysene	Ave	0.8018	0.8657		8.10	7.50	8.0	20.0
Di-n-octyl phthalate	Lin		1.405	0.0100	7.50	7.50	0.0	20.0
Benzo[b]fluoranthene	Lin1		1.253	0.7000	6.68	7.50	-11.0	20.0
7,12-Dimethylbenz(a)anthracene	Lin1		0.5958		6.85	7.50	-8.6	20.0
Benzo[k]fluoranthene	Ave	1.284	1.352	0.7000	7.90	7.50	5.3	20.0
Benzo[a]pyrene	Lin1		1.208	0.7000	6.91	7.50	-7.9	20.0
3-Methylcholanthrene	Lin1		0.5700		6.92	7.50	-7.7	20.0
Dibenz[a,h]acridine	Ave	0.7821	0.7597		7.28	7.50	-2.9	20.0
Dibenz[a,j]acridine	Ave	0.9047	0.8249		6.84	7.50	-8.8	20.0
Indeno[1,2,3-cd]pyrene	Lin1		0.9461	0.5000	6.63	7.50	-11.6	20.0
Dibenz(a,h)anthracene	Lin1		1.024	0.4000	6.52	7.50	-13.1	20.0
Benzo[g,h,i]perylene	Lin1		1.060	0.5000	6.71	7.50	-10.5	20.0
2-Fluorophenol (Surr)	Ave	1.565	1.582		15.2	15.0	1.1	20.0
Phenol-d5 (Surr)	Ave	1.984	2.035		15.4	15.0	2.6	20.0
Nitrobenzene-d5 (Surr)	Ave	0.4895	0.5221		16.0	15.0	6.7	20.0
2-Fluorobiphenyl (Surr)	Ave	1.643	1.652		15.1	15.0	0.6	20.0
2,4,6-Tribromophenol (Surr)	Ave	0.1857	0.1961		15.8	15.0	5.6	20.0
p-Terphenyl-d14 (Surr)	Ave	0.9591	0.9925		15.5	15.0	3.5	20.0

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1001.D
Lims ID: CCVIS L5
Client ID:
Sample Type: CCVIS
Inject. Date: 18-Aug-2020 10:03:30 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS L5
Misc. Info.: 410-0008313002
Operator ID: em10340 Instrument ID: HP19760
Sublist: chrom-MSSemi_HP19760*sub5

Method: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 19-Aug-2020 08:05:50 Calib Date: 14-Aug-2020 02:06:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200813-8022.b\DH0756.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1035

First Level Reviewer: monbornee Date: 18-Aug-2020 10:43:36

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.595	1.595	0.000	86	164392	7.50	7.85	
2 N-Nitrosodimethylamine	74	2.190	2.190	0.000	87	237191	7.50	7.66	
3 Pyridine	79	2.242	2.242	0.000	91	385781	7.50	6.87	
4 2-Picoline	93	3.507	3.507	0.000	89	424114	7.50	7.66	
5 N-Nitrosomethylethylamine	88	3.711	3.711	0.000	82	186677	7.50	8.30	
7 Methyl methanesulfonate	80	4.189	4.189	0.000	85	212394	7.50	7.95	
$ 8 2-Fluorophenol	112	4.434	4.434	0.000	91	709792	15.0	15.2	
9 N-Nitrosodiethylamine	102	4.772	4.772	0.000	84	174922	7.50	8.16	
10 Ethyl methanesulfonate	109	5.250	5.250	0.000	97	175878	7.50	7.66	
12 Benzaldehyde	77	5.693	5.693	0.000	94	302150	7.50	7.16	
$ 13 Phenol-d5	99	5.850	5.850	0.000	96	913223	15.0	15.4	
15 Aniline	93	5.862	5.862	0.000	94	637380	7.50	7.83	
14 Phenol	94	5.867	5.867	0.000	86	553611	7.50	7.92	
16 Bis(2-chloroethyl)ether	93	5.990	5.990	0.000	99	413827	7.50	7.86	
17 2-Chlorophenol	128	6.025	6.025	0.000	94	329801	7.50	7.69	
18 1,3-Dichlorobenzene	146	6.246	6.246	0.000	94	354959	7.50	7.32	
* 19 1,4-Dichlorobenzene-d4	152	6.340	6.340	0.000	96	149598	5.00	5.00	
20 1,4-Dichlorobenzene	146	6.363	6.363	0.000	91	364002	7.50	7.39	
21 Benzyl alcohol	108	6.573	6.573	0.000	89	233924	7.50	7.63	
22 1,2-Dichlorobenzene	146	6.579	6.579	0.000	92	345426	7.50	7.36	
24 Indene	115	6.718	6.718	0.000	87	498212	7.50	7.36	
23 2-Methylphenol	108	6.771	6.771	0.000	94	328933	7.50	7.89	
25 2,2'-oxybis[1-chloropropane]	45	6.800	6.800	0.000	88	306273	7.50	7.36	
26 N-Nitrosopyrrolidine	100	6.928	6.928	0.000	91	184751	7.50	8.66	
27 Acetophenone	105	6.963	6.963	0.000	94	461768	7.50	7.33	
29 N-Nitrosodi-n-propylamine	70	6.992	6.992	0.000	72	295754	7.50	8.16	
30 N-Nitrosomorpholine	56	6.998	6.998	0.000	90	190778	7.50	7.56	
28 4-Methylphenol	108	7.010	7.010	0.000	86	390668	7.50	7.77	
31 2-Toluidine	106	7.016	7.016	0.000	81	570533	7.50	7.66	
32 Hexachloroethane	117	7.091	7.091	0.000	95	163437	7.50	7.33	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 33 Nitrobenzene-d5	82	7.179	7.179	0.000	85	866204	15.0	16.0	
34 Nitrobenzene	77	7.208	7.208	0.000	81	449214	7.50	8.25	
35 N-Nitrosopiperidine	114	7.441	7.441	0.000	90	167590	7.50	8.13	
36 Isophorone	82	7.593	7.593	0.000	96	766350	7.50	8.25	
37 2-Nitrophenol	139	7.698	7.698	0.000	90	165687	7.50	8.00	
38 2,4-Dimethylphenol	107	7.820	7.820	0.000	97	363354	7.50	8.11	
39 o,o',o''-Triethylphosphorothioat	198	7.942	7.942	0.000	87	157457	7.50	7.62	
41 Bis(2-chloroethoxy)methane	93	7.972	7.972	0.000	98	471851	7.50	8.01	
40 Benzoic acid	105	7.983	7.983	0.000	84	267022	10.0	11.0	
42 2,4-Dichlorophenol	162	8.077	8.077	0.000	96	263192	7.50	7.76	
43 1,2,4-Trichlorobenzene	180	8.199	8.199	0.000	92	284404	7.50	7.49	
* 44 Naphthalene-d8	136	8.275	8.275	0.000	99	553004	5.00	5.00	
45 Naphthalene	128	8.304	8.304	0.000	98	906622	7.50	7.48	
46 4-Chloroaniline	127	8.426	8.426	0.000	93	373583	7.50	7.71	
47 2,6-Dichlorophenol	162	8.432	8.432	0.000	93	252716	7.50	7.66	
48 Hexachloropropene	213	8.455	8.455	0.000	89	177331	7.50	7.75	
49 Hexachlorobutadiene	225	8.537	8.537	0.000	97	163721	7.50	7.58	
50 Quinoline	129	8.840	8.840	0.000	95	550416	7.50	7.44	
52 Caprolactam	113	8.962	8.962	0.000	90	95770	7.50	7.61	
53 N-Nitrosodi-n-butylamine	84	9.003	9.003	0.000	87	259845	7.50	8.16	
54 4-Chloro-3-methylphenol	107	9.236	9.236	0.000	91	299221	7.50	8.44	
55 Safrole, Total	162	9.312	9.312	0.000	84	235265	7.50	7.61	
56 2-Methylnaphthalene	142	9.411	9.411	0.000	91	586959	7.50	7.77	
57 1-Methylnaphthalene	142	9.563	9.563	0.000	92	559924	7.50	7.83	
S 51 Diallate	86				0		7.50	7.88	
58 Hexachlorocyclopentadiene	237	9.674	9.674	0.000	97	153053	7.50	7.23	
59 1,2,4,5-Tetrachlorobenzene	216	9.679	9.679	0.000	98	291370	7.50	7.57	
60 Isosafrole Peak 1	162	9.778	9.778	0.000	85	39085	1.20	1.22	
61 2,4,6-Trichlorophenol	196	9.878	9.878	0.000	94	188687	7.50	7.97	
62 2,4,5-Trichlorophenol	196	9.930	9.930	0.000	92	199759	7.50	7.93	
$ 63 2-Fluorobiphenyl (Surr)	172	10.029	10.029	0.000	100	1351126	15.0	15.1	
64 Isosafrole Peak 2	162	10.140	10.140	0.000	86	234483	6.30	6.47	
66 2-Chloronaphthalene	162	10.175	10.175	0.000	98	599387	7.50	7.53	
65 1,1'-Biphenyl	154	10.175	10.175	0.000	95	654642	7.50	7.02	
67 1-Chloronaphthalene	162	10.204	10.204	0.000	98	511045	7.50	7.44	
68 Phenyl ether	170	10.356	10.356	0.000	86	399942	7.50	7.72	
69 2-Nitroaniline	138	10.367	10.367	0.000	78	184606	7.50	7.71	
70 1,4-Naphthoquinone	158	10.472	10.472	0.000	79	218391	7.50	7.35	
71 1,4-Dinitrobenzene	168	10.606	10.606	0.000	83	92974	7.50	8.32	
72 Dimethyl phthalate	163	10.711	10.711	0.000	97	627929	7.50	7.56	
73 1,3-Dinitrobenzene	168	10.717	10.717	0.000	80	107581	7.50	8.08	
74 2,6-Dinitrotoluene	165	10.781	10.781	0.000	89	146954	7.50	7.56	
75 Acenaphthylene	152	10.828	10.828	0.000	99	773704	7.50	7.81	
76 3-Nitroaniline	138	11.026	11.026	0.000	89	146373	7.50	7.23	
* 77 Acenaphthene-d10	164	11.061	11.061	0.000	97	272658	5.00	5.00	
78 Acenaphthene	153	11.107	11.107	0.000	96	553643	7.50	7.38	
79 2,4-Dinitrophenol	184	11.201	11.201	0.000	86	118543	10.0	10.3	
81 Pentachlorobenzene	250	11.323	11.323	0.000	96	230130	7.50	7.62	
80 4-Nitrophenol	109	11.352	11.352	0.000	83	116924	7.50	6.92	
83 Dibenzofuran	168	11.393	11.393	0.000	96	757755	7.50	7.54	
82 2,4-Dinitrotoluene	165	11.416	11.416	0.000	88	191352	7.50	7.92	
84 1-Naphthylamine	143	11.515	11.515	0.000	97	544597	7.50	7.34	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
85 2,3,4,6-Tetrachlorophenol	232	11.597	11.597	0.000	75	150569	7.50	7.92	
86 2-Naphthylamine	143	11.632	11.632	0.000	94	544806	7.50	7.30	
87 Diethyl phthalate	149	11.819	11.819	0.000	97	619222	7.50	7.71	
89 Fluorene	166	11.883	11.883	0.000	94	622159	7.50	7.90	
88 Thionazin	107	11.918	11.918	0.000	78	129965	7.50	7.92	
91 4-Chlorophenyl phenyl ether	204	11.923	11.923	0.000	87	313931	7.50	7.56	
92 4-Nitroaniline	138	11.929	11.929	0.000	76	168478	7.50	7.60	
90 N-Nitro-o-toluidine	152	11.923	11.923	0.000	78	176880	7.50	7.12	
93 4,6-Dinitro-2-methylphenol	198	11.982	11.982	0.000	83	117511	7.50	7.66	
94 N-Nitrosodiphenylamine	169	12.081	12.081	0.000	70	547267	7.50	7.73	
95 1,2-Diphenylhydrazine	77	12.122	12.122	0.000	97	827220	7.50	7.59	
$ 96 2,4,6-Tribromophenol	330	12.192	12.192	0.000	87	160417	15.0	15.8	
97 Sulfotepp	97	12.326	12.326	0.000	80	132453	7.50	7.82	
98 cis-Diallate	86	12.448	12.448	0.000	83	244230	5.55	5.77	
99 Phorate	75	12.448	12.448	0.000	95	471769	7.50	7.71	
100 Phenacetin	108	12.477	12.477	0.000	91	358221	7.50	8.21	
101 4-Bromophenyl phenyl ether	248	12.512	12.512	0.000	68	175255	7.50	7.93	
102 trans-Diallate	86	12.541	12.541	0.000	93	86002	1.95	2.11	
103 Hexachlorobenzene	284	12.547	12.547	0.000	91	174471	7.50	7.65	
104 Dimethoate	87	12.629	12.629	0.000	96	304214	7.50	9.09	
105 Atrazine	200	12.739	12.739	0.000	93	159395	7.50	7.64	
106 Pentachlorophenol	266	12.792	12.792	0.000	91	123862	7.50	8.00	
107 Pentachloronitrobenzene	237	12.804	12.804	0.000	83	83448	7.50	8.02	
108 4-Aminobiphenyl	169	12.809	12.809	0.000	89	508711	7.50	8.38	
109 Pronamide	173	12.920	12.920	0.000	91	280820	7.50	7.92	
* 110 Phenanthrene-d10	188	13.002	13.002	0.000	98	519234	5.00	5.00	
112 Phenanthrene	178	13.031	13.031	0.000	99	905593	7.50	7.55	
111 Dinoseb	211	13.043	13.043	0.000	95	158897	7.50	7.54	
113 Anthracene	178	13.095	13.095	0.000	98	927132	7.50	8.07	
114 Carbazole	167	13.311	13.311	0.000	96	823095	7.50	7.89	
115 Methyl parathion	109	13.515	13.515	0.000	92	234008	7.50	8.30	
116 Di-n-butyl phthalate	149	13.818	13.818	0.000	100	1088437	7.50	8.13	
118 4-Nitroquinoline-1-oxide	190	14.028	14.028	0.000	80	72698	7.50	9.02	
117 Ethyl Parathion	109	14.033	14.033	0.000	83	153454	7.50	8.01	
119 Octachlorostyrene	308	14.348	14.348	0.000	90	74454	7.50	8.41	
120 Isodrin	193	14.377	14.377	0.000	90	106336	7.50	7.71	
121 Fluoranthene	202	14.593	14.593	0.000	99	1013614	7.50	8.36	
122 Benzidine	184	14.832	14.832	0.000	99	2158077	22.5	23.6	
* 123 Pyrene-d10 (IS)	212	14.884	14.884	0.000	99	537098	5.00	5.00	
124 Pyrene	202	14.914	14.914	0.000	97	1084564	7.50	7.62	
$ 125 p-Terphenyl-d14	244	15.205	15.205	0.000	98	1599131	15.0	15.5	
126 p-Dimethylamino azobenzene	225	15.432	15.432	0.000	90	188477	7.50	7.83	
127 Chlorobenzilate	139	15.526	15.526	0.000	87	326727	7.50	8.88	
128 3,3'-Dimethylbenzidine	212	15.974	15.974	0.000	99	716945	7.50	7.87	
129 Butyl benzyl phthalate	149	16.050	16.050	0.000	95	500356	7.50	8.26	
130 2-Acetylaminofluorene	181	16.382	16.382	0.000	94	387607	7.50	7.66	
132 Benzo[a]anthracene	228	16.860	16.860	0.000	99	972411	7.50	7.22	
131 3,3'-Dichlorobenzidine	252	16.872	16.872	0.000	75	389341	7.50	7.55	
133 4,4'-Methylene bis(2-chloroanil	231	16.895	16.895	0.000	93	199127	7.50	8.23	
134 Chrysene	228	16.919	16.919	0.000	97	1037492	7.50	8.46	
135 Bis(2-ethylhexyl) phthalate	149	17.105	17.105	0.000	97	687093	7.50	8.41	
136 6-Methylchrysene	242	17.711	17.711	0.000	99	697446	7.50	8.10	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
137 Di-n-octyl phthalate	149	18.253	18.253	0.000	99	1116831	7.50	7.50	
138 Benzo[b]fluoranthene	252	18.679	18.679	0.000	97	996680	7.50	6.68	
139 7,12-Dimethylbenz(a)anthracene	256	18.690	18.690	0.000	90	473776	7.50	6.85	
140 Benzo[k]fluoranthene	252	18.725	18.725	0.000	99	1075098	7.50	7.90	
141 Benzo[a]pyrene	252	19.192	19.192	0.000	77	960726	7.50	6.91	
* 142 Perylene-d12	264	19.285	19.285	0.000	98	530099	5.00	5.00	
143 3-Methylcholanthrene	268	19.769	19.769	0.000	92	453267	7.50	6.92	
144 Dibenz[a,h]acridine	279	20.567	20.567	0.000	91	604085	7.50	7.28	
145 Dibenz[a,j]acridine	279	20.643	20.643	0.000	96	655929	7.50	6.84	
146 Indeno[1,2,3-cd]pyrene	276	20.870	20.870	0.000	99	752292	7.50	6.63	
147 Dibenz(a,h)anthracene	278	20.917	20.917	0.000	93	814008	7.50	6.52	
148 Benzo[g,h,i]perylene	276	21.220	21.220	0.000	98	842768	7.50	6.71	
S 152 Dinitrotoluene	165				0		15.0	15.5	
S 170 Isosafrole	162				0		7.50	7.70	

Reagents:

MSS_RV8270_5_00007 Amount Added: 1.00 Units: mL

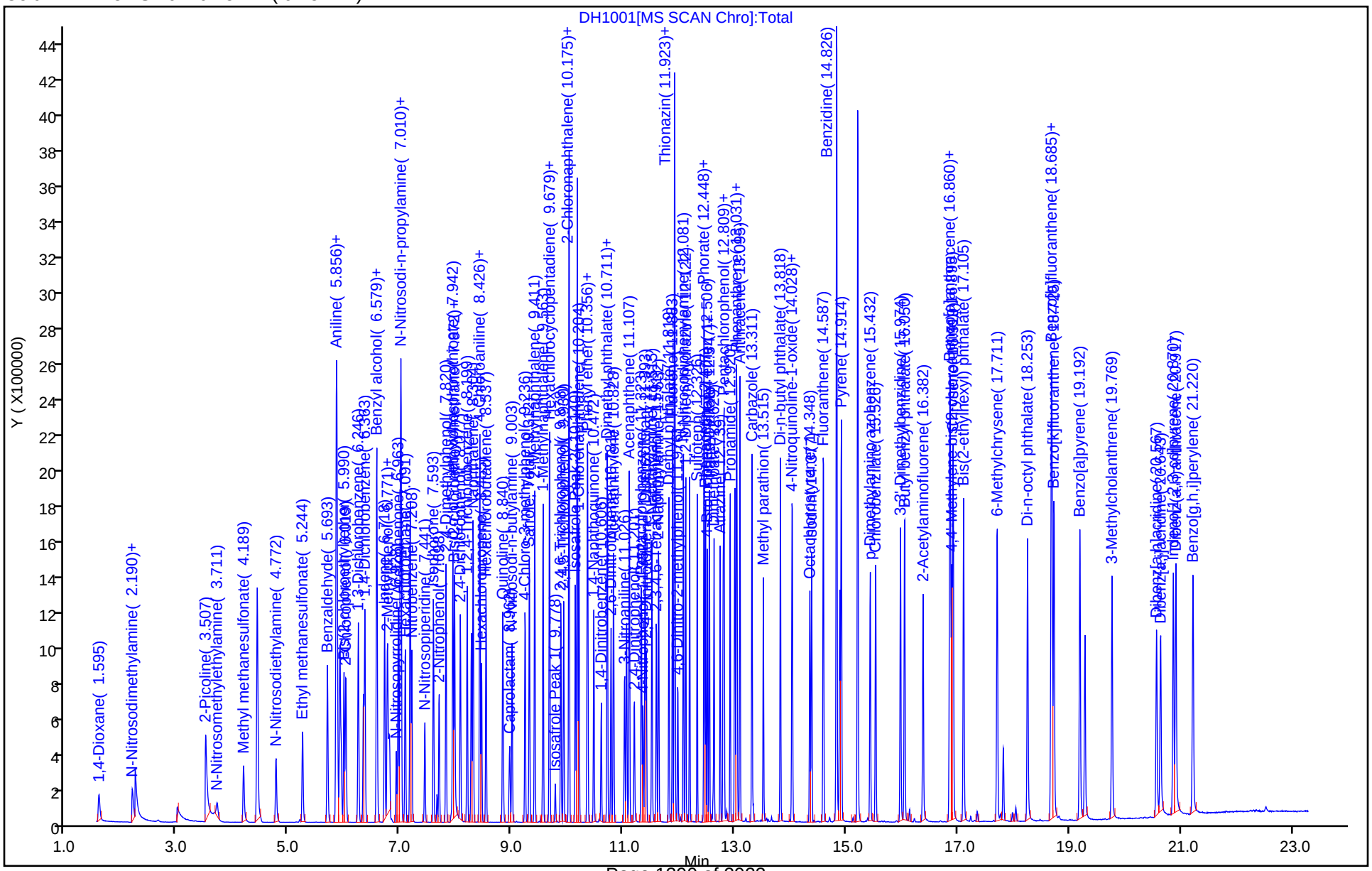
Report Date: 19-Aug-2020 08:05:51 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1001.D

Injection Date:	18-Aug-2020 10:03:30	Instrument ID:	HP19760	Operator ID:	em10340
Lims ID:	CCVIS L5			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-34776/2 Calibration Date: 08/19/2020 08:30

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DH1051.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.7002	0.6935		7.43	7.50	-1.0	20.0
N-Nitrosodimethylamine	Ave	1.034	1.096		7.95	7.50	5.9	20.0
Pyridine	Ave	1.878	1.791		7.15	7.50	-4.6	20.0
2-Picoline	Ave	1.851	1.902		7.71	7.50	2.8	20.0
N-Nitrosomethylethylamine	Ave	0.7513	0.8174		8.16	7.50	8.8	20.0
Methyl methanesulfonate	Ave	0.8925	0.9106		7.65	7.50	2.0	20.0
N-Nitrosodiethylamine	Ave	0.7166	0.7734		8.09	7.50	7.9	20.0
Ethyl methanesulfonate	Ave	0.7677	0.7804		7.62	7.50	1.7	20.0
Benzaldehyde	Ave	1.411	1.326	0.0100	7.05	7.50	-6.0	20.0
Aniline	Ave	2.721	2.754		7.59	7.50	1.2	20.0
Phenol	Ave	2.337	2.390	0.8000	7.67	7.50	2.3	20.0
Bis(2-chloroethyl)ether	Ave	1.760	1.800	0.7000	7.67	7.50	2.3	20.0
2-Chlorophenol	Ave	1.434	1.453	0.8000	7.60	7.50	1.4	20.0
1,3-Dichlorobenzene	Ave	1.621	1.575		7.29	7.50	-2.8	20.0
1,4-Dichlorobenzene	Ave	1.645	1.583		7.22	7.50	-3.8	20.0
1,2-Dichlorobenzene	Ave	1.568	1.517		7.26	7.50	-3.2	20.0
Benzyl alcohol	Ave	1.025	1.018		7.45	7.50	-0.7	20.0
Indene	Ave	2.261	2.177		7.22	7.50	-3.7	20.0
2-Methylphenol	Ave	1.394	1.441	0.7000	7.76	7.50	3.4	20.0
2,2'-oxybis[1-chloropropane]	Ave	1.390	1.309	0.0100	7.07	7.50	-5.8	20.0
N-Nitrosopyrrolidine	Ave	0.7126	0.7897		8.31	7.50	10.8	20.0
Acetophenone	Ave	2.106	2.007	0.0100	7.15	7.50	-4.7	20.0
N-Nitrosodi-n-propylamine	Ave	1.211	1.287	0.5000	7.97	7.50	6.3	20.0
N-Nitrosomorpholine	Ave	0.8436	0.7984		7.10	7.50	-5.4	20.0
4-Methylphenol	Ave	1.681	1.686	0.6000	7.52	7.50	0.3	20.0
o-Toluidine	Ave	2.491	2.467		7.43	7.50	-1.0	20.0
Hexachloroethane	Ave	0.7449	0.7056	0.3000	7.10	7.50	-5.3	20.0
Nitrobenzene	Ave	0.4925	0.5292	0.2000	8.06	7.50	7.5	20.0
N-Nitrosopiperidine	Ave	0.1865	0.2038		8.20	7.50	9.3	20.0
Isophorone	Ave	0.8397	0.9051	0.4000	8.08	7.50	7.8	20.0
2-Nitrophenol	Ave	0.1872	0.2021	0.1000	8.09	7.50	7.9	20.0
2,4-Dimethylphenol	Ave	0.4052	0.4324	0.2000	8.00	7.50	6.7	20.0
o,o',o''-Triethylphosphorothioate	Ave	0.1869	0.1901		7.63	7.50	1.7	20.0
Bis(2-chloroethoxy)methane	Ave	0.5324	0.5643	0.3000	7.95	7.50	6.0	20.0
Benzoic acid	Ave	0.2187	0.2615		12.0	10.0	19.6	20.0
2,4-Dichlorophenol	Ave	0.3066	0.3156	0.2000	7.72	7.50	3.0	20.0
1,2,4-Trichlorobenzene	Ave	0.3435	0.3381		7.38	7.50	-1.6	20.0
Naphthalene	Ave	1.095	1.083	0.7000	7.42	7.50	-1.1	20.0
4-Chloroaniline	Ave	0.4382	0.4543	0.0100	7.78	7.50	3.7	20.0
2,6-Dichlorophenol	Ave	0.2982	0.3054		7.68	7.50	2.4	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-34776/2 Calibration Date: 08/19/2020 08:30

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DH1051.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Hexachloropropene	Ave	0.2069	0.2069		7.50	7.50	0.0	20.0
Hexachlorobutadiene	Ave	0.1954	0.1968	0.0100	7.56	7.50	0.7	20.0
Quinoline	Ave	0.6687	0.6662		7.47	7.50	-0.4	20.0
Caprolactam	Ave	0.1138	0.1155	0.0100	7.61	7.50	1.5	20.0
N-Nitrosodi-n-butylamine	Qua		0.3091		8.07	7.50	7.5	20.0
4-Chloro-3-methylphenol	Ave	0.3206	0.3621	0.2000	8.47	7.50	12.9	20.0
Safrole, Total	Ave	0.2795	0.2848		7.64	7.50	1.9	20.0
2-Methylnaphthalene	Ave	0.6830	0.7067	0.4000	7.76	7.50	3.5	20.0
1-Methylnaphthalene	Ave	0.6466	0.6668		7.73	7.50	3.1	20.0
Hexachlorocyclopentadiene	Ave	0.3881	0.3580	0.0500	6.92	7.50	-7.8	20.0
1,2,4,5-Tetrachlorobenzene	Ave	0.7054	0.6971	0.0100	7.41	7.50	-1.2	20.0
Isosafrole Peak 1	Ave	0.5859	0.5927		1.21	1.20	1.1	20.0
2,4,6-Trichlorophenol	Ave	0.4344	0.4738	0.2000	8.18	7.50	9.1	20.0
2,4,5-Trichlorophenol	Ave	0.4621	0.4996	0.2000	8.11	7.50	8.1	20.0
Isosafrole Peak 2	Ave	0.6644	0.6757		6.41	6.30	1.7	20.0
1,1'-Biphenyl	Ave	1.711	1.582	0.0100	6.94	7.50	-7.5	20.0
2-Chloronaphthalene	Ave	1.460	1.442	0.8000	7.41	7.50	-1.2	20.0
1-Chloronaphthalene	Ave	1.260	1.228		7.31	7.50	-2.6	20.0
Diphenyl ether	Ave	0.9503	0.9674		7.63	7.50	1.8	20.0
2-Nitroaniline	Lin1		0.4490	0.0100	7.67	7.50	2.3	20.0
1,4-Naphthoquinone	Ave	0.5452	0.5339		7.34	7.50	-2.1	20.0
1,4-Dinitrobenzene	Ave	0.2049	0.2281		8.35	7.50	11.3	20.0
Dimethyl phthalate	Ave	1.523	1.513	0.0100	7.45	7.50	-0.7	20.0
1,3-Dinitrobenzene	Ave	0.2440	0.2616		8.04	7.50	7.2	20.0
2,6-Dinitrotoluene	Lin1		0.3631	0.2000	7.64	7.50	1.8	20.0
Acenaphthylene	Ave	1.817	1.876	0.9000	7.74	7.50	3.2	20.0
3-Nitroaniline	Lin1		0.3647	0.0100	7.36	7.50	-1.8	20.0
Acenaphthene	Ave	1.377	1.343	0.9000	7.32	7.50	-2.4	20.0
2,4-Dinitrophenol	Ave	0.2103	0.2157	0.0100	10.3	10.0	2.6	20.0
Pentachlorobenzene	Ave	0.5540	0.5664		7.67	7.50	2.2	20.0
4-Nitrophenol	Ave	0.3096	0.2683	0.0100	6.50	7.50	-13.4	20.0
Dibenzofuran	Ave	1.843	1.811	0.8000	7.37	7.50	-1.8	20.0
2,4-Dinitrotoluene	Ave	0.4432	0.4696	0.2000	7.95	7.50	6.0	20.0
1-Naphthylamine	Ave	1.360	1.332		7.34	7.50	-2.1	20.0
2,3,4,6-Tetrachlorophenol	Ave	0.3485	0.3733	0.0100	8.03	7.50	7.1	20.0
2-Naphthylamine	Ave	1.368	1.334		7.31	7.50	-2.5	20.0
Diethyl phthalate	Ave	1.473	1.484	0.0100	7.55	7.50	0.7	20.0
Fluorene	Ave	1.443	1.504	0.9000	7.82	7.50	4.2	20.0
Thionazin	Ave	0.3008	0.3116		7.77	7.50	3.6	20.0
4-Chlorophenyl-phenyl ether	Ave	0.7612	0.7518	0.4000	7.41	7.50	-1.2	20.0
5-Nitro-o-toluidine	Lin1		0.4249		7.00	7.50	-6.6	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-34776/2 Calibration Date: 08/19/2020 08:30

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DH1051.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
4-Nitroaniline	Lin1		0.3920	0.0100	7.24	7.50	-3.4	20.0
4,6-Dinitro-2-methylphenol	Ave	0.1478	0.1521	0.0100	7.72	7.50	2.9	20.0
N-Nitrosodiphenylamine	Ave	0.6814	0.7129	0.0100	7.85	7.50	4.6	20.0
1,2-Diphenylhydrazine	Ave	1.049	1.042		7.45	7.50	-0.7	20.0
Sulfotepp	Ave	0.1630	0.1613		7.42	7.50	-1.1	20.0
cis-Diallate	Ave	0.4078	0.4165		5.67	5.55	2.1	20.0
Phorate	Lin1		0.5833		7.43	7.50	-0.9	20.0
Phenacetin	Ave	0.4204	0.4489		8.01	7.50	6.8	20.0
4-Bromophenyl-phenylether	Ave	0.2128	0.2277	0.1000	8.03	7.50	7.0	20.0
trans-Diallate	Ave	0.3916	0.4070		2.03	1.95	3.9	20.0
Hexachlorobenzene	Ave	0.2195	0.2264	0.1000	7.74	7.50	3.1	20.0
Dimethoate	Ave	0.3223	0.3806		8.86	7.50	18.1	20.0
Atrazine	Ave	0.2010	0.2058	0.0100	7.68	7.50	2.4	20.0
Pentachlorophenol	Ave	0.1490	0.1631	0.0500	8.21	7.50	9.4	20.0
Pentachloronitrobenzene	Ave	0.1002	0.1064		7.96	7.50	6.1	20.0
4-Aminobiphenyl	Ave	0.5846	0.6483		8.32	7.50	10.9	20.0
Pronamide	Ave	0.3415	0.3636		7.99	7.50	6.5	20.0
Phenanthrene	Ave	1.155	1.152	0.7000	7.48	7.50	-0.2	20.0
Dinoseb	Lin1		0.2055		7.59	7.50	1.2	20.0
Anthracene	Ave	1.106	1.189	0.7000	8.07	7.50	7.6	20.0
Carbazole	Ave	1.005	1.045	0.0100	7.80	7.50	4.0	20.0
Methyl parathion	Lin		0.3002		8.29	7.50	10.5	20.0
Di-n-butyl phthalate	Ave	1.290	1.365	0.0100	7.94	7.50	5.9	20.0
4-Nitroquinoline-1-oxide	Lin		0.0789		8.22	7.50	9.6	20.0
Parathion	Lin1		0.1913		7.80	7.50	4.0	20.0
Octachlorostyrene	Ave	0.0853	0.0933		8.21	7.50	9.4	20.0
Isodrin	Ave	0.1328	0.1348		7.61	7.50	1.5	20.0
Fluoranthene	Ave	1.167	1.305	0.6000	8.38	7.50	11.8	20.0
Benzidine	Ave	0.8515	0.8437		22.3	22.5	-0.9	20.0
Pyrene	Ave	1.326	1.323	0.6000	7.48	7.50	-0.2	20.0
p-Dimethylamino azobenzene	Lin		0.2299		7.72	7.50	2.9	20.0
Chlorobenzilate	Ave	0.3423	0.3937		8.62	7.50	15.0	20.0
3,3'-Dimethylbenzidine	Lin1		0.8415		7.49	7.50	-0.2	20.0
Butylbenzylphthalate	Ave	0.5641	0.6000	0.0100	7.98	7.50	6.4	20.0
2-Acetylaminofluorene	Lin1		0.4868		7.74	7.50	3.2	20.0
Benzo[a]anthracene	Lin1		1.173	0.8000	7.02	7.50	-6.5	20.0
3,3'-Dichlorobenzidine	Lin1		0.4669	0.0100	7.32	7.50	-2.4	20.0
4,4'-Methylene bis(2-chloroaniline)	Ave	0.2253	0.2380			7.50	5.6	20.0
Chrysene	Ave	1.142	1.234	0.7000	8.11	7.50	8.1	20.0
Bis(2-ethylhexyl) phthalate	Ave	0.7606	0.8145	0.0100	8.03	7.50	7.1	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-34776/2 Calibration Date: 08/19/2020 08:30

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DH1051.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
6-Methylchrysene	Ave	0.8018	0.8372		7.83	7.50	4.4	20.0
Di-n-octyl phthalate	Lin		1.420	0.0100	7.57	7.50	1.0	20.0
Benzo[b]fluoranthene	Lin1		1.260	0.7000	6.71	7.50	-10.5	20.0
7,12-Dimethylbenz(a)anthracene	Lin1		0.5949		6.84	7.50	-8.8	20.0
Benzo[k]fluoranthene	Ave	1.284	1.333	0.7000	7.78	7.50	3.8	20.0
Benzo[a]pyrene	Lin1		1.173	0.7000	6.71	7.50	-10.5	20.0
3-Methylcholanthrene	Lin1		0.5581		6.78	7.50	-9.6	20.0
Dibenz[a,h]acridine	Ave	0.7821	0.7317		7.02	7.50	-6.5	20.0
Dibenz[a,j]acridine	Ave	0.9047	0.8150		6.76	7.50	-9.9	20.0
Indeno[1,2,3-cd]pyrene	Lin1		0.8679	0.5000	6.09	7.50	-18.8	20.0
Dibenz(a,h)anthracene	Lin1		0.9568	0.4000	6.10	7.50	-18.7	20.0
Benzo[g,h,i]perylene	Lin1		0.9491	0.5000	6.02	7.50	-19.7	20.0
2-Fluorophenol (Surr)	Ave	1.565	1.551		14.9	15.0	-0.9	20.0
Phenol-d5 (Surr)	Ave	1.984	1.994		15.1	15.0	0.5	20.0
Nitrobenzene-d5 (Surr)	Ave	0.4895	0.5139		15.7	15.0	5.0	20.0
2-Fluorobiphenyl (Surr)	Ave	1.643	1.618		14.8	15.0	-1.5	20.0
2,4,6-Tribromophenol (Surr)	Ave	0.1857	0.2022		16.3	15.0	8.9	20.0
p-Terphenyl-d14 (Surr)	Ave	0.9591	0.9745		15.2	15.0	1.6	20.0

Report Date: 19-Aug-2020 18:02:38 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200819-8418.b\DH1051.D
Lims ID: CCVIS L5
Client ID:
Sample Type: CCVIS
Inject. Date: 19-Aug-2020 08:30:30 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS L5
Misc. Info.: 410-0008418-002
Operator ID: em10340 Instrument ID: HP19760
Sublist: chrom-MSSemi_HP19760*sub5

Method: \\chromfs\Lancaster\ChromData\HP19760\20200819-8418.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 19-Aug-2020 18:02:37 Calib Date: 14-Aug-2020 02:06:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200813-8022.b\DH0756.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1012

First Level Reviewer: monbornee Date: 19-Aug-2020 09:13:01

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.607	1.607	0.000	87	164919	7.50	7.43	
2 N-Nitrosodimethylamine	74	2.207	2.207	0.000	86	260572	7.50	7.95	
3 Pyridine	79	2.254	2.254	0.000	91	426003	7.50	7.15	
4 2-Picoline	93	3.513	3.513	0.000	90	452371	7.50	7.71	
5 N-Nitrosomethylethylamine	88	3.717	3.717	0.000	79	194379	7.50	8.16	
7 Methyl methanesulfonate	80	4.189	4.189	0.000	85	216547	7.50	7.65	
$ 8 2-Fluorophenol	112	4.434	4.434	0.000	91	737751	15.0	14.9	
9 N-Nitrosodiethylamine	102	4.772	4.772	0.000	83	183916	7.50	8.09	
10 Ethyl methanesulfonate	109	5.250	5.250	0.000	98	185581	7.50	7.62	
12 Benzaldehyde	77	5.693	5.693	0.000	95	315269	7.50	7.05	
$ 13 Phenol-d5	99	5.850	5.850	0.000	96	948176	15.0	15.1	
15 Aniline	93	5.862	5.862	0.000	92	654947	7.50	7.59	
14 Phenol	94	5.868	5.868	0.000	89	568314	7.50	7.67	
16 Bis(2-chloroethyl)ether	93	5.990	5.990	0.000	98	428147	7.50	7.67	
17 2-Chlorophenol	128	6.025	6.025	0.000	94	345535	7.50	7.60	
18 1,3-Dichlorobenzene	146	6.246	6.246	0.000	93	374474	7.50	7.29	
* 19 1,4-Dichlorobenzene-d4	152	6.340	6.340	0.000	95	158533	5.00	5.00	
20 1,4-Dichlorobenzene	146	6.363	6.363	0.000	91	376476	7.50	7.22	
22 1,2-Dichlorobenzene	146	6.579	6.579	0.000	93	360836	7.50	7.26	
21 Benzyl alcohol	108	6.579	6.579	0.000	90	242149	7.50	7.45	
24 Indene	115	6.719	6.719	0.000	87	517663	7.50	7.22	
23 2-Methylphenol	108	6.771	6.771	0.000	94	342744	7.50	7.76	
25 2,2'-oxybis[1-chloropropane]	45	6.806	6.806	0.000	89	311396	7.50	7.07	
26 N-Nitrosopyrrolidine	100	6.928	6.928	0.000	89	187781	7.50	8.31	
27 Acetophenone	105	6.963	6.963	0.000	93	477156	7.50	7.15	
29 N-Nitrosodi-n-propylamine	70	6.998	6.998	0.000	73	306128	7.50	7.97	
30 N-Nitrosomorpholine	56	6.998	6.998	0.000	87	189862	7.50	7.10	
28 4-Methylphenol	108	7.010	7.010	0.000	87	400961	7.50	7.52	
31 2-Toluidine	106	7.016	7.016	0.000	81	586630	7.50	7.43	
32 Hexachloroethane	117	7.086	7.086	0.000	96	167794	7.50	7.10	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 33 Nitrobenzene-d5	82	7.179	7.179	0.000	84	892272	15.0	15.7	
34 Nitrobenzene	77	7.208	7.208	0.000	82	459417	7.50	8.06	
35 N-Nitrosopiperidine	114	7.441	7.441	0.000	88	176893	7.50	8.20	
36 Isophorone	82	7.593	7.593	0.000	96	785788	7.50	8.08	
37 2-Nitrophenol	139	7.698	7.698	0.000	91	175437	7.50	8.09	
38 2,4-Dimethylphenol	107	7.820	7.820	0.000	97	375406	7.50	8.00	
39 o,o',o''-Triethylphosphorothioat	198	7.943	7.943	0.000	89	165028	7.50	7.63	
41 Bis(2-chloroethoxy)methane	93	7.972	7.972	0.000	98	489864	7.50	7.95	
40 Benzoic acid	105	7.983	7.983	0.000	84	302698	10.0	12.0	
42 2,4-Dichlorophenol	162	8.077	8.077	0.000	95	274027	7.50	7.72	
43 1,2,4-Trichlorobenzene	180	8.199	8.199	0.000	92	293490	7.50	7.38	
* 44 Naphthalene-d8	136	8.275	8.275	0.000	99	578762	5.00	5.00	
45 Naphthalene	128	8.304	8.304	0.000	98	940260	7.50	7.42	
47 2,6-Dichlorophenol	162	8.432	8.432	0.000	94	265136	7.50	7.68	
46 4-Chloroaniline	127	8.426	8.426	0.000	93	394412	7.50	7.78	
48 Hexachloropropene	213	8.456	8.456	0.000	89	179633	7.50	7.50	
49 Hexachlorobutadiene	225	8.537	8.537	0.000	96	170888	7.50	7.56	
50 Quinoline	129	8.840	8.840	0.000	95	578393	7.50	7.47	
52 Caprolactam	113	8.963	8.963	0.000	91	100297	7.50	7.61	
53 N-Nitrosodi-n-butylamine	84	9.003	9.003	0.000	87	268385	7.50	8.07	
54 4-Chloro-3-methylphenol	107	9.237	9.237	0.000	91	314330	7.50	8.47	
55 Safrole, Total	162	9.318	9.318	0.000	86	247232	7.50	7.64	
56 2-Methylnaphthalene	142	9.411	9.411	0.000	91	613528	7.50	7.76	
57 1-Methylnaphthalene	142	9.563	9.563	0.000	92	578895	7.50	7.73	
S 51 Diallate	86				0		7.50	7.70	
59 1,2,4,5-Tetrachlorobenzene	216	9.680	9.680	0.000	98	299890	7.50	7.41	
58 Hexachlorocyclopentadiene	237	9.674	9.674	0.000	97	154015	7.50	6.92	
60 Isosafrole Peak 1	162	9.779	9.779	0.000	86	40796	1.20	1.21	
61 2,4,6-Trichlorophenol	196	9.878	9.878	0.000	95	203823	7.50	8.18	
62 2,4,5-Trichlorophenol	196	9.930	9.930	0.000	93	214911	7.50	8.11	
$ 63 2-Fluorobiphenyl (Surr)	172	10.029	10.029	0.000	100	1392054	15.0	14.8	
64 Isosafrole Peak 2	162	10.140	10.140	0.000	86	244185	6.30	6.41	
66 2-Chloronaphthalene	162	10.175	10.175	0.000	83	620278	7.50	7.41	
65 1,1'-Biphenyl	154	10.175	10.175	0.000	94	680519	7.50	6.94	
67 1-Chloronaphthalene	162	10.204	10.204	0.000	98	528143	7.50	7.31	
68 Phenyl ether	170	10.356	10.356	0.000	85	416171	7.50	7.63	
69 2-Nitroaniline	138	10.367	10.367	0.000	85	193149	7.50	7.67	
70 1,4-Naphthoquinone	158	10.472	10.472	0.000	81	229668	7.50	7.34	
71 1,4-Dinitrobenzene	168	10.606	10.606	0.000	83	98112	7.50	8.35	
72 Dimethyl phthalate	163	10.711	10.711	0.000	97	650798	7.50	7.45	
73 1,3-Dinitrobenzene	168	10.717	10.717	0.000	80	112558	7.50	8.04	
74 2,6-Dinitrotoluene	165	10.781	10.781	0.000	90	156221	7.50	7.64	
75 Acenaphthylene	152	10.828	10.828	0.000	99	806918	7.50	7.74	
76 3-Nitroaniline	138	11.026	11.026	0.000	89	156881	7.50	7.36	
* 77 Acenaphthene-d10	164	11.055	11.055	0.000	97	286805	5.00	5.00	
78 Acenaphthene	153	11.108	11.108	0.000	96	577787	7.50	7.32	
79 2,4-Dinitrophenol	184	11.201	11.201	0.000	86	123754	10.0	10.3	
81 Pentachlorobenzene	250	11.323	11.323	0.000	97	243689	7.50	7.67	
80 4-Nitrophenol	109	11.352	11.352	0.000	83	115406	7.50	6.50	
83 Dibenzofuran	168	11.393	11.393	0.000	96	779011	7.50	7.37	
82 2,4-Dinitrotoluene	165	11.416	11.416	0.000	89	202040	7.50	7.95	
84 1-Naphthylamine	143	11.516	11.516	0.000	97	572889	7.50	7.34	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
85 2,3,4,6-Tetrachlorophenol	232	11.597	11.597	0.000	75	160612	7.50	8.03	
86 2-Naphthylamine	143	11.632	11.632	0.000	94	573974	7.50	7.31	
87 Diethyl phthalate	149	11.819	11.819	0.000	97	638423	7.50	7.55	
89 Fluorene	166	11.883	11.883	0.000	94	647033	7.50	7.82	
91 4-Chlorophenyl phenyl ether	204	11.924	11.924	0.000	86	323430	7.50	7.41	
88 Thionazin	107	11.918	11.918	0.000	78	134037	7.50	7.77	
92 4-Nitroaniline	138	11.929	11.929	0.000	77	168622	7.50	7.24	
90 N-Nitro-o-toluidine	152	11.924	11.924	0.000	76	182805	7.50	7.00	
93 4,6-Dinitro-2-methylphenol	198	11.982	11.982	0.000	86	123266	7.50	7.72	
94 N-Nitrosodiphenylamine	169	12.081	12.081	0.000	60	577877	7.50	7.85	
95 1,2-Diphenylhydrazine	77	12.122	12.122	0.000	96	844943	7.50	7.45	
$ 96 2,4,6-Tribromophenol	330	12.192	12.192	0.000	89	174017	15.0	16.3	
97 Sulfotepp	97	12.326	12.326	0.000	81	130721	7.50	7.42	
99 Phorate	75	12.448	12.448	0.000	95	472796	7.50	7.43	
98 cis-Diallate	86	12.448	12.448	0.000	86	249807	5.55	5.67	
100 Phenacetin	108	12.477	12.477	0.000	92	363869	7.50	8.01	
101 4-Bromophenyl phenyl ether	248	12.512	12.512	0.000	67	184529	7.50	8.03	
103 Hexachlorobenzene	284	12.547	12.547	0.000	91	183533	7.50	7.74	
102 trans-Diallate	86	12.541	12.541	0.000	93	85780	1.95	2.03	
104 Dimethoate	87	12.629	12.629	0.000	96	308515	7.50	8.86	
105 Atrazine	200	12.740	12.740	0.000	94	166839	7.50	7.68	
106 Pentachlorophenol	266	12.792	12.792	0.000	91	132195	7.50	8.21	
107 Pentachloronitrobenzene	237	12.804	12.804	0.000	84	86213	7.50	7.96	
108 4-Aminobiphenyl	169	12.810	12.810	0.000	90	525498	7.50	8.32	
109 Pronamide	173	12.920	12.920	0.000	91	294719	7.50	7.99	
* 110 Phenanthrene-d10	188	13.002	13.002	0.000	98	540367	5.00	5.00	
112 Phenanthrene	178	13.031	13.031	0.000	99	933995	7.50	7.48	
111 Dinoseb	211	13.043	13.043	0.000	96	166533	7.50	7.59	
113 Anthracene	178	13.095	13.095	0.000	98	963993	7.50	8.07	
114 Carbazole	167	13.311	13.311	0.000	96	847133	7.50	7.80	
115 Methyl parathion	109	13.515	13.515	0.000	91	243301	7.50	8.29	
116 Di-n-butyl phthalate	149	13.818	13.818	0.000	100	1106429	7.50	7.94	
117 Ethyl Parathion	109	14.034	14.034	0.000	83	155026	7.50	7.80	
118 4-Nitroquinoline-1-oxide	190	14.028	14.028	0.000	84	63923	7.50	8.22	
119 Octachlorostyrene	308	14.348	14.348	0.000	91	75643	7.50	8.21	
120 Isodrin	193	14.377	14.377	0.000	91	109228	7.50	7.61	
121 Fluoranthene	202	14.587	14.587	0.000	98	1057492	7.50	8.38	
122 Benzidine	184	14.832	14.832	0.000	99	2116254	22.5	22.3	
* 123 Pyrene-d10 (IS)	212	14.885	14.885	0.000	99	557416	5.00	5.00	
124 Pyrene	202	14.914	14.914	0.000	97	1105779	7.50	7.48	
$ 125 p-Terphenyl-d14	244	15.205	15.205	0.000	98	1629650	15.0	15.2	
126 p-Dimethylamino azobenzene	225	15.432	15.432	0.000	90	192242	7.50	7.72	
127 Chlorobenzilate	139	15.526	15.526	0.000	89	329173	7.50	8.62	
128 3,3'-Dimethylbenzidine	212	15.974	15.974	0.000	99	703638	7.50	7.49	
129 Butyl benzyl phthalate	149	16.050	16.050	0.000	95	501703	7.50	7.98	
130 2-Acetylaminofluorene	181	16.382	16.382	0.000	95	407061	7.50	7.74	
132 Benzo[a]anthracene	228	16.860	16.860	0.000	99	980376	7.50	7.02	
131 3,3'-Dichlorobenzidine	252	16.872	16.872	0.000	75	390401	7.50	7.32	
133 4,4'-Methylene bis(2-chloroanil	231	16.895	16.895	0.000	95	199015	7.50	7.92	
134 Chrysene	228	16.919	16.919	0.000	97	1032149	7.50	8.11	
135 Bis(2-ethylhexyl) phthalate	149	17.105	17.105	0.000	97	681039	7.50	8.03	
136 6-Methylchrysene	242	17.706	17.706	0.000	99	700033	7.50	7.83	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
137 Di-n-octyl phthalate	149	18.253	18.253	0.000	99	1140893	7.50	7.57	
138 Benzo[b]fluoranthene	252	18.679	18.679	0.000	97	1012447	7.50	6.71	
139 7,12-Dimethylbenz(a)anthracene	256	18.691	18.691	0.000	91	477966	7.50	6.84	
140 Benzo[k]fluoranthene	252	18.726	18.726	0.000	99	1070994	7.50	7.78	
141 Benzo[a]pyrene	252	19.192	19.192	0.000	77	942621	7.50	6.71	
* 142 Perylene-d12	264	19.285	19.285	0.000	98	535619	5.00	5.00	
143 3-Methylcholanthrene	268	19.769	19.769	0.000	92	448375	7.50	6.78	
144 Dibenz[a,h]acridine	279	20.567	20.567	0.000	91	587845	7.50	7.02	
145 Dibenz[a,j]acridine	279	20.643	20.643	0.000	96	654781	7.50	6.76	
146 Indeno[1,2,3-cd]pyrene	276	20.871	20.871	0.000	99	697277	7.50	6.09	
147 Dibenz(a,h)anthracene	278	20.917	20.917	0.000	93	768751	7.50	6.10	
148 Benzo[g,h,i]perylene	276	21.220	21.220	0.000	98	762513	7.50	6.02	
S 152 Dinitrotoluene	165				0		15.0	15.6	
S 170 Isosafrole	162				0		7.50	7.62	

Reagents:

MSS_RV8270_5_00007 Amount Added: 1.00 Units: mL

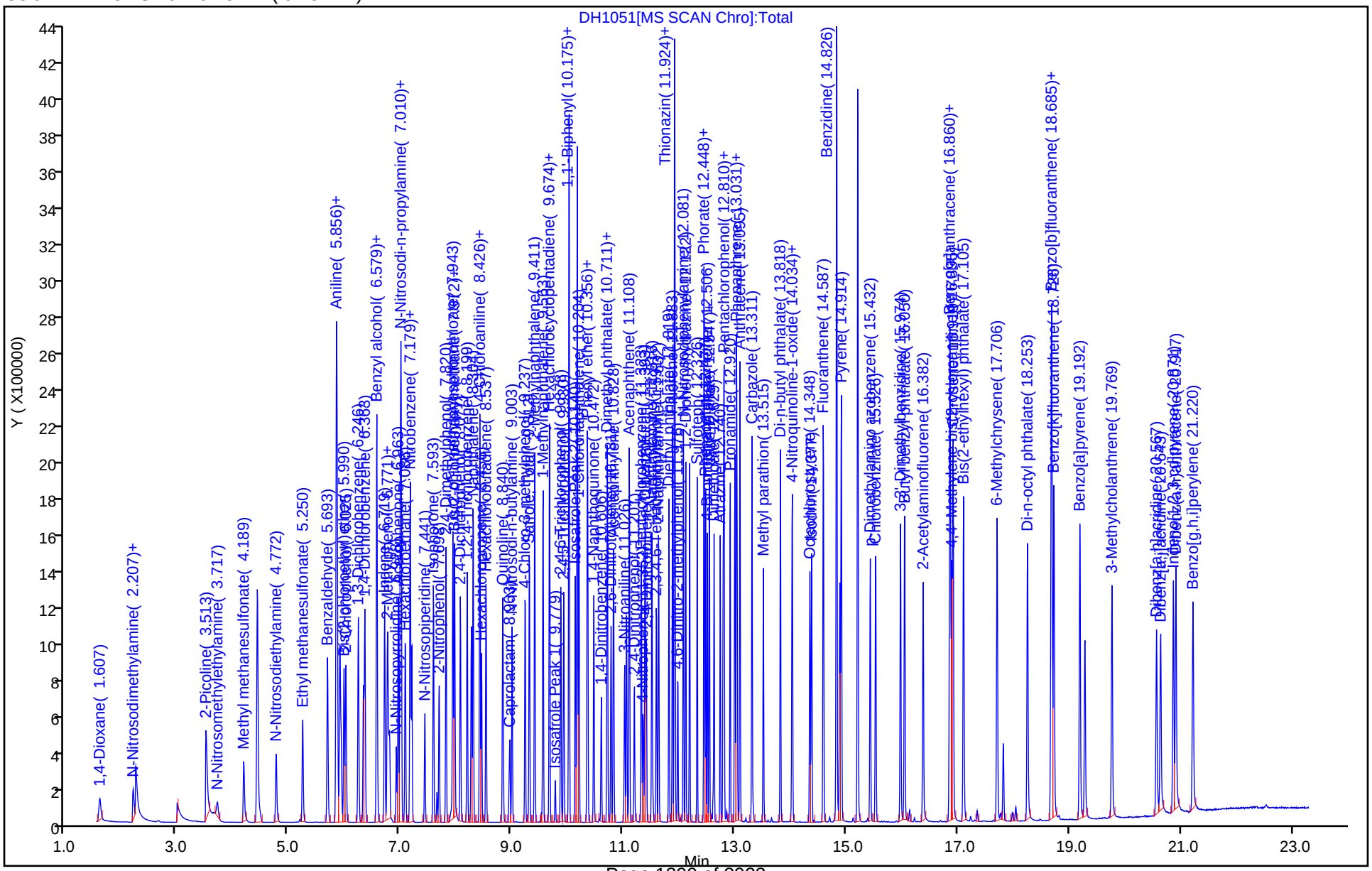
Report Date: 19-Aug-2020 18:02:38 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200819-8418.b\DH1051.D

Injection Date:	19-Aug-2020 08:30:30	Instrument ID:	HP19760	Operator ID:	em10340
Lims ID:	CCVIS L5			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-36695/2 Calibration Date: 08/24/2020 20:52

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DH1401.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.7002	0.7138		7.65	7.50	1.9	20.0
N-Nitrosodimethylamine	Ave	1.034	1.059		7.68	7.50	2.3	20.0
Pyridine	Ave	1.878	1.919		7.66	7.50	2.2	20.0
2-Picoline	Ave	1.851	1.867		7.56	7.50	0.9	20.0
N-Nitrosomethylethylamine	Ave	0.7513	0.8180		8.17	7.50	8.9	20.0
Methyl methanesulfonate	Ave	0.8925	0.9438		7.93	7.50	5.8	20.0
N-Nitrosodiethylamine	Ave	0.7166	0.7643		8.00	7.50	6.7	20.0
Ethyl methanesulfonate	Ave	0.7677	0.7891		7.71	7.50	2.8	20.0
Benzaldehyde	Ave	1.411	1.317	0.0100	7.00	7.50	-6.7	20.0
Aniline	Ave	2.721	2.769		7.63	7.50	1.7	20.0
Phenol	Ave	2.337	2.522	0.8000	8.09	7.50	7.9	20.0
Bis(2-chloroethyl)ether	Ave	1.760	1.832	0.7000	7.81	7.50	4.1	20.0
2-Chlorophenol	Ave	1.434	1.473	0.8000	7.71	7.50	2.7	20.0
1,3-Dichlorobenzene	Ave	1.621	1.587		7.34	7.50	-2.1	20.0
1,4-Dichlorobenzene	Ave	1.645	1.605		7.32	7.50	-2.4	20.0
Benzyl alcohol	Ave	1.025	0.998		7.30	7.50	-2.7	20.0
1,2-Dichlorobenzene	Ave	1.568	1.513		7.24	7.50	-3.5	20.0
Indene	Ave	2.261	2.185		7.25	7.50	-3.4	20.0
2-Methylphenol	Ave	1.394	1.466	0.7000	7.89	7.50	5.1	20.0
2,2'-oxybis[1-chloropropane]	Ave	1.390	1.335	0.0100	7.20	7.50	-3.9	20.0
N-Nitrosopyrrolidine	Ave	0.7126	0.8236		8.67	7.50	15.6	20.0
Acetophenone	Ave	2.106	2.067	0.0100	7.36	7.50	-1.8	20.0
N-Nitrosodi-n-propylamine	Ave	1.211	1.334	0.5000	8.26	7.50	10.1	20.0
N-Nitrosomorpholine	Ave	0.8436	0.8257		7.34	7.50	-2.1	20.0
4-Methylphenol	Ave	1.681	1.738	0.6000	7.75	7.50	3.4	20.0
o-Toluidine	Ave	2.491	2.545		7.66	7.50	2.2	20.0
Hexachloroethane	Ave	0.7449	0.7322	0.3000	7.37	7.50	-1.7	20.0
Nitrobenzene	Ave	0.4925	0.5269	0.2000	8.02	7.50	7.0	20.0
N-Nitrosopiperidine	Ave	0.1865	0.2024		8.14	7.50	8.6	20.0
Isophorone	Ave	0.8397	0.9109	0.4000	8.14	7.50	8.5	20.0
2-Nitrophenol	Ave	0.1872	0.2003	0.1000	8.02	7.50	7.0	20.0
2,4-Dimethylphenol	Ave	0.4052	0.4362	0.2000	8.07	7.50	7.6	20.0
o,o',o''-Triethylphosphorothioate	Ave	0.1869	0.1928		7.74	7.50	3.2	20.0
Bis(2-chloroethoxy)methane	Ave	0.5324	0.5722	0.3000	8.06	7.50	7.5	20.0
Benzoic acid	Ave	0.2187	0.2511		11.5	10.0	14.8	20.0
2,4-Dichlorophenol	Ave	0.3066	0.3141	0.2000	7.68	7.50	2.5	20.0
1,2,4-Trichlorobenzene	Ave	0.3435	0.3393		7.41	7.50	-1.2	20.0
Naphthalene	Ave	1.095	1.089	0.7000	7.45	7.50	-0.6	20.0
4-Chloroaniline	Ave	0.4382	0.4510	0.0100	7.72	7.50	2.9	20.0
2,6-Dichlorophenol	Ave	0.2982	0.3069		7.72	7.50	2.9	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-36695/2 Calibration Date: 08/24/2020 20:52

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DH1401.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Hexachloropropene	Ave	0.2069	0.2157		7.82	7.50	4.3	20.0
Hexachlorobutadiene	Ave	0.1954	0.2000	0.0100	7.68	7.50	2.4	20.0
Quinoline	Ave	0.6687	0.6629		7.43	7.50	-0.9	20.0
Caprolactam	Ave	0.1138	0.1132	0.0100	7.46	7.50	-0.5	20.0
N-Nitrosodi-n-butylamine	Qua		0.3184		8.27	7.50	10.2	20.0
4-Chloro-3-methylphenol	Ave	0.3206	0.3602	0.2000	8.43	7.50	12.3	20.0
Safrole, Total	Ave	0.2795	0.2868		7.70	7.50	2.6	20.0
2-Methylnaphthalene	Ave	0.6830	0.7269	0.4000	7.98	7.50	6.4	20.0
1-Methylnaphthalene	Ave	0.6466	0.6803		7.89	7.50	5.2	20.0
1,2,4,5-Tetrachlorobenzene	Ave	0.7054	0.6873	0.0100	7.31	7.50	-2.6	20.0
Hexachlorocyclopentadiene	Ave	0.3881	0.3590	0.0500	6.94	7.50	-7.5	20.0
Isosafrole Peak 1	Ave	0.5859	0.5618		1.15	1.20	-4.1	20.0
2,4,6-Trichlorophenol	Ave	0.4344	0.4451	0.2000	7.68	7.50	2.5	20.0
2,4,5-Trichlorophenol	Ave	0.4621	0.4836	0.2000	7.85	7.50	4.7	20.0
Isosafrole Peak 2	Ave	0.6644	0.6485		6.15	6.30	-2.4	20.0
1,1'-Biphenyl	Ave	1.711	1.561	0.0100	6.84	7.50	-8.8	20.0
2-Chloronaphthalene	Ave	1.460	1.421	0.8000	7.30	7.50	-2.7	20.0
1-Chloronaphthalene	Ave	1.260	1.239		7.38	7.50	-1.6	20.0
Diphenyl ether	Ave	0.9503	0.9563		7.55	7.50	0.6	20.0
2-Nitroaniline	Lin1		0.4393	0.0100	7.51	7.50	0.1	20.0
1,4-Naphthoquinone	Ave	0.5452	0.5218		7.18	7.50	-4.3	20.0
1,4-Dinitrobenzene	Ave	0.2049	0.2253		8.25	7.50	10.0	20.0
Dimethyl phthalate	Ave	1.523	1.509	0.0100	7.43	7.50	-0.9	20.0
1,3-Dinitrobenzene	Ave	0.2440	0.2607		8.01	7.50	6.8	20.0
2,6-Dinitrotoluene	Lin1		0.3579	0.2000	7.53	7.50	0.4	20.0
Acenaphthylene	Ave	1.817	1.841	0.9000	7.60	7.50	1.4	20.0
3-Nitroaniline	Lin1		0.3550	0.0100	7.18	7.50	-4.3	20.0
Acenaphthene	Ave	1.377	1.351	0.9000	7.36	7.50	-1.8	20.0
2,4-Dinitrophenol	Ave	0.2103	0.2225	0.0100	10.6	10.0	5.8	20.0
Pentachlorobenzene	Ave	0.5540	0.5622		7.61	7.50	1.5	20.0
4-Nitrophenol	Ave	0.3096	0.2684	0.0100	6.50	7.50	-13.3	20.0
Dibenzofuran	Ave	1.843	1.819	0.8000	7.40	7.50	-1.3	20.0
2,4-Dinitrotoluene	Ave	0.4432	0.4719	0.2000	7.99	7.50	6.5	20.0
1-Naphthylamine	Ave	1.360	1.313		7.24	7.50	-3.4	20.0
2,3,4,6-Tetrachlorophenol	Ave	0.3485	0.3681	0.0100	7.92	7.50	5.6	20.0
2-Naphthylamine	Ave	1.368	1.318		7.23	7.50	-3.7	20.0
Diethyl phthalate	Ave	1.473	1.501	0.0100	7.64	7.50	1.9	20.0
Fluorene	Ave	1.443	1.531	0.9000	7.95	7.50	6.1	20.0
4-Chlorophenyl-phenyl ether	Ave	0.7612	0.7847	0.4000	7.73	7.50	3.1	20.0
5-Nitro-o-toluidine	Lin1		0.4303		7.09	7.50	-5.5	20.0
Thionazin	Ave	0.3008	0.3148		7.85	7.50	4.6	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-36695/2 Calibration Date: 08/24/2020 20:52

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DH1401.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
4-Nitroaniline	Lin1		0.4035	0.0100	7.45	7.50	-0.7	20.0
4,6-Dinitro-2-methylphenol	Ave	0.1478	0.1569	0.0100	7.96	7.50	6.2	20.0
N-Nitrosodiphenylamine	Ave	0.6814	0.6992	0.0100	7.70	7.50	2.6	20.0
1,2-Diphenylhydrazine	Ave	1.049	1.044		7.46	7.50	-0.5	20.0
Sulfotepp	Ave	0.1630	0.1651		7.60	7.50	1.3	20.0
cis-Diallate	Ave	0.4078	0.4183		5.69	5.55	2.6	20.0
Phorate	Lin1		0.5851		7.45	7.50	-0.6	20.0
Phenacetin	Ave	0.4204	0.4346		7.75	7.50	3.4	20.0
4-Bromophenyl-phenylether	Ave	0.2128	0.2312	0.1000	8.15	7.50	8.7	20.0
trans-Diallate	Ave	0.3916	0.4167		2.08	1.95	6.4	20.0
Hexachlorobenzene	Ave	0.2195	0.2305	0.1000	7.87	7.50	5.0	20.0
Dimethoate	Ave	0.3223	0.3772		8.78	7.50	17.0	20.0
Atrazine	Ave	0.2010	0.2048	0.0100	7.64	7.50	1.9	20.0
Pentachlorophenol	Ave	0.1490	0.1647	0.0500	8.29	7.50	10.5	20.0
Pentachloronitrobenzene	Ave	0.1002	0.1085		8.12	7.50	8.2	20.0
4-Aminobiphenyl	Ave	0.5846	0.6351		8.15	7.50	8.6	20.0
Pronamide	Ave	0.3415	0.3549		7.79	7.50	3.9	20.0
Phenanthrene	Ave	1.155	1.155	0.7000	7.50	7.50	0.0	20.0
Dinoseb	Lin1		0.2101		7.74	7.50	3.2	20.0
Anthracene	Ave	1.106	1.191	0.7000	8.08	7.50	7.7	20.0
Carbazole	Ave	1.005	1.060	0.0100	7.91	7.50	5.5	20.0
Methyl parathion	Lin		0.2994		8.27	7.50	10.3	20.0
Di-n-butyl phthalate	Ave	1.290	1.359	0.0100	7.90	7.50	5.4	20.0
4-Nitroquinoline-1-oxide	Lin		0.0900		8.84	7.50	17.8	20.0
Parathion	Lin1		0.1943		7.91	7.50	5.5	20.0
Octachlorostyrene	Ave	0.0853	0.0960		8.44	7.50	12.5	20.0
Isodrin	Ave	0.1328	0.1409		7.96	7.50	6.1	20.0
Fluoranthene	Ave	1.167	1.309	0.6000	8.41	7.50	12.2	20.0
Benzidine	Ave	0.8515	0.8530		22.5	22.5	0.2	20.0
Pyrene	Ave	1.326	1.323	0.6000	7.49	7.50	-0.2	20.0
p-Dimethylamino azobenzene	Lin		0.2288		7.68	7.50	2.5	20.0
Chlorobenzilate	Ave	0.3423	0.3837		8.41	7.50	12.1	20.0
3,3'-Dimethylbenzidine	Lin1		0.8331		7.42	7.50	-1.0	20.0
Butylbenzylphthalate	Ave	0.5641	0.5852	0.0100	7.78	7.50	3.7	20.0
2-Acetylaminofluorene	Lin1		0.4427		7.14	7.50	-4.8	20.0
Benzo[a]anthracene	Lin1		1.164	0.8000	6.96	7.50	-7.1	20.0
3,3'-Dichlorobenzidine	Lin1		0.4548	0.0100	7.15	7.50	-4.6	20.0
4,4'-Methylene bis(2-chloroaniline)	Ave	0.2253	0.2309			7.50	2.5	20.0
Chrysene	Ave	1.142	1.264	0.7000	8.30	7.50	10.7	20.0
Bis(2-ethylhexyl) phthalate	Ave	0.7606	0.7769	0.0100	7.66	7.50	2.1	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-36695/2 Calibration Date: 08/24/2020 20:52

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DH1401.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
6-Methylchrysene	Ave	0.8018	0.8387		7.85	7.50	4.6	20.0
Di-n-octyl phthalate	Lin		1.329	0.0100	7.15	7.50	-4.7	20.0
Benzo[b]fluoranthene	Lin1		1.268	0.7000	6.75	7.50	-10.0	20.0
7,12-Dimethylbenz(a)anthracene	Lin1		0.5927		6.82	7.50	-9.1	20.0
Benzo[k]fluoranthene	Ave	1.284	1.357	0.7000	7.93	7.50	5.7	20.0
Benzo[a]pyrene	Lin1		1.213	0.7000	6.94	7.50	-7.5	20.0
3-Methylcholanthrene	Lin1		0.5539		6.73	7.50	-10.2	20.0
Dibenz[a,h]acridine	Ave	0.7821	0.7611		7.30	7.50	-2.7	20.0
Dibenz[a,j]acridine	Ave	0.9047	0.8726		7.23	7.50	-3.5	20.0
Indeno[1,2,3-cd]pyrene	Lin1		0.9404	0.5000	6.59	7.50	-12.1	20.0
Dibenz(a,h)anthracene	Lin1		1.024	0.4000	6.52	7.50	-13.1	20.0
Benzo[g,h,i]perylene	Lin1		1.064	0.5000	6.74	7.50	-10.1	20.0
2-Fluorophenol (Surr)	Ave	1.565	1.544		14.8	15.0	-1.3	20.0
Phenol-d5 (Surr)	Ave	1.984	1.996		15.1	15.0	0.6	20.0
Nitrobenzene-d5 (Surr)	Ave	0.4895	0.5105		15.6	15.0	4.3	20.0
2-Fluorobiphenyl (Surr)	Ave	1.643	1.609		14.7	15.0	-2.1	20.0
2,4,6-Tribromophenol (Surr)	Ave	0.1857	0.2022		16.3	15.0	8.9	20.0
p-Terphenyl-d14 (Surr)	Ave	0.9591	0.9837		15.4	15.0	2.6	20.0

Report Date: 25-Aug-2020 13:51:16 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1401.D
Lims ID: CCVIS L5
Client ID:
Sample Type: CCVIS
Inject. Date: 24-Aug-2020 20:52:30 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS L5
Misc. Info.: 410-0008846-002
Operator ID: sw30417 Instrument ID: HP19760
Sublist: chrom-MSSemi_HP19760*sub5

Method: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 25-Aug-2020 13:51:14 Calib Date: 25-Aug-2020 02:23:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1408.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1066

First Level Reviewer: williamss Date: 24-Aug-2020 21:36:18

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.503	1.503	0.000	87	168077	7.50	7.65	
2 N-Nitrosodimethylamine	74	2.092	2.092	0.000	86	249226	7.50	7.68	
3 Pyridine	79	2.145	2.145	0.000	91	451756	7.50	7.66	
4 2-Picoline	93	3.427	3.427	0.000	90	439605	7.50	7.56	
5 N-Nitrosomethylethylamine	88	3.631	3.631	0.000	79	192589	7.50	8.17	M
7 Methyl methanesulfonate	80	4.109	4.109	0.000	85	222226	7.50	7.93	
$ 8 2-Fluorophenol	112	4.359	4.359	0.000	92	726972	15.0	14.8	
9 N-Nitrosodiethylamine	102	4.698	4.698	0.000	82	179965	7.50	8.00	
10 Ethyl methanesulfonate	109	5.175	5.175	0.000	97	185803	7.50	7.71	
12 Benzaldehyde	77	5.618	5.618	0.000	95	310028	7.50	7.00	
$ 13 Phenol-d5	99	5.782	5.782	0.000	96	939991	15.0	15.1	
15 Aniline	93	5.787	5.787	0.000	87	651890	7.50	7.63	
14 Phenol	94	5.799	5.799	0.000	89	593738	7.50	8.09	
16 Bis(2-chloroethyl)ether	93	5.916	5.916	0.000	98	431435	7.50	7.81	
17 2-Chlorophenol	128	5.951	5.951	0.000	94	346842	7.50	7.71	
18 1,3-Dichlorobenzene	146	6.172	6.172	0.000	93	373669	7.50	7.34	
* 19 1,4-Dichlorobenzene-d4	152	6.265	6.265	0.000	95	156968	5.00	5.00	
20 1,4-Dichlorobenzene	146	6.295	6.295	0.000	91	377908	7.50	7.32	
21 Benzyl alcohol	108	6.504	6.504	0.000	82	234937	7.50	7.30	
22 1,2-Dichlorobenzene	146	6.510	6.510	0.000	91	356334	7.50	7.24	
24 Indene	115	6.644	6.644	0.000	87	514504	7.50	7.25	
23 2-Methylphenol	108	6.703	6.703	0.000	94	345062	7.50	7.89	
25 2,2'-oxybis[1-chloropropane]	45	6.732	6.732	0.000	88	314398	7.50	7.20	
26 N-Nitrosopyrrolidine	100	6.860	6.860	0.000	89	193930	7.50	8.67	
27 Acetophenone	105	6.895	6.895	0.000	93	486694	7.50	7.36	
29 N-Nitrosodi-n-propylamine	70	6.924	6.924	0.000	76	314053	7.50	8.26	
30 N-Nitrosomorpholine	56	6.930	6.930	0.000	87	194401	7.50	7.34	
28 4-Methylphenol	108	6.942	6.942	0.000	84	409127	7.50	7.75	
31 2-Toluidine	106	6.942	6.942	0.000	80	599157	7.50	7.66	
32 Hexachloroethane	117	7.017	7.017	0.000	96	172396	7.50	7.37	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 33 Nitrobenzene-d5	82	7.111	7.111	0.000	85	905573	15.0	15.6	
34 Nitrobenzene	77	7.134	7.134	0.000	82	467316	7.50	8.02	
35 N-Nitrosopiperidine	114	7.373	7.373	0.000	89	179548	7.50	8.14	
36 Isophorone	82	7.524	7.524	0.000	96	807906	7.50	8.14	
37 2-Nitrophenol	139	7.623	7.623	0.000	91	177657	7.50	8.02	
38 2,4-Dimethylphenol	107	7.752	7.752	0.000	97	386851	7.50	8.07	
39 o,o',o''-Triethylphosphorothioat	198	7.874	7.874	0.000	89	170957	7.50	7.74	
41 Bis(2-chloroethoxy)methane	93	7.903	7.903	0.000	98	507497	7.50	8.06	
40 Benzoic acid	105	7.921	7.921	0.000	84	296879	10.0	11.5	
42 2,4-Dichlorophenol	162	8.008	8.008	0.000	96	278608	7.50	7.68	
43 1,2,4-Trichlorobenzene	180	8.131	8.131	0.000	92	300951	7.50	7.41	
* 44 Naphthalene-d8	136	8.201	8.201	0.000	99	591273	5.00	5.00	
45 Naphthalene	128	8.235	8.235	0.000	98	965612	7.50	7.45	
46 4-Chloroaniline	127	8.352	8.352	0.000	93	399966	7.50	7.72	
47 2,6-Dichlorophenol	162	8.358	8.358	0.000	89	272173	7.50	7.72	
48 Hexachloropropene	213	8.387	8.387	0.000	89	191317	7.50	7.82	
49 Hexachlorobutadiene	225	8.469	8.469	0.000	97	177403	7.50	7.68	
50 Quinoline	129	8.766	8.766	0.000	95	587900	7.50	7.43	
52 Caprolactam	113	8.900	8.900	0.000	90	100375	7.50	7.46	
53 N-Nitrosodi-n-butylamine	84	8.935	8.935	0.000	86	282372	7.50	8.27	
54 4-Chloro-3-methylphenol	107	9.168	9.168	0.000	91	319429	7.50	8.43	
55 Safrole, Total	162	9.244	9.244	0.000	85	254397	7.50	7.70	
56 2-Methylnaphthalene	142	9.337	9.337	0.000	91	644729	7.50	7.98	
57 1-Methylnaphthalene	142	9.489	9.489	0.000	92	603345	7.50	7.89	
58 Hexachlorocyclopentadiene	237	9.605	9.605	0.000	97	164830	7.50	6.94	
59 1,2,4,5-Tetrachlorobenzene	216	9.605	9.605	0.000	98	315530	7.50	7.31	
S 51 Diallate	86				0		7.50	7.77	
60 Isosafrole Peak 1	162	9.710	9.710	0.000	85	41270	1.20	1.15	
61 2,4,6-Trichlorophenol	196	9.809	9.809	0.000	94	204337	7.50	7.68	
62 2,4,5-Trichlorophenol	196	9.862	9.862	0.000	92	222021	7.50	7.85	
$ 63 2-Fluorobiphenyl (Surr)	172	9.955	9.955	0.000	100	1477074	15.0	14.7	
64 Isosafrole Peak 2	162	10.072	10.072	0.000	87	250088	6.30	6.15	
65 1,1'-Biphenyl	154	10.101	10.101	0.000	95	716475	7.50	6.84	
66 2-Chloronaphthalene	162	10.101	10.101	0.000	92	652350	7.50	7.30	
67 1-Chloronaphthalene	162	10.130	10.130	0.000	98	569064	7.50	7.38	
68 Phenyl ether	170	10.287	10.287	0.000	85	439056	7.50	7.55	
69 2-Nitroaniline	138	10.293	10.293	0.000	77	201702	7.50	7.51	
70 1,4-Naphthoquinone	158	10.398	10.398	0.000	80	239579	7.50	7.18	
71 1,4-Dinitrobenzene	168	10.538	10.538	0.000	83	103450	7.50	8.25	
72 Dimethyl phthalate	163	10.643	10.643	0.000	96	693001	7.50	7.43	
73 1,3-Dinitrobenzene	168	10.649	10.649	0.000	76	119710	7.50	8.01	
74 2,6-Dinitrotoluene	165	10.713	10.713	0.000	89	164318	7.50	7.53	
75 Acenaphthylene	152	10.753	10.753	0.000	99	845392	7.50	7.60	
76 3-Nitroaniline	138	10.952	10.952	0.000	89	162998	7.50	7.18	
* 77 Acenaphthene-d10	164	10.987	10.987	0.000	97	306072	5.00	5.00	
78 Acenaphthene	153	11.039	11.039	0.000	96	620469	7.50	7.36	
79 2,4-Dinitrophenol	184	11.132	11.132	0.000	86	136189	10.0	10.6	
81 Pentachlorobenzene	250	11.255	11.255	0.000	97	258113	7.50	7.61	
80 4-Nitrophenol	109	11.284	11.284	0.000	83	123232	7.50	6.50	
83 Dibenzofuran	168	11.319	11.319	0.000	96	835060	7.50	7.40	
82 2,4-Dinitrotoluene	165	11.348	11.348	0.000	88	216638	7.50	7.99	
84 1-Naphthylamine	143	11.447	11.447	0.000	97	603005	7.50	7.24	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
85 2,3,4,6-Tetrachlorophenol	232	11.529	11.529	0.000	75	168998	7.50	7.92	
86 2-Naphthylamine	143	11.569	11.569	0.000	94	605060	7.50	7.23	
87 Diethyl phthalate	149	11.762	11.762	0.000	97	688987	7.50	7.64	
89 Fluorene	166	11.820	11.820	0.000	95	702843	7.50	7.95	
90 N-Nitro-o-toluidine	152	11.861	11.861	0.000	78	197563	7.50	7.09	
91 4-Chlorophenyl phenyl ether	204	11.861	11.861	0.000	86	360255	7.50	7.73	
88 Thionazin	107	11.861	11.861	0.000	78	144512	7.50	7.85	
92 4-Nitroaniline	138	11.873	11.873	0.000	80	185257	7.50	7.45	
93 4,6-Dinitro-2-methylphenol	198	11.925	11.925	0.000	85	138835	7.50	7.96	
94 N-Nitrosodiphenylamine	169	12.018	12.018	0.000	60	618636	7.50	7.70	
95 1,2-Diphenylhydrazine	77	12.065	12.065	0.000	96	924101	7.50	7.46	
$ 96 2,4,6-Tribromophenol	330	12.135	12.135	0.000	90	185687	15.0	16.3	
97 Sulfotepp	97	12.275	12.275	0.000	81	146082	7.50	7.60	
98 cis-Diallate	86	12.391	12.391	0.000	89	273870	5.55	5.69	
99 Phorate	75	12.397	12.397	0.000	95	517717	7.50	7.45	
100 Phenacetin	108	12.426	12.426	0.000	92	384557	7.50	7.75	
101 4-Bromophenyl phenyl ether	248	12.455	12.455	0.000	67	204561	7.50	8.15	
102 trans-Diallate	86	12.485	12.485	0.000	92	95865	1.95	2.08	
103 Hexachlorobenzene	284	12.490	12.490	0.000	92	203927	7.50	7.87	
104 Dimethoate	87	12.572	12.572	0.000	95	333797	7.50	8.78	
105 Atrazine	200	12.689	12.689	0.000	95	181247	7.50	7.64	
106 Pentachlorophenol	266	12.735	12.735	0.000	91	145719	7.50	8.29	
107 Pentachloronitrobenzene	237	12.747	12.747	0.000	84	95993	7.50	8.12	
108 4-Aminobiphenyl	169	12.753	12.753	0.000	89	561948	7.50	8.15	
109 Pronamide	173	12.863	12.863	0.000	91	314039	7.50	7.79	
* 110 Phenanthrene-d10	188	12.945	12.945	0.000	98	589887	5.00	5.00	
112 Phenanthrene	178	12.974	12.974	0.000	99	1022306	7.50	7.50	
111 Dinoseb	211	12.986	12.986	0.000	95	185874	7.50	7.74	
113 Anthracene	178	13.032	13.032	0.000	98	1053473	7.50	8.08	
114 Carbazole	167	13.248	13.248	0.000	96	938097	7.50	7.91	
115 Methyl parathion	109	13.452	13.452	0.000	91	264951	7.50	8.27	
116 Di-n-butyl phthalate	149	13.755	13.755	0.000	100	1202555	7.50	7.90	
118 4-Nitroquinoline-1-oxide	190	13.959	13.959	0.000	81	79646	7.50	8.84	
117 Ethyl Parathion	109	13.965	13.965	0.000	84	171965	7.50	7.91	
119 Octachlorostyrene	308	14.280	14.280	0.000	91	84918	7.50	8.44	
120 Isodrin	193	14.309	14.309	0.000	91	124650	7.50	7.96	
121 Fluoranthene	202	14.519	14.519	0.000	98	1158498	7.50	8.41	
122 Benzidine	184	14.758	14.758	0.000	99	2373838	22.5	22.5	
* 123 Pyrene-d10 (IS)	212	14.810	14.810	0.000	98	618400	5.00	5.00	
124 Pyrene	202	14.839	14.839	0.000	97	1227367	7.50	7.49	
$ 125 p-Terphenyl-d14	244	15.131	15.131	0.000	98	1824873	15.0	15.4	
126 p-Dimethylamino azobenzene	225	15.352	15.352	0.000	91	212221	7.50	7.68	
127 Chlorobenzilate	139	15.451	15.451	0.000	89	355958	7.50	8.41	
128 3,3'-Dimethylbenzidine	212	15.894	15.894	0.000	99	772815	7.50	7.42	
129 Butyl benzyl phthalate	149	15.970	15.970	0.000	95	542837	7.50	7.78	
130 2-Acetylaminofluorene	181	16.302	16.302	0.000	94	410659	7.50	7.14	
132 Benzo[a]anthracene	228	16.774	16.774	0.000	99	1079546	7.50	6.96	
131 3,3'-Dichlorobenzidine	252	16.786	16.786	0.000	74	421847	7.50	7.15	
133 4,4'-Methylene bis(2-chloroanil	231	16.809	16.809	0.000	94	214209	7.50	7.69	
134 Chrysene	228	16.833	16.833	0.000	97	1172369	7.50	8.30	
135 Bis(2-ethylhexyl) phthalate	149	17.025	17.025	0.000	97	720619	7.50	7.66	
136 6-Methylchrysene	242	17.620	17.620	0.000	99	777964	7.50	7.85	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
137 Di-n-octyl phthalate	149	18.167	18.167	0.000	99	1151420	7.50	7.15	
138 Benzo[b]fluoranthene	252	18.587	18.587	0.000	97	1098335	7.50	6.75	
139 7,12-Dimethylbenz(a)anthracene	256	18.599	18.599	0.000	92	513500	7.50	6.82	
140 Benzo[k]fluoranthene	252	18.634	18.634	0.000	99	1175727	7.50	7.93	
141 Benzo[a]pyrene	252	19.100	19.100	0.000	77	1050811	7.50	6.94	
* 142 Perylene-d12	264	19.188	19.188	0.000	98	577536	5.00	5.00	
143 3-Methylcholanthrene	268	19.677	19.677	0.000	91	479858	7.50	6.73	
144 Dibenz[a,h]acridine	279	20.476	20.476	0.000	91	659338	7.50	7.30	
145 Dibenz[a,j]acridine	279	20.551	20.551	0.000	96	755948	7.50	7.23	
146 Indeno[1,2,3-cd]pyrene	276	20.779	20.779	0.000	99	814712	7.50	6.59	
147 Dibenz(a,h)anthracene	278	20.825	20.825	0.000	93	887494	7.50	6.52	
148 Benzo[g,h,i]perylene	276	21.134	21.134	0.000	98	922072	7.50	6.74	
S 152 Dinitrotoluene	165				0		15.0	15.5	
S 170 Isosafrole	162				0		7.50	7.30	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MSS_RV8270_5_00007 Amount Added: 1.00 Units: mL

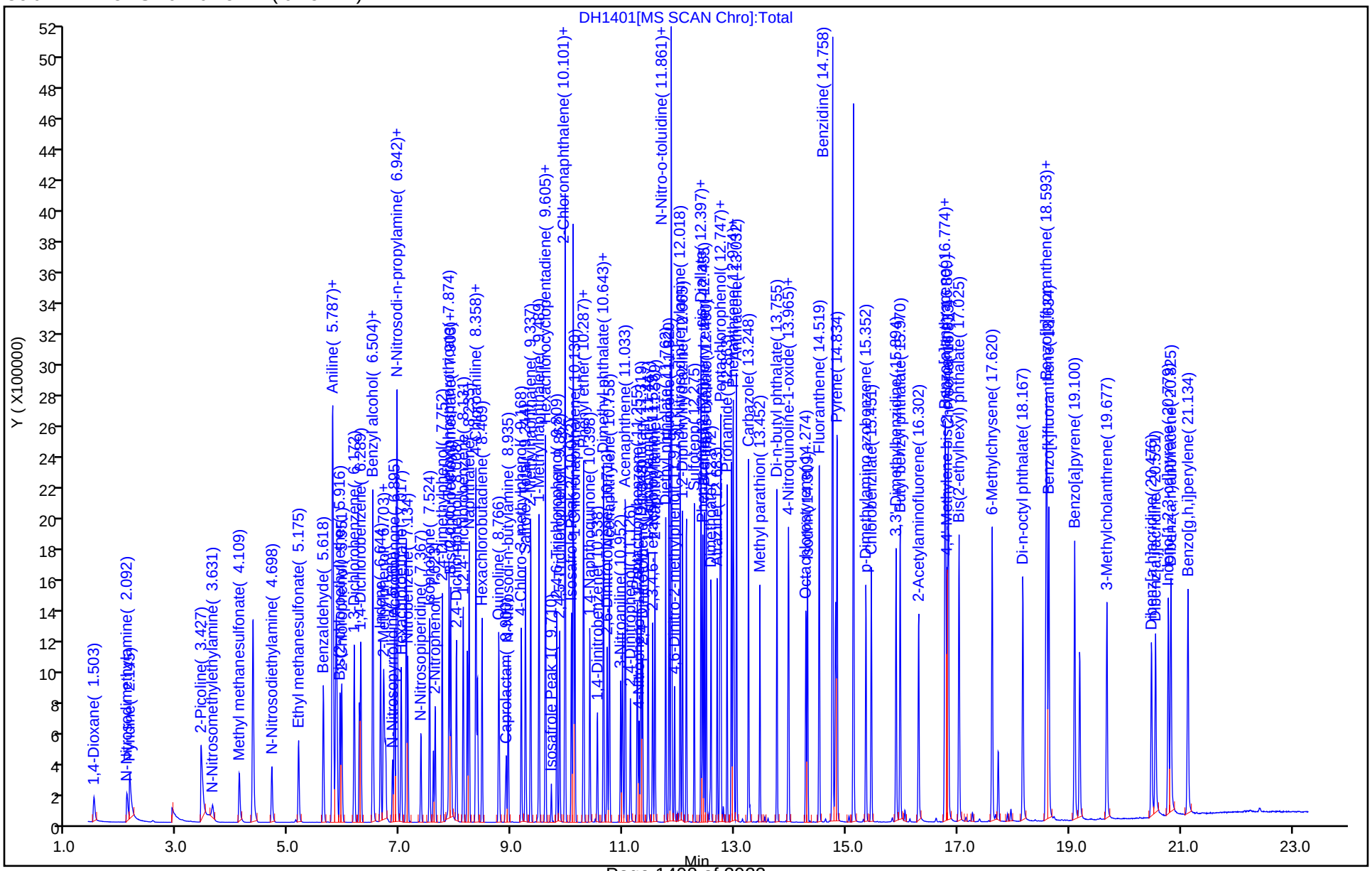
Report Date: 25-Aug-2020 13:51:16 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1401.D

Injection Date:	24-Aug-2020 20:52:30	Instrument ID:	HP19760	Operator ID:	sw30417
Lims ID:	CCVIS L5			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

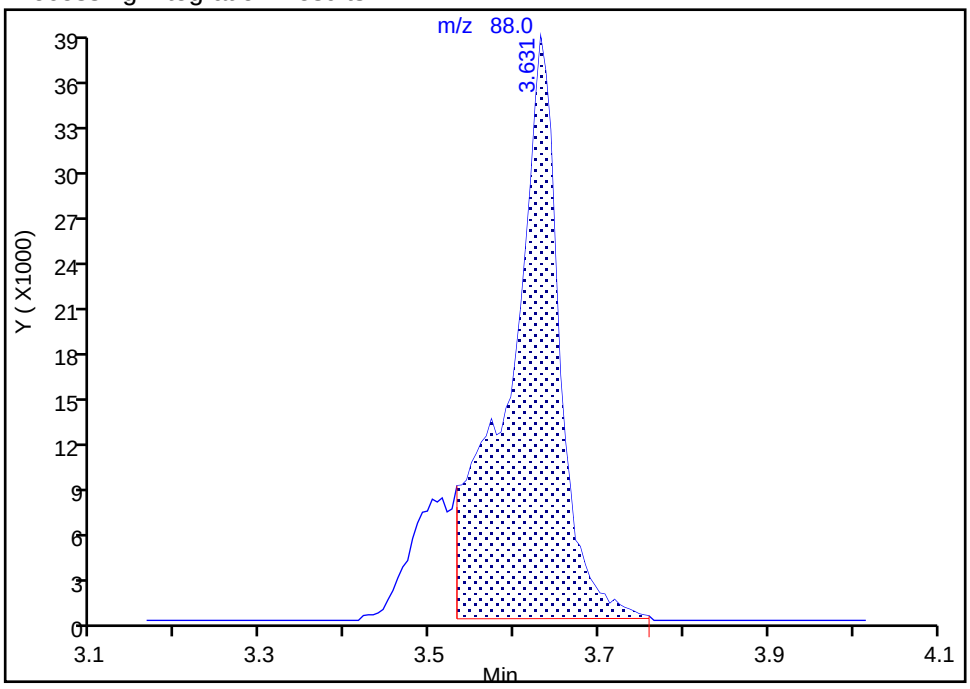
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1401.D				
Injection Date:	24-Aug-2020 20:52:30	Instrument ID:	HP19760		
Lims ID:	CCVIS L5				
Client ID:					
Operator ID:	sw30417	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

5 N-Nitrosomethylethylamine, CAS: 10595-95-6

Signal: 1

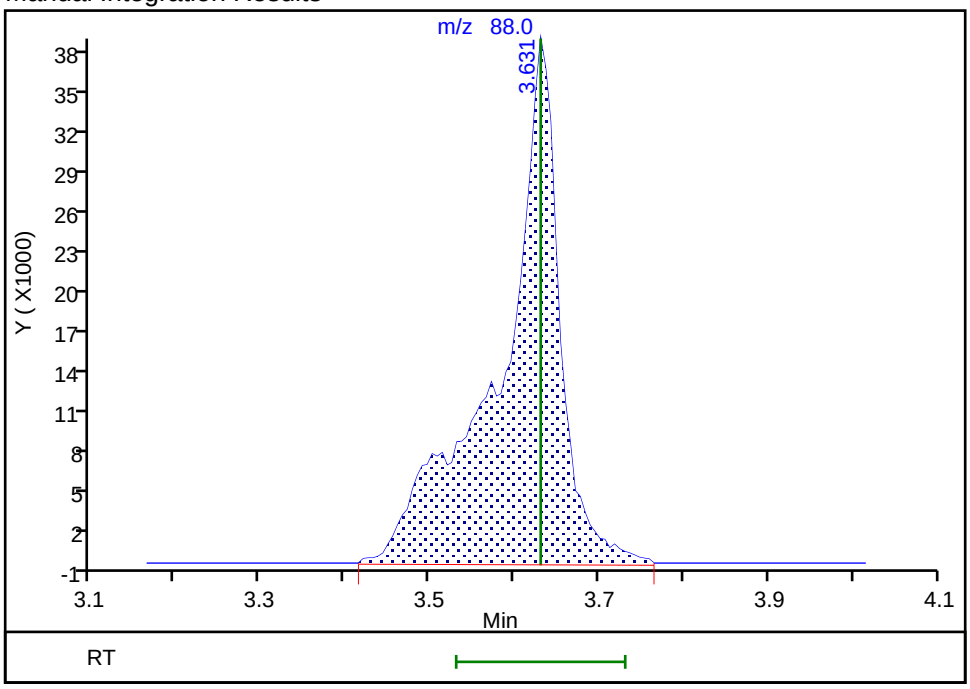
Processing Integration Results

RT: 3.63
Area: 158706
Amount: 6.728607
Amount Units: ug/ml



Manual Integration Results

RT: 3.63
Area: 192589
Amount: 8.165133
Amount Units: ug/ml



Reviewer: williamss, 24-Aug-2020 21:34:35

Audit Action: Manually Integrated Audit Reason: Assign Peak

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-36891/2 Calibration Date: 08/25/2020 09:57

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DH1451.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.7002	0.7241		7.76	7.50	3.4	20.0
N-Nitrosodimethylamine	Ave	1.034	1.109		8.04	7.50	7.3	20.0
Pyridine	Ave	1.878	1.880		7.51	7.50	0.0	20.0
2-Picoline	Ave	1.851	1.881		7.62	7.50	1.6	20.0
N-Nitrosomethylethylamine	Ave	0.7513	0.8317		8.30	7.50	10.7	20.0
Methyl methanesulfonate	Ave	0.8925	0.9335		7.84	7.50	4.6	20.0
N-Nitrosodiethylamine	Ave	0.7166	0.8002		8.37	7.50	11.7	20.0
Ethyl methanesulfonate	Ave	0.7677	0.7966		7.78	7.50	3.8	20.0
Benzaldehyde	Ave	1.411	1.310	0.0100	6.96	7.50	-7.2	20.0
Aniline	Ave	2.721	2.794		7.70	7.50	2.7	20.0
Phenol	Ave	2.337	2.515	0.8000	8.07	7.50	7.6	20.0
Bis(2-chloroethyl)ether	Ave	1.760	1.826	0.7000	7.78	7.50	3.7	20.0
2-Chlorophenol	Ave	1.434	1.477	0.8000	7.72	7.50	3.0	20.0
1,3-Dichlorobenzene	Ave	1.621	1.587		7.35	7.50	-2.1	20.0
1,4-Dichlorobenzene	Ave	1.645	1.595		7.27	7.50	-3.0	20.0
1,2-Dichlorobenzene	Ave	1.568	1.517		7.26	7.50	-3.2	20.0
Benzyl alcohol	Ave	1.025	1.003		7.34	7.50	-2.1	20.0
Indene	Ave	2.261	2.190		7.26	7.50	-3.1	20.0
2-Methylphenol	Ave	1.394	1.466	0.7000	7.89	7.50	5.2	20.0
2,2'-oxybis[1-chloropropane]	Ave	1.390	1.333	0.0100	7.19	7.50	-4.1	20.0
N-Nitrosopyrrolidine	Ave	0.7126	0.8357		8.80	7.50	17.3	20.0
Acetophenone	Ave	2.106	2.053	0.0100	7.31	7.50	-2.5	20.0
N-Nitrosodi-n-propylamine	Ave	1.211	1.311	0.5000	8.12	7.50	8.3	20.0
N-Nitrosomorpholine	Ave	0.8436	0.8014		7.12	7.50	-5.0	20.0
4-Methylphenol	Ave	1.681	1.717	0.6000	7.66	7.50	2.2	20.0
o-Toluidine	Ave	2.491	2.526		7.61	7.50	1.4	20.0
Hexachloroethane	Ave	0.7449	0.7159	0.3000	7.21	7.50	-3.9	20.0
Nitrobenzene	Ave	0.4925	0.5206	0.2000	7.93	7.50	5.7	20.0
N-Nitrosopiperidine	Ave	0.1865	0.2083		8.38	7.50	11.7	20.0
Isophorone	Ave	0.8397	0.9242	0.4000	8.25	7.50	10.1	20.0
2-Nitrophenol	Ave	0.1872	0.2039	0.1000	8.17	7.50	8.9	20.0
2,4-Dimethylphenol	Ave	0.4052	0.4384	0.2000	8.11	7.50	8.2	20.0
o,o',o''-Triethylphosphorothioate	Ave	0.1869	0.1911		7.67	7.50	2.3	20.0
Bis(2-chloroethoxy)methane	Ave	0.5324	0.5693	0.3000	8.02	7.50	6.9	20.0
Benzoic acid	Ave	0.2187	0.2782		12.7	10.0	27.2*	20.0
2,4-Dichlorophenol	Ave	0.3066	0.3172	0.2000	7.76	7.50	3.5	20.0
1,2,4-Trichlorobenzene	Ave	0.3435	0.3373		7.36	7.50	-1.8	20.0
Naphthalene	Ave	1.095	1.087	0.7000	7.44	7.50	-0.8	20.0
4-Chloroaniline	Ave	0.4382	0.4558	0.0100	7.80	7.50	4.0	20.0
2,6-Dichlorophenol	Ave	0.2982	0.3097		7.79	7.50	3.9	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-36891/2 Calibration Date: 08/25/2020 09:57

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DH1451.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Hexachloropropene	Ave	0.2069	0.2161		7.83	7.50	4.5	20.0
Hexachlorobutadiene	Ave	0.1954	0.1948	0.0100	7.48	7.50	-0.3	20.0
Quinoline	Ave	0.6687	0.6823		7.65	7.50	2.0	20.0
Caprolactam	Ave	0.1138	0.1197	0.0100	7.89	7.50	5.2	20.0
N-Nitrosodi-n-butylamine	Qua		0.3133		8.16	7.50	8.8	20.0
4-Chloro-3-methylphenol	Ave	0.3206	0.3594	0.2000	8.41	7.50	12.1	20.0
Safrole, Total	Ave	0.2795	0.2896		7.77	7.50	3.6	20.0
2-Methylnaphthalene	Ave	0.6830	0.7242	0.4000	7.95	7.50	6.0	20.0
1-Methylnaphthalene	Ave	0.6466	0.6812		7.90	7.50	5.3	20.0
1,2,4,5-Tetrachlorobenzene	Ave	0.7054	0.6837	0.0100	7.27	7.50	-3.1	20.0
Hexachlorocyclopentadiene	Ave	0.3881	0.3532	0.0500	6.82	7.50	-9.0	20.0
Isosafrole Peak 1	Ave	0.5859	0.6102		1.25	1.20	4.1	20.0
2,4,6-Trichlorophenol	Ave	0.4344	0.4625	0.2000	7.99	7.50	6.5	20.0
2,4,5-Trichlorophenol	Ave	0.4621	0.4826	0.2000	7.83	7.50	4.4	20.0
Isosafrole Peak 2	Ave	0.6644	0.6624		6.28	6.30	-0.3	20.0
1,1'-Biphenyl	Ave	1.711	1.560	0.0100	6.84	7.50	-8.8	20.0
2-Chloronaphthalene	Ave	1.460	1.422	0.8000	7.30	7.50	-2.6	20.0
1-Chloronaphthalene	Ave	1.260	1.219		7.26	7.50	-3.2	20.0
Diphenyl ether	Ave	0.9503	0.9508		7.50	7.50	0.0	20.0
2-Nitroaniline	Lin1		0.4478	0.0100	7.65	7.50	2.0	20.0
1,4-Naphthoquinone	Ave	0.5452	0.5269		7.25	7.50	-3.4	20.0
1,4-Dinitrobenzene	Ave	0.2049	0.2296		8.40	7.50	12.0	20.0
Dimethyl phthalate	Ave	1.523	1.510	0.0100	7.44	7.50	-0.9	20.0
1,3-Dinitrobenzene	Ave	0.2440	0.2575		7.92	7.50	5.5	20.0
2,6-Dinitrotoluene	Lin1		0.3666	0.2000	7.71	7.50	2.8	20.0
Acenaphthylene	Ave	1.817	1.884	0.9000	7.78	7.50	3.7	20.0
3-Nitroaniline	Lin1		0.3601	0.0100	7.27	7.50	-3.0	20.0
Acenaphthene	Ave	1.377	1.355	0.9000	7.38	7.50	-1.5	20.0
2,4-Dinitrophenol	Ave	0.2103	0.2252	0.0100	10.7	10.0	7.1	20.0
Pentachlorobenzene	Ave	0.5540	0.5680		7.69	7.50	2.5	20.0
4-Nitrophenol	Ave	0.3096	0.2572	0.0100	6.23	7.50	-16.9	20.0
Dibenzofuran	Ave	1.843	1.821	0.8000	7.41	7.50	-1.2	20.0
2,4-Dinitrotoluene	Ave	0.4432	0.4788	0.2000	8.10	7.50	8.0	20.0
1-Naphthylamine	Ave	1.360	1.331		7.34	7.50	-2.1	20.0
2,3,4,6-Tetrachlorophenol	Ave	0.3485	0.3722	0.0100	8.01	7.50	6.8	20.0
2-Naphthylamine	Ave	1.368	1.327		7.28	7.50	-3.0	20.0
Diethyl phthalate	Ave	1.473	1.487	0.0100	7.57	7.50	0.9	20.0
Fluorene	Ave	1.443	1.512	0.9000	7.86	7.50	4.8	20.0
4-Chlorophenyl-phenyl ether	Ave	0.7612	0.7607	0.4000	7.50	7.50	-0.0	20.0
5-Nitro-o-toluidine	Lin1		0.4246		7.00	7.50	-6.7	20.0
Thionazin	Ave	0.3008	0.3130		7.80	7.50	4.0	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-36891/2 Calibration Date: 08/25/2020 09:57

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DH1451.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
4-Nitroaniline	Lin1		0.3831	0.0100	7.08	7.50	-5.6	20.0
4,6-Dinitro-2-methylphenol	Ave	0.1478	0.1575	0.0100	7.99	7.50	6.6	20.0
N-Nitrosodiphenylamine	Ave	0.6814	0.7120	0.0100	7.84	7.50	4.5	20.0
1,2-Diphenylhydrazine	Ave	1.049	1.049		7.49	7.50	-0.0	20.0
Sulfotepp	Ave	0.1630	0.1610		7.41	7.50	-1.2	20.0
cis-Diallate	Ave	0.4078	0.4213		5.73	5.55	3.3	20.0
Phorate	Lin1		0.5962		7.59	7.50	1.2	20.0
Phenacetin	Ave	0.4204	0.4390		7.83	7.50	4.4	20.0
4-Bromophenyl-phenylether	Ave	0.2128	0.2324	0.1000	8.19	7.50	9.2	20.0
trans-Diallate	Ave	0.3916	0.4093		2.04	1.95	4.5	20.0
Hexachlorobenzene	Ave	0.2195	0.2294	0.1000	7.84	7.50	4.5	20.0
Dimethoate	Ave	0.3223	0.3864		8.99	7.50	19.9	20.0
Atrazine	Ave	0.2010	0.2081	0.0100	7.76	7.50	3.5	20.0
Pentachlorophenol	Ave	0.1490	0.1613	0.0500	8.11	7.50	8.2	20.0
Pentachloronitrobenzene	Ave	0.1002	0.1059		7.92	7.50	5.6	20.0
4-Aminobiphenyl	Ave	0.5846	0.6450		8.27	7.50	10.3	20.0
Pronamide	Ave	0.3415	0.3599		7.90	7.50	5.4	20.0
Phenanthrene	Ave	1.155	1.152	0.7000	7.48	7.50	-0.3	20.0
Dinoseb	Lin1		0.2049		7.57	7.50	1.0	20.0
Anthracene	Ave	1.106	1.191	0.7000	8.08	7.50	7.7	20.0
Carbazole	Ave	1.005	1.050	0.0100	7.83	7.50	4.5	20.0
Methyl parathion	Lin		0.3048		8.40	7.50	12.0	20.0
Di-n-butyl phthalate	Ave	1.290	1.355	0.0100	7.88	7.50	5.1	20.0
4-Nitroquinoline-1-oxide	Lin		0.0902		8.85	7.50	17.9	20.0
Parathion	Lin1		0.1931		7.87	7.50	4.9	20.0
Octachlorostyrene	Ave	0.0853	0.0940		8.26	7.50	10.2	20.0
Isodrin	Ave	0.1328	0.1382		7.80	7.50	4.0	20.0
Fluoranthene	Ave	1.167	1.311	0.6000	8.43	7.50	12.4	20.0
Benzidine	Ave	0.8515	0.8454		22.3	22.5	-0.7	20.0
Pyrene	Ave	1.326	1.315	0.6000	7.44	7.50	-0.8	20.0
p-Dimethylamino azobenzene	Lin		0.2332		7.81	7.50	4.1	20.0
Chlorobenzilate	Ave	0.3423	0.3851		8.44	7.50	12.5	20.0
3,3'-Dimethylbenzidine	Lin1		0.8624		7.65	7.50	2.1	20.0
Butylbenzylphthalate	Ave	0.5641	0.5913	0.0100	7.86	7.50	4.8	20.0
2-Acetylaminofluorene	Lin1		0.4946		7.85	7.50	4.6	20.0
Benzo[a]anthracene	Lin1		1.181	0.8000	7.07	7.50	-5.8	20.0
3,3'-Dichlorobenzidine	Lin1		0.4732	0.0100	7.41	7.50	-1.2	20.0
4,4'-Methylene bis(2-chloroaniline)	Ave	0.2253	0.2428			7.50	7.8	20.0
Chrysene	Ave	1.142	1.253	0.7000	8.23	7.50	9.8	20.0
Bis(2-ethylhexyl) phthalate	Ave	0.7606	0.8122	0.0100	8.01	7.50	6.8	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-36891/2 Calibration Date: 08/25/2020 09:57

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DH1451.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
6-Methylchrysene	Ave	0.8018	0.8479		7.93	7.50	5.8	20.0
Di-n-octyl phthalate	Lin		1.382	0.0100	7.39	7.50	-1.4	20.0
Benzo[b]fluoranthene	Lin1		1.238	0.7000	6.60	7.50	-12.0	20.0
7,12-Dimethylbenz(a)anthracene	Lin1		0.5834		6.71	7.50	-10.5	20.0
Benzo[k]fluoranthene	Ave	1.284	1.339	0.7000	7.82	7.50	4.3	20.0
Benzo[a]pyrene	Lin1		1.209	0.7000	6.91	7.50	-7.8	20.0
3-Methylcholanthrene	Lin1		0.5604		6.81	7.50	-9.2	20.0
Dibenz[a,h]acridine	Ave	0.7821	0.7883		7.56	7.50	0.8	20.0
Dibenz[a,j]acridine	Ave	0.9047	0.8940		7.41	7.50	-1.2	20.0
Indeno[1,2,3-cd]pyrene	Lin1		0.9502	0.5000	6.66	7.50	-11.2	20.0
Dibenz(a,h)anthracene	Lin1		1.026	0.4000	6.53	7.50	-13.0	20.0
Benzo[g,h,i]perylene	Lin1		1.032	0.5000	6.54	7.50	-12.8	20.0
2-Fluorophenol (Surr)	Ave	1.565	1.559		14.9	15.0	-0.4	20.0
Phenol-d5 (Surr)	Ave	1.984	2.034		15.4	15.0	2.5	20.0
Nitrobenzene-d5 (Surr)	Ave	0.4895	0.5136		15.7	15.0	4.9	20.0
2-Fluorobiphenyl (Surr)	Ave	1.643	1.593		14.5	15.0	-3.0	20.0
2,4,6-Tribromophenol (Surr)	Ave	0.1857	0.2039		16.5	15.0	9.8	20.0
p-Terphenyl-d14 (Surr)	Ave	0.9591	0.9744		15.2	15.0	1.6	20.0

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1451.D
Lims ID: CCVIS L5
Client ID:
Sample Type: CCVIS
Inject. Date: 25-Aug-2020 09:57:30 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS L5
Misc. Info.: 410-0008884-002
Operator ID: em10340 Instrument ID: HP19760
Sublist: chrom-MSSemi_HP19760*sub5

Method: \\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 25-Aug-2020 15:23:35 Calib Date: 25-Aug-2020 02:23:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1408.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1066

First Level Reviewer: monbornee Date: 25-Aug-2020 10:31:29

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 1,4-Dioxane	88	1.503	1.503	0.000	86	186345	7.50	7.76	
	2 N-Nitrosodimethylamine	74	2.092	2.092	0.000	85	285503	7.50	8.04	
	3 Pyridine	79	2.139	2.139	0.000	90	483704	7.50	7.51	
	4 2-Picoline	93	3.421	3.421	0.000	90	484166	7.50	7.62	
	5 N-Nitrosomethylethylamine	88	3.631	3.631	0.000	78	214037	7.50	8.30	
	7 Methyl methanesulfonate	80	4.109	4.109	0.000	85	240249	7.50	7.84	
$	8 2-Fluorophenol	112	4.354	4.354	0.000	91	802373	15.0	14.9	
	9 N-Nitrosodiethylamine	102	4.692	4.692	0.000	81	205927	7.50	8.37	
	10 Ethyl methanesulfonate	109	5.176	5.176	0.000	98	205013	7.50	7.78	
	12 Benzaldehyde	77	5.618	5.618	0.000	96	337064	7.50	6.96	
$	13 Phenol-d5	99	5.782	5.782	0.000	96	1046837	15.0	15.4	
	15 Aniline	93	5.788	5.788	0.000	94	719064	7.50	7.70	
	14 Phenol	94	5.799	5.799	0.000	89	647117	7.50	8.07	
	16 Bis(2-chloroethyl)ether	93	5.916	5.916	0.000	97	469829	7.50	7.78	
	17 2-Chlorophenol	128	5.951	5.951	0.000	95	380014	7.50	7.72	
	18 1,3-Dichlorobenzene	146	6.172	6.172	0.000	94	408471	7.50	7.35	
*	19 1,4-Dichlorobenzene-d4	152	6.265	6.265	0.000	96	171567	5.00	5.00	
	20 1,4-Dichlorobenzene	146	6.289	6.289	0.000	91	410538	7.50	7.27	
	21 Benzyl alcohol	108	6.504	6.504	0.000	82	258178	7.50	7.34	
	22 1,2-Dichlorobenzene	146	6.504	6.504	0.000	91	390492	7.50	7.26	
	24 Indene	115	6.644	6.644	0.000	88	563715	7.50	7.26	
	23 2-Methylphenol	108	6.703	6.703	0.000	93	377321	7.50	7.89	
	25 2,2'-oxybis[1-chloropropane]	45	6.732	6.732	0.000	88	342966	7.50	7.19	
	26 N-Nitrosopyrrolidine	100	6.860	6.860	0.000	88	215078	7.50	8.80	
	27 Acetophenone	105	6.895	6.895	0.000	94	528299	7.50	7.31	
	29 N-Nitrosodi-n-propylamine	70	6.924	6.924	0.000	70	337450	7.50	8.12	
	30 N-Nitrosomorpholine	56	6.930	6.930	0.000	88	206229	7.50	7.12	
	31 2-Toluidine	106	6.942	6.942	0.000	80	649992	7.50	7.61	
	28 4-Methylphenol	108	6.942	6.942	0.000	84	441981	7.50	7.66	
	32 Hexachloroethane	117	7.012	7.012	0.000	96	184227	7.50	7.21	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 33 Nitrobenzene-d5	82	7.105	7.105	0.000	84	977125	15.0	15.7	
34 Nitrobenzene	77	7.134	7.134	0.000	81	495149	7.50	7.93	
35 N-Nitrosopiperidine	114	7.367	7.367	0.000	87	198166	7.50	8.38	
36 Isophorone	82	7.524	7.524	0.000	96	879082	7.50	8.25	
37 2-Nitrophenol	139	7.624	7.624	0.000	91	193942	7.50	8.17	
38 2,4-Dimethylphenol	107	7.752	7.752	0.000	97	416993	7.50	8.11	
39 o,o',o''-Triethylphosphorothioat	198	7.874	7.874	0.000	89	181780	7.50	7.67	
41 Bis(2-chloroethoxy)methane	93	7.903	7.903	0.000	97	541530	7.50	8.02	
40 Benzoic acid	105	7.927	7.927	0.000	85	352804	10.0	12.7	
42 2,4-Dichlorophenol	162	8.008	8.008	0.000	96	301755	7.50	7.76	
43 1,2,4-Trichlorobenzene	180	8.131	8.131	0.000	92	320847	7.50	7.36	
* 44 Naphthalene-d8	136	8.201	8.201	0.000	99	634112	5.00	5.00	
45 Naphthalene	128	8.236	8.236	0.000	98	1033985	7.50	7.44	
46 4-Chloroaniline	127	8.352	8.352	0.000	94	433539	7.50	7.80	
47 2,6-Dichlorophenol	162	8.358	8.358	0.000	92	294618	7.50	7.79	
48 Hexachloropropene	213	8.387	8.387	0.000	89	205533	7.50	7.83	
49 Hexachlorobutadiene	225	8.469	8.469	0.000	97	185246	7.50	7.48	
50 Quinoline	129	8.766	8.766	0.000	95	648966	7.50	7.65	
52 Caprolactam	113	8.900	8.900	0.000	91	113838	7.50	7.89	
53 N-Nitrosodi-n-butylamine	84	8.935	8.935	0.000	86	298034	7.50	8.16	
54 4-Chloro-3-methylphenol	107	9.168	9.168	0.000	92	341873	7.50	8.41	
55 Safrole, Total	162	9.244	9.244	0.000	86	275464	7.50	7.77	
56 2-Methylnaphthalene	142	9.337	9.337	0.000	91	688844	7.50	7.95	
57 1-Methylnaphthalene	142	9.489	9.489	0.000	92	647891	7.50	7.90	
58 Hexachlorocyclopentadiene	237	9.605	9.605	0.000	97	171815	7.50	6.82	
59 1,2,4,5-Tetrachlorobenzene	216	9.605	9.605	0.000	98	332597	7.50	7.27	
S 51 Diallate	86				0		7.50	7.77	
60 Isosafrole Peak 1	162	9.710	9.710	0.000	88	47495	1.20	1.25	
61 2,4,6-Trichlorophenol	196	9.809	9.809	0.000	94	224999	7.50	7.99	
62 2,4,5-Trichlorophenol	196	9.862	9.862	0.000	93	234793	7.50	7.83	
$ 63 2-Fluorobiphenyl (Surr)	172	9.955	9.955	0.000	100	1550236	15.0	14.5	
64 Isosafrole Peak 2	162	10.072	10.072	0.000	88	270672	6.30	6.28	
65 1,1'-Biphenyl	154	10.101	10.101	0.000	94	758979	7.50	6.84	
66 2-Chloronaphthalene	162	10.101	10.101	0.000	84	691672	7.50	7.30	
67 1-Chloronaphthalene	162	10.130	10.130	0.000	98	593240	7.50	7.26	
68 Phenyl ether	170	10.281	10.281	0.000	85	462532	7.50	7.50	
69 2-Nitroaniline	138	10.293	10.293	0.000	81	217848	7.50	7.65	
70 1,4-Naphthoquinone	158	10.398	10.398	0.000	81	256312	7.50	7.25	
71 1,4-Dinitrobenzene	168	10.538	10.538	0.000	83	111695	7.50	8.40	
72 Dimethyl phthalate	163	10.643	10.643	0.000	97	734440	7.50	7.44	
73 1,3-Dinitrobenzene	168	10.649	10.649	0.000	80	125291	7.50	7.92	
74 2,6-Dinitrotoluene	165	10.713	10.713	0.000	90	178350	7.50	7.71	
75 Acenaphthylene	152	10.754	10.754	0.000	99	916549	7.50	7.78	
76 3-Nitroaniline	138	10.952	10.952	0.000	89	175182	7.50	7.27	
* 77 Acenaphthene-d10	164	10.987	10.987	0.000	98	324327	5.00	5.00	
78 Acenaphthene	153	11.033	11.033	0.000	95	659364	7.50	7.38	
79 2,4-Dinitrophenol	184	11.132	11.132	0.000	87	146079	10.0	10.7	
81 Pentachlorobenzene	250	11.249	11.249	0.000	97	276342	7.50	7.69	
80 4-Nitrophenol	109	11.284	11.284	0.000	82	125116	7.50	6.23	
83 Dibenzofuran	168	11.319	11.319	0.000	97	885918	7.50	7.41	
82 2,4-Dinitrotoluene	165	11.348	11.348	0.000	89	232943	7.50	8.10	
84 1-Naphthylamine	143	11.447	11.447	0.000	98	647539	7.50	7.34	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
85 2,3,4,6-Tetrachlorophenol	232	11.529	11.529	0.000	74	181077	7.50	8.01	
86 2-Naphthylamine	143	11.570	11.570	0.000	95	645589	7.50	7.28	
87 Diethyl phthalate	149	11.762	11.762	0.000	97	723514	7.50	7.57	
89 Fluorene	166	11.820	11.820	0.000	94	735804	7.50	7.86	
91 4-Chlorophenyl phenyl ether	204	11.861	11.861	0.000	86	370070	7.50	7.50	
88 Thionazin	107	11.861	11.861	0.000	79	152266	7.50	7.80	
90 N-Nitro-o-toluidine	152	11.861	11.861	0.000	78	206582	7.50	7.00	
92 4-Nitroaniline	138	11.873	11.873	0.000	78	186353	7.50	7.08	
93 4,6-Dinitro-2-methylphenol	198	11.919	11.919	0.000	86	144601	7.50	7.99	
94 N-Nitrosodiphenylamine	169	12.018	12.018	0.000	67	653658	7.50	7.84	
95 1,2-Diphenylhydrazine	77	12.059	12.059	0.000	96	962808	7.50	7.49	
$ 96 2,4,6-Tribromophenol	330	12.135	12.135	0.000	90	198429	15.0	16.5	
97 Sulfotepp	97	12.275	12.275	0.000	80	147822	7.50	7.41	
98 cis-Diallate	86	12.391	12.391	0.000	94	286207	5.55	5.73	
99 Phorate	75	12.397	12.397	0.000	95	547403	7.50	7.59	
100 Phenacetin	108	12.426	12.426	0.000	92	403081	7.50	7.83	
101 4-Bromophenyl phenyl ether	248	12.455	12.455	0.000	66	213403	7.50	8.19	
102 trans-Diallate	86	12.485	12.485	0.000	91	97694	1.95	2.04	
103 Hexachlorobenzene	284	12.490	12.490	0.000	93	210573	7.50	7.84	
104 Dimethoate	87	12.572	12.572	0.000	96	354796	7.50	8.99	
105 Atrazine	200	12.689	12.689	0.000	94	191052	7.50	7.76	
106 Pentachlorophenol	266	12.735	12.735	0.000	92	148059	7.50	8.11	
107 Pentachloronitrobenzene	237	12.747	12.747	0.000	84	97227	7.50	7.92	
108 4-Aminobiphenyl	169	12.753	12.753	0.000	89	592173	7.50	8.27	
109 Pronamide	173	12.863	12.863	0.000	91	330404	7.50	7.90	
* 110 Phenanthrene-d10	188	12.945	12.945	0.000	98	612076	5.00	5.00	
112 Phenanthrene	178	12.974	12.974	0.000	98	1057834	7.50	7.48	
111 Dinoseb	211	12.986	12.986	0.000	95	188134	7.50	7.57	
113 Anthracene	178	13.033	13.033	0.000	98	1093677	7.50	8.08	
114 Carbazole	167	13.248	13.248	0.000	96	963850	7.50	7.83	
115 Methyl parathion	109	13.452	13.452	0.000	91	279846	7.50	8.40	
116 Di-n-butyl phthalate	149	13.755	13.755	0.000	100	1244222	7.50	7.88	
118 4-Nitroquinoline-1-oxide	190	13.959	13.959	0.000	83	82772	7.50	8.85	
117 Ethyl Parathion	109	13.971	13.971	0.000	84	177328	7.50	7.87	
119 Octachlorostyrene	308	14.280	14.280	0.000	91	86274	7.50	8.26	
120 Isodrin	193	14.309	14.309	0.000	92	126856	7.50	7.80	
121 Fluoranthene	202	14.519	14.519	0.000	98	1203851	7.50	8.43	
122 Benzidine	184	14.758	14.758	0.000	99	2401544	22.5	22.3	
* 123 Pyrene-d10 (IS)	212	14.810	14.810	0.000	98	631301	5.00	5.00	
124 Pyrene	202	14.839	14.839	0.000	97	1245397	7.50	7.44	
$ 125 p-Terphenyl-d14	244	15.131	15.131	0.000	98	1845369	15.0	15.2	
126 p-Dimethylamino azobenzene	225	15.358	15.358	0.000	91	220820	7.50	7.81	
127 Chlorobenzilate	139	15.451	15.451	0.000	89	364650	7.50	8.44	
128 3,3'-Dimethylbenzidine	212	15.894	15.894	0.000	99	816688	7.50	7.65	
129 Butyl benzyl phthalate	149	15.970	15.970	0.000	95	559907	7.50	7.86	
130 2-Acetylaminofluorene	181	16.302	16.302	0.000	95	468362	7.50	7.85	
132 Benzo[a]anthracene	228	16.775	16.775	0.000	99	1118499	7.50	7.07	
131 3,3'-Dichlorobenzidine	252	16.786	16.786	0.000	75	448109	7.50	7.41	
133 4,4'-Methylene bis(2-chloroanil	231	16.815	16.815	0.000	95	229925	7.50	8.08	
134 Chrysene	228	16.833	16.833	0.000	97	1186565	7.50	8.23	
135 Bis(2-ethylhexyl) phthalate	149	17.025	17.025	0.000	97	769129	7.50	8.01	
136 6-Methylchrysene	242	17.620	17.620	0.000	99	802942	7.50	7.93	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
137 Di-n-octyl phthalate	149	18.168	18.168	0.000	99	1280287	7.50	7.39	
138 Benzo[b]fluoranthene	252	18.587	18.587	0.000	97	1147511	7.50	6.60	
139 7,12-Dimethylbenz(a)anthracene	256	18.599	18.599	0.000	91	540621	7.50	6.71	
140 Benzo[k]fluoranthene	252	18.640	18.640	0.000	99	1241150	7.50	7.82	
141 Benzo[a]pyrene	252	19.100	19.100	0.000	77	1120054	7.50	6.91	
* 142 Perylene-d12	264	19.193	19.193	0.000	98	617764	5.00	5.00	
143 3-Methylcholanthrene	268	19.677	19.677	0.000	91	519292	7.50	6.81	
144 Dibenz[a,h]acridine	279	20.476	20.476	0.000	91	730448	7.50	7.56	
145 Dibenz[a,j]acridine	279	20.551	20.551	0.000	96	828406	7.50	7.41	
146 Indeno[1,2,3-cd]pyrene	276	20.779	20.779	0.000	99	880455	7.50	6.66	
147 Dibenz(a,h)anthracene	278	20.825	20.825	0.000	94	950419	7.50	6.53	
148 Benzo[g,h,i]perylene	276	21.134	21.134	0.000	98	956598	7.50	6.54	
S 152 Dinitrotoluene	165				0		15.0	15.8	
S 170 Isosafrole	162				0		7.50	7.53	

Reagents:

MSS_RV8270_5_00007 Amount Added: 1.00 Units: mL

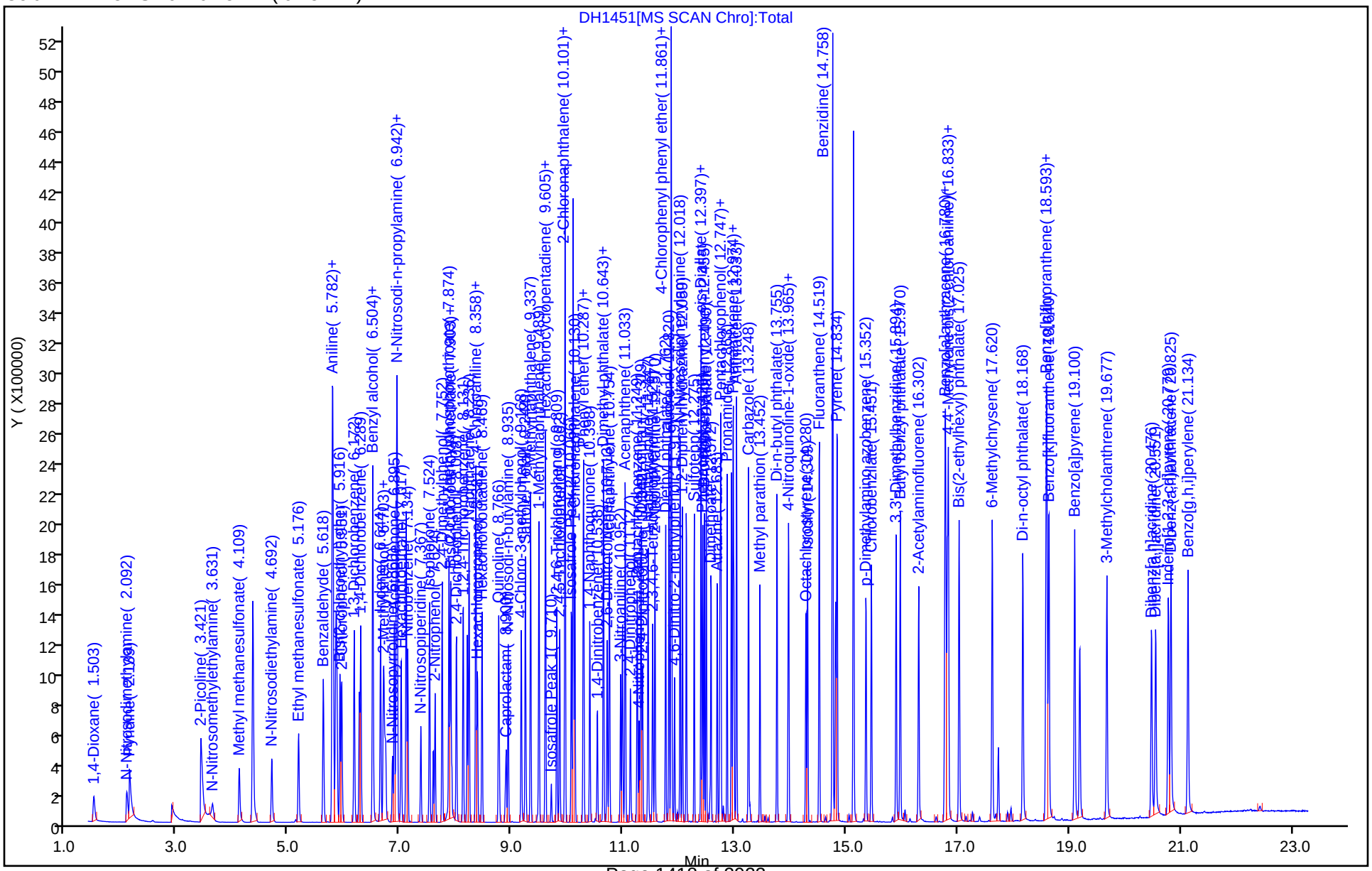
Report Date: 25-Aug-2020 15:23:37 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1451.D

Injection Date:	25-Aug-2020 09:57:30	Instrument ID:	HP19760	Operator ID:	em10340
Lims ID:	CCVIS L5			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-37350/2 Calibration Date: 08/26/2020 12:17

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DH1511.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Ave	0.7002	0.7015		7.51	7.50	0.2	20.0
N-Nitrosodimethylamine	Ave	1.034	1.077		7.81	7.50	4.1	20.0
Pyridine	Ave	1.878	1.914		7.64	7.50	1.9	20.0
2-Picoline	Ave	1.851	1.874		7.59	7.50	1.2	20.0
N-Nitrosomethylethylamine	Ave	0.7513	0.7930		7.92	7.50	5.5	20.0
Methyl methanesulfonate	Ave	0.8925	0.9314		7.83	7.50	4.4	20.0
N-Nitrosodiethylamine	Ave	0.7166	0.7591		7.94	7.50	5.9	20.0
Ethyl methanesulfonate	Ave	0.7677	0.7659		7.48	7.50	-0.2	20.0
Benzaldehyde	Ave	1.411	1.314	0.0100	6.99	7.50	-6.8	20.0
Aniline	Ave	2.721	2.798		7.71	7.50	2.8	20.0
Phenol	Ave	2.337	2.544	0.8000	8.16	7.50	8.9	20.0
Bis(2-chloroethyl)ether	Ave	1.760	1.828	0.7000	7.79	7.50	3.9	20.0
2-Chlorophenol	Ave	1.434	1.466	0.8000	7.67	7.50	2.3	20.0
1,3-Dichlorobenzene	Ave	1.621	1.577		7.30	7.50	-2.7	20.0
1,4-Dichlorobenzene	Ave	1.645	1.596		7.28	7.50	-3.0	20.0
1,2-Dichlorobenzene	Ave	1.568	1.525		7.29	7.50	-2.7	20.0
Benzyl alcohol	Ave	1.025	1.004		7.34	7.50	-2.1	20.0
Indene	Ave	2.261	2.203		7.31	7.50	-2.6	20.0
2-Methylphenol	Ave	1.394	1.469	0.7000	7.91	7.50	5.4	20.0
2,2'-oxybis[1-chloropropane]	Ave	1.390	1.349	0.0100	7.28	7.50	-3.0	20.0
N-Nitrosopyrrolidine	Ave	0.7126	0.8438		8.88	7.50	18.4	20.0
Acetophenone	Ave	2.106	2.073	0.0100	7.38	7.50	-1.6	20.0
N-Nitrosodi-n-propylamine	Ave	1.211	1.317	0.5000	8.16	7.50	8.8	20.0
N-Nitrosomorpholine	Ave	0.8436	0.8227		7.31	7.50	-2.5	20.0
4-Methylphenol	Ave	1.681	1.727	0.6000	7.71	7.50	2.8	20.0
o-Toluidine	Ave	2.491	2.541		7.65	7.50	2.0	20.0
Hexachloroethane	Ave	0.7449	0.7180	0.3000	7.23	7.50	-3.6	20.0
Nitrobenzene	Ave	0.4925	0.5248	0.2000	7.99	7.50	6.6	20.0
N-Nitrosopiperidine	Ave	0.1865	0.2035		8.18	7.50	9.1	20.0
Isophorone	Ave	0.8397	0.9050	0.4000	8.08	7.50	7.8	20.0
2-Nitrophenol	Ave	0.1872	0.1985	0.1000	7.95	7.50	6.0	20.0
2,4-Dimethylphenol	Ave	0.4052	0.4297	0.2000	7.95	7.50	6.0	20.0
o,o',o''-Triethylphosphorothioate	Ave	0.1869	0.1932		7.75	7.50	3.4	20.0
Bis(2-chloroethoxy)methane	Ave	0.5324	0.5757	0.3000	8.11	7.50	8.1	20.0
Benzoic acid	Ave	0.2187	0.2591		11.8	10.0	18.5	20.0
2,4-Dichlorophenol	Ave	0.3066	0.3193	0.2000	7.81	7.50	4.1	20.0
1,2,4-Trichlorobenzene	Ave	0.3435	0.3392		7.41	7.50	-1.3	20.0
Naphthalene	Ave	1.095	1.083	0.7000	7.42	7.50	-1.1	20.0
4-Chloroaniline	Ave	0.4382	0.4513	0.0100	7.73	7.50	3.0	20.0
2,6-Dichlorophenol	Ave	0.2982	0.3072		7.73	7.50	3.0	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-37350/2 Calibration Date: 08/26/2020 12:17

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DH1511.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Hexachloropropene	Ave	0.2069	0.2161		7.84	7.50	4.5	20.0
Hexachlorobutadiene	Ave	0.1954	0.1952	0.0100	7.49	7.50	-0.0	20.0
Quinoline	Ave	0.6687	0.6658		7.47	7.50	-0.4	20.0
Caprolactam	Ave	0.1138	0.1149	0.0100	7.57	7.50	1.0	20.0
N-Nitrosodi-n-butylamine	Qua		0.3067		8.01	7.50	6.8	20.0
4-Chloro-3-methylphenol	Ave	0.3206	0.3570	0.2000	8.35	7.50	11.4	20.0
Safrole, Total	Ave	0.2795	0.2844		7.63	7.50	1.7	20.0
2-Methylnaphthalene	Ave	0.6830	0.7159	0.4000	7.86	7.50	4.8	20.0
1-Methylnaphthalene	Ave	0.6466	0.6753		7.83	7.50	4.4	20.0
1,2,4,5-Tetrachlorobenzene	Ave	0.7054	0.6888	0.0100	7.32	7.50	-2.3	20.0
Hexachlorocyclopentadiene	Ave	0.3881	0.3567	0.0500	6.89	7.50	-8.1	20.0
Isosafrole Peak 1	Ave	0.5859	0.5758		1.18	1.20	-1.7	20.0
2,4,6-Trichlorophenol	Ave	0.4344	0.4533	0.2000	7.83	7.50	4.4	20.0
2,4,5-Trichlorophenol	Ave	0.4621	0.4747	0.2000	7.70	7.50	2.7	20.0
Isosafrole Peak 2	Ave	0.6644	0.6576		6.24	6.30	-1.0	20.0
1,1'-Biphenyl	Ave	1.711	1.553	0.0100	6.81	7.50	-9.2	20.0
2-Chloronaphthalene	Ave	1.460	1.450	0.8000	7.45	7.50	-0.7	20.0
1-Chloronaphthalene	Ave	1.260	1.203		7.16	7.50	-4.5	20.0
Diphenyl ether	Ave	0.9503	0.9573		7.56	7.50	0.7	20.0
2-Nitroaniline	Lin1		0.4386	0.0100	7.50	7.50	-0.0	20.0
1,4-Naphthoquinone	Ave	0.5452	0.5248		7.22	7.50	-3.7	20.0
1,4-Dinitrobenzene	Ave	0.2049	0.2295		8.40	7.50	12.0	20.0
Dimethyl phthalate	Ave	1.523	1.509	0.0100	7.43	7.50	-0.9	20.0
1,3-Dinitrobenzene	Ave	0.2440	0.2599		7.99	7.50	6.5	20.0
2,6-Dinitrotoluene	Lin1		0.3602	0.2000	7.58	7.50	1.0	20.0
Acenaphthylene	Ave	1.817	1.856	0.9000	7.66	7.50	2.1	20.0
3-Nitroaniline	Lin1		0.3558	0.0100	7.19	7.50	-4.1	20.0
Acenaphthene	Ave	1.377	1.339	0.9000	7.29	7.50	-2.8	20.0
2,4-Dinitrophenol	Ave	0.2103	0.2258	0.0100	10.7	10.0	7.4	20.0
Pentachlorobenzene	Ave	0.5540	0.5642		7.64	7.50	1.8	20.0
4-Nitrophenol	Ave	0.3096	0.2693	0.0100	6.52	7.50	-13.0	20.0
Dibenzofuran	Ave	1.843	1.810	0.8000	7.37	7.50	-1.8	20.0
2,4-Dinitrotoluene	Ave	0.4432	0.4675	0.2000	7.91	7.50	5.5	20.0
1-Naphthylamine	Ave	1.360	1.318		7.27	7.50	-3.1	20.0
2,3,4,6-Tetrachlorophenol	Ave	0.3485	0.3664	0.0100	7.89	7.50	5.2	20.0
2-Naphthylamine	Ave	1.368	1.333		7.31	7.50	-2.6	20.0
Diethyl phthalate	Ave	1.473	1.491	0.0100	7.59	7.50	1.2	20.0
Fluorene	Ave	1.443	1.512	0.9000	7.86	7.50	4.8	20.0
4-Chlorophenyl-phenyl ether	Ave	0.7612	0.7755	0.4000	7.64	7.50	1.9	20.0
5-Nitro-o-toluidine	Lin1		0.4316		7.11	7.50	-5.2	20.0
Thionazin	Ave	0.3008	0.3197		7.97	7.50	6.3	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-37350/2 Calibration Date: 08/26/2020 12:17

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DH1511.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
4-Nitroaniline	Lin1		0.3997	0.0100	7.38	7.50	-1.6	20.0
4,6-Dinitro-2-methylphenol	Ave	0.1478	0.1565	0.0100	7.94	7.50	5.9	20.0
N-Nitrosodiphenylamine	Ave	0.6814	0.7083	0.0100	7.80	7.50	4.0	20.0
1,2-Diphenylhydrazine	Ave	1.049	1.038		7.42	7.50	-1.1	20.0
Sulfotepp	Ave	0.1630	0.1634		7.52	7.50	0.2	20.0
cis-Diallate	Ave	0.4078	0.4166		5.67	5.55	2.2	20.0
Phorate	Lin1		0.5870		7.48	7.50	-0.3	20.0
Phenacetin	Ave	0.4204	0.4286		7.65	7.50	2.0	20.0
4-Bromophenyl-phenylether	Ave	0.2128	0.2269	0.1000	8.00	7.50	6.6	20.0
Hexachlorobenzene	Ave	0.2195	0.2286	0.1000	7.81	7.50	4.1	20.0
trans-Diallate	Ave	0.3916	0.4098		2.04	1.95	4.6	20.0
Dimethoate	Ave	0.3223	0.3839		8.93	7.50	19.1	20.0
Atrazine	Ave	0.2010	0.2020	0.0100	7.54	7.50	0.5	20.0
Pentachlorophenol	Ave	0.1490	0.1643	0.0500	8.27	7.50	10.2	20.0
Pentachloronitrobenzene	Ave	0.1002	0.1064		7.96	7.50	6.2	20.0
4-Aminobiphenyl	Ave	0.5846	0.6380		8.18	7.50	9.1	20.0
Pronamide	Ave	0.3415	0.3561		7.82	7.50	4.3	20.0
Phenanthrene	Ave	1.155	1.155	0.7000	7.50	7.50	-0.0	20.0
Dinoseb	Lin1		0.2109		7.76	7.50	3.5	20.0
Anthracene	Ave	1.106	1.179	0.7000	8.00	7.50	6.7	20.0
Carbazole	Ave	1.005	1.049	0.0100	7.83	7.50	4.4	20.0
Methyl parathion	Lin		0.2999		8.28	7.50	10.5	20.0
Di-n-butyl phthalate	Ave	1.290	1.337	0.0100	7.78	7.50	3.7	20.0
4-Nitroquinoline-1-oxide	Lin		0.0893		8.80	7.50	17.3	20.0
Parathion	Lin1		0.1890		7.72	7.50	2.9	20.0
Octachlorostyrene	Ave	0.0853	0.0933		8.21	7.50	9.4	20.0
Isodrin	Ave	0.1328	0.1381		7.80	7.50	4.0	20.0
Fluoranthene	Ave	1.167	1.302	0.6000	8.37	7.50	11.5	20.0
Benzidine	Ave	0.8515	0.8481		22.4	22.5	-0.4	20.0
Pyrene	Ave	1.326	1.329	0.6000	7.52	7.50	0.2	20.0
p-Dimethylamino azobenzene	Lin		0.2296		7.71	7.50	2.8	20.0
Chlorobenzilate	Ave	0.3423	0.3844		8.42	7.50	12.3	20.0
3,3'-Dimethylbenzidine	Lin1		0.8504		7.56	7.50	0.8	20.0
Butylbenzylphthalate	Ave	0.5641	0.5935	0.0100	7.89	7.50	5.2	20.0
2-Acetylaminofluorene	Lin1		0.4557		7.32	7.50	-2.5	20.0
Benzo[a]anthracene	Lin1		1.184	0.8000	7.08	7.50	-5.6	20.0
3,3'-Dichlorobenzidine	Lin1		0.4679	0.0100	7.34	7.50	-2.2	20.0
4,4'-Methylene bis(2-chloroaniline)	Ave	0.2253	0.2386			7.50	5.9	20.0
Chrysene	Ave	1.142	1.266	0.7000	8.32	7.50	10.9	20.0
Bis(2-ethylhexyl) phthalate	Ave	0.7606	0.8065	0.0100	7.95	7.50	6.0	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVIS 410-37350/2 Calibration Date: 08/26/2020 12:17

Instrument ID: HP19760 Calib Start Date: 07/31/2020 16:07

GC Column: DB-5MS 30m 0.25 ID: 0.25(mm) Calib End Date: 07/31/2020 19:41

Lab File ID: DH1511.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
6-Methylchrysene	Ave	0.8018	0.8424		7.88	7.50	5.1	20.0
Di-n-octyl phthalate	Lin		1.336	0.0100	7.18	7.50	-4.3	20.0
Benzo[b]fluoranthene	Lin1		1.275	0.7000	6.79	7.50	-9.5	20.0
7,12-Dimethylbenz(a)anthracene	Lin1		0.5806		6.68	7.50	-10.9	20.0
Benzo[k]fluoranthene	Ave	1.284	1.301	0.7000	7.60	7.50	1.3	20.0
Benzo[a]pyrene	Lin1		1.161	0.7000	6.64	7.50	-11.4	20.0
3-Methylcholanthrene	Lin1		0.5501		6.69	7.50	-10.8	20.0
Dibenz[a,h]acridine	Ave	0.7821	0.7588		7.28	7.50	-3.0	20.0
Dibenz[a,j]acridine	Ave	0.9047	0.8559		7.10	7.50	-5.4	20.0
Indeno[1,2,3-cd]pyrene	Lin1		0.9478	0.5000	6.64	7.50	-11.4	20.0
Dibenz(a,h)anthracene	Lin1		1.007	0.4000	6.41	7.50	-14.5	20.0
Benzo[g,h,i]perylene	Lin1		1.051	0.5000	6.66	7.50	-11.2	20.0
2-Fluorophenol (Surr)	Ave	1.565	1.545		14.8	15.0	-1.3	20.0
Phenol-d5 (Surr)	Ave	1.984	2.041		15.4	15.0	2.8	20.0
Nitrobenzene-d5 (Surr)	Ave	0.4895	0.5137		15.7	15.0	4.9	20.0
2-Fluorobiphenyl (Surr)	Ave	1.643	1.598		14.6	15.0	-2.7	20.0
2,4,6-Tribromophenol (Surr)	Ave	0.1857	0.2012		16.2	15.0	8.3	20.0
p-Terphenyl-d14 (Surr)	Ave	0.9591	0.9783		15.3	15.0	2.0	20.0

Report Date: 26-Aug-2020 16:59:40 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200826-8979.b\DH1511.D
Lims ID: CCVIS L5
Client ID:
Sample Type: CCVIS
Inject. Date: 26-Aug-2020 12:17:30 ALS Bottle#: 2 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVIS L5
Misc. Info.: 410-0008979-002
Operator ID: em10340 Instrument ID: HP19760
Sublist: chrom-MSSemi_HP19760*sub5

Method: \\chromfs\Lancaster\ChromData\HP19760\20200826-8979.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 26-Aug-2020 16:59:39 Calib Date: 25-Aug-2020 02:23:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1408.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1047

First Level Reviewer: monbornee Date: 26-Aug-2020 12:54:28

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 1,4-Dioxane	88	1.457	1.457	0.000	87	170442	7.50	7.51	
2 N-Nitrosodimethylamine	74	2.040	2.040	0.000	86	261627	7.50	7.81	
3 Pyridine	79	2.092	2.092	0.000	91	464921	7.50	7.64	
4 2-Picoline	93	3.380	3.380	0.000	90	455191	7.50	7.59	
5 N-Nitrosomethylethylamine	88	3.590	3.590	0.000	80	192657	7.50	7.92	M
7 Methyl methanesulfonate	80	4.074	4.074	0.000	85	226295	7.50	7.83	
$ 8 2-Fluorophenol	112	4.319	4.319	0.000	91	750771	15.0	14.8	
9 N-Nitrosodiethylamine	102	4.657	4.657	0.000	83	184419	7.50	7.94	
10 Ethyl methanesulfonate	109	5.141	5.141	0.000	97	186073	7.50	7.48	
12 Benzaldehyde	77	5.584	5.584	0.000	95	319285	7.50	6.99	
$ 13 Phenol-d5	99	5.747	5.747	0.000	96	991589	15.0	15.4	
15 Aniline	93	5.753	5.753	0.000	92	679837	7.50	7.71	
14 Phenol	94	5.764	5.764	0.000	92	618123	7.50	8.16	
16 Bis(2-chloroethyl)ether	93	5.887	5.887	0.000	98	444207	7.50	7.79	
17 2-Chlorophenol	128	5.916	5.916	0.000	94	356258	7.50	7.67	
18 1,3-Dichlorobenzene	146	6.137	6.137	0.000	93	383262	7.50	7.30	
* 19 1,4-Dichlorobenzene-d4	152	6.231	6.231	0.000	95	161971	5.00	5.00	
20 1,4-Dichlorobenzene	146	6.254	6.254	0.000	91	387824	7.50	7.28	
21 Benzyl alcohol	108	6.469	6.469	0.000	85	243880	7.50	7.34	
22 1,2-Dichlorobenzene	146	6.469	6.469	0.000	91	370414	7.50	7.29	
24 Indene	115	6.609	6.609	0.000	87	535322	7.50	7.31	
23 2-Methylphenol	108	6.668	6.668	0.000	93	357017	7.50	7.91	
25 2,2'-oxybis[1-chloropropane]	45	6.703	6.703	0.000	87	327691	7.50	7.28	
26 N-Nitrosopyrrolidine	100	6.825	6.825	0.000	89	205007	7.50	8.88	
27 Acetophenone	105	6.860	6.860	0.000	94	503621	7.50	7.38	
29 N-Nitrosodi-n-propylamine	70	6.889	6.889	0.000	71	320032	7.50	8.16	
30 N-Nitrosomorpholine	56	6.895	6.895	0.000	86	199881	7.50	7.31	
31 2-Toluidine	106	6.907	6.907	0.000	80	617231	7.50	7.65	
28 4-Methylphenol	108	6.907	6.907	0.000	84	419704	7.50	7.71	
32 Hexachloroethane	117	6.977	6.977	0.000	97	174433	7.50	7.23	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
$ 33 Nitrobenzene-d5	82	7.070	7.070	0.000	84	939845	15.0	15.7	
34 Nitrobenzene	77	7.099	7.099	0.000	81	480079	7.50	7.99	
35 N-Nitrosopiperidine	114	7.332	7.332	0.000	88	186129	7.50	8.18	
36 Isophorone	82	7.490	7.490	0.000	96	827764	7.50	8.08	
37 2-Nitrophenol	139	7.589	7.589	0.000	91	181586	7.50	7.95	
38 2,4-Dimethylphenol	107	7.717	7.717	0.000	97	393044	7.50	7.95	
39 o,o',o''-Triethylphosphorothioat	198	7.839	7.839	0.000	89	176704	7.50	7.75	
41 Bis(2-chloroethoxy)methane	93	7.868	7.868	0.000	98	526558	7.50	8.11	
40 Benzoic acid	105	7.892	7.892	0.000	85	315968	10.0	11.8	
42 2,4-Dichlorophenol	162	7.973	7.973	0.000	96	292028	7.50	7.81	
43 1,2,4-Trichlorobenzene	180	8.096	8.096	0.000	92	310301	7.50	7.41	
* 44 Naphthalene-d8	136	8.166	8.166	0.000	99	609804	5.00	5.00	
45 Naphthalene	128	8.201	8.201	0.000	98	990763	7.50	7.42	
46 4-Chloroaniline	127	8.317	8.317	0.000	94	412835	7.50	7.73	
47 2,6-Dichlorophenol	162	8.323	8.323	0.000	90	280955	7.50	7.73	
48 Hexachloropropene	213	8.352	8.352	0.000	89	197713	7.50	7.84	
49 Hexachlorobutadiene	225	8.434	8.434	0.000	97	178557	7.50	7.49	
50 Quinoline	129	8.731	8.731	0.000	95	608982	7.50	7.47	
52 Caprolactam	113	8.865	8.865	0.000	92	105116	7.50	7.57	
53 N-Nitrosodi-n-butylamine	84	8.900	8.900	0.000	86	280508	7.50	8.01	
54 4-Chloro-3-methylphenol	107	9.139	9.139	0.000	92	326577	7.50	8.35	
55 Safrole, Total	162	9.209	9.209	0.000	86	260142	7.50	7.63	
56 2-Methylnaphthalene	142	9.302	9.302	0.000	91	654829	7.50	7.86	
57 1-Methylnaphthalene	142	9.454	9.454	0.000	92	617734	7.50	7.83	
58 Hexachlorocyclopentadiene	237	9.570	9.570	0.000	96	167663	7.50	6.89	
59 1,2,4,5-Tetrachlorobenzene	216	9.570	9.570	0.000	98	323759	7.50	7.32	
S 51 Diallate	86				0		7.50	7.71	
60 Isosafrole Peak 1	162	9.675	9.675	0.000	86	43304	1.20	1.18	
61 2,4,6-Trichlorophenol	196	9.774	9.774	0.000	94	213070	7.50	7.83	
62 2,4,5-Trichlorophenol	196	9.827	9.827	0.000	92	223113	7.50	7.70	
$ 63 2-Fluorobiphenyl (Surr)	172	9.920	9.920	0.000	100	1501868	15.0	14.6	
64 Isosafrole Peak 2	162	10.037	10.037	0.000	87	259619	6.30	6.24	
65 1,1'-Biphenyl	154	10.066	10.066	0.000	94	730026	7.50	6.81	
66 2-Chloronaphthalene	162	10.066	10.066	0.000	84	681712	7.50	7.45	
67 1-Chloronaphthalene	162	10.095	10.095	0.000	98	565625	7.50	7.16	
68 Phenyl ether	170	10.252	10.252	0.000	86	449961	7.50	7.56	
69 2-Nitroaniline	138	10.258	10.258	0.000	80	206128	7.50	7.50	
70 1,4-Naphthoquinone	158	10.363	10.363	0.000	81	246653	7.50	7.22	
71 1,4-Dinitrobenzene	168	10.503	10.503	0.000	82	107876	7.50	8.40	
72 Dimethyl phthalate	163	10.608	10.608	0.000	91	709251	7.50	7.43	
73 1,3-Dinitrobenzene	168	10.614	10.614	0.000	54	122134	7.50	7.99	
74 2,6-Dinitrotoluene	165	10.678	10.678	0.000	90	169284	7.50	7.58	
75 Acenaphthylene	152	10.713	10.713	0.000	99	872214	7.50	7.66	
76 3-Nitroaniline	138	10.917	10.917	0.000	90	167211	7.50	7.19	
* 77 Acenaphthene-d10	164	10.952	10.952	0.000	97	313341	5.00	5.00	
78 Acenaphthene	153	10.998	10.998	0.000	96	629210	7.50	7.29	
79 2,4-Dinitrophenol	184	11.092	11.092	0.000	87	141503	10.0	10.7	
81 Pentachlorobenzene	250	11.214	11.214	0.000	97	265181	7.50	7.64	
80 4-Nitrophenol	109	11.249	11.249	0.000	82	126596	7.50	6.52	
83 Dibenzofuran	168	11.284	11.284	0.000	96	850855	7.50	7.37	
82 2,4-Dinitrotoluene	165	11.313	11.313	0.000	87	219728	7.50	7.91	
84 1-Naphthylamine	143	11.412	11.412	0.000	97	619479	7.50	7.27	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
85 2,3,4,6-Tetrachlorophenol	232	11.494	11.494	0.000	75	172235	7.50	7.89	
86 2-Naphthylamine	143	11.535	11.535	0.000	94	626358	7.50	7.31	
87 Diethyl phthalate	149	11.733	11.733	0.000	97	700923	7.50	7.59	
89 Fluorene	166	11.791	11.791	0.000	94	710744	7.50	7.86	
91 4-Chlorophenyl phenyl ether	204	11.832	11.832	0.000	85	364494	7.50	7.64	
88 Thionazin	107	11.832	11.832	0.000	82	150243	7.50	7.97	
90 N-Nitro-o-toluidine	152	11.832	11.832	0.000	77	202872	7.50	7.11	
92 4-Nitroaniline	138	11.843	11.843	0.000	78	187883	7.50	7.38	
93 4,6-Dinitro-2-methylphenol	198	11.890	11.890	0.000	85	140608	7.50	7.94	
94 N-Nitrosodiphenylamine	169	11.989	11.989	0.000	61	636599	7.50	7.80	
95 1,2-Diphenylhydrazine	77	12.036	12.036	0.000	96	933043	7.50	7.42	
$ 96 2,4,6-Tribromophenol	330	12.106	12.106	0.000	89	189096	15.0	16.2	
97 Sulfotepp	97	12.246	12.246	0.000	80	146813	7.50	7.52	
98 cis-Diallate	86	12.368	12.368	0.000	83	277064	5.55	5.67	
99 Phorate	75	12.374	12.374	0.000	95	527533	7.50	7.48	
100 Phenacetin	108	12.403	12.403	0.000	92	385212	7.50	7.65	
101 4-Bromophenyl phenyl ether	248	12.432	12.432	0.000	67	203919	7.50	8.00	
103 Hexachlorobenzene	284	12.461	12.461	0.000	91	205470	7.50	7.81	
102 trans-Diallate	86	12.461	12.461	0.000	67	95749	1.95	2.04	
104 Dimethoate	87	12.549	12.549	0.000	96	345004	7.50	8.93	
105 Atrazine	200	12.660	12.660	0.000	94	181513	7.50	7.54	
106 Pentachlorophenol	266	12.706	12.706	0.000	92	147650	7.50	8.27	
107 Pentachloronitrobenzene	237	12.718	12.718	0.000	85	95642	7.50	7.96	
108 4-Aminobiphenyl	169	12.724	12.724	0.000	89	573380	7.50	8.18	
109 Pronamide	173	12.834	12.834	0.000	90	320023	7.50	7.82	
* 110 Phenanthrene-d10	188	12.910	12.910	0.000	98	599152	5.00	5.00	
112 Phenanthrene	178	12.939	12.939	0.000	98	1037963	7.50	7.50	
111 Dinoseb	211	12.957	12.957	0.000	96	189511	7.50	7.76	
113 Anthracene	178	13.003	13.003	0.000	98	1059884	7.50	8.00	
114 Carbazole	167	13.219	13.219	0.000	96	942806	7.50	7.83	
115 Methyl parathion	109	13.423	13.423	0.000	91	269532	7.50	8.28	
116 Di-n-butyl phthalate	149	13.726	13.726	0.000	100	1202039	7.50	7.78	
118 4-Nitroquinoline-1-oxide	190	13.924	13.924	0.000	82	80231	7.50	8.80	
117 Ethyl Parathion	109	13.936	13.936	0.000	84	169816	7.50	7.72	
119 Octachlorostyrene	308	14.245	14.245	0.000	91	83882	7.50	8.21	
120 Isodrin	193	14.268	14.268	0.000	91	124152	7.50	7.80	
121 Fluoranthene	202	14.478	14.478	0.000	98	1169931	7.50	8.37	
122 Benzidine	184	14.723	14.723	0.000	99	2364398	22.5	22.4	
* 123 Pyrene-d10 (IS)	212	14.769	14.769	0.000	98	619539	5.00	5.00	
124 Pyrene	202	14.799	14.799	0.000	97	1234593	7.50	7.52	
$ 125 p-Terphenyl-d14	244	15.096	15.096	0.000	98	1818365	15.0	15.3	
126 p-Dimethylamino azobenzene	225	15.317	15.317	0.000	91	213334	7.50	7.71	
127 Chlorobenzilate	139	15.416	15.416	0.000	89	357268	7.50	8.42	
128 3,3'-Dimethylbenzidine	212	15.859	15.859	0.000	99	790320	7.50	7.56	
129 Butyl benzyl phthalate	149	15.929	15.929	0.000	95	551536	7.50	7.89	
130 2-Acetylaminofluorene	181	16.262	16.262	0.000	95	423444	7.50	7.32	
132 Benzo[a]anthracene	228	16.734	16.734	0.000	99	1100236	7.50	7.08	
131 3,3'-Dichlorobenzidine	252	16.745	16.745	0.000	72	434868	7.50	7.34	
133 4,4'-Methylene bis(2-chloroanil	231	16.775	16.775	0.000	94	221692	7.50	7.94	
134 Chrysene	228	16.792	16.792	0.000	97	1176738	7.50	8.32	
135 Bis(2-ethylhexyl) phthalate	149	16.984	16.984	0.000	97	749532	7.50	7.95	
136 6-Methylchrysene	242	17.579	17.579	0.000	99	782871	7.50	7.88	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
137 Di-n-octyl phthalate	149	18.127	18.127	0.000	99	1219789	7.50	7.18	
138 Benzo[b]fluoranthene	252	18.541	18.541	0.000	97	1164574	7.50	6.79	
139 7,12-Dimethylbenz(a)anthracene	256	18.558	18.558	0.000	90	530246	7.50	6.68	
140 Benzo[k]fluoranthene	252	18.593	18.593	0.000	99	1188223	7.50	7.60	
141 Benzo[a]pyrene	252	19.054	19.054	0.000	77	1060295	7.50	6.64	
* 142 Perylene-d12	264	19.147	19.147	0.000	98	608843	5.00	5.00	
143 3-Methylcholanthrene	268	19.636	19.636	0.000	91	502384	7.50	6.69	
144 Dibenz[a,h]acridine	279	20.435	20.435	0.000	91	692948	7.50	7.28	
145 Dibenz[a,j]acridine	279	20.505	20.505	0.000	96	781696	7.50	7.10	
146 Indeno[1,2,3-cd]pyrene	276	20.732	20.732	0.000	99	865626	7.50	6.64	
147 Dibenz(a,h)anthracene	278	20.779	20.779	0.000	93	919921	7.50	6.41	
148 Benzo[g,h,i]perylene	276	21.088	21.088	0.000	98	960173	7.50	6.66	M
S 152 Dinitrotoluene	165				0		15.0	15.5	
S 170 Isosafrole	162				0		7.50	7.41	

QC Flag Legend

Review Flags

M - Manually Integrated

Reagents:

MSS_RV8270_5_00007 Amount Added: 1.00 Units: mL

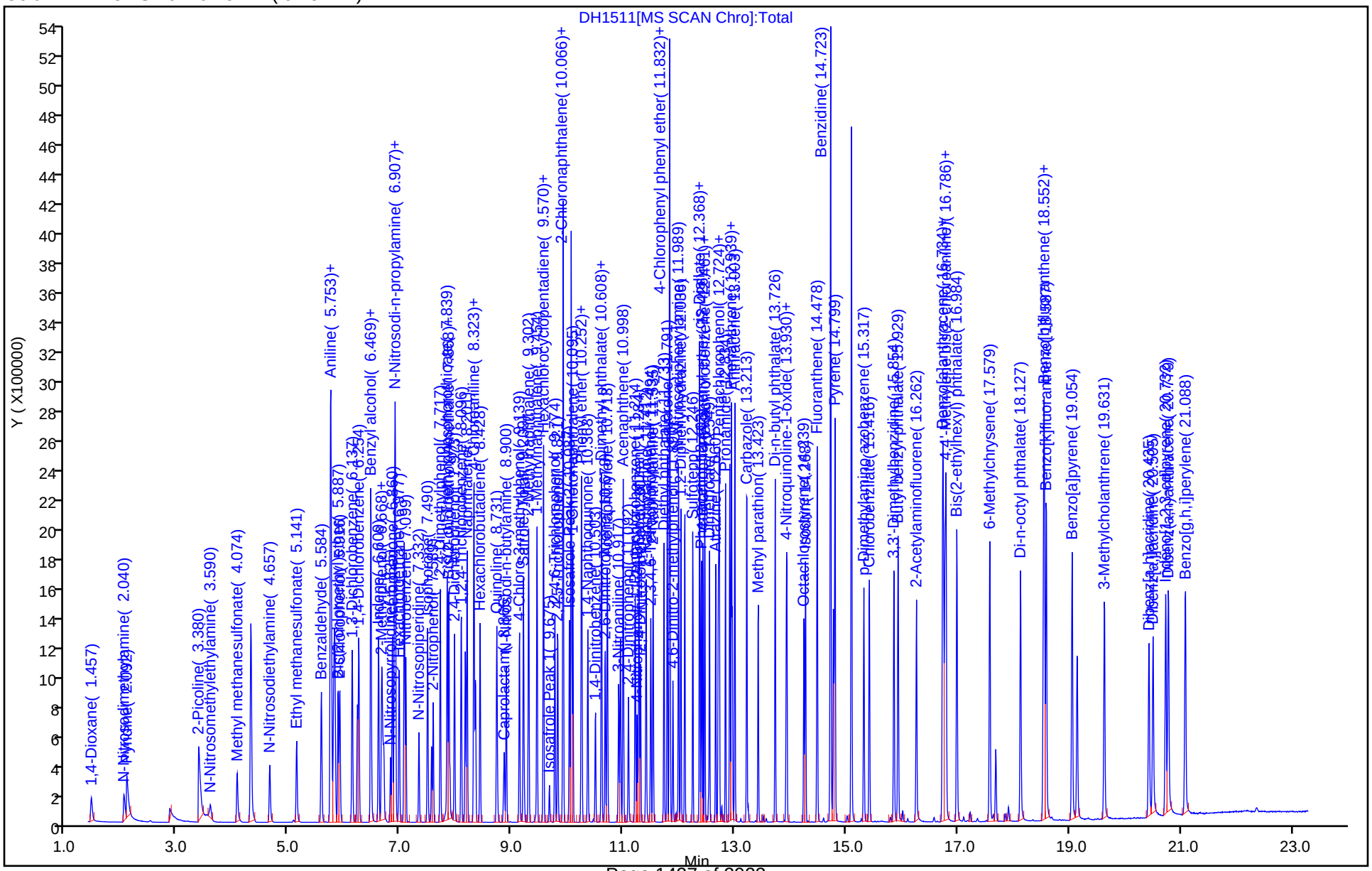
Report Date: 26-Aug-2020 16:59:40 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200826-8979.b\DH1511.D

Injection Date:	26-Aug-2020 12:17:30	Instrument ID:	HP19760	Operator ID:	em10340
Lims ID:	CCVIS L5			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	2
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

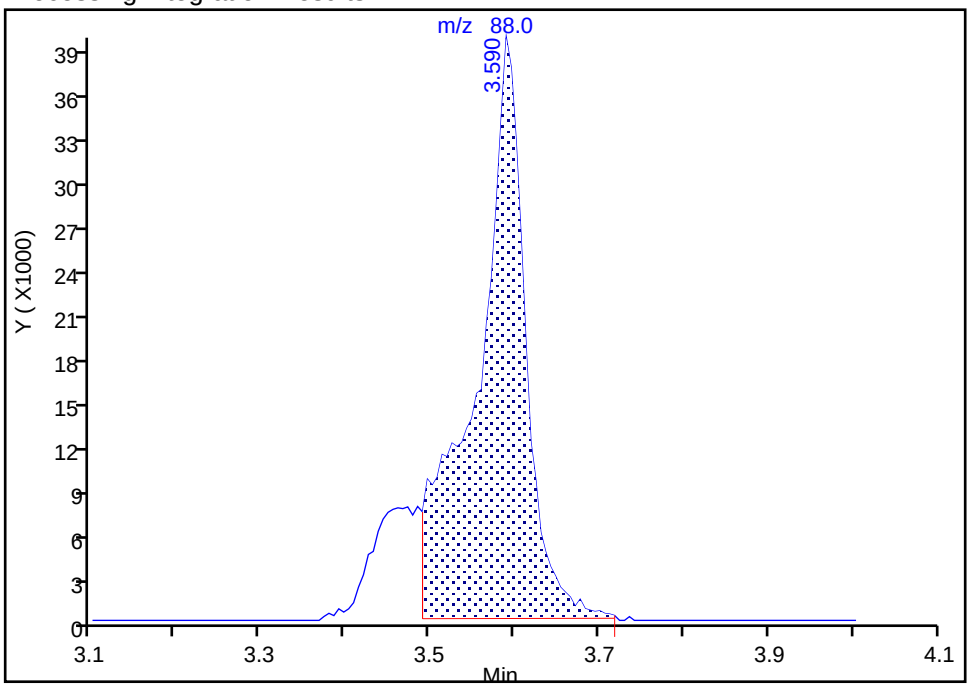
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200826-8979.b\DH1511.D				
Injection Date:	26-Aug-2020 12:17:30	Instrument ID:	HP19760		
Lims ID:	CCVIS L5				
Client ID:					
Operator ID:	em10340	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

5 N-Nitrosomethylethylamine, CAS: 10595-95-6

Signal: 1

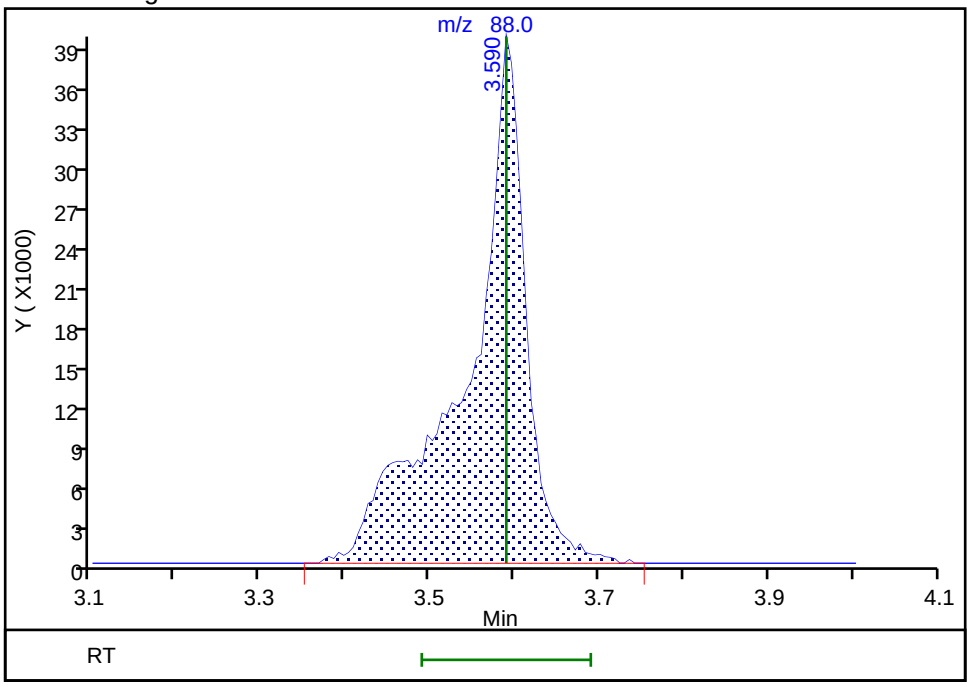
Processing Integration Results

RT: 3.59
Area: 159725
Amount: 6.562640
Amount Units: ug/ml



Manual Integration Results

RT: 3.59
Area: 192657
Amount: 7.915721
Amount Units: ug/ml



Reviewer: monbornee, 26-Aug-2020 12:53:06

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

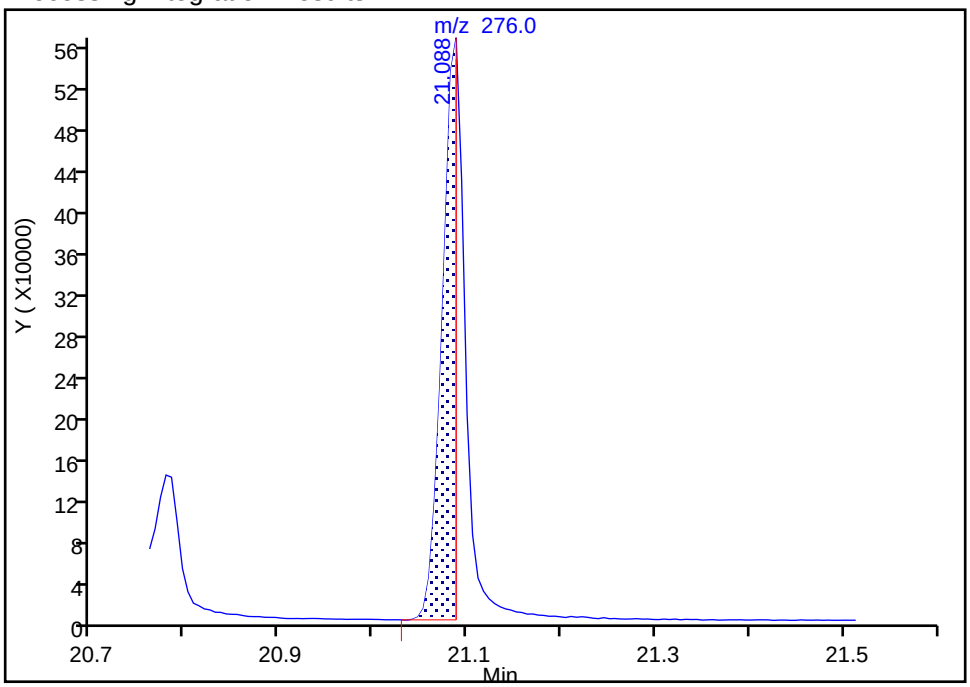
Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200826-8979.b\DH1511.D				
Injection Date:	26-Aug-2020 12:17:30	Instrument ID:	HP19760		
Lims ID:	CCVIS L5				
Client ID:					
Operator ID:	em10340	ALS Bottle#:	2	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

148 Benzo[g,h,i]perylene, CAS: 191-24-2

Signal: 1

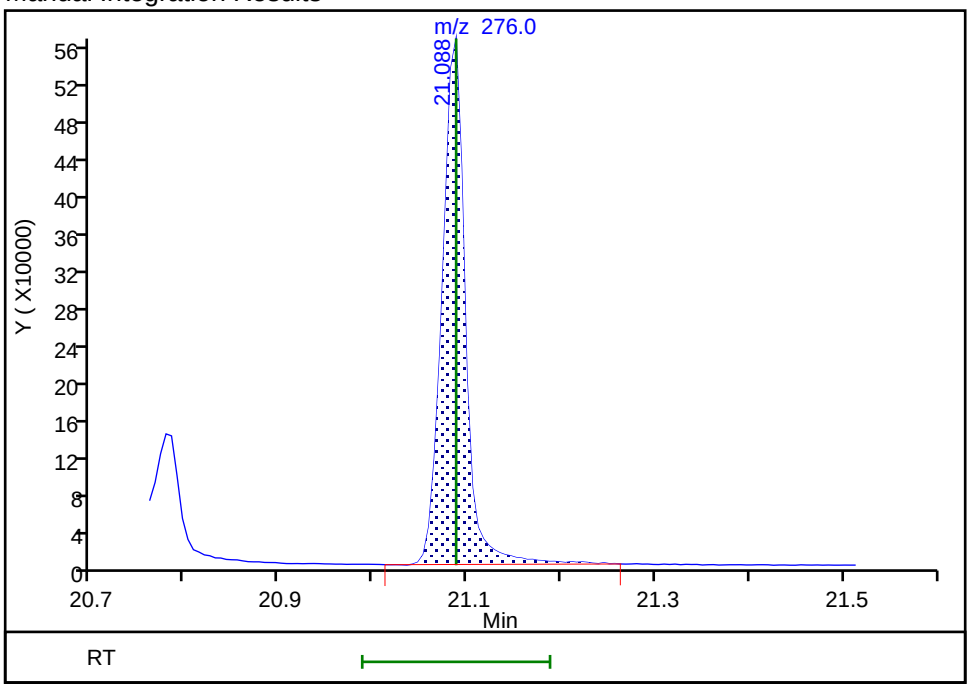
Processing Integration Results

RT: 21.09
Area: 551504
Amount: 3.862545
Amount Units: ug/ml



Manual Integration Results

RT: 21.09
Area: 960173
Amount: 6.658137
Amount Units: ug/ml



Reviewer: monbornee, 26-Aug-2020 12:53:46

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1950z.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 31-Jul-2020 15:03:30 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: DFTPP
Misc. Info.: 410-0007009-001
Operator ID: lmh00956 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 04-Aug-2020 14:15:02 Calib Date: 31-Jul-2020 19:41:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1958.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1046

First Level Reviewer: hartenstinel Date: 31-Jul-2020 16:02:15

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
6 Pentachlorophenol_T	266	4.471	4.471	0.000	88	294515	NR	NR	
11 Benzidine_T	184	5.736	5.736	0.000	99	1583945	NR	NR	
172 DFTPP									
174 4,4'-DDE	246	5.897	5.897	0.000	81	1065		NR	
173 4,4'-DDD	235	6.180	6.180	0.000	92	1553		NR	
175 4,4'-DDT	235	6.446	6.446	0.000	96	697843	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

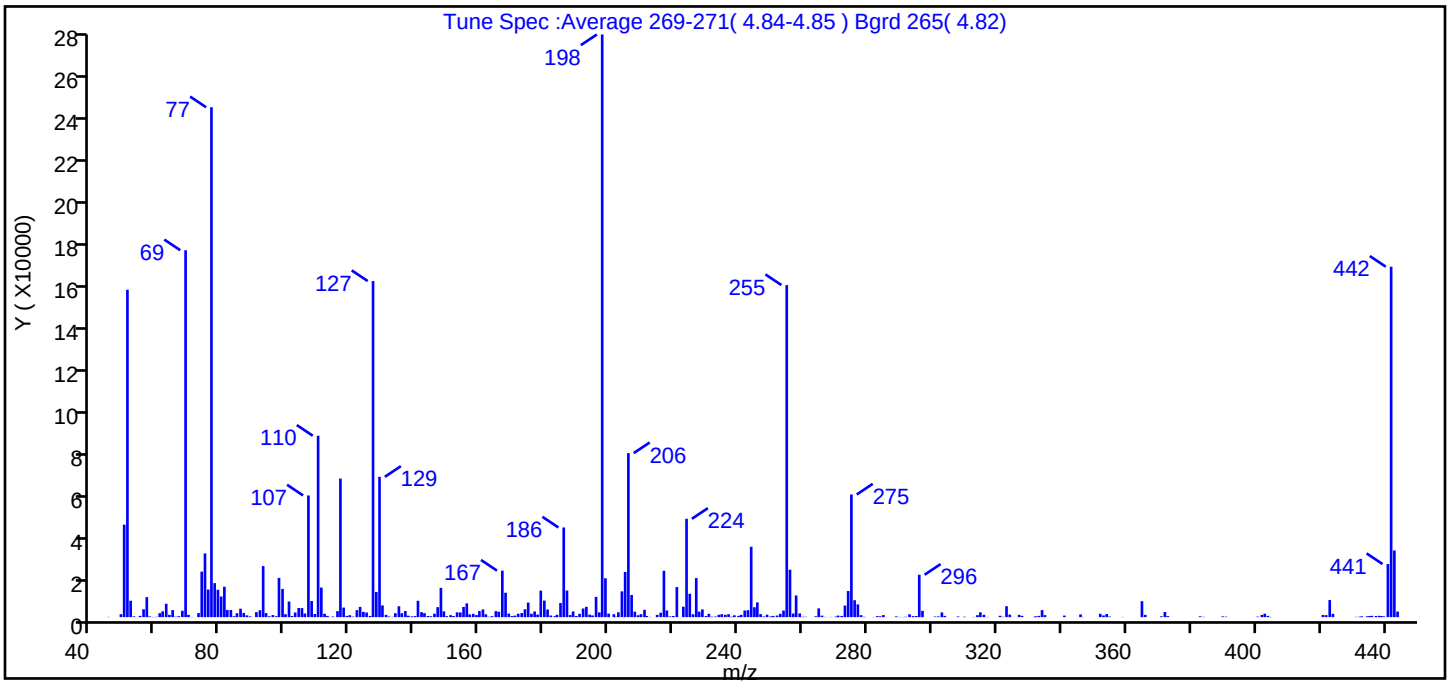
MSS_RVDFTPP_00004 Amount Added: 1.00 Units: mL

MS Tune Report

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1950z.D
Injection Date: 31-Jul-2020 15:03:30 Instrument ID: HP19760
Lims ID: DFTPP
Client ID:
Operator ID: lmh00956 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI
Tune Method: DFTPP Method 8270D, BP 198

172 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	base peak, or >50% of 442	100.0 (166.3)
51	10-80% of the base peak	56.2
68	<2% of mass 69	1.1 (1.7)
69	Present	63.0
70	<2% of mass 69	0.4 (0.6)
127	10-80% of the base peak	57.7
197	<2% of mass 198	0.8
199	5-9% of mass 198	6.7
275	10-60% of the base peak	21.0
365	>1% of mass 198	2.7
441	present but <24% of mass 442	9.1 (15.2)
442	base peak, or >50% of 198	60.1
443	15-24% of mass 442	11.4 (19.0)

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1950z.D\MSSemi_HP19760.rslt\spectra.c
Injection Date: 31-Jul-2020 15:03:30
Spectrum: Tune Spec :Average 269-271(4.84-4.85) Bgrd 265(4.82)
Base Peak: 197.90
Minimum % Base Peak: 0
Number of Points: 298

m/z	Y	m/z	Y	m/z	Y	m/z	Y
45.00	124	127.00	160512	202.00	201	284.00	406
49.00	1408	128.00	12035	203.00	2311	285.00	991
50.00	44192	129.00	67008	204.00	12311	289.00	358
51.00	156352	130.00	5593	205.00	21600	290.00	103
52.00	7815	131.00	1088	206.00	78336	291.00	86
53.00	361	132.00	326	207.00	10599	292.00	185
55.00	605	133.00	138	208.00	2604	293.00	1346
56.00	3769	134.00	1879	209.00	916	294.00	500
57.00	9563	135.00	5178	210.00	1411	295.00	517
58.00	358	136.00	1875	211.00	3501	296.00	20240
59.00	87	137.00	2918	212.00	548	297.00	3002
60.00	152	138.00	697	213.00	95	301.00	288
61.00	1904	139.00	394	215.00	1088	302.00	332
62.00	2764	140.00	505	216.00	2117	303.00	2255
63.00	6376	141.00	7821	217.00	22128	304.00	600
64.00	1078	142.00	2399	218.00	3168	308.00	325
65.00	3364	143.00	1913	219.00	353	310.00	221
66.00	208	144.00	557	220.00	541	313.00	110
67.00	461	145.00	422	221.00	14369	314.00	950
68.00	3042	146.00	1650	223.00	4993	315.00	2296
69.00	175232	147.00	4788	224.00	46968	316.00	1115
70.00	1095	148.00	13988	225.00	11185	317.00	111
71.00	94	149.00	2760	226.00	1370	321.00	650
73.00	1924	150.00	470	227.00	18640	322.00	166
74.00	21736	151.00	958	228.00	2629	323.00	5211
75.00	30440	152.00	539	229.00	3692	324.00	1208
76.00	13192	153.00	2297	230.00	515	327.00	1091
77.00	243520	154.00	2242	231.00	1581	328.00	595
78.00	16241	155.00	4866	232.00	219	332.00	91
79.00	13071	156.00	6584	233.00	300	332.00	430
80.00	9857	157.00	1308	234.00	1108	333.00	606
81.00	14519	158.00	1576	235.00	1399	334.00	3370
82.00	3439	159.00	988	236.00	1131	335.00	971

Report Date: 04-Aug-2020 14:15:02 Chrom Revision: 2.3 30-Jun-2020 12:05:54
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1950z.D\MSSemi_HP19760.rslt\spectra.c
Injection Date: 31-Jul-2020 15:03:30
Spectrum: Tune Spec :Average 269-271(4.84-4.85) Bgrd 265(4.82)
Base Peak: 197.90
Minimum % Base Peak: 0
Number of Points: 298

m/z	Y	m/z	Y	m/z	Y	m/z	Y
83.00	3421	160.00	2906	237.00	1410	341.00	750
84.00	454	161.00	3676	238.00	227	346.00	1291
85.00	1880	162.00	1361	239.00	878	347.00	103
86.00	4035	163.00	182	240.00	632	352.00	1615
87.00	2005	164.00	472	241.00	1116	353.00	799
88.00	858	165.00	2865	242.00	3173	354.00	1485
89.00	360	166.00	2582	243.00	3321	355.00	285
91.00	2401	167.00	22208	244.00	33600	359.00	86
92.00	3302	168.00	11647	245.00	4737	365.00	7618
93.00	24392	169.00	1674	246.00	7024	366.00	1101
94.00	1952	170.00	537	247.00	1468	371.00	397
95.00	406	171.00	712	248.00	310	372.00	2444
96.00	999	172.00	1620	249.00	1175	373.00	496
97.00	437	173.00	1945	250.00	348	383.00	412
98.00	18752	174.00	3753	251.00	589	384.00	142
99.00	13484	175.00	6969	252.00	760	390.00	353
100.00	1388	176.00	1610	253.00	1586	391.00	230
101.00	7473	177.00	2714	254.00	3150	401.00	251
102.00	527	178.00	1207	255.00	158592	402.00	1054
103.00	2210	179.00	12659	256.00	22664	403.00	1639
104.00	4372	180.00	7911	257.00	1732	404.00	570
105.00	4332	181.00	3660	258.00	10364	405.00	84
106.00	1735	182.00	773	259.00	1771	421.00	1054
107.00	58120	183.00	432	260.00	200	422.00	965
108.00	7728	184.00	1123	261.00	167	423.00	8161
109.00	1516	185.00	6728	264.00	406	424.00	1585
110.00	86640	186.00	42824	265.00	4195	431.00	130
111.00	14120	187.00	12707	266.00	720	432.00	214
112.00	1617	188.00	995	267.00	96	433.00	398
113.00	618	189.00	2714	269.00	108	435.00	411
115.00	289	190.00	550	270.00	278	435.00	545
116.00	2861	191.00	1570	271.00	731	436.00	629
117.00	66192	192.00	4137	272.00	590	437.00	551
118.00	4572	193.00	4936	273.00	5543	438.00	643

Report Date: 04-Aug-2020 14:15:02 Chrom Revision: 2.3 30-Jun-2020 12:05:54
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1950z.D\MSSemi_HP19760.rslt\spectra.c
Injection Date: 31-Jul-2020 15:03:30
Spectrum: Tune Spec :Average 269-271(4.84-4.85) Bgrd 265(4.82)
Base Peak: 197.90
Minimum % Base Peak: 0
Number of Points: 298

m/z	Y	m/z	Y	m/z	Y	m/z	Y
119.00	614	194.00	1196	274.00	12474	439.00	513
120.00	930	195.00	812	275.00	58568	440.00	370
121.00	248	196.00	9688	276.00	8089	441.00	25360
122.00	3359	197.00	2254	277.00	6083	442.00	167360
123.00	4886	198.00	278272	278.00	943	443.00	31832
124.00	2524	199.00	18560	279.00	158	444.00	2665
125.00	2221	200.00	1676	282.00	86		
126.00	591	202.00	1407	283.00	490		

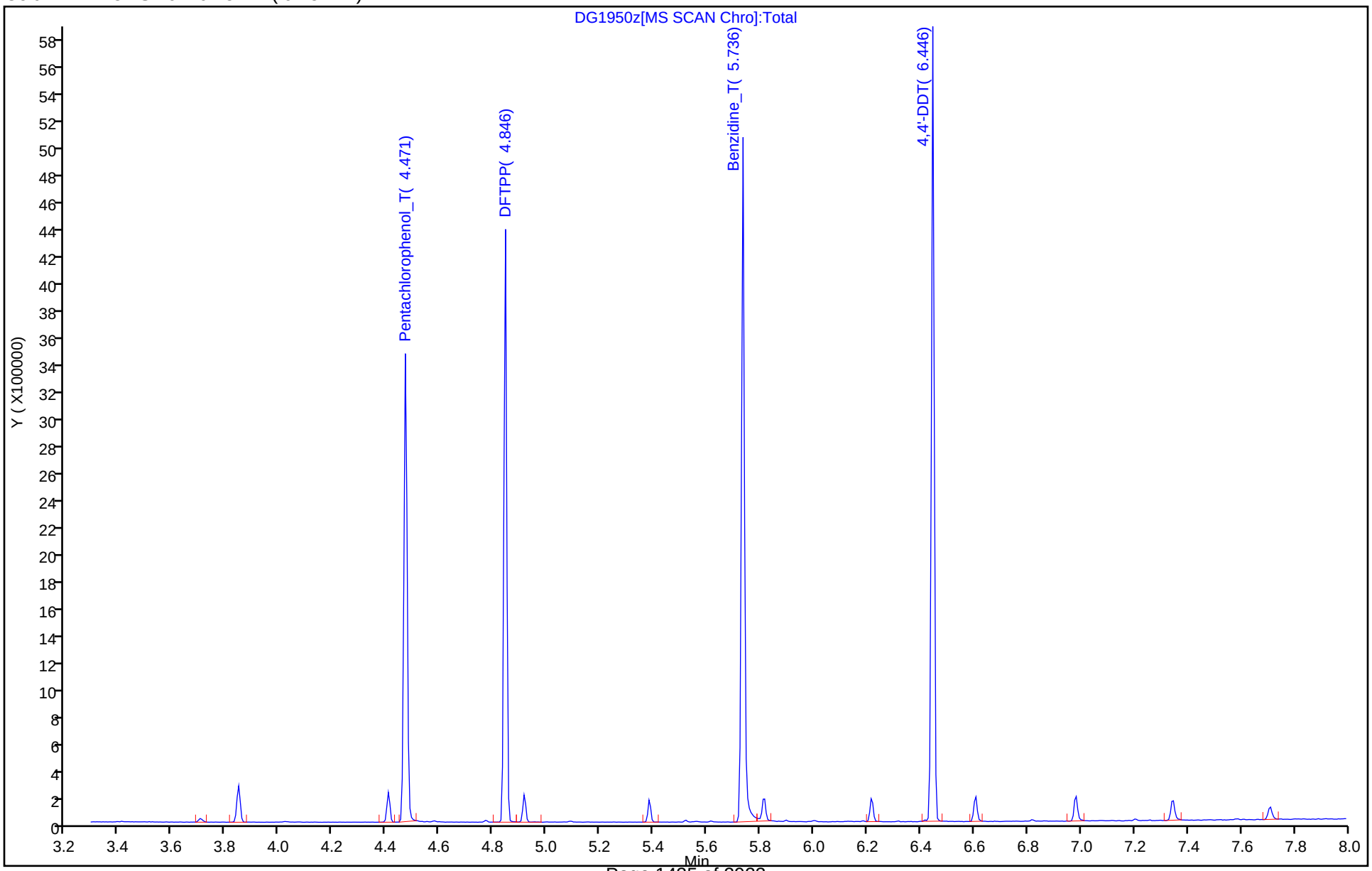
Report Date: 04-Aug-2020 14:15:02 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1950z.D

Injection Date:	31-Jul-2020 15:03:30	Instrument ID:	HP19760	Operator ID:	lmh00956
Lims ID:	DFTPP			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



Breakdown Report

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1950z.D
Injection Date: 31-Jul-2020 15:03:30 Instrument ID: HP19760
Lims ID: DFTPP
Client ID:
Operator ID: lmh00956 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI

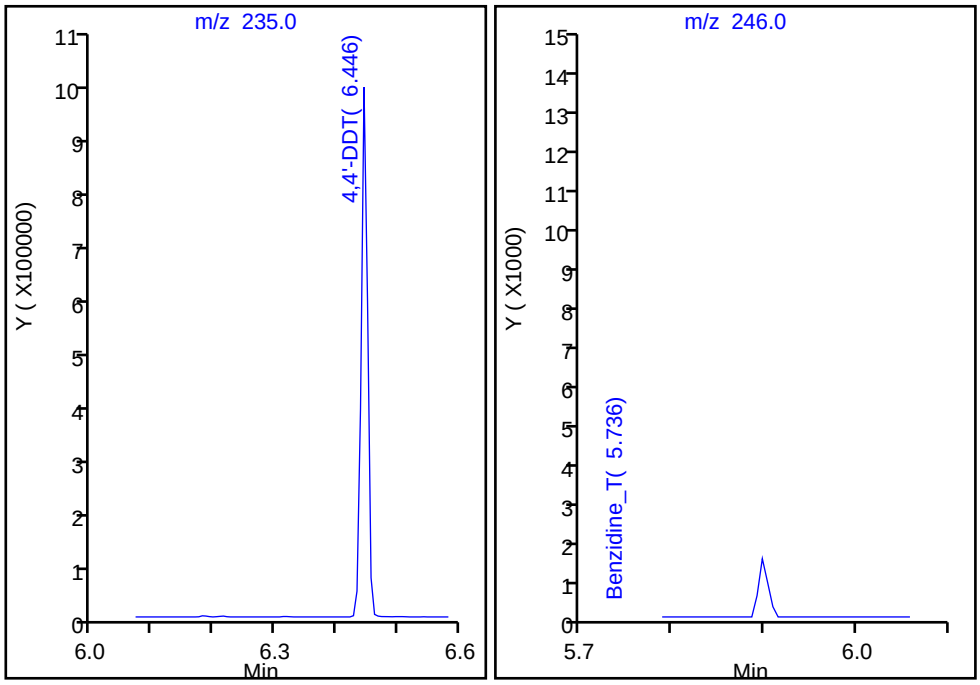
175 4,4'-DDT, Detector: MS SCAN

SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

175 4,4'-DDT, Area = 697843
173 4,4'-DDD, Area = 1553
174 4,4'-DDE, Area = 1065

%Breakdown: 0.37%, <= 20.00%
Passed



Peak Tailing Report

Eurofins Lancaster Laboratories Env, LLC

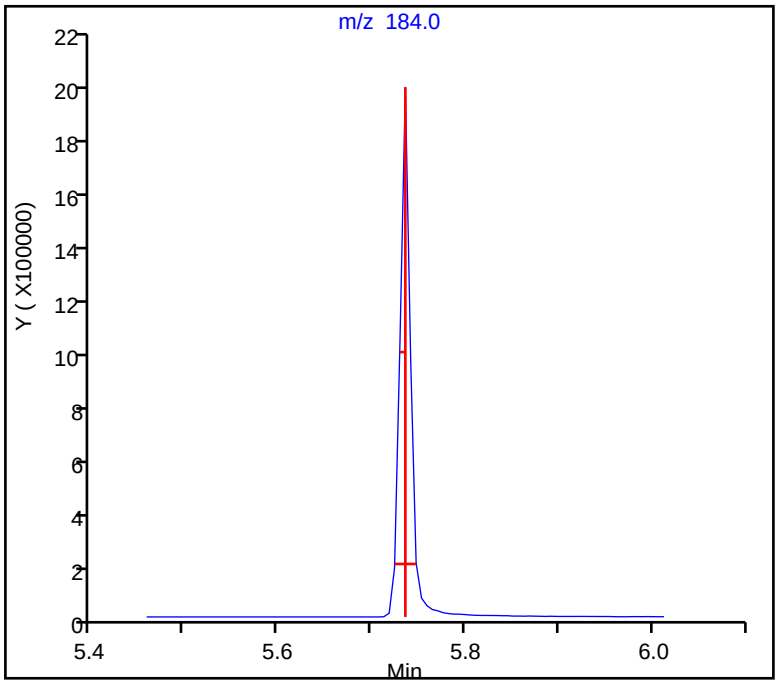
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1950z.D
Injection Date: 31-Jul-2020 15:03:30 Instrument ID: HP19760
Lims ID: DFTPP
Client ID:
Operator ID: lmh00956 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI

11 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.012 (min.)
Front Width = 0.011 (min.)

Tailing Factor = 1.1, Max. Tailing < 2.00
Passed



Peak Tailing Report

Eurofins Lancaster Laboratories Env, LLC

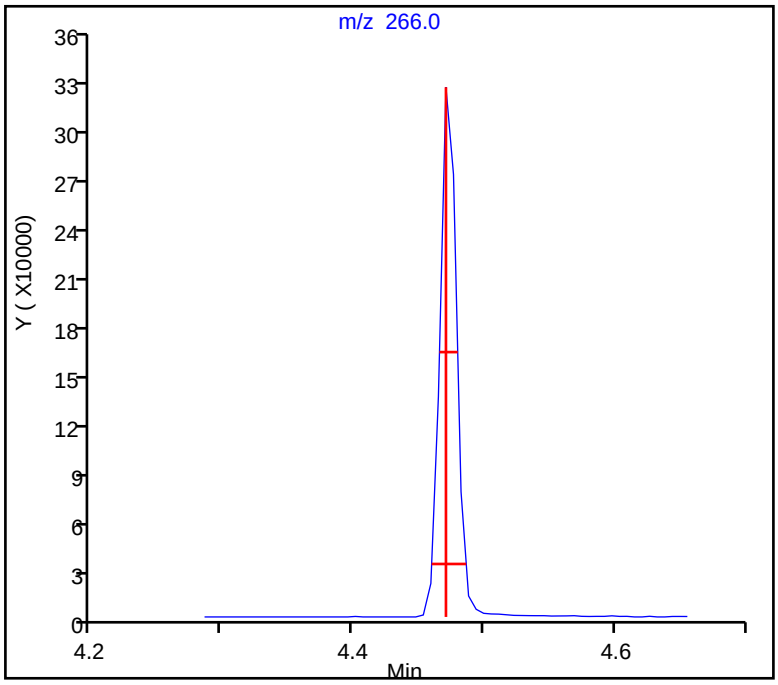
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200731-7009.b\DG1950z.D
Injection Date: 31-Jul-2020 15:03:30 Instrument ID: HP19760
Lims ID: DFTPP
Client ID:
Operator ID: lmh00956 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI

6 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.016 (min.)
Front Width = 0.011 (min.)

Tailing Factor = 1.5, Max. Tailing < 2.00
Passed



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1000.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 18-Aug-2020 09:30:30 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: DFTPP
Misc. Info.: 410-0008313-001
Operator ID: em10340 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 19-Aug-2020 08:05:46 Calib Date: 14-Aug-2020 02:06:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200813-8022.b\DH0756.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1035

First Level Reviewer: monbornee Date: 18-Aug-2020 09:53:31

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
6 Pentachlorophenol_T	266	4.361	4.361	0.000	90	378872	NR	NR	
11 Benzidine_T	184	5.614	5.614	0.000	99	1979487	NR	NR	
172 DFTPP									
174 4,4'-DDE	246	5.776	5.776	0.000	84	1683		NR	
173 4,4'-DDD	235	6.076	6.076	0.000	53	2440		NR	
175 4,4'-DDT	235	6.302	6.302	0.000	97	943311	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

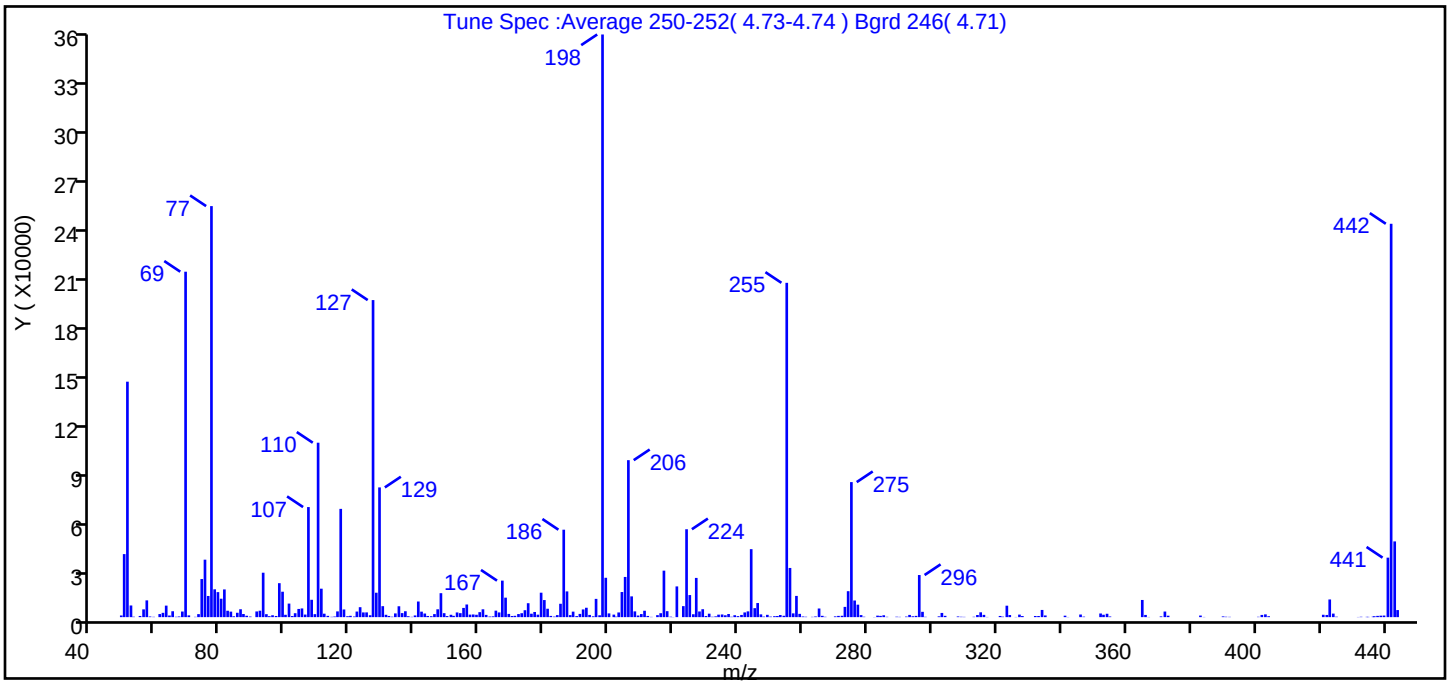
MSS_RVDFTPP_00004 Amount Added: 1.00 Units: mL

MS Tune Report

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1000.D
Injection Date: 18-Aug-2020 09:30:30 Instrument ID: HP19760
Lims ID: DFTPP
Client ID:
Operator ID: em10340 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI
Tune Method: DFTPP Method 8270D, BP 198

172 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	base peak, or >50% of 442	100.0 (148.1)
51	10-80% of the base peak	40.4
68	<2% of mass 69	1.0 (1.6)
69	Present	59.3
70	<2% of mass 69	0.3 (0.5)
127	10-80% of the base peak	54.4
197	<2% of mass 198	0.3
199	5-9% of mass 198	6.8
275	10-60% of the base peak	23.2
365	>1% of mass 198	2.9
441	present but <24% of mass 442	10.2 (15.1)
442	base peak, or >50% of 198	67.5
443	15-24% of mass 442	13.0 (19.3)

Report Date: 19-Aug-2020 08:05:47 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1000.D\MSSemi_HP19760.rslt\spectra.d
Injection Date: 18-Aug-2020 09:30:30
Spectrum: Tune Spec :Average 250-252(4.73-4.74) Bgrd 246(4.71)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 299

m/z	Y	m/z	Y	m/z	Y	m/z	Y
49.00	1024	128.00	15034	203.00	2884	285.00	1152
50.00	38808	129.00	79872	204.00	15461	286.00	212
51.00	144960	130.00	6758	205.00	24744	289.00	262
52.00	7183	131.00	1448	206.00	96640	290.00	178
53.00	269	132.00	731	207.00	12790	292.00	349
55.00	725	133.00	272	208.00	3545	293.00	1375
56.00	4793	134.00	2294	209.00	997	294.00	543
57.00	10325	135.00	6699	210.00	1894	295.00	783
58.00	396	136.00	2493	211.00	3941	296.00	25928
59.00	199	137.00	3631	212.00	746	297.00	3277
61.00	1898	138.00	567	213.00	163	298.00	207
62.00	2659	139.00	186	215.00	1228	302.00	488
63.00	7093	140.00	1045	216.00	2426	303.00	2588
64.00	1006	141.00	9629	217.00	28624	304.00	808
65.00	3630	142.00	3380	218.00	3682	308.00	420
66.00	220	143.00	2223	219.00	276	309.00	231
67.00	405	144.00	723	220.00	85	310.00	169
68.00	3463	145.00	565	221.00	18920	313.00	229
69.00	212672	146.00	1872	223.00	6780	314.00	1321
70.00	1083	147.00	4837	224.00	54120	315.00	2977
72.00	189	148.00	14750	225.00	13597	316.00	1399
73.00	1857	149.00	2440	226.00	1785	317.00	121
74.00	23464	150.00	670	227.00	24152	321.00	724
75.00	35376	151.00	1462	228.00	3496	322.00	304
76.00	13034	152.00	813	229.00	4879	323.00	7049
77.00	253056	153.00	2887	230.00	683	324.00	1301
78.00	17136	154.00	2456	231.00	2131	326.00	109
79.00	15408	155.00	5679	232.00	240	327.00	1564
80.00	11348	156.00	7787	233.00	476	328.00	672
81.00	17064	157.00	1559	234.00	1530	332.00	711
82.00	3934	158.00	1649	235.00	1645	333.00	695
83.00	3394	159.00	1471	236.00	1150	334.00	4431
84.00	520	160.00	3070	237.00	1937	335.00	1029

Report Date: 19-Aug-2020 08:05:47 Chrom Revision: 2.3 17-Aug-2020 20:42:08
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1000.D\MSSemi_HP19760.rslt\spectra.d
Injection Date: 18-Aug-2020 09:30:30
Spectrum: Tune Spec :Average 250-252(4.73-4.74) Bgrd 246(4.71)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 299

m/z	Y	m/z	Y	m/z	Y	m/z	Y
85.00	2694	161.00	4831	238.00	241	341.00	898
86.00	4860	162.00	1387	239.00	1181	342.00	99
87.00	1925	163.00	375	240.00	632	346.00	1615
88.00	857	164.00	488	241.00	1349	347.00	305
89.00	368	165.00	3989	242.00	2906	352.00	2250
91.00	3512	166.00	2888	243.00	3555	353.00	1482
92.00	3952	167.00	22480	244.00	41856	354.00	2083
93.00	27352	168.00	11994	245.00	5528	355.00	406
94.00	1824	169.00	1987	246.00	8683	365.00	10574
95.00	606	170.00	707	247.00	1708	366.00	1357
96.00	1154	171.00	825	248.00	329	367.00	114
97.00	718	172.00	1899	249.00	1426	371.00	458
98.00	20912	173.00	2420	250.00	334	372.00	3452
99.00	15651	174.00	4263	251.00	580	373.00	886
100.00	1451	175.00	8579	252.00	689	383.00	979
101.00	8345	176.00	2111	253.00	1313	384.00	114
102.00	677	177.00	3179	254.00	840	390.00	448
103.00	2415	178.00	1523	255.00	205824	391.00	251
104.00	5052	179.00	15048	256.00	30288	392.00	188
105.00	5361	180.00	10516	257.00	2326	401.00	219
106.00	1587	181.00	5176	258.00	13070	402.00	1361
107.00	67768	182.00	769	259.00	2021	403.00	1711
108.00	10689	183.00	331	260.00	399	404.00	564
109.00	1839	184.00	1249	261.00	244	421.00	1466
110.00	107392	185.00	8231	263.00	181	422.00	1352
111.00	17520	186.00	53840	264.00	414	423.00	10887
112.00	2120	187.00	15846	265.00	5323	424.00	2180
113.00	795	188.00	1242	266.00	807	425.00	274
114.00	197	189.00	3392	267.00	221	432.00	107
115.00	379	190.00	644	270.00	469	433.00	231
116.00	3541	191.00	1997	271.00	776	434.00	187
117.00	66656	192.00	4748	272.00	842	435.00	158
118.00	4721	193.00	5786	273.00	6315	436.00	334
119.00	568	194.00	1368	274.00	15979	437.00	532

Report Date: 19-Aug-2020 08:05:47 Chrom Revision: 2.3 17-Aug-2020 20:42:08
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1000.D\MSSemi_HP19760.rslt\spectra.d
Injection Date: 18-Aug-2020 09:30:30
Spectrum: Tune Spec :Average 250-252(4.73-4.74) Bgrd 246(4.71)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 299

m/z	Y	m/z	Y	m/z	Y	m/z	Y
120.00	820	195.00	507	275.00	83136	438.00	781
121.00	372	196.00	11243	276.00	10250	439.00	904
122.00	3443	197.00	1147	277.00	7676	440.00	978
123.00	6131	198.00	358720	278.00	1263	441.00	36624
124.00	2907	199.00	24232	279.00	251	442.00	242176
125.00	2924	200.00	2301	282.00	90	443.00	46624
126.00	1162	202.00	1559	283.00	920	444.00	4357
127.00	195200	202.00	292	284.00	782		

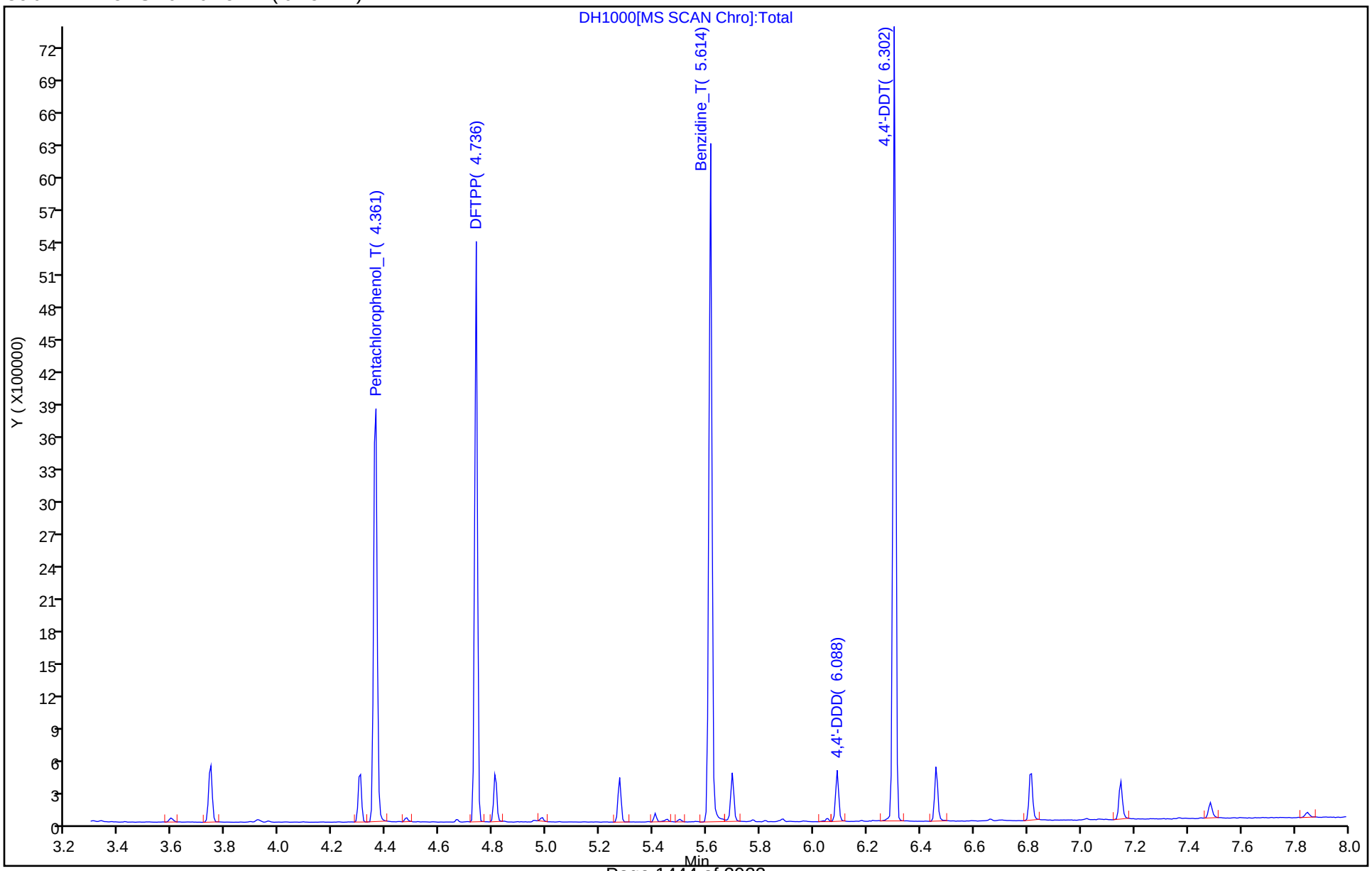
Report Date: 19-Aug-2020 08:05:47 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1000.D

Injection Date:	18-Aug-2020 09:30:30	Instrument ID:	HP19760	Operator ID:	em10340
Lims ID:	DFTPP			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



Breakdown Report

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1000.D
Injection Date: 18-Aug-2020 09:30:30 Instrument ID: HP19760
Lims ID: DFTPP
Client ID:
Operator ID: em10340 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI

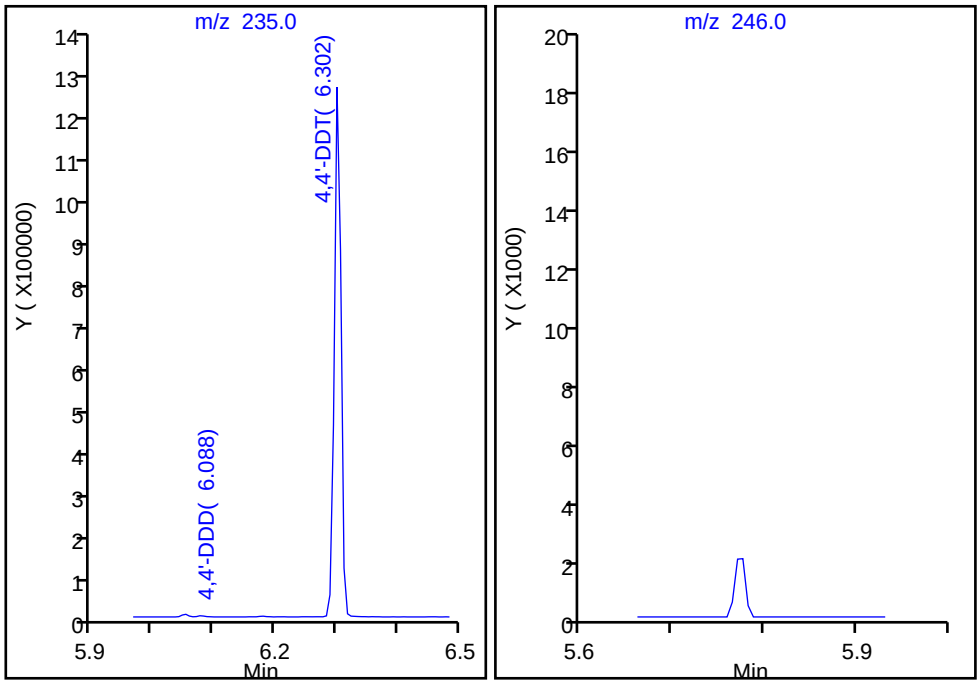
175 4,4'-DDT, Detector: MS SCAN

SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

175 4,4'-DDT, Area = 943311
173 4,4'-DDD, Area = 2440
174 4,4'-DDE, Area = 1683

%Breakdown: 0.44%, <= 20.00%
Passed



Peak Tailing Report

Eurofins Lancaster Laboratories Env, LLC

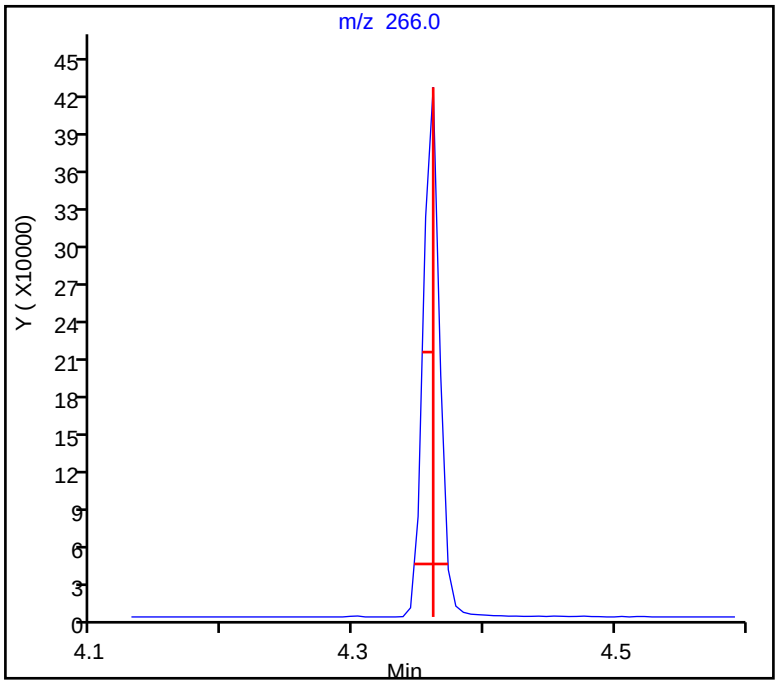
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1000.D
Injection Date: 18-Aug-2020 09:30:30 Instrument ID: HP19760
Lims ID: DFTPP
Client ID:
Operator ID: em10340 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI

6 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.011 (min.)
Front Width = 0.015 (min.)

Tailing Factor = 0.7, Max. Tailing < 2.00
Passed



Peak Tailing Report

Eurofins Lancaster Laboratories Env, LLC

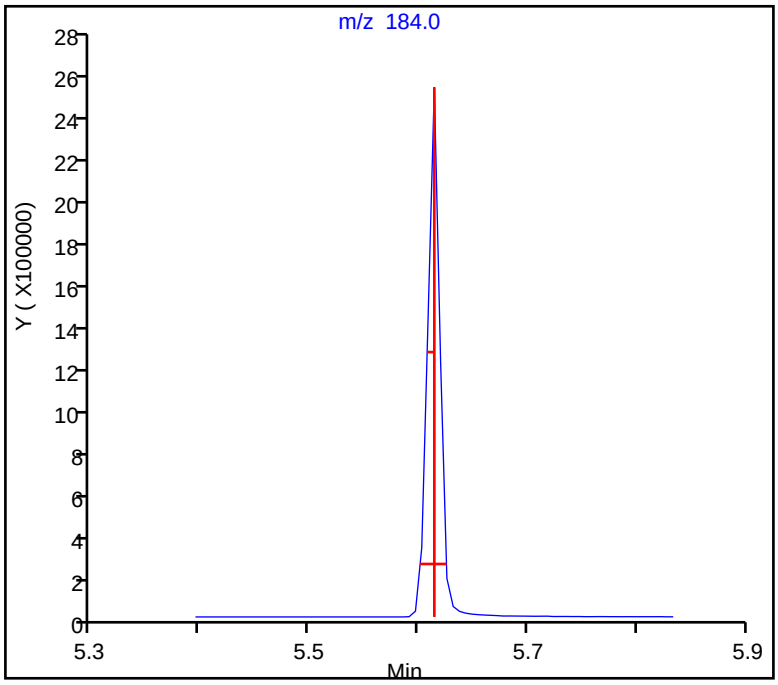
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1000.D
Injection Date: 18-Aug-2020 09:30:30 Instrument ID: HP19760
Lims ID: DFTPP
Client ID:
Operator ID: em10340 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI

11 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.011 (min.)
Front Width = 0.013 (min.)

Tailing Factor = 0.9, Max. Tailing < 2.00
Passed



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200819-8418.b\DH1050.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 19-Aug-2020 08:02:30 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: DFTPP
Misc. Info.: 410-0008418-001
Operator ID: em10340 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200819-8418.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 19-Aug-2020 18:02:34 Calib Date: 14-Aug-2020 02:06:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200813-8022.b\DH0756.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1012

First Level Reviewer: monbornee Date: 19-Aug-2020 09:14:36

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
6 Pentachlorophenol_T	266	4.373	4.373	0.000	90	302226	NR	NR	
11 Benzidine_T	184	5.632	5.632	0.000	99	1482018	NR	NR	
172 DFTPP									
174 4,4'-DDE	246	5.793	5.793	0.000	86	1792		NR	
173 4,4'-DDD	235	6.082	6.082	0.000	95	24625		NR	
175 4,4'-DDT	235	6.336	6.336	0.000	97	663767	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

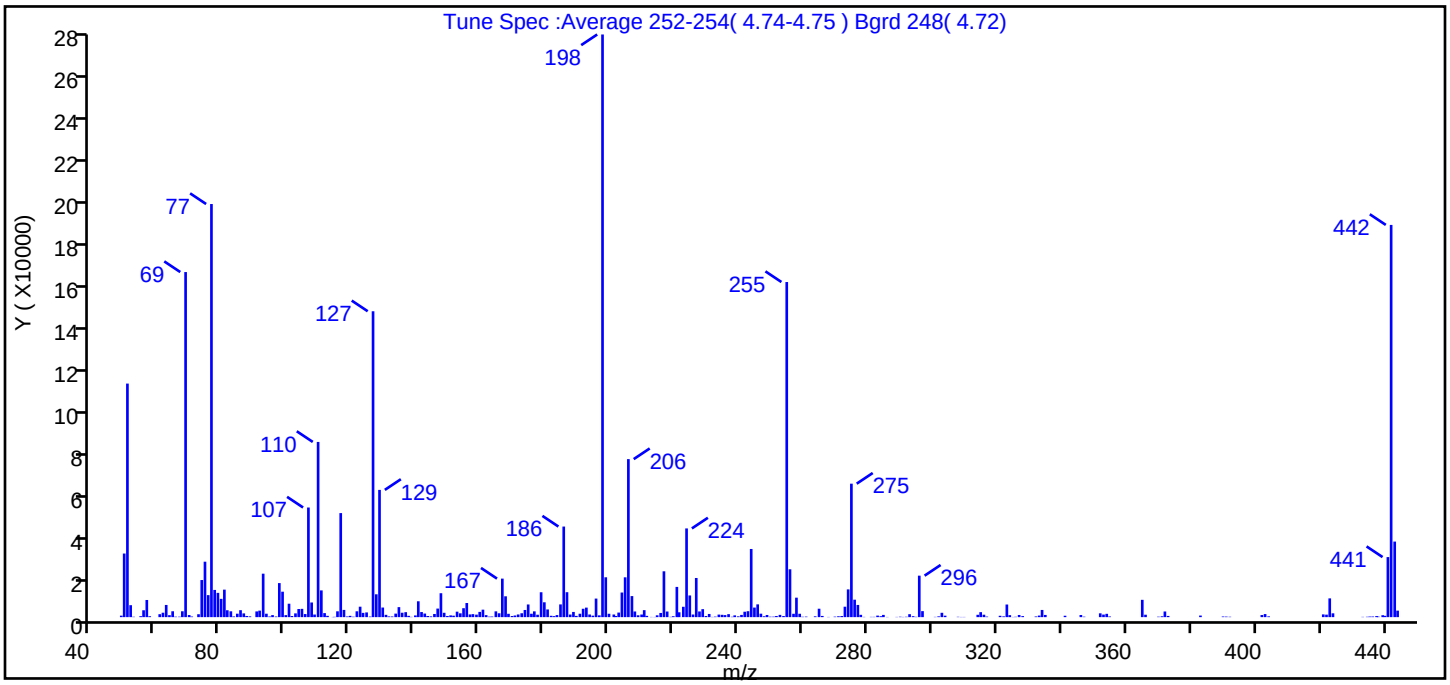
MSS_RVDFTPP_00004 Amount Added: 1.00 Units: mL

MS Tune Report

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200819-8418.b\DH1050.D
Injection Date: 19-Aug-2020 08:02:30 Instrument ID: HP19760
Lims ID: DFTPP
Client ID:
Operator ID: em10340 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI
Tune Method: DFTPP Method 8270D, BP 198

172 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	base peak, or >50% of 442	100.0 (148.6)
51	10-80% of the base peak	40.1
68	<2% of mass 69	1.0 (1.7)
69	Present	59.2
70	<2% of mass 69	0.4 (0.6)
127	10-80% of the base peak	52.5
197	<2% of mass 198	0.3
199	5-9% of mass 198	6.8
275	10-60% of the base peak	22.9
365	>1% of mass 198	3.0
441	present but <24% of mass 442	10.3 (15.3)
442	base peak, or >50% of 198	67.3
443	15-24% of mass 442	13.0 (19.3)

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200819-8418.b\DH1050.D\MSSemi_HP19760.rslt\spectra.d
Injection Date: 19-Aug-2020 08:02:30
Spectrum: Tune Spec :Average 252-254(4.74-4.75) Bgrd 248(4.72)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 296

m/z	Y	m/z	Y	m/z	Y	m/z	Y
49.00	696	128.00	10707	202.00	533	281.00	131
50.00	29800	129.00	59616	203.00	2139	282.00	135
51.00	109416	130.00	4500	204.00	11532	283.00	718
52.00	5601	131.00	1083	205.00	18656	284.00	430
53.00	182	132.00	349	206.00	74032	285.00	1051
55.00	450	133.00	313	207.00	9866	286.00	90
56.00	3220	134.00	1652	208.00	2651	289.00	105
57.00	8038	135.00	4692	209.00	868	290.00	200
58.00	426	136.00	2069	210.00	1223	291.00	100
61.00	1380	137.00	2332	211.00	3275	292.00	179
62.00	2074	138.00	615	212.00	606	293.00	1386
63.00	5708	139.00	126	213.00	99	294.00	454
64.00	927	140.00	795	214.00	83	295.00	154
65.00	2757	141.00	7433	215.00	857	296.00	19432
66.00	219	142.00	2386	216.00	1963	297.00	2817
67.00	218	143.00	1676	217.00	21480	301.00	125
68.00	2751	144.00	532	218.00	2634	302.00	366
69.00	161664	145.00	353	219.00	143	303.00	2039
70.00	985	146.00	1480	220.00	424	304.00	682
71.00	288	147.00	4012	221.00	14166	308.00	162
73.00	1362	148.00	11210	222.00	2266	309.00	93
74.00	17384	149.00	2044	223.00	4858	310.00	98
75.00	25976	150.00	546	224.00	41560	314.00	1104
76.00	10313	151.00	825	225.00	10161	315.00	2335
77.00	193536	152.00	683	226.00	1232	316.00	1135
78.00	12750	153.00	2565	227.00	18344	317.00	260
79.00	11371	154.00	1793	228.00	2665	321.00	634
80.00	8572	155.00	4189	229.00	3742	322.00	359
81.00	12880	156.00	6622	230.00	529	323.00	5915
82.00	3227	157.00	1274	231.00	1492	324.00	929
83.00	2736	158.00	1411	232.00	105	325.00	83
84.00	325	159.00	1179	233.00	248	326.00	174
85.00	1613	160.00	2460	234.00	1195	327.00	1012

Report Date: 19-Aug-2020 18:02:34 Chrom Revision: 2.3 17-Aug-2020 20:42:08
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200819-8418.b\DH1050.D\MSSemi_HP19760.rslt\spectra.d
Injection Date: 19-Aug-2020 08:02:30
Spectrum: Tune Spec :Average 252-254(4.74-4.75) Bgrd 248(4.72)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 296

m/z	Y	m/z	Y	m/z	Y	m/z	Y
86.00	3260	161.00	3498	235.00	1092	328.00	493
87.00	1757	162.00	942	236.00	960	332.00	319
88.00	545	163.00	235	237.00	1400	333.00	737
89.00	358	164.00	282	238.00	176	334.00	3372
91.00	2684	165.00	2714	239.00	828	335.00	1032
92.00	3049	166.00	1813	240.00	371	341.00	653
93.00	20360	167.00	18048	241.00	1044	346.00	1006
94.00	1606	168.00	9768	242.00	2536	347.00	213
95.00	307	169.00	1566	243.00	2785	352.00	1789
96.00	950	170.00	527	244.00	31936	353.00	1202
97.00	287	171.00	769	245.00	4489	354.00	1556
98.00	15954	172.00	1247	246.00	5984	355.00	314
99.00	11920	173.00	1824	247.00	1622	365.00	8109
100.00	943	174.00	3358	248.00	404	366.00	1135
101.00	6290	175.00	5938	249.00	1011	370.00	213
102.00	532	176.00	1593	250.00	220	371.00	392
103.00	1765	177.00	2711	251.00	234	372.00	2649
104.00	3805	178.00	1132	252.00	533	373.00	569
105.00	3886	179.00	11663	253.00	1066	383.00	743
106.00	1452	180.00	6959	254.00	512	390.00	301
107.00	51360	181.00	3606	255.00	156992	391.00	257
108.00	6866	182.00	639	256.00	22416	392.00	181
109.00	1222	183.00	467	257.00	1580	402.00	985
110.00	82080	184.00	963	258.00	9125	403.00	1447
111.00	12532	185.00	5964	259.00	1583	404.00	368
112.00	1891	186.00	42440	260.00	182	421.00	1290
113.00	615	187.00	11691	261.00	252	422.00	1170
115.00	86	188.00	1222	264.00	382	423.00	8792
115.00	134	189.00	2439	265.00	3945	424.00	1797
116.00	2738	190.00	589	266.00	563	433.00	125
117.00	48744	191.00	1600	268.00	97	435.00	172
118.00	3392	192.00	3928	270.00	236	435.00	279
119.00	304	193.00	4464	271.00	406	436.00	296
120.00	602	194.00	1234	272.00	514	438.00	509

Report Date: 19-Aug-2020 18:02:34 Chrom Revision: 2.3 17-Aug-2020 20:42:08
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200819-8418.b\DH1050.D\MSSemi_HP19760.rslt\spectra.d
Injection Date: 19-Aug-2020 08:02:30
Spectrum: Tune Spec :Average 252-254(4.74-4.75) Bgrd 248(4.72)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 296

m/z	Y	m/z	Y	m/z	Y	m/z	Y
121.00	203	195.00	696	273.00	4889	438.00	265
122.00	2745	196.00	8698	274.00	13001	439.00	900
123.00	4893	197.00	832	275.00	62528	440.00	624
124.00	1998	198.00	272960	276.00	8179	441.00	28136
125.00	2210	199.00	18672	277.00	5716	442.00	183744
126.00	265	200.00	1584	278.00	1089	443.00	35400
127.00	143296	202.00	1234	279.00	115	444.00	3046

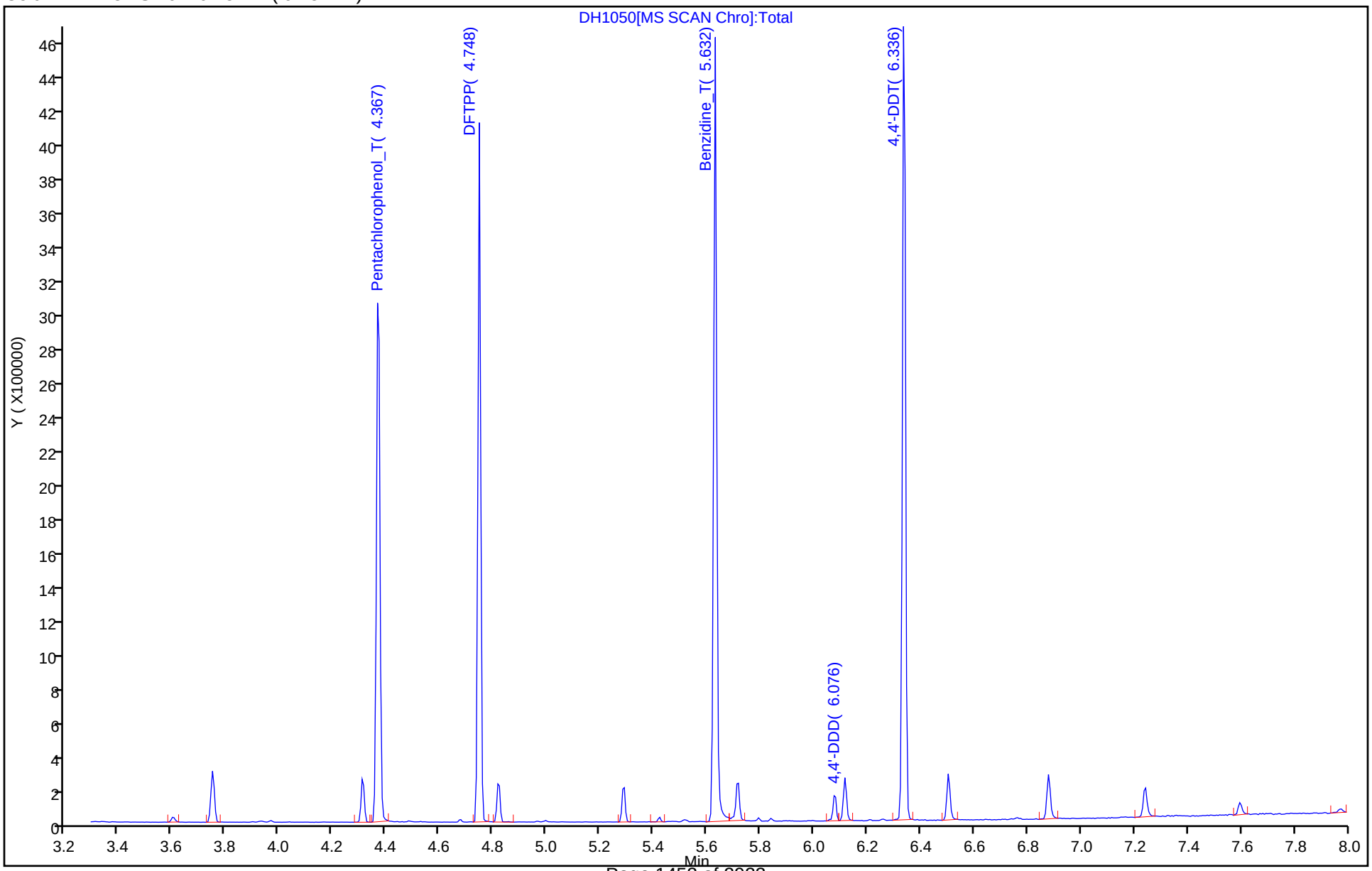
Report Date: 19-Aug-2020 18:02:34 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200819-8418.b\DH1050.D

Injection Date:	19-Aug-2020 08:02:30	Instrument ID:	HP19760	Operator ID:	em10340
Lims ID:	DFTPP			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



Breakdown Report

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200819-8418.b\DH1050.D
Injection Date: 19-Aug-2020 08:02:30 Instrument ID: HP19760
Lims ID: DFTPP
Client ID:
Operator ID: em10340 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI

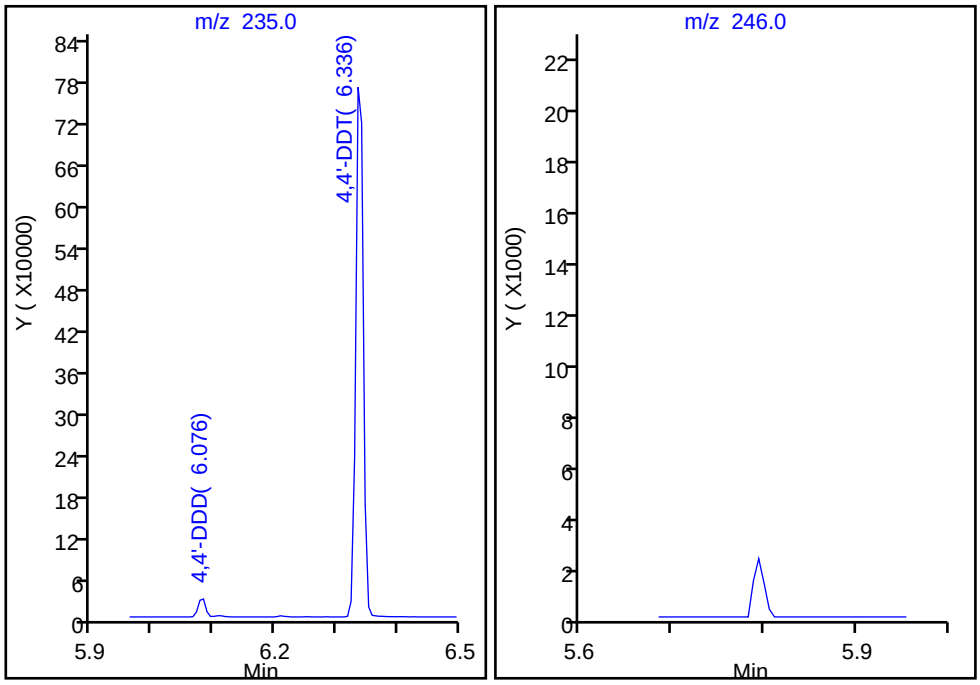
175 4,4'-DDT, Detector: MS SCAN

SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

175 4,4'-DDT, Area = 663767
173 4,4'-DDD, Area = 24625
174 4,4'-DDE, Area = 1792

%Breakdown: 3.83%, <= 20.00%
Passed



Peak Tailing Report

Eurofins Lancaster Laboratories Env, LLC

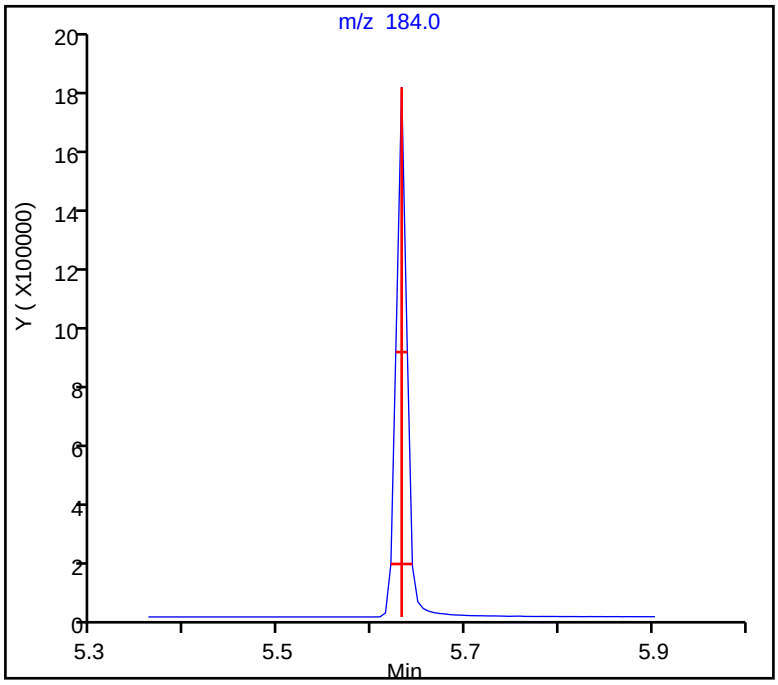
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200819-8418.b\DH1050.D
Injection Date: 19-Aug-2020 08:02:30 Instrument ID: HP19760
Lims ID: DFTPP
Client ID:
Operator ID: em10340 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI

11 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.011 (min.)
Front Width = 0.012 (min.)

Tailing Factor = 0.9, Max. Tailing < 2.00
Passed



Peak Tailing Report

Eurofins Lancaster Laboratories Env, LLC

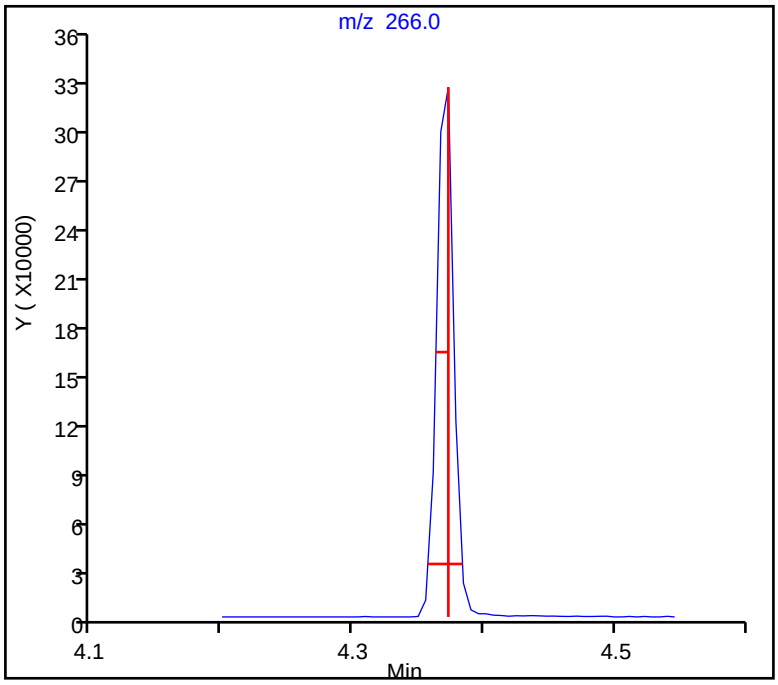
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200819-8418.b\DH1050.D
Injection Date: 19-Aug-2020 08:02:30 Instrument ID: HP19760
Lims ID: DFTPP
Client ID:
Operator ID: em10340 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI

6 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.011 (min.)
Front Width = 0.016 (min.)

Tailing Factor = 0.7, Max. Tailing < 2.00
Passed



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1400a.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 24-Aug-2020 20:29:30 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: DFTPP
Misc. Info.: 410-0008846-001
Operator ID: sw30417 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 25-Aug-2020 13:51:10 Calib Date: 25-Aug-2020 02:23:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1408.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1066

First Level Reviewer: williamss Date: 24-Aug-2020 20:59:38

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
6 Pentachlorophenol_T	266	4.315	4.315	0.000	90	340145	NR	NR	
11 Benzidine_T	184	5.580	5.580	0.000	99	1697805	NR	NR	
172 DFTPP									
174 4,4'-DDE	246	5.736	5.736	0.000	87	1059		NR	
173 4,4'-DDD	235	6.024	6.024	0.000	92	2288		NR	
175 4,4'-DDT	235	6.284	6.284	0.000	97	868876	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

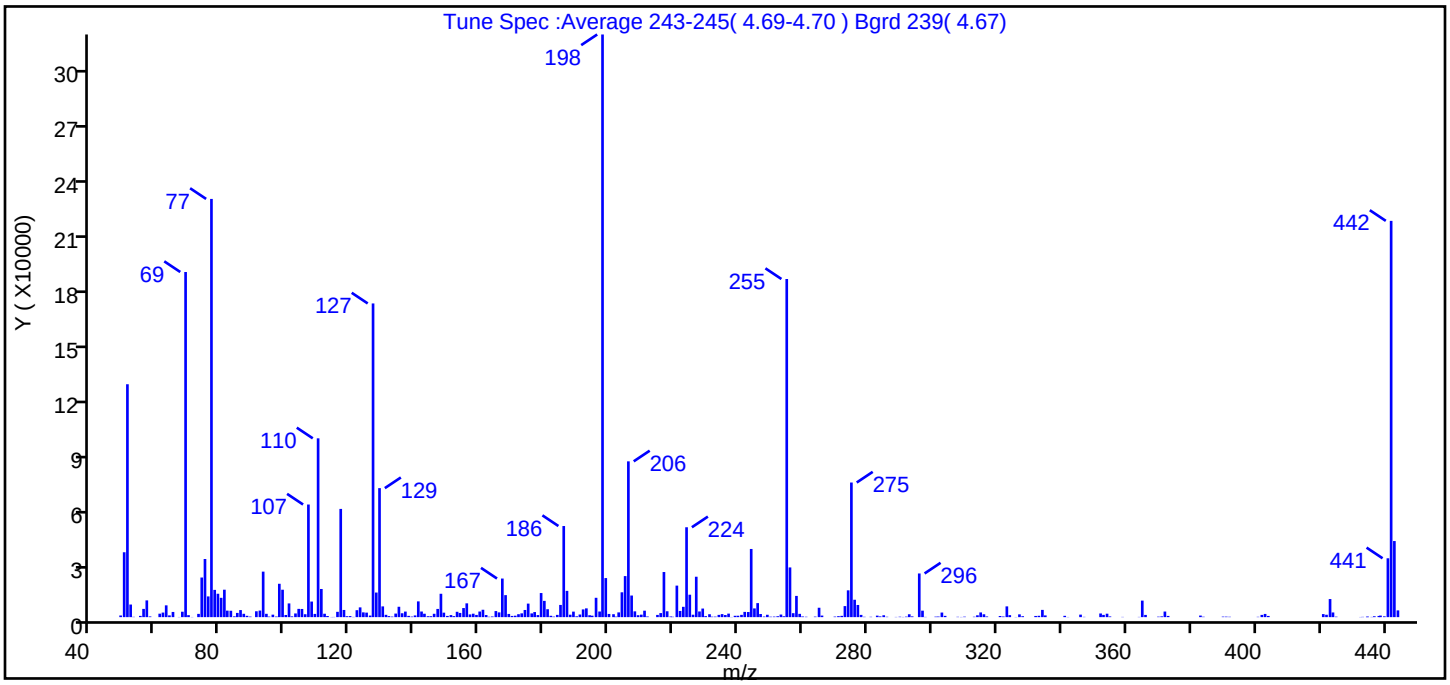
MSS_RVDFTPP_00004 Amount Added: 1.00 Units: mL

MS Tune Report

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1400a.D
Injection Date: 24-Aug-2020 20:29:30 Instrument ID: HP19760
Lims ID: DFTPP
Client ID:
Operator ID: sw30417 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI
Tune Method: DFTPP Method 8270D, BP 198

172 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	base peak, or >50% of 442	100.0 (147.0)
51	10-80% of the base peak	40.0
68	<2% of mass 69	0.9 (1.6)
69	Present	59.2
70	<2% of mass 69	0.3 (0.6)
127	10-80% of the base peak	53.8
197	<2% of mass 198	1.0
199	5-9% of mass 198	6.7
275	10-60% of the base peak	23.1
365	>1% of mass 198	2.8
441	present but <24% of mass 442	10.1 (14.9)
442	base peak, or >50% of 198	68.0
443	15-24% of mass 442	13.1 (19.2)

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1400a.D\MSSemi_HP19760.rslt\spectra.c
Injection Date: 24-Aug-2020 20:29:30
Spectrum: Tune Spec :Average 243-245(4.69-4.70) Bgrd 239(4.67)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 298

m/z	Y	m/z	Y	m/z	Y	m/z	Y
49.00	890	130.00	5797	205.00	22144	291.00	105
50.00	35000	131.00	1250	206.00	84040	292.00	276
51.00	125632	132.00	561	207.00	11659	293.00	1557
52.00	6802	133.00	296	208.00	3125	294.00	409
53.00	170	134.00	1924	209.00	1045	296.00	23560
55.00	680	135.00	5601	210.00	1339	297.00	3488
56.00	4446	136.00	2101	211.00	3487	298.00	126
57.00	9038	137.00	3004	212.00	347	301.00	269
58.00	377	138.00	693	215.00	1203	302.00	318
61.00	1863	139.00	303	216.00	2189	303.00	2480
62.00	2468	140.00	918	217.00	24336	304.00	690
63.00	6365	141.00	8505	218.00	3171	308.00	180
64.00	951	142.00	3035	219.00	344	309.00	99
65.00	2802	143.00	1838	220.00	203	310.00	257
67.00	93	144.00	500	221.00	17008	313.00	218
68.00	2928	145.00	497	222.00	3342	314.00	1001
69.00	186176	146.00	1808	223.00	5570	315.00	2538
70.00	1070	147.00	4428	224.00	48488	316.00	1544
71.00	89	148.00	12609	225.00	12101	317.00	363
73.00	1764	149.00	2415	226.00	1308	321.00	609
74.00	21376	150.00	663	227.00	21800	322.00	332
75.00	31360	151.00	1102	228.00	3066	323.00	5808
76.00	11178	152.00	541	229.00	4635	324.00	1076
77.00	225600	153.00	2886	230.00	548	326.00	88
78.00	14707	154.00	2263	231.00	1568	327.00	1503
79.00	12615	155.00	4900	232.00	258	328.00	508
80.00	10425	156.00	7443	233.00	276	332.00	643
81.00	14800	157.00	1478	234.00	1220	333.00	726
82.00	3506	158.00	1857	235.00	1638	334.00	3911
83.00	3445	159.00	1207	236.00	1135	335.00	925
84.00	428	160.00	3031	237.00	1896	341.00	713
85.00	2282	161.00	3984	238.00	89	342.00	92
86.00	3811	162.00	1131	239.00	733	346.00	1354

Report Date: 25-Aug-2020 13:51:11 Chrom Revision: 2.3 20-Aug-2020 13:57:12
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1400a.D\MSSemi_HP19760.rslt\spectra.c
Injection Date: 24-Aug-2020 20:29:30
Spectrum: Tune Spec :Average 243-245(4.69-4.70) Bgrd 239(4.67)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 298

m/z	Y	m/z	Y	m/z	Y	m/z	Y
87.00	1806	163.00	205	240.00	759	347.00	150
88.00	720	164.00	357	241.00	1228	352.00	1976
89.00	299	165.00	3275	242.00	2834	353.00	1218
91.00	3173	166.00	2556	243.00	2759	354.00	1858
92.00	3543	167.00	20824	244.00	36776	355.00	379
93.00	24552	168.00	11874	245.00	4707	359.00	123
94.00	1795	169.00	1728	246.00	7567	364.00	124
95.00	299	170.00	654	247.00	1690	365.00	8919
96.00	1338	171.00	774	248.00	317	366.00	1198
97.00	317	172.00	1583	249.00	1281	370.00	260
98.00	18000	173.00	2047	250.00	242	371.00	408
99.00	14792	174.00	3866	251.00	301	372.00	3021
100.00	1164	175.00	7304	252.00	491	373.00	658
101.00	7401	176.00	2019	253.00	1400	383.00	852
102.00	416	177.00	2745	254.00	467	384.00	220
103.00	1989	178.00	1125	255.00	182400	390.00	284
104.00	4460	179.00	13003	256.00	26816	391.00	272
105.00	4409	180.00	8773	257.00	2134	392.00	203
106.00	1573	181.00	4279	258.00	11454	401.00	177
107.00	60752	182.00	739	259.00	1776	402.00	1206
108.00	8406	183.00	279	260.00	369	403.00	1731
109.00	1741	184.00	1218	261.00	214	404.00	648
110.00	96456	185.00	6589	264.00	288	421.00	1647
111.00	15189	186.00	49152	265.00	5070	422.00	1288
112.00	1832	187.00	14169	266.00	842	423.00	9762
113.00	607	188.00	1316	270.00	299	424.00	2527
114.00	89	189.00	2978	271.00	525	425.00	254
115.00	108	190.00	445	272.00	699	432.00	93
116.00	2872	191.00	1416	273.00	5960	433.00	148
117.00	58384	192.00	4174	274.00	14465	435.00	187
118.00	3877	193.00	4734	275.00	72624	435.00	287
119.00	505	194.00	1034	276.00	9387	436.00	124
120.00	576	195.00	787	277.00	6562	437.00	477
121.00	118	196.00	10438	278.00	1213	438.00	652

Report Date: 25-Aug-2020 13:51:11 Chrom Revision: 2.3 20-Aug-2020 13:57:12
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1400a.D\MSSemi_HP19760.rslt\spectra.c
Injection Date: 24-Aug-2020 20:29:30
Spectrum: Tune Spec :Average 243-245(4.69-4.70) Bgrd 239(4.67)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 298

m/z	Y	m/z	Y	m/z	Y	m/z	Y
122.00	3747	197.00	3040	279.00	185	439.00	837
123.00	5268	198.00	314304	281.00	187	440.00	436
124.00	2582	199.00	21072	283.00	806	441.00	31752
125.00	2434	200.00	1724	284.00	390	442.00	213760
126.00	847	201.00	1584	285.00	1013	443.00	41048
127.00	169216	202.00	271	286.00	205	444.00	3649
128.00	13269	203.00	2556	289.00	109		
129.00	69592	204.00	13399	290.00	231		

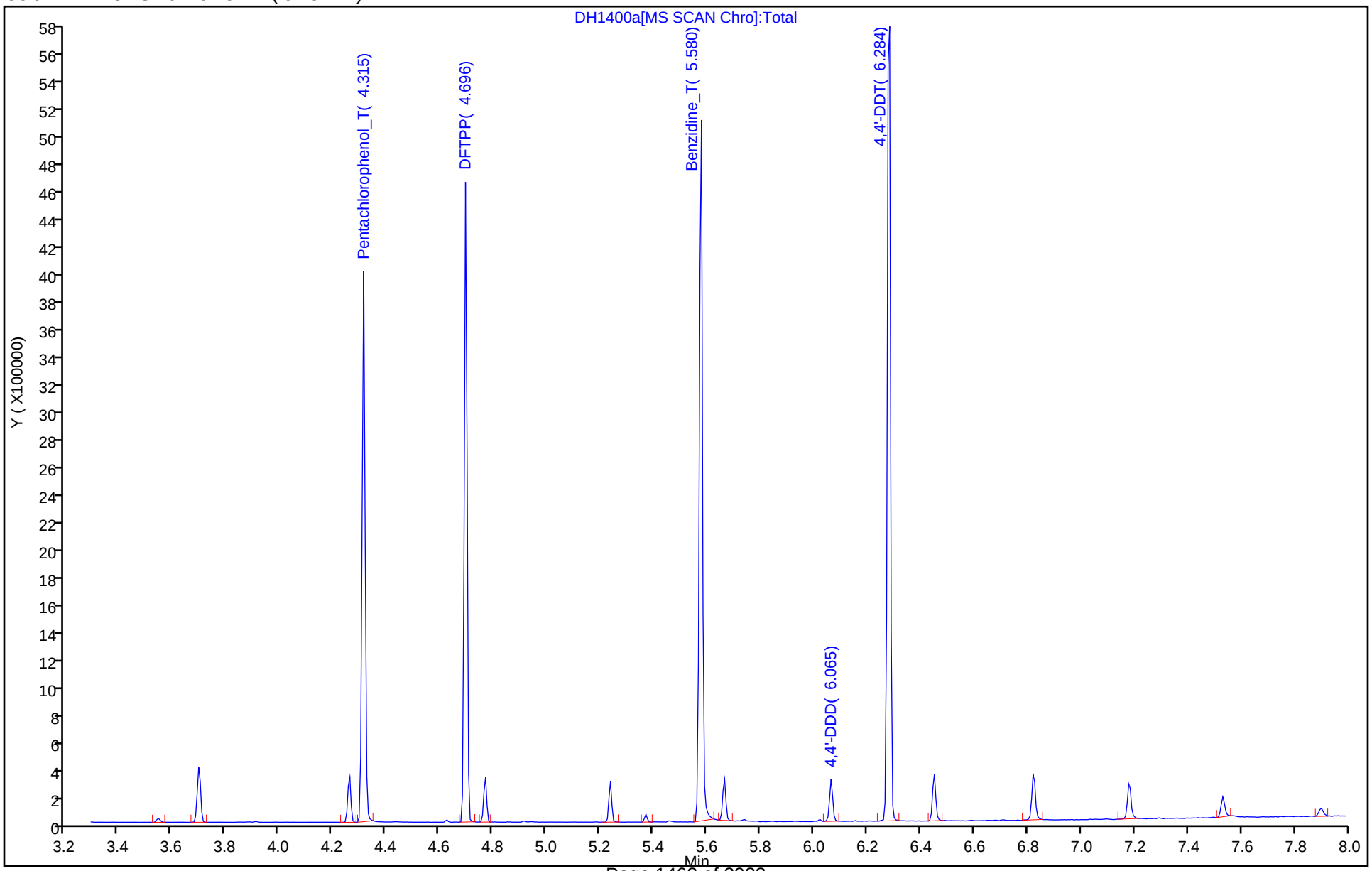
Report Date: 25-Aug-2020 13:51:11 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1400a.D

Injection Date:	24-Aug-2020 20:29:30	Instrument ID:	HP19760	Operator ID:	sw30417
Lims ID:	DFTPP			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



Breakdown Report

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1400a.D
Injection Date: 24-Aug-2020 20:29:30 Instrument ID: HP19760
Lims ID: DFTPP
Client ID:
Operator ID: sw30417 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI

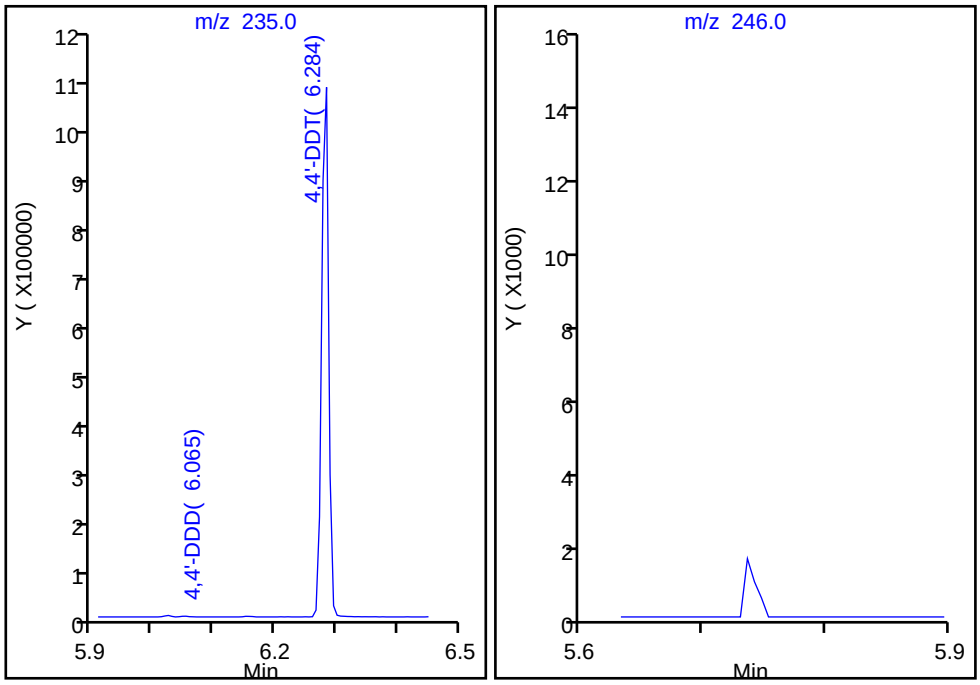
175 4,4'-DDT, Detector: MS SCAN

SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

175 4,4'-DDT, Area = 868876
173 4,4'-DDD, Area = 2288
174 4,4'-DDE, Area = 1059

%Breakdown: 0.38%, <= 20.00%
Passed



Peak Tailing Report

Eurofins Lancaster Laboratories Env, LLC

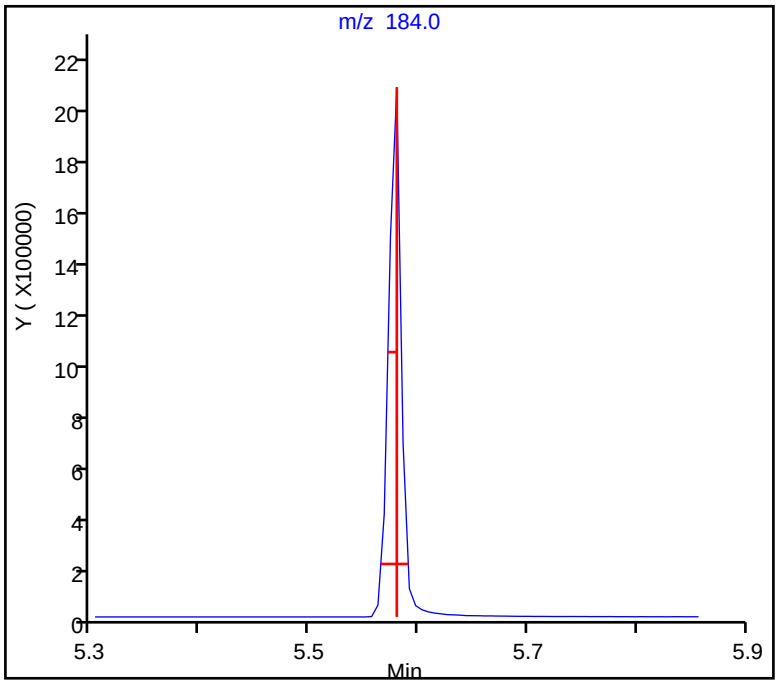
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1400a.D
Injection Date: 24-Aug-2020 20:29:30 Instrument ID: HP19760
Lims ID: DFTPP
Client ID:
Operator ID: sw30417 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI

11 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.011 (min.)
Front Width = 0.015 (min.)

Tailing Factor = 0.7, Max. Tailing < 2.00
Passed



Peak Tailing Report

Eurofins Lancaster Laboratories Env, LLC

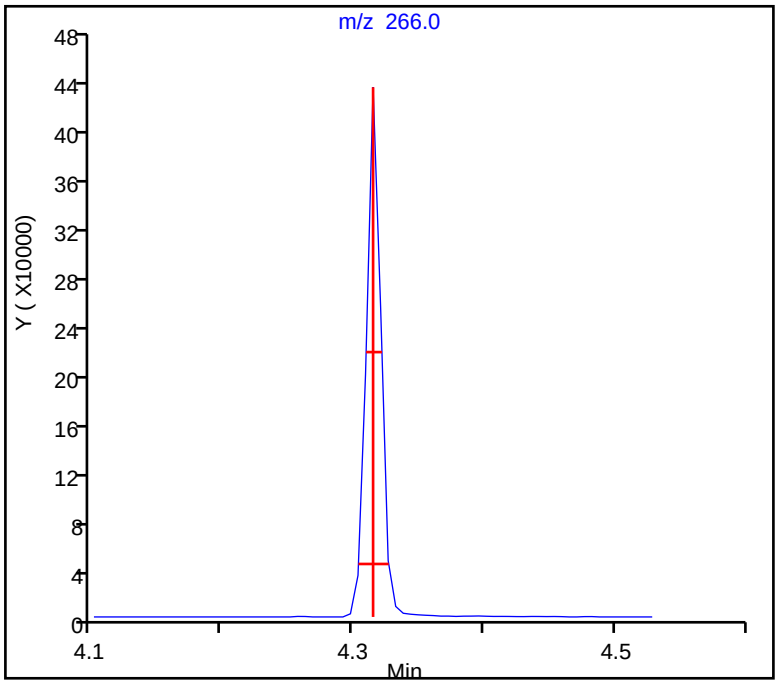
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1400a.D
Injection Date: 24-Aug-2020 20:29:30 Instrument ID: HP19760
Lims ID: DFTPP
Client ID:
Operator ID: sw30417 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI

6 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.012 (min.)
Front Width = 0.011 (min.)

Tailing Factor = 1.1, Max. Tailing < 2.00
Passed



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1450.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 25-Aug-2020 09:12:30 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: DFTPP
Misc. Info.: 410-0008884-001
Operator ID: em10340 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 25-Aug-2020 15:23:13 Calib Date: 25-Aug-2020 02:23:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1408.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1066

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
6 Pentachlorophenol_T	266	4.315	4.315	0.000	92	395373	NR	NR	
11 Benzidine_T	184	5.586	5.586	0.000	99	1981066	NR	NR	
172 DFTPP									
174 4,4'-DDE	246	5.747	5.747	0.000	84	1505		NR	
173 4,4'-DDD	235	6.030	6.030	0.000	96	9727		NR	
175 4,4'-DDT	235	6.290	6.290	0.000	97	963069	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

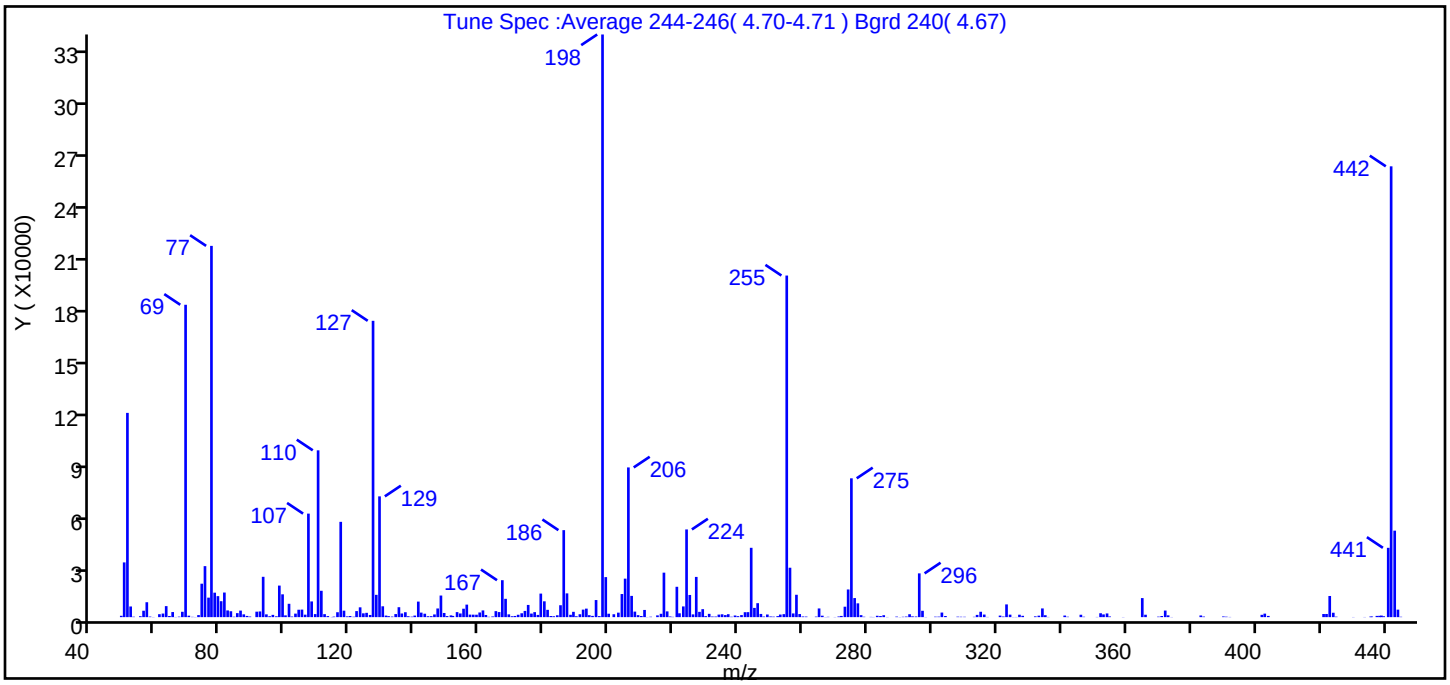
MSS_RVDFTPP_00004 Amount Added: 1.00 Units: mL

MS Tune Report

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1450.D
Injection Date: 25-Aug-2020 09:12:30 Instrument ID: HP19760
Lims ID: DFTPP
Client ID:
Operator ID: em10340 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI
Tune Method: DFTPP Method 8270D, BP 198

172 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	base peak, or >50% of 442	100.0 (129.2)
51	10-80% of the base peak	35.1
68	<2% of mass 69	0.9 (1.7)
69	Present	53.6
70	<2% of mass 69	0.2 (0.5)
127	10-80% of the base peak	50.9
197	<2% of mass 198	0.2
199	5-9% of mass 198	6.9
275	10-60% of the base peak	23.8
365	>1% of mass 198	3.3
441	present but <24% of mass 442	11.9 (15.4)
442	base peak, or >50% of 198	77.4
443	15-24% of mass 442	14.8 (19.2)

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1450.D\MSSemi_HP19760.rslt\spectra.d
Injection Date: 25-Aug-2020 09:12:30
Spectrum: Tune Spec :Average 244-246(4.70-4.71) Bgrd 240(4.67)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 307

m/z	Y	m/z	Y	m/z	Y	m/z	Y
49.00	789	129.00	70352	207.00	12380	291.00	216
50.00	31880	130.00	6317	208.00	3222	292.00	338
51.00	118976	131.00	901	209.00	1161	293.00	1700
52.00	6210	132.00	590	210.00	670	294.00	458
53.00	261	133.00	337	211.00	4195	295.00	361
55.00	547	134.00	1793	212.00	89	296.00	25496
56.00	3728	135.00	5785	213.00	245	297.00	3695
57.00	8688	136.00	2135	215.00	1024	298.00	92
58.00	325	137.00	2865	216.00	1956	301.00	275
59.00	87	138.00	528	217.00	25912	302.00	293
61.00	1720	139.00	285	218.00	3353	303.00	2675
62.00	2095	140.00	911	219.00	379	304.00	661
63.00	6423	141.00	9059	220.00	171	308.00	277
64.00	674	142.00	2634	221.00	17680	309.00	226
65.00	2971	143.00	1989	222.00	2240	310.00	212
66.00	99	144.00	533	223.00	6243	313.00	191
67.00	292	145.00	562	224.00	51088	314.00	1311
68.00	3123	146.00	1573	225.00	12917	315.00	3140
69.00	181952	147.00	5051	226.00	1612	316.00	1504
70.00	847	148.00	12585	227.00	23432	317.00	117
71.00	175	149.00	2426	228.00	3086	321.00	896
72.00	92	150.00	630	229.00	4649	322.00	352
73.00	1197	151.00	1022	230.00	590	323.00	7420
74.00	19480	152.00	718	231.00	1919	324.00	1449
75.00	29712	153.00	2924	232.00	360	325.00	87
76.00	11359	154.00	2144	233.00	346	326.00	96
77.00	216256	155.00	4907	234.00	1482	327.00	1414
78.00	14249	156.00	7293	235.00	1662	328.00	772
79.00	12235	157.00	1476	236.00	1191	332.00	464
80.00	9286	158.00	1445	237.00	1712	333.00	855
81.00	14333	159.00	1416	238.00	244	334.00	5079
82.00	3911	160.00	2713	239.00	958	335.00	1111
83.00	3439	161.00	3921	240.00	572	336.00	116

Report Date: 25-Aug-2020 15:23:14 Chrom Revision: 2.3 20-Aug-2020 13:57:12
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1450.D\MSSemi_HP19760.rslt\spectra.d
Injection Date: 25-Aug-2020 09:12:30
Spectrum: Tune Spec :Average 244-246(4.70-4.71) Bgrd 240(4.67)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 307

m/z	Y	m/z	Y	m/z	Y	m/z	Y
84.00	253	162.00	1255	241.00	1192	341.00	929
85.00	2331	163.00	188	242.00	2873	342.00	243
86.00	3811	164.00	403	243.00	2909	346.00	1398
87.00	1631	165.00	3495	244.00	40392	347.00	235
88.00	711	166.00	2950	245.00	5383	351.00	112
89.00	355	167.00	21520	246.00	8132	352.00	2271
91.00	3189	168.00	10670	247.00	1865	353.00	1598
92.00	3323	169.00	1622	248.00	342	354.00	2148
93.00	23496	170.00	525	249.00	1539	355.00	405
94.00	1619	171.00	690	250.00	388	359.00	86
95.00	541	172.00	1392	251.00	295	365.00	11098
96.00	1329	173.00	2263	252.00	595	366.00	1406
97.00	483	174.00	3626	253.00	1510	370.00	290
98.00	18384	175.00	7110	254.00	1743	371.00	651
99.00	13292	176.00	2079	255.00	198976	372.00	3832
100.00	1031	177.00	2913	256.00	28784	373.00	1045
101.00	7777	178.00	1301	257.00	2162	374.00	89
102.00	355	179.00	13716	258.00	13032	383.00	985
103.00	2047	180.00	9220	259.00	1803	384.00	333
104.00	4319	181.00	4260	260.00	390	390.00	402
105.00	4395	182.00	659	261.00	329	391.00	264
106.00	1439	183.00	513	264.00	308	392.00	114
107.00	60304	184.00	1085	265.00	5065	402.00	1354
108.00	9150	185.00	6939	266.00	837	403.00	2041
109.00	1775	186.00	50672	267.00	85	404.00	714
110.00	97168	187.00	13846	268.00	193	421.00	1831
111.00	15354	188.00	1366	270.00	90	422.00	1839
112.00	1743	189.00	3100	271.00	376	423.00	12321
113.00	615	190.00	507	272.00	706	424.00	2559
114.00	104	191.00	1690	273.00	6081	425.00	278
115.00	307	192.00	4382	274.00	16119	430.00	90
116.00	2857	193.00	4957	275.00	80864	434.00	93
117.00	55512	194.00	1147	276.00	11111	436.00	288
118.00	3771	195.00	729	277.00	8041	436.00	386

Report Date: 25-Aug-2020 15:23:14 Chrom Revision: 2.3 20-Aug-2020 13:57:12
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1450.D\MSSemi_HP19760.rslt\spectra.d
Injection Date: 25-Aug-2020 09:12:30
Spectrum: Tune Spec :Average 244-246(4.70-4.71) Bgrd 240(4.67)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 307

m/z	Y	m/z	Y	m/z	Y	m/z	Y
119.00	440	196.00	9956	278.00	1160	438.00	726
120.00	651	197.00	595	279.00	231	438.00	773
121.00	236	198.00	339392	281.00	145	439.00	907
122.00	3527	199.00	23320	282.00	102	440.00	521
123.00	5721	200.00	1987	283.00	793	441.00	40376
124.00	2227	202.00	1690	284.00	642	442.00	262592
125.00	2512	203.00	2615	285.00	1118	443.00	50376
126.00	1264	204.00	13469	286.00	99	444.00	4369
127.00	172608	205.00	22424	289.00	314	445.00	219
128.00	12993	206.00	87208	290.00	83		

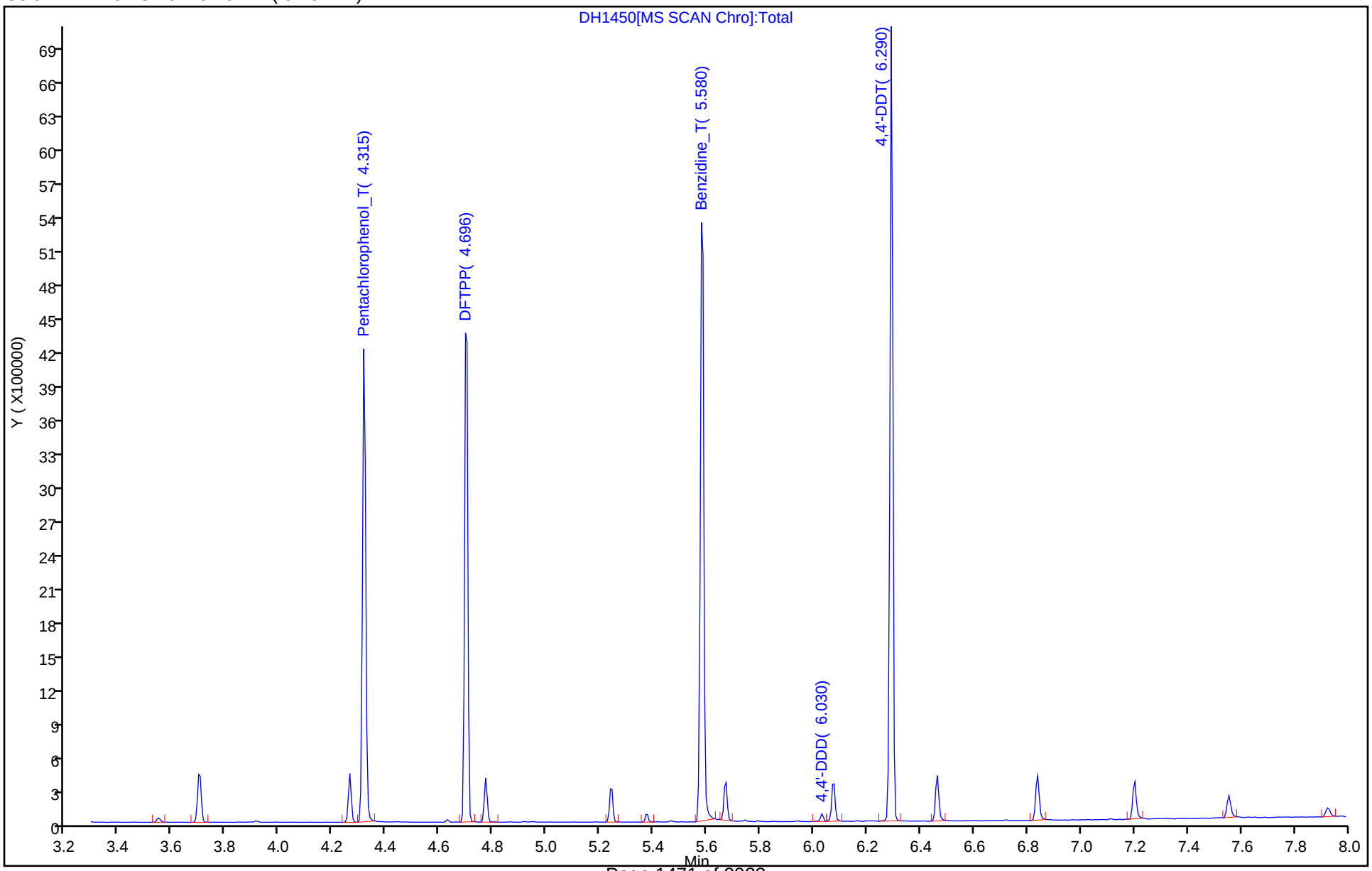
Report Date: 25-Aug-2020 15:23:14 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1450.D

Injection Date:	25-Aug-2020 09:12:30	Instrument ID:	HP19760	Operator ID:	em10340
Lims ID:	DFTPP			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



Breakdown Report

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1450.D
Injection Date: 25-Aug-2020 09:12:30 Instrument ID: HP19760
Lims ID: DFTPP
Client ID:
Operator ID: em10340 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI

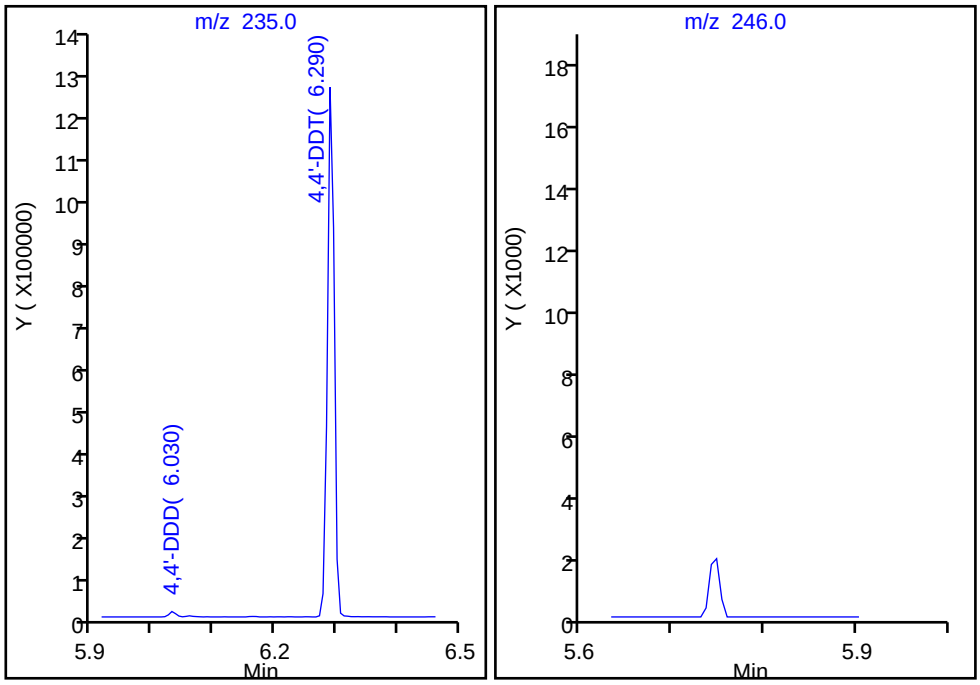
175 4,4'-DDT, Detector: MS SCAN

SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

175 4,4'-DDT, Area = 963069
173 4,4'-DDD, Area = 9727
174 4,4'-DDE, Area = 1505

%Breakdown: 1.15%, <= 20.00%
Passed



Peak Tailing Report

Eurofins Lancaster Laboratories Env, LLC

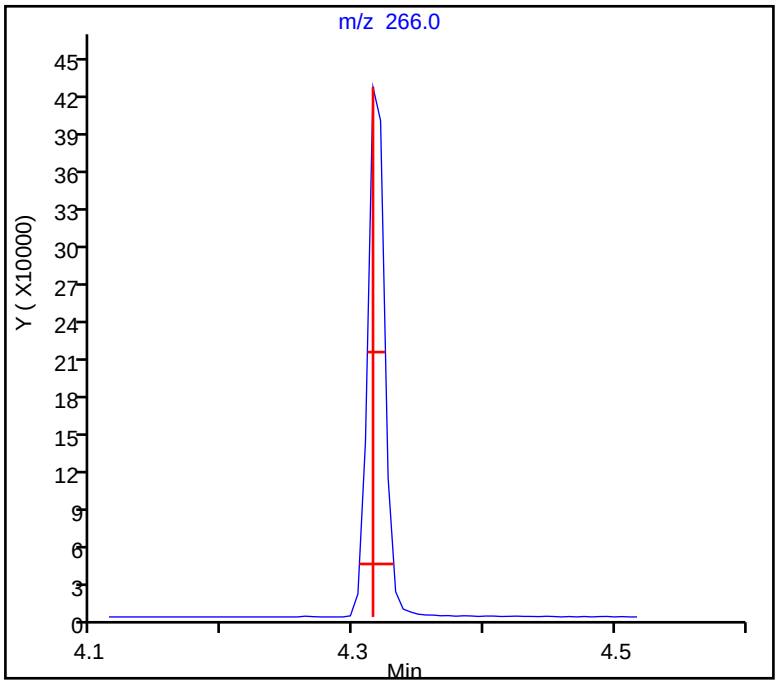
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1450.D
Injection Date: 25-Aug-2020 09:12:30 Instrument ID: HP19760
Lims ID: DFTPP
Client ID:
Operator ID: em10340 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI

6 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.016 (min.)
Front Width = 0.010 (min.)

Tailing Factor = 1.6, Max. Tailing < 2.00
Passed



Peak Tailing Report

Eurofins Lancaster Laboratories Env, LLC

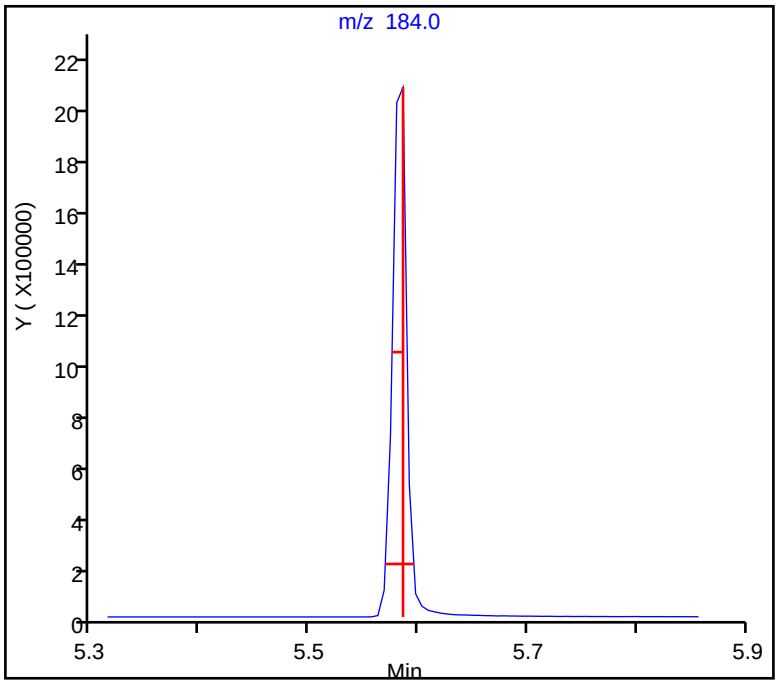
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200825-8884.b\DH1450.D
Injection Date: 25-Aug-2020 09:12:30 Instrument ID: HP19760
Lims ID: DFTPP
Client ID:
Operator ID: em10340 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI

11 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.010 (min.)
Front Width = 0.016 (min.)

Tailing Factor = 0.6, Max. Tailing < 2.00
Passed



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200826-8979.b\DH1510a.D
Lims ID: DFTPP
Client ID:
Sample Type: DFTPP
Inject. Date: 26-Aug-2020 11:55:30 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: DFTPP
Misc. Info.: 410-0008979-001
Operator ID: em10340 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200826-8979.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 26-Aug-2020 16:59:36 Calib Date: 25-Aug-2020 02:23:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1408.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1047

First Level Reviewer: monbornee Date: 26-Aug-2020 12:10:52

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
6 Pentachlorophenol_T	266	4.292	4.292	0.000	90	497089	NR	NR	
11 Benzidine_T	184	5.556	5.556	0.000	99	2407471	NR	NR	
172 DFTPP									
174 4,4'-DDE	246	5.718	5.718	0.000	83	1569		NR	
173 4,4'-DDD	235	6.001	6.001	0.000	92	4822		NR	
175 4,4'-DDT	235	6.261	6.261	0.000	97	1246010	NR	NR	

QC Flag Legend

Processing Flags
NR - Missing Quant Standard

Reagents:

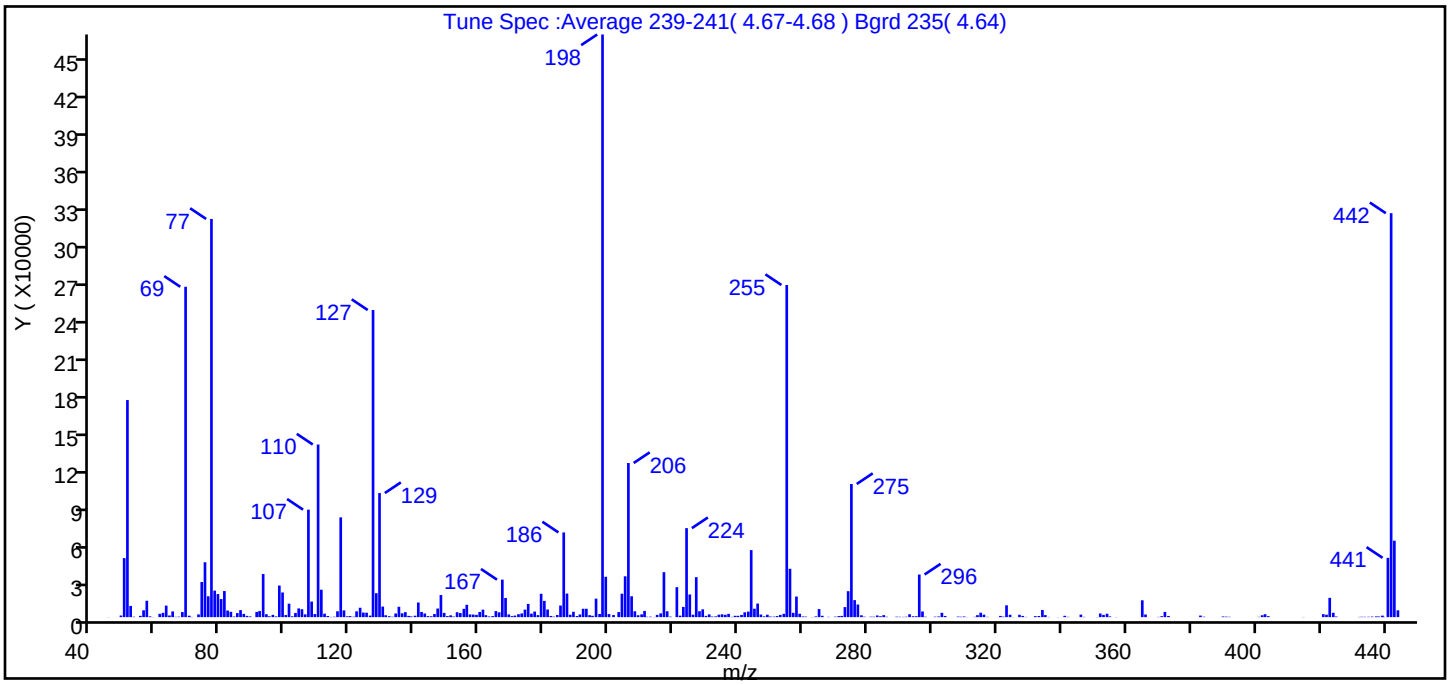
MSS_RVDFTPP_00004 Amount Added: 1.00 Units: mL

MS Tune Report

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200826-8979.b\DH1510a.D
Injection Date: 26-Aug-2020 11:55:30 Instrument ID: HP19760
Lims ID: DFTPP
Client ID:
Operator ID: em10340 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI
Tune Method: DFTPP Method 8270D, BP 198

172 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	base peak, or >50% of 442	100.0 (144.2)
51	10-80% of the base peak	37.3
68	<2% of mass 69	0.9 (1.5)
69	Present	56.7
70	<2% of mass 69	0.2 (0.4)
127	10-80% of the base peak	52.7
197	<2% of mass 198	0.5
199	5-9% of mass 198	6.9
275	10-60% of the base peak	22.9
365	>1% of mass 198	2.9
441	present but <24% of mass 442	10.2 (14.7)
442	base peak, or >50% of 198	69.3
443	15-24% of mass 442	13.1 (18.9)

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200826-8979.b\DH1510a.D\MSSemi_HP19760.rslt\spectra.c
Injection Date: 26-Aug-2020 11:55:30
Spectrum: Tune Spec :Average 239-241(4.67-4.68) Bgrd 235(4.64)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 310

m/z	Y	m/z	Y	m/z	Y	m/z	Y
45.00	87	130.00	8337	209.00	1507	294.00	694
49.00	1287	131.00	1482	210.00	2182	295.00	689
50.00	46656	132.00	770	211.00	4904	296.00	33688
51.00	171584	133.00	326	212.00	297	297.00	4490
52.00	8880	134.00	2889	213.00	382	298.00	338
53.00	335	135.00	8198	214.00	112	301.00	376
55.00	1025	136.00	3050	215.00	1751	302.00	533
56.00	5426	137.00	3953	216.00	2986	303.00	3438
57.00	12959	138.00	992	217.00	35528	304.00	950
58.00	611	139.00	582	218.00	4639	308.00	439
59.00	119	140.00	1134	219.00	399	309.00	328
61.00	2626	141.00	11579	221.00	23704	310.00	517
62.00	3415	142.00	4137	222.00	1191	311.00	102
63.00	9113	143.00	2862	223.00	8065	313.00	241
64.00	1303	144.00	799	224.00	70352	314.00	1559
65.00	4535	145.00	680	225.00	17912	315.00	3496
66.00	251	146.00	2452	226.00	1913	316.00	1971
67.00	372	147.00	6817	227.00	31600	317.00	236
68.00	4012	148.00	17464	228.00	4691	321.00	985
69.00	261120	149.00	3350	229.00	6187	322.00	378
70.00	1135	150.00	820	230.00	996	323.00	9352
71.00	198	151.00	1432	231.00	2173	324.00	1875
73.00	2144	152.00	460	232.00	462	325.00	101
74.00	27744	153.00	3877	233.00	601	327.00	1882
75.00	43384	154.00	3222	234.00	1937	328.00	977
76.00	16472	155.00	6574	235.00	2220	329.00	189
77.00	314752	156.00	9755	236.00	1853	332.00	787
78.00	20952	157.00	2143	237.00	2611	333.00	892
79.00	18264	158.00	2047	238.00	224	334.00	5658
80.00	14287	159.00	1815	239.00	1057	335.00	1598
81.00	20640	160.00	4096	240.00	1043	336.00	185
82.00	5240	161.00	5934	241.00	1745	339.00	111
83.00	4225	162.00	1553	242.00	3816	341.00	1051

Report Date: 26-Aug-2020 16:59:37 Chrom Revision: 2.3 20-Aug-2020 13:57:12
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200826-8979.b\DH1510a.D\MSSemi_HP19760.rslt\spectra.c
Injection Date: 26-Aug-2020 11:55:30
Spectrum: Tune Spec :Average 239-241(4.67-4.68) Bgrd 235(4.64)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 310

m/z	Y	m/z	Y	m/z	Y	m/z	Y
84.00	467	163.00	538	243.00	4377	342.00	261
85.00	3214	164.00	830	244.00	52976	346.00	2005
86.00	5561	165.00	4774	245.00	6678	347.00	229
87.00	2584	166.00	3812	246.00	10742	351.00	130
88.00	1004	167.00	29632	247.00	2060	352.00	2865
89.00	544	168.00	15164	248.00	621	353.00	1786
91.00	4123	169.00	2148	249.00	1900	354.00	2679
92.00	4827	170.00	794	250.00	503	355.00	550
93.00	34072	171.00	1234	251.00	399	357.00	115
94.00	2303	172.00	2351	252.00	839	365.00	13315
95.00	690	173.00	2918	253.00	1764	366.00	2102
96.00	1788	174.00	5948	254.00	2629	370.00	204
97.00	563	175.00	10466	255.00	262528	371.00	732
98.00	24960	176.00	2766	256.00	38248	372.00	4144
99.00	19504	177.00	4392	257.00	3392	373.00	948
100.00	1660	178.00	1598	258.00	16283	383.00	1254
101.00	10660	179.00	18472	259.00	2684	384.00	348
102.00	665	180.00	12858	260.00	522	390.00	537
103.00	3310	181.00	6040	261.00	411	391.00	410
104.00	6890	182.00	951	263.00	126	392.00	254
105.00	6246	183.00	381	264.00	574	401.00	244
106.00	2184	184.00	1670	265.00	6394	402.00	1494
107.00	84952	185.00	9176	266.00	1059	403.00	2309
108.00	12314	186.00	66960	268.00	224	404.00	767
109.00	2441	187.00	18656	270.00	368	415.00	134
110.00	136448	188.00	1916	271.00	824	421.00	2358
111.00	21680	189.00	4232	272.00	987	422.00	1929
112.00	2736	190.00	869	273.00	7951	423.00	15257
113.00	895	191.00	2122	274.00	20520	424.00	3442
114.00	203	192.00	6608	275.00	105240	425.00	477
115.00	314	193.00	6619	276.00	13468	432.00	179
116.00	4641	194.00	1563	277.00	9975	433.00	260
117.00	78880	195.00	1062	278.00	1457	434.00	270
118.00	5339	196.00	14595	279.00	343	435.00	286

Report Date: 26-Aug-2020 16:59:37 Chrom Revision: 2.3 20-Aug-2020 13:57:12
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200826-8979.b\DH1510a.D\MSSemi_HP19760.rslt\spectra.c
Injection Date: 26-Aug-2020 11:55:30
Spectrum: Tune Spec :Average 239-241(4.67-4.68) Bgrd 235(4.64)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 310

m/z	Y	m/z	Y	m/z	Y	m/z	Y
119.00	638	197.00	2517	281.00	340	436.00	437
120.00	832	198.00	460544	282.00	334	437.00	608
121.00	347	199.00	31920	283.00	1322	438.00	503
122.00	4596	200.00	2420	284.00	708	439.00	1178
123.00	7422	201.00	1672	285.00	1586	440.00	219
124.00	3627	203.00	4014	286.00	300	441.00	46880
125.00	3509	204.00	18528	289.00	363	442.00	319296
126.00	1208	205.00	32280	290.00	289	443.00	60440
127.00	242752	206.00	121832	291.00	210	444.00	5407
128.00	18944	207.00	16504	292.00	322		
129.00	98080	208.00	4650	293.00	2292		

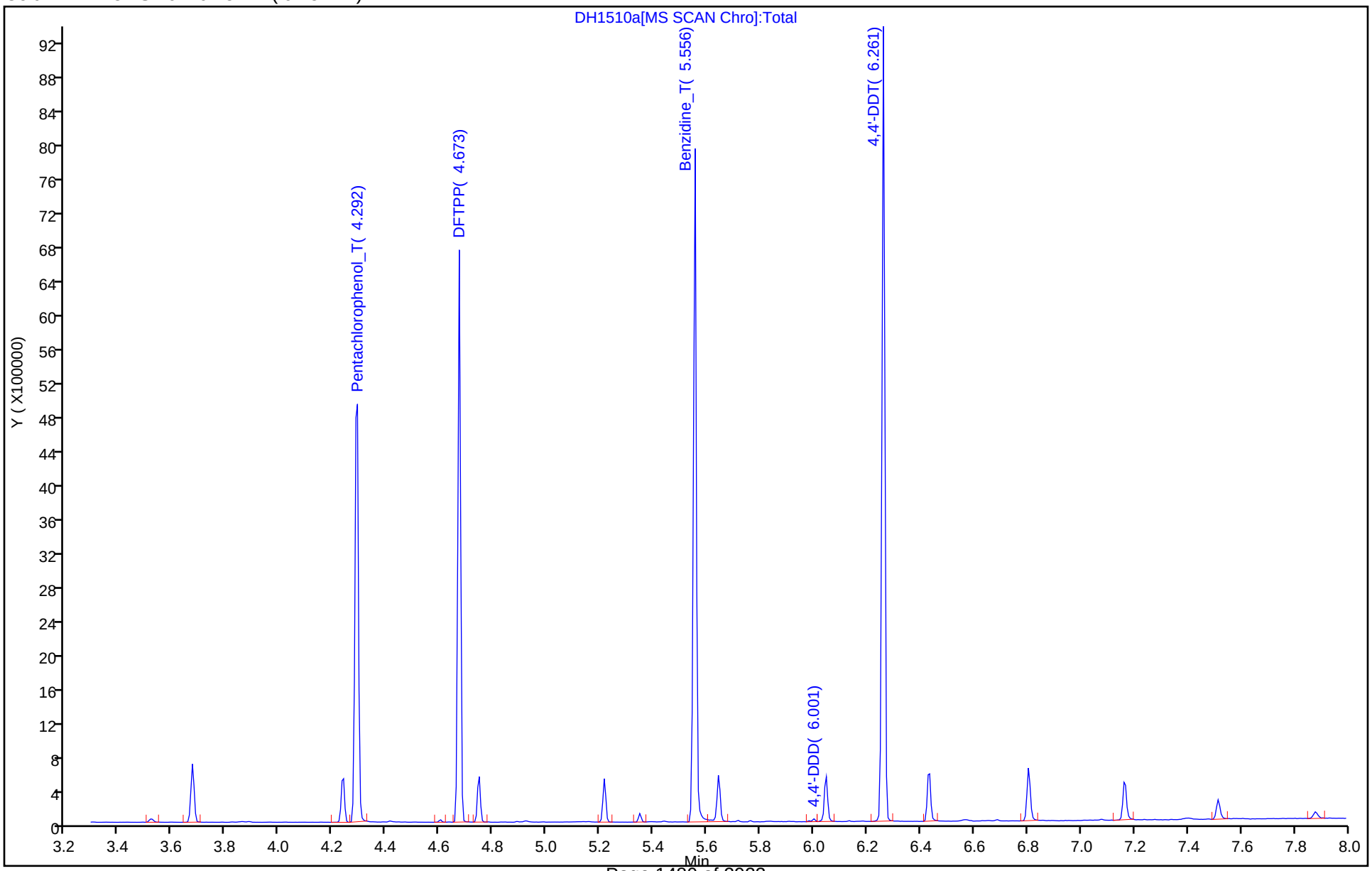
Report Date: 26-Aug-2020 16:59:37 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200826-8979.b\DH1510a.D

Injection Date:	26-Aug-2020 11:55:30	Instrument ID:	HP19760	Operator ID:	em10340
Lims ID:	DFTPP			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	1
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



Breakdown Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200826-8979.b\DH1510a.D		
Injection Date:	26-Aug-2020 11:55:30	Instrument ID:	HP19760
Lims ID:	DFTPP		
Client ID:			
Operator ID:	em10340	ALS Bottle#:	1 Worklist Smp#: 1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI

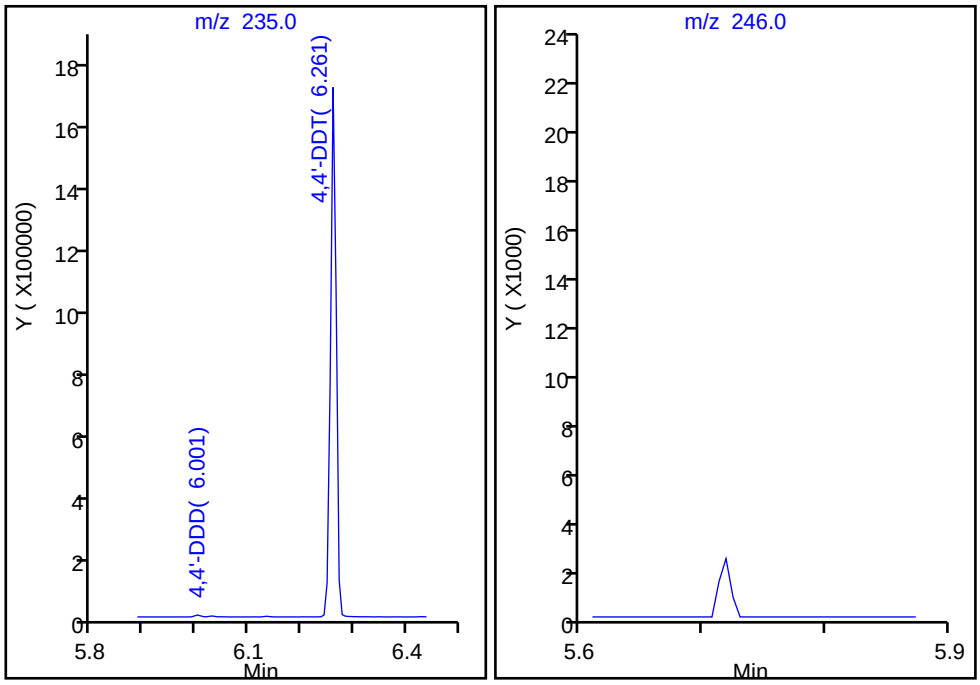
175 4,4'-DDT, Detector: MS SCAN

SW-846 Method

%Breakdown =
(Area Breakdown Cpnds/
Total Area Breakdown Cpnds) * 100

175 4,4'-DDT, Area = 1246010
173 4,4'-DDD, Area = 4822
174 4,4'-DDE, Area = 1569

%Breakdown: 0.51%, <= 20.00%
Passed



Peak Tailing Report

Eurofins Lancaster Laboratories Env, LLC

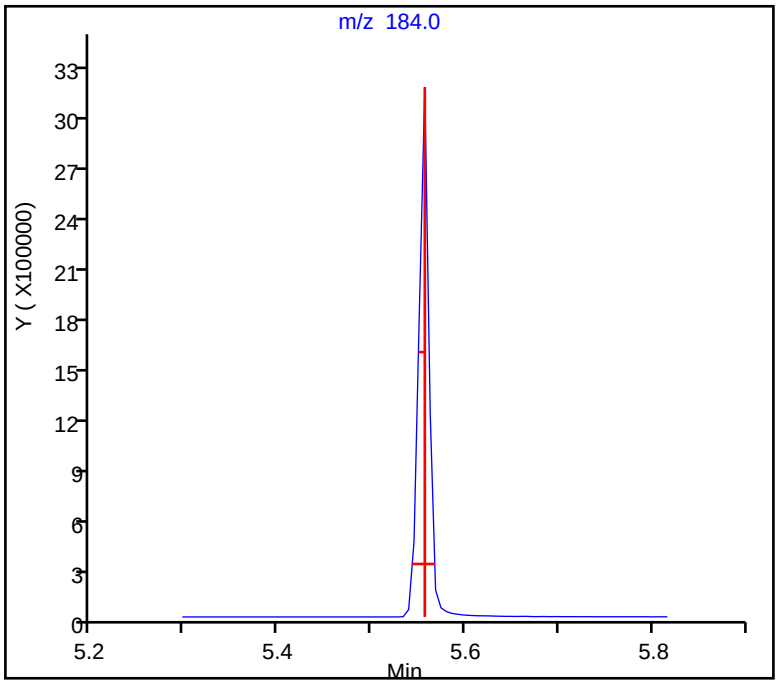
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200826-8979.b\DH1510a.D
Injection Date: 26-Aug-2020 11:55:30 Instrument ID: HP19760
Lims ID: DFTPP
Client ID:
Operator ID: em10340 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI

11 Benzidine_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.011 (min.)
Front Width = 0.013 (min.)

Tailing Factor = 0.9, Max. Tailing < 2.00
Passed



Peak Tailing Report

Eurofins Lancaster Laboratories Env, LLC

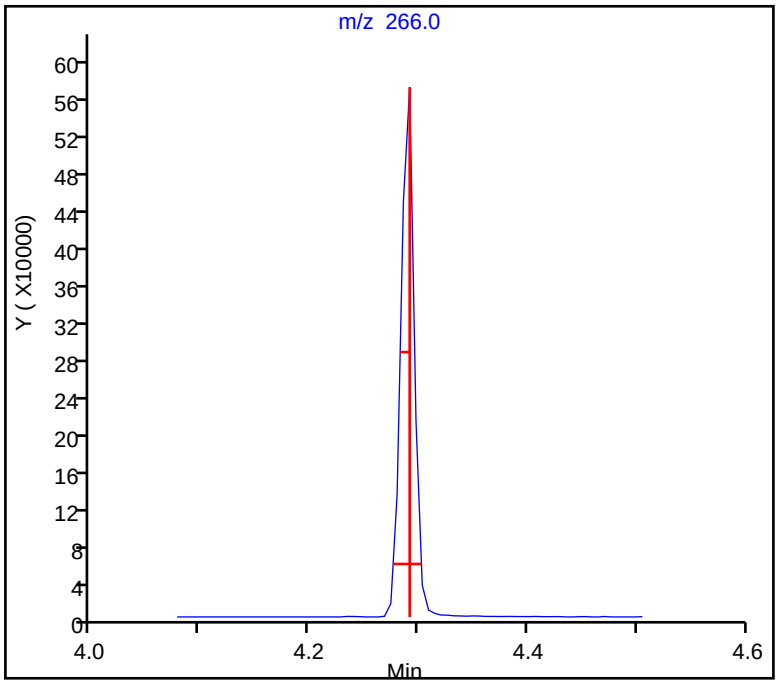
Data File: \\chromfs\Lancaster\ChromData\HP19760\20200826-8979.b\DH1510a.D
Injection Date: 26-Aug-2020 11:55:30 Instrument ID: HP19760
Lims ID: DFTPP
Client ID:
Operator ID: em10340 ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: MSSemi_HP19760 Limit Group: MSSV - 8270D_E LVI

6 Pentachlorophenol_T, Detector: MS SCAN

Peak Tailing Factor =
BackWidth/FrontWidth @ 10% Peak Height

Back Width = 0.011 (min.)
Front Width = 0.015 (min.)

Tailing Factor = 0.7, Max. Tailing < 2.00
Passed



FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 410-33824/1-A

Matrix: Water Lab File ID: DH1003.D

Analysis Method: 8270D Date Collected:

Extract. Method: 3510C Date Extracted: 08/17/2020 08:45

Sample wt/vol: 250(mL) Date Analyzed: 08/18/2020 11:00

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34301 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
92-52-4	1,1'-Biphenyl	ND		10	3.0
120-83-2	2,4-Dichlorophenol	ND		2.0	0.50
105-67-9	2,4-Dimethylphenol	ND		10	3.0
51-28-5	2,4-Dinitrophenol	ND		30	14
121-14-2	2,4-Dinitrotoluene	ND		5.0	1.0
95-95-4	2,4,5-Trichlorophenol	ND		2.0	0.50
88-06-2	2,4,6-Trichlorophenol	ND		2.0	0.50
108-60-1	2,2'-oxybis[1-chloropropane]	ND		2.0	0.50
84-74-2	Di-n-butyl phthalate	ND		5.0	2.0
117-84-0	Di-n-octyl phthalate	ND		11	5.0
56-55-3	Benzo[a]anthracene	ND		0.50	0.10
50-32-8	Benzo[a]pyrene	ND		0.50	0.10
205-99-2	Benzo[b]fluoranthene	ND		0.50	0.10
191-24-2	Benzo[g,h,i]perylene	ND		0.50	0.10
207-08-9	Benzo[k]fluoranthene	ND		0.50	0.10
83-32-9	Acenaphthene	ND		0.50	0.10
208-96-8	Acenaphthylene	ND		0.50	0.10
98-86-2	Acetophenone	ND		10	4.0
120-12-7	Anthracene	ND		0.50	0.10
1912-24-9	Atrazine	ND		5.0	2.0
100-52-7	Benzaldehyde	ND		10	3.0
85-68-7	Butylbenzylphthalate	ND		5.0	2.0
105-60-2	Caprolactam	ND		11	5.0
86-74-8	Carbazole	ND		2.0	0.50
218-01-9	Chrysene	ND		0.50	0.10
53-70-3	Dibenz(a,h)anthracene	ND		0.50	0.10
132-64-9	Dibenzofuran	ND		2.0	0.50
84-66-2	Diethyl phthalate	ND		5.0	2.0
131-11-3	Dimethyl phthalate	ND		5.0	2.0
118-74-1	Hexachlorobenzene	ND		0.50	0.10
87-68-3	Hexachlorobutadiene	ND		2.0	0.50
77-47-4	Hexachlorocyclopentadiene	ND		11	5.0
67-72-1	Hexachloroethane	ND		5.0	1.0
206-44-0	Fluoranthene	ND		0.50	0.10

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 410-33824/1-A

Matrix: Water Lab File ID: DH1003.D

Analysis Method: 8270D Date Collected:

Extract. Method: 3510C Date Extracted: 08/17/2020 08:45

Sample wt/vol: 250(mL) Date Analyzed: 08/18/2020 11:00

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34301 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
86-73-7	Fluorene	ND		0.50	0.10
193-39-5	Indeno[1,2,3-cd]pyrene	ND		0.50	0.10
78-59-1	Isophorone	ND		2.0	0.50
621-64-7	N-Nitrosodi-n-propylamine	ND		3.0	0.70
86-30-6	N-Nitrosodiphenylamine	ND		3.0	0.70
91-20-3	Naphthalene	ND		0.50	0.10
98-95-3	Nitrobenzene	ND		2.0	0.50
87-86-5	Pentachlorophenol	ND		5.0	1.0
85-01-8	Phenanthrene	ND		0.50	0.10
108-95-2	Phenol	ND		2.0	0.50
129-00-0	Pyrene	ND		0.50	0.10
91-58-7	2-Chloronaphthalene	ND		1.0	0.40
95-57-8	2-Chlorophenol	ND		2.0	0.50
91-57-6	2-Methylnaphthalene	ND		0.50	0.10
95-48-7	2-Methylphenol	ND		2.0	0.50
88-74-4	2-Nitroaniline	ND		5.0	2.0
88-75-5	2-Nitrophenol	ND		10	3.0
91-94-1	3,3'-Dichlorobenzidine	ND		10	3.0
99-09-2	3-Nitroaniline	ND		7.0	3.0
534-52-1	4,6-Dinitro-2-methylphenol	ND		21	8.0
101-55-3	4-Bromophenyl-phenylether	ND		2.0	0.50
106-44-5	4-Methylphenol	ND		2.0	0.50
100-01-6	4-Nitroaniline	ND		3.0	0.90
100-02-7	4-Nitrophenol	ND		30	10
111-91-1	Bis(2-chloroethoxy)methane	ND		2.0	0.50
111-44-4	Bis(2-chloroethyl)ether	ND		2.0	0.50
117-81-7	Bis(2-ethylhexyl) phthalate	ND		11	5.0
606-20-2	2,6-Dinitrotoluene	ND		2.0	0.50
59-50-7	4-Chloro-3-methylphenol	ND		3.5	1.6
106-47-8	4-Chloroaniline	ND		10	4.0
7005-72-3	4-Chlorophenyl-phenyl ether	ND		2.0	0.50

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 410-33824/1-A

Matrix: Water Lab File ID: DH1003.D

Analysis Method: 8270D Date Collected:

Extract. Method: 3510C Date Extracted: 08/17/2020 08:45

Sample wt/vol: 250(mL) Date Analyzed: 08/18/2020 11:00

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34301 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	56		18-141
321-60-8	2-Fluorobiphenyl (Surr)	44		44-102
367-12-4	2-Fluorophenol (Surr)	28		10-84
4165-60-0	Nitrobenzene-d5 (Surr)	48		38-113
1718-51-0	p-Terphenyl-d14 (Surr)	55		34-128
4165-62-2	Phenol-d5 (Surr)	21		10-67

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1003.D
Lims ID: MB 410-33824/1-A
Client ID:
Sample Type: MB
Inject. Date: 18-Aug-2020 11:00:30 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: MB 410-33824/1-A
Misc. Info.: 410-0008313-004
Operator ID: em10340 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 19-Aug-2020 09:41:10 Calib Date: 14-Aug-2020 02:06:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200813-8022.b\DH0756.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1035

First Level Reviewer: monbornee Date: 19-Aug-2020 08:10:01

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 1,4-Dioxane	88		1.595					ND	
	3 Pyridine	79		2.242					ND	
$	8 2-Fluorophenol	112	4.434	4.434	0.000	92	963376	50.2	13.8	
	12 Benzaldehyde	77		5.693					ND	
$	13 Phenol-d5	99	5.844	5.843	0.000	97	911573	50.2	10.3	
	14 Phenol	94		5.868					ND	
	16 Bis(2-chloroethyl)ether	93		5.984					ND	
	17 2-Chlorophenol	128		6.019					ND	
*	19 1,4-Dichlorobenzene-d4	152	6.340	6.340	0.000	96	222518	5.00	5.00	
	20 1,4-Dichlorobenzene	146		6.363					ND	
	23 2-Methylphenol	108		6.765					ND	
	25 2,2'-oxybis[1-chloropropane]	45		6.789					ND	
	27 Acetophenone	105		6.963					ND	
	29 N-Nitrosodi-n-propylamine	70		6.987					ND	
	28 4-Methylphenol	108		7.004					ND	
	32 Hexachloroethane	117		7.091					ND	
$	33 Nitrobenzene-d5	82	7.173	7.173	0.000	85	977185	25.1	12.1	
	34 Nitrobenzene	77		7.202					ND	
	36 Isophorone	82		7.587					ND	
	37 2-Nitrophenol	139		7.698					ND	
	38 2,4-Dimethylphenol	107		7.820					ND	
	41 Bis(2-chloroethoxy)methane	93		7.972					ND	
	42 2,4-Dichlorophenol	162		8.071					ND	
*	44 Naphthalene-d8	136	8.269	8.269	0.000	99	824760	5.00	5.00	
	45 Naphthalene	128		8.304					ND	
	46 4-Chloroaniline	127		8.426					ND	
	49 Hexachlorobutadiene	225		8.537					ND	
	52 Caprolactam	113		8.962					ND	
	54 4-Chloro-3-methylphenol	107		9.236					ND	
	56 2-Methylnaphthalene	142		9.406					ND	
	58 Hexachlorocyclopentadiene	237		9.674					ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
59 1,2,4,5-Tetrachlorobenzene	216		9.674				ND		
61 2,4,6-Trichlorophenol	196		9.878				ND		
62 2,4,5-Trichlorophenol	196		9.924				ND		
$ 63 2-Fluorobiphenyl (Surr)	172	10.023	10.023	0.000	100	1437920	25.1	10.9	
66 2-Chloronaphthalene	162		10.169				ND		
65 1,1'-Biphenyl	154		10.175				ND		
69 2-Nitroaniline	138		10.356				ND		
72 Dimethyl phthalate	163		10.711				ND		
74 2,6-Dinitrotoluene	165		10.775				ND		
75 Acenaphthylene	152		10.822				ND		
76 3-Nitroaniline	138		11.026				ND		
* 77 Acenaphthene-d10	164	11.055	11.055	0.000	98	399780	5.00	5.00	
78 Acenaphthene	153		11.108				ND		
79 2,4-Dinitrophenol	184		11.201				ND		
80 4-Nitrophenol	109		11.352				ND		
83 Dibenzofuran	168		11.387				ND		
82 2,4-Dinitrotoluene	165		11.416				ND		
85 2,3,4,6-Tetrachlorophenol	232		11.597				ND		
87 Diethyl phthalate	149		11.819				ND		
89 Fluorene	166		11.883				ND		
91 4-Chlorophenyl phenyl ether	204		11.918				ND		
92 4-Nitroaniline	138		11.918				ND		
93 4,6-Dinitro-2-methylphenol	198		11.982				ND		
94 N-Nitrosodiphenylamine	169		12.075				ND		
$ 96 2,4,6-Tribromophenol	330	12.192	12.186	0.006	89	418432	50.1	28.2	
101 4-Bromophenyl phenyl ether	248		12.506				ND		
103 Hexachlorobenzene	284		12.541				ND		
105 Atrazine	200		12.739				ND		
106 Pentachlorophenol	266		12.792				ND		
* 110 Phenanthrene-d10	188	13.002	13.002	0.000	98	760921	5.00	5.00	
112 Phenanthrene	178		13.025				ND		
113 Anthracene	178		13.089				ND		
114 Carbazole	167		13.305				ND		
116 Di-n-butyl phthalate	149		13.818				ND		
121 Fluoranthene	202		14.587				ND		
* 123 Pyrene-d10 (IS)	212	14.885	14.879	0.006	98	769300	5.00	5.00	
124 Pyrene	202		14.908				ND		
$ 125 p-Terphenyl-d14	244	15.205	15.199	0.006	98	2014795	25.1	13.7	
129 Butyl benzyl phthalate	149		16.050				ND		
132 Benzo[a]anthracene	228		16.849				ND		
131 3,3'-Dichlorobenzidine	252		16.866				ND		
134 Chrysene	228		16.907				ND		
135 Bis(2-ethylhexyl) phthalate	149		17.105				ND		
137 Di-n-octyl phthalate	149		18.248				ND		U
138 Benzo[b]fluoranthene	252		18.667				ND		
140 Benzo[k]fluoranthene	252		18.714				ND		
141 Benzo[a]pyrene	252		19.186				ND		U
* 142 Perylene-d12	264	19.279	19.279	0.000	98	741523	5.00	5.00	
146 Indeno[1,2,3-cd]pyrene	276		20.859				ND		
147 Dibenz(a,h)anthracene	278		20.906				ND		
148 Benzo[g,h,i]perylene	276		21.209				ND		

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

MSS_RV8270_IS_00012 Amount Added: 20.00 Units: uL Run Reagent

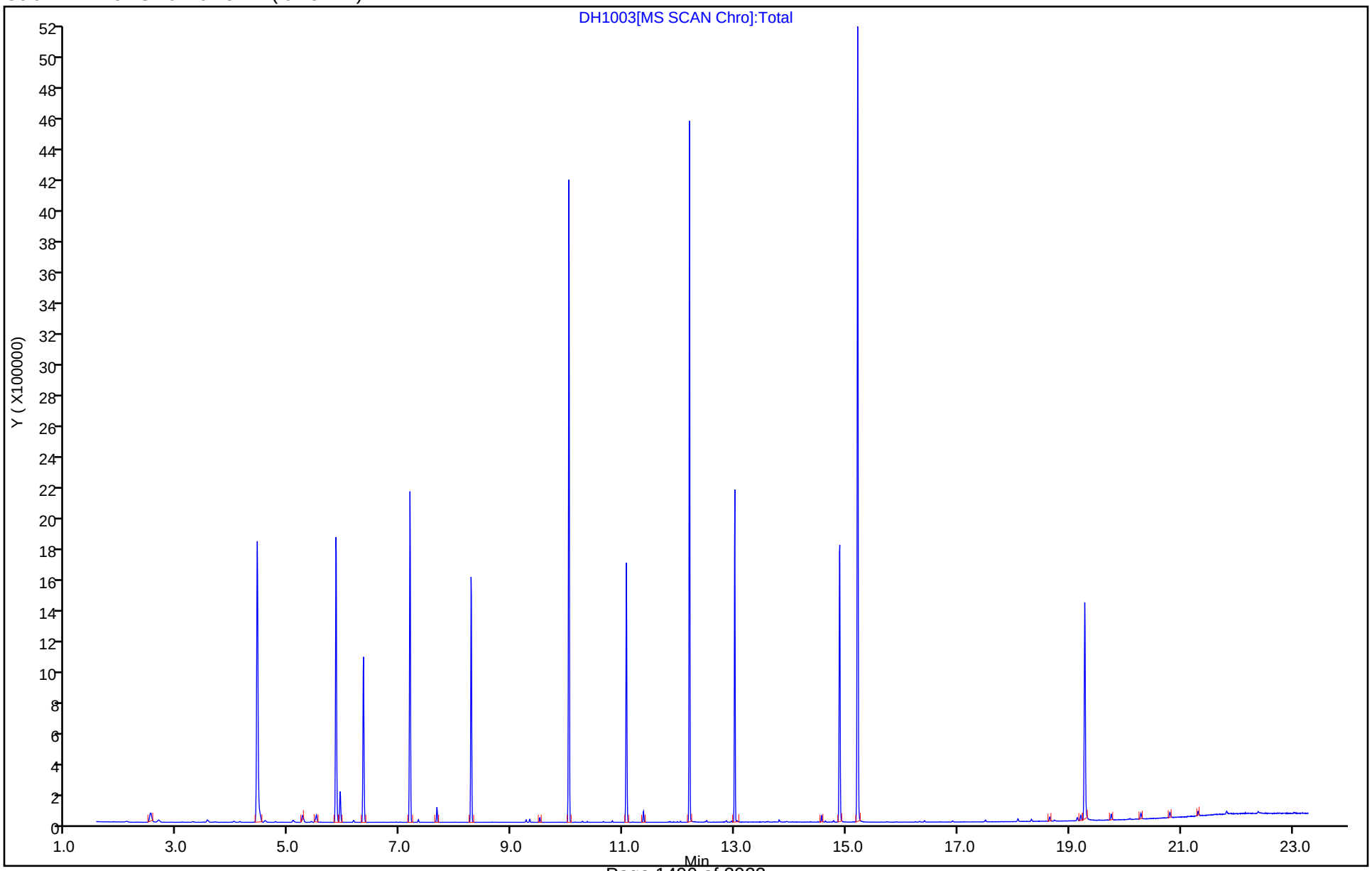
Report Date: 19-Aug-2020 13:57:49 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1003.D

Injection Date:	18-Aug-2020 11:00:30	Instrument ID:	HP19760	Operator ID:	em10340
Lims ID:	MB 410-33824/1-A			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	4
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



Report Date: 19-Aug-2020 13:57:49 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1003.D
Lims ID: MB 410-33824/1-A
Client ID:
Sample Type: MB
Inject. Date: 18-Aug-2020 11:00:30 ALS Bottle#: 4 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: MB 410-33824/1-A
Misc. Info.: 410-0008313-004
Operator ID: em10340 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 19-Aug-2020 09:41:10 Calib Date: 14-Aug-2020 02:06:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200813-8022.b\DH0756.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1035

First Level Reviewer: monbornee Date: 19-Aug-2020 08:10:01

Compound	Amount Added	Amount Recovered	% Rec.
$ 8 2-Fluorophenol	50.2	13.8	27.59
$ 13 Phenol-d5	50.2	10.3	20.58
$ 33 Nitrobenzene-d5	25.1	12.1	48.26
$ 63 2-Fluorobiphenyl (Surr)	25.1	10.9	43.66
$ 96 2,4,6-Tribromophenol	50.1	28.2	56.26
$ 125 p-Terphenyl-d14	25.1	13.7	54.51

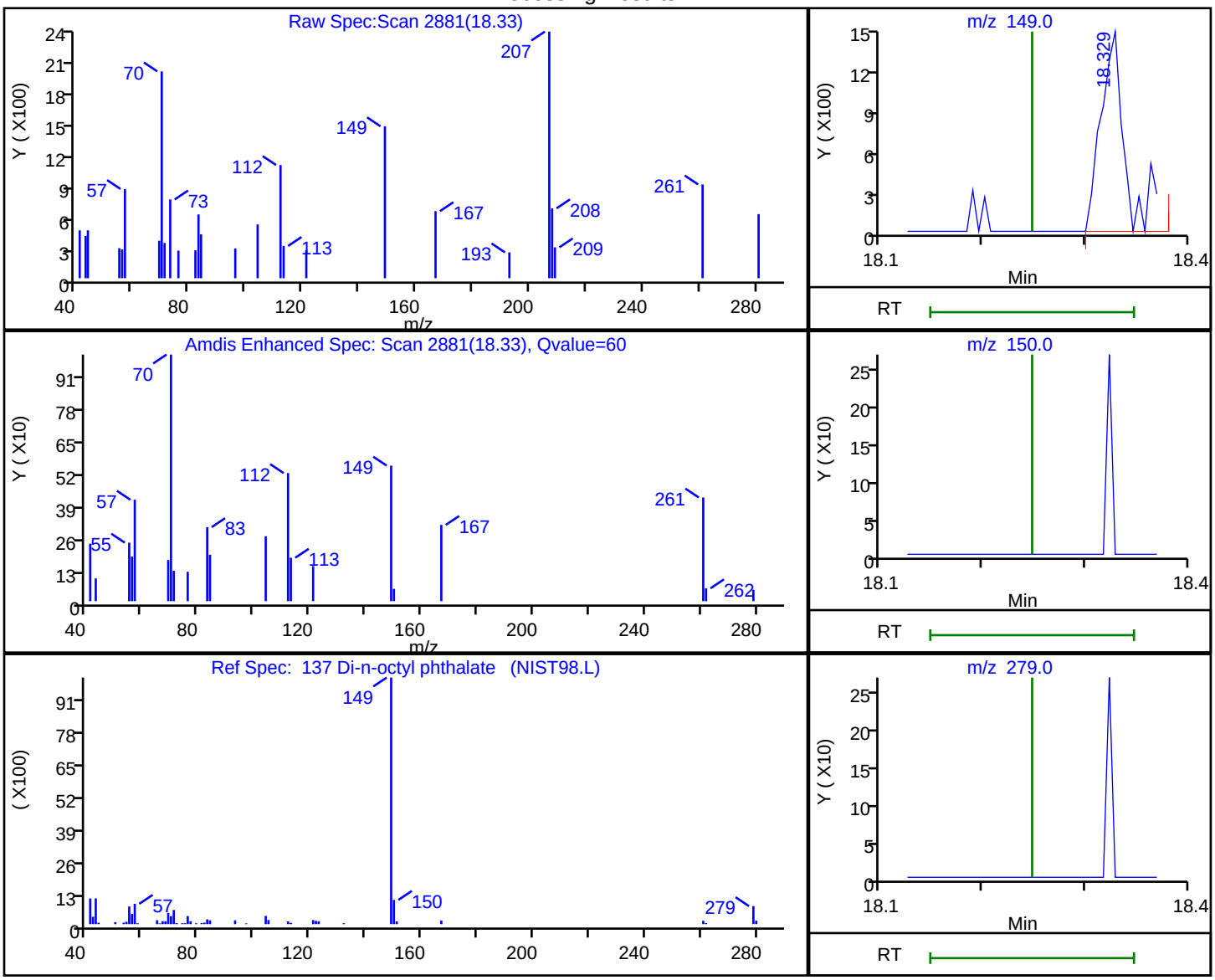
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1003.D				
Injection Date:	18-Aug-2020 11:00:30	Instrument ID:	HP19760		
Lims ID:	MB 410-33824/1-A				
Client ID:					
Operator ID:	em10340	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

137 Di-n-octyl phthalate, CAS: 117-84-0

Processing Results



RT	Mass	Response	Amount
18.33	149.00	2410	0.972019
18.25	150.00	0	
18.25	279.00	0	

Reviewer: monbornee, 19-Aug-2020 08:08:52

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

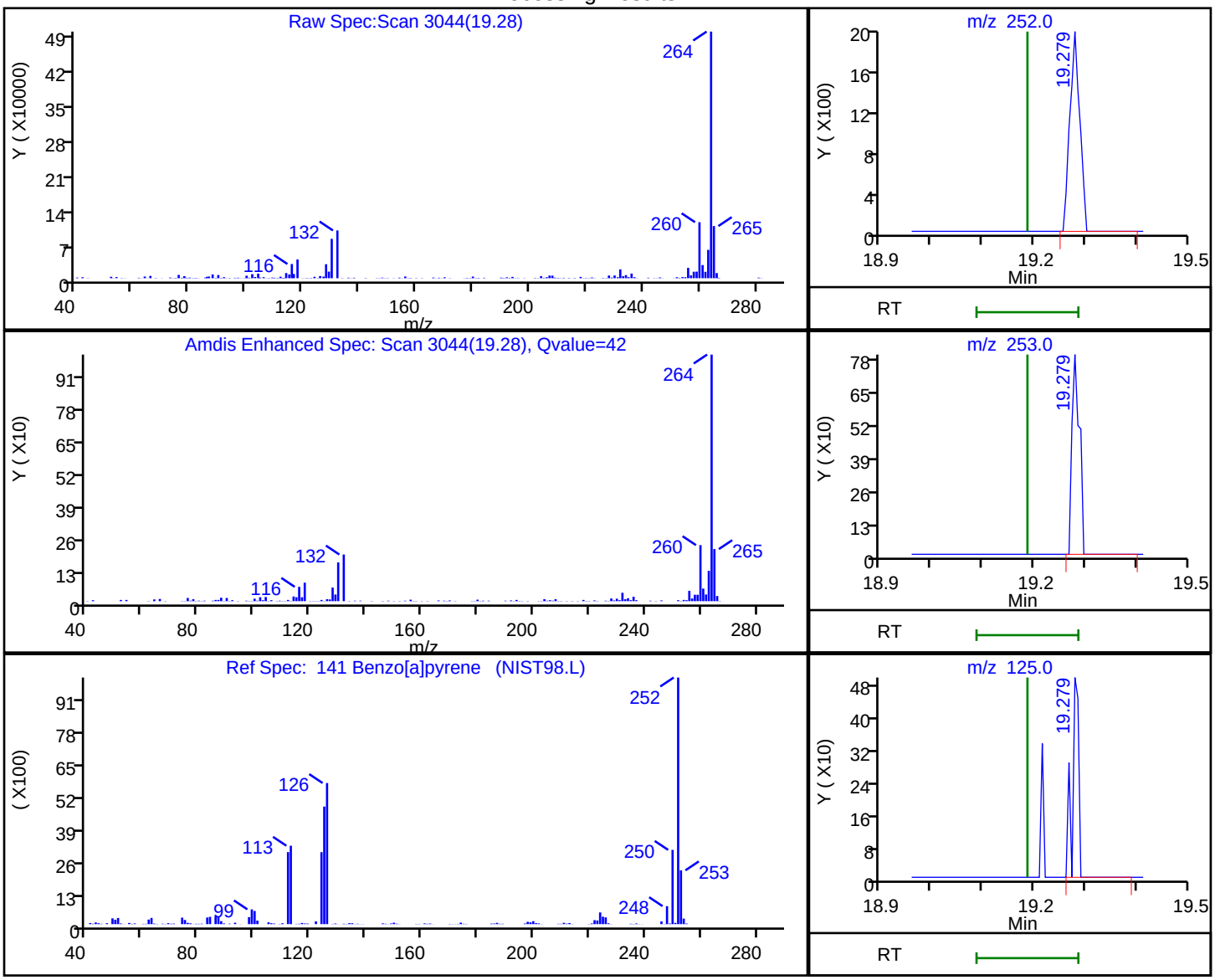
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1003.D				
Injection Date:	18-Aug-2020 11:00:30	Instrument ID:	HP19760		
Lims ID:	MB 410-33824/1-A				
Client ID:					
Operator ID:	em10340	ALS Bottle#:	4	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

141 Benzo[a]pyrene, CAS: 50-32-8

Processing Results



RT	Mass	Response	Amount
19.28	252.00	2626	0.112153
19.28	253.00	815	
19.28	125.00	424	

Reviewer: monbornee, 19-Aug-2020 08:08:54

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 410-35738/1-A

Matrix: Water Lab File ID: DH1409.D

Analysis Method: 8270D Date Collected:

Extract. Method: 3510C Date Extracted: 08/21/2020 08:45

Sample wt/vol: 250(mL) Date Analyzed: 08/25/2020 02:51

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 36695 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
92-52-4	1,1'-Biphenyl	ND		10	3.0
120-83-2	2,4-Dichlorophenol	ND		2.0	0.50
105-67-9	2,4-Dimethylphenol	ND		10	3.0
51-28-5	2,4-Dinitrophenol	ND		30	14
121-14-2	2,4-Dinitrotoluene	ND		5.0	1.0
95-95-4	2,4,5-Trichlorophenol	ND		2.0	0.50
88-06-2	2,4,6-Trichlorophenol	ND		2.0	0.50
108-60-1	2,2'-oxybis[1-chloropropane]	ND		2.0	0.50
84-74-2	Di-n-butyl phthalate	ND		5.0	2.0
117-84-0	Di-n-octyl phthalate	ND		11	5.0
56-55-3	Benzo[a]anthracene	ND		0.50	0.10
50-32-8	Benzo[a]pyrene	ND		0.50	0.10
205-99-2	Benzo[b]fluoranthene	ND		0.50	0.10
191-24-2	Benzo[g,h,i]perylene	ND		0.50	0.10
207-08-9	Benzo[k]fluoranthene	ND		0.50	0.10
83-32-9	Acenaphthene	ND		0.50	0.10
208-96-8	Acenaphthylene	ND		0.50	0.10
98-86-2	Acetophenone	ND		10	4.0
120-12-7	Anthracene	ND		0.50	0.10
1912-24-9	Atrazine	ND		5.0	2.0
100-52-7	Benzaldehyde	ND		10	3.0
85-68-7	Butylbenzylphthalate	ND		5.0	2.0
105-60-2	Caprolactam	ND		11	5.0
86-74-8	Carbazole	ND		2.0	0.50
218-01-9	Chrysene	ND		0.50	0.10
53-70-3	Dibenz(a,h)anthracene	ND		0.50	0.10
132-64-9	Dibenzofuran	ND		2.0	0.50
84-66-2	Diethyl phthalate	ND		5.0	2.0
131-11-3	Dimethyl phthalate	ND		5.0	2.0
118-74-1	Hexachlorobenzene	ND		0.50	0.10
87-68-3	Hexachlorobutadiene	ND		2.0	0.50
77-47-4	Hexachlorocyclopentadiene	ND		11	5.0
67-72-1	Hexachloroethane	ND		5.0	1.0
206-44-0	Fluoranthene	ND		0.50	0.10

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 410-35738/1-A

Matrix: Water Lab File ID: DH1409.D

Analysis Method: 8270D Date Collected:

Extract. Method: 3510C Date Extracted: 08/21/2020 08:45

Sample wt/vol: 250(mL) Date Analyzed: 08/25/2020 02:51

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 36695 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
86-73-7	Fluorene	ND		0.50	0.10
193-39-5	Indeno[1,2,3-cd]pyrene	ND		0.50	0.10
78-59-1	Isophorone	ND		2.0	0.50
621-64-7	N-Nitrosodi-n-propylamine	ND		3.0	0.70
86-30-6	N-Nitrosodiphenylamine	ND		3.0	0.70
91-20-3	Naphthalene	ND		0.50	0.10
98-95-3	Nitrobenzene	ND		2.0	0.50
87-86-5	Pentachlorophenol	ND		5.0	1.0
85-01-8	Phenanthrene	ND		0.50	0.10
108-95-2	Phenol	ND		2.0	0.50
129-00-0	Pyrene	ND		0.50	0.10
91-58-7	2-Chloronaphthalene	ND		1.0	0.40
95-57-8	2-Chlorophenol	ND		2.0	0.50
91-57-6	2-Methylnaphthalene	ND		0.50	0.10
95-48-7	2-Methylphenol	ND		2.0	0.50
88-74-4	2-Nitroaniline	ND		5.0	2.0
88-75-5	2-Nitrophenol	ND		10	3.0
91-94-1	3,3'-Dichlorobenzidine	ND		10	3.0
99-09-2	3-Nitroaniline	ND		7.0	3.0
534-52-1	4,6-Dinitro-2-methylphenol	ND		21	8.0
101-55-3	4-Bromophenyl-phenylether	ND		2.0	0.50
106-44-5	4-Methylphenol	ND		2.0	0.50
100-01-6	4-Nitroaniline	ND		3.0	0.90
100-02-7	4-Nitrophenol	ND		30	10
111-91-1	Bis(2-chloroethoxy)methane	ND		2.0	0.50
111-44-4	Bis(2-chloroethyl)ether	ND		2.0	0.50
117-81-7	Bis(2-ethylhexyl) phthalate	ND		11	5.0
606-20-2	2,6-Dinitrotoluene	ND		2.0	0.50
59-50-7	4-Chloro-3-methylphenol	ND		3.5	1.6
106-47-8	4-Chloroaniline	ND		10	4.0
7005-72-3	4-Chlorophenyl-phenyl ether	ND		2.0	0.50

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 410-35738/1-A

Matrix: Water Lab File ID: DH1409.D

Analysis Method: 8270D Date Collected:

Extract. Method: 3510C Date Extracted: 08/21/2020 08:45

Sample wt/vol: 250(mL) Date Analyzed: 08/25/2020 02:51

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 36695 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	91		18-141
321-60-8	2-Fluorobiphenyl (Surr)	70		44-102
367-12-4	2-Fluorophenol (Surr)	46		10-84
4165-60-0	Nitrobenzene-d5 (Surr)	81		38-113
1718-51-0	p-Terphenyl-d14 (Surr)	84		34-128
4165-62-2	Phenol-d5 (Surr)	33		10-67

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1409.D
Lims ID: MB 410-35738/1-A
Client ID:
Sample Type: MB
Inject. Date: 25-Aug-2020 02:51:30 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: MB 410-35738/1-A
Misc. Info.: 410-0008846-010
Operator ID: sw30417 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 25-Aug-2020 10:12:22 Calib Date: 25-Aug-2020 02:23:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1408.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1066

First Level Reviewer: monbornee Date: 25-Aug-2020 10:01:54

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	2 N-Nitrosodimethylamine	74		2.092					ND	
	3 Pyridine	79		2.145					ND	
	4 2-Picoline	93		3.427					ND	
	5 N-Nitrosomethylethylamine	88		3.631					ND	
	7 Methyl methanesulfonate	80		4.109					ND	
$	8 2-Fluorophenol	112	4.359	4.359	0.000	91	1024382	50.2	23.2	
	9 N-Nitrosodiethylamine	102		4.698					ND	
	10 Ethyl methanesulfonate	109		5.175					ND	
	12 Benzaldehyde	77		5.618					ND	
$	13 Phenol-d5	99	5.776	5.782	-0.006	97	937555	50.2	16.8	
	15 Aniline	93		5.787					ND	
	14 Phenol	94		5.799					ND	
	16 Bis(2-chloroethyl)ether	93		5.916					ND	
	17 2-Chlorophenol	128		5.951					ND	
	18 1,3-Dichlorobenzene	146		6.172					ND	
*	19 1,4-Dichlorobenzene-d4	152	6.265	6.265	0.000	96	140844	5.00	5.00	
	20 1,4-Dichlorobenzene	146		6.295					ND	
	21 Benzyl alcohol	108		6.504					ND	
	22 1,2-Dichlorobenzene	146		6.510					ND	
	23 2-Methylphenol	108		6.703					ND	
	25 2,2'-oxybis[1-chloropropane]	45		6.732					ND	
	26 N-Nitrosopyrrolidine	100		6.860					ND	
	27 Acetophenone	105		6.895					ND	
	29 N-Nitrosodi-n-propylamine	70		6.924					ND	
	30 N-Nitrosomorpholine	56		6.930					ND	
	28 4-Methylphenol	108		6.942					ND	
	31 2-Toluidine	106		6.942					ND	
	32 Hexachloroethane	117		7.017					ND	
$	33 Nitrobenzene-d5	82	7.105	7.111	-0.006	85	1034374	25.1	20.4	
	34 Nitrobenzene	77		7.134					ND	U
	35 N-Nitrosopiperidine	114		7.373					ND	

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	36 Isophorone	82		7.524				ND		
	37 2-Nitrophenol	139		7.623				ND		
	38 2,4-Dimethylphenol	107		7.752				ND		
	39 o,o',o''-Triethylphosphorothioat	198		7.874				ND		
	41 Bis(2-chloroethoxy)methane	93		7.903				ND		
	42 2,4-Dichlorophenol	162		8.008				ND		
	43 1,2,4-Trichlorobenzene	180		8.131				ND		
*	44 Naphthalene-d8	136	8.200	8.201	-0.001	99	518141	5.00	5.00	
	45 Naphthalene	128		8.235				ND		
	46 4-Chloroaniline	127		8.352				ND		
	47 2,6-Dichlorophenol	162		8.358				ND		
	48 Hexachloropropene	213		8.387				ND		
	49 Hexachlorobutadiene	225		8.469				ND		
	52 Caprolactam	113		8.900				ND		
	156 p-Phenylene diamine	108		8.912				ND		
	53 N-Nitrosodi-n-butylamine	84		8.935				ND		
	54 4-Chloro-3-methylphenol	107		9.168				ND		
	55 Safrole, Total	162		9.244				ND		
	56 2-Methylnaphthalene	142		9.337				ND		
	58 Hexachlorocyclopentadiene	237		9.605				ND		
	59 1,2,4,5-Tetrachlorobenzene	216		9.605				ND		
S	51 Diallate	86		9.653				ND		
	60 Isosafrole Peak 1	162		9.710				ND		
	61 2,4,6-Trichlorophenol	196		9.809				ND		
	62 2,4,5-Trichlorophenol	196		9.862				ND		
$	63 2-Fluorobiphenyl (Surr)	172	9.955	9.955	0.000	100	1474633	25.1	17.5	
	64 Isosafrole Peak 2	162		10.072				ND		
	65 1,1'-Biphenyl	154		10.101				ND		
	66 2-Chloronaphthalene	162		10.101				ND		
	69 2-Nitroaniline	138		10.293				ND		
	70 1,4-Naphthoquinone	158		10.398				ND		
	72 Dimethyl phthalate	163		10.643				ND		
	73 1,3-Dinitrobenzene	168		10.649				ND		
	74 2,6-Dinitrotoluene	165		10.713				ND		
	75 Acenaphthylene	152		10.753				ND		
	76 3-Nitroaniline	138		10.952				ND		
*	77 Acenaphthene-d10	164	10.981	10.987	-0.006	98	257151	5.00	5.00	
	78 Acenaphthene	153		11.039				ND		
	79 2,4-Dinitrophenol	184		11.132				ND		
	81 Pentachlorobenzene	250		11.255				ND		
	80 4-Nitrophenol	109		11.284				ND		
	83 Dibenzofuran	168		11.319				ND		
	82 2,4-Dinitrotoluene	165		11.348				ND		
	84 1-Naphthylamine	143		11.447				ND		
	85 2,3,4,6-Tetrachlorophenol	232		11.529				ND		
	86 2-Naphthylamine	143		11.569				ND		
	87 Diethyl phthalate	149		11.762				ND		
	89 Fluorene	166		11.820				ND		
	88 Thionazin	107		11.861				ND		
	90 N-Nitro-o-toluidine	152		11.861				ND		
	91 4-Chlorophenyl phenyl ether	204		11.861				ND		
	92 4-Nitroaniline	138		11.873				ND		

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
93 4,6-Dinitro-2-methylphenol	198		11.925					ND	
94 N-Nitrosodiphenylamine	169		12.018					ND	
$ 96 2,4,6-Tribromophenol	330	12.129	12.135	-0.006	89	437521	50.1	45.8	
97 Sulfotepp	97		12.275					ND	
181 1,3,5-Trinitrobenzene	213		12.368					ND	
98 cis-Diallate	86		12.391					ND	
100 Phenacetin	108		12.426					ND	
101 4-Bromophenyl phenyl ether	248		12.455					ND	
102 trans-Diallate	86		12.485					ND	
103 Hexachlorobenzene	284		12.490					ND	
104 Dimethoate	87		12.572					ND	
105 Atrazine	200		12.689					ND	
106 Pentachlorophenol	266		12.735					ND	
107 Pentachloronitrobenzene	237		12.747					ND	
108 4-Aminobiphenyl	169		12.753					ND	
109 Pronamide	173		12.863					ND	
* 110 Phenanthrene-d10	188	12.939	12.945	-0.006	98	489478	5.00	5.00	
112 Phenanthrene	178		12.974					ND	
113 Anthracene	178		13.032					ND	
114 Carbazole	167		13.248					ND	
116 Di-n-butyl phthalate	149		13.755					ND	
118 4-Nitroquinoline-1-oxide	190		13.959					ND	
160 Methapyrilene	97		14.111					ND	
120 Isodrin	193		14.309					ND	
121 Fluoranthene	202		14.519					ND	
* 123 Pyrene-d10 (IS)	212	14.804	14.810	-0.006	98	486847	5.00	5.00	
124 Pyrene	202		14.839					ND	
$ 125 p-Terphenyl-d14	244	15.131	15.131	0.000	98	1967692	25.1	21.1	
126 p-Dimethylamino azobenzene	225		15.352					ND	
127 Chlorobenzilate	139		15.451					ND	
128 3,3'-Dimethylbenzidine	212		15.894					ND	
129 Butyl benzyl phthalate	149		15.970					ND	
130 2-Acetylaminofluorene	181		16.302					ND	
132 Benzo[a]anthracene	228		16.774					ND	
131 3,3'-Dichlorobenzidine	252		16.786					ND	
134 Chrysene	228		16.833					ND	
135 Bis(2-ethylhexyl) phthalate	149		17.025					ND	
137 Di-n-octyl phthalate	149		18.167					ND	U
138 Benzo[b]fluoranthene	252		18.587					ND	
139 7,12-Dimethylbenz(a)anthracene	256		18.599					ND	
140 Benzo[k]fluoranthene	252		18.634					ND	
141 Benzo[a]pyrene	252		19.100					ND	U
* 142 Perylene-d12	264	19.187	19.193	-0.006	98	437034	5.00	5.00	
143 3-Methylcholanthrene	268		19.677					ND	
146 Indeno[1,2,3-cd]pyrene	276		20.779					ND	
147 Dibenz(a,h)anthracene	278		20.825					ND	
148 Benzo[g,h,i]perylene	276		21.134					ND	
S 170 Isosafrole	162		0.000					ND	

QC Flag Legend

Review Flags

U - Marked Undetected

Reagents:

MSS_RV8270_IS_00012 Amount Added: 20.00 Units: uL Run Reagent

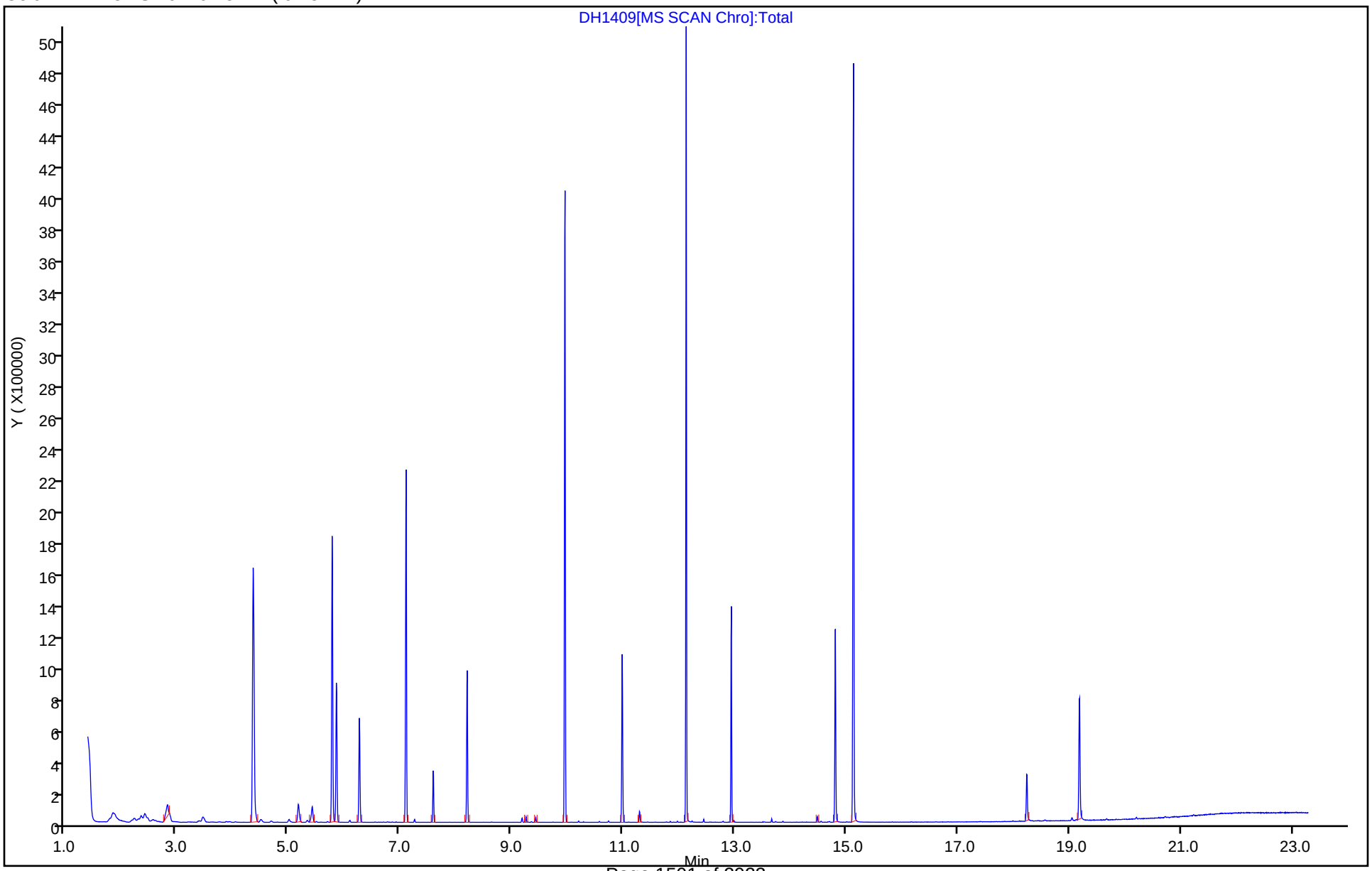
Report Date: 25-Aug-2020 13:50:48 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1409.D

Injection Date:	25-Aug-2020 02:51:30	Instrument ID:	HP19760	Operator ID:	sw30417
Lims ID:	MB 410-35738/1-A			Worklist Smp#:	10
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	10
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1409.D
Lims ID: MB 410-35738/1-A
Client ID:
Sample Type: MB
Inject. Date: 25-Aug-2020 02:51:30 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: MB 410-35738/1-A
Misc. Info.: 410-0008846-010
Operator ID: sw30417 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 25-Aug-2020 10:12:22 Calib Date: 25-Aug-2020 02:23:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1408.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1066

First Level Reviewer: monbornee Date: 25-Aug-2020 10:01:54

Compound	Amount Added	Amount Recovered	% Rec.
$ 8 2-Fluorophenol	50.2	23.2	46.34
$ 13 Phenol-d5	50.2	16.8	33.45
$ 33 Nitrobenzene-d5	25.1	20.4	81.32
$ 63 2-Fluorobiphenyl (Surr)	25.1	17.5	69.61
$ 96 2,4,6-Tribromophenol	50.1	45.8	91.46
$ 125 p-Terphenyl-d14	25.1	21.1	84.12

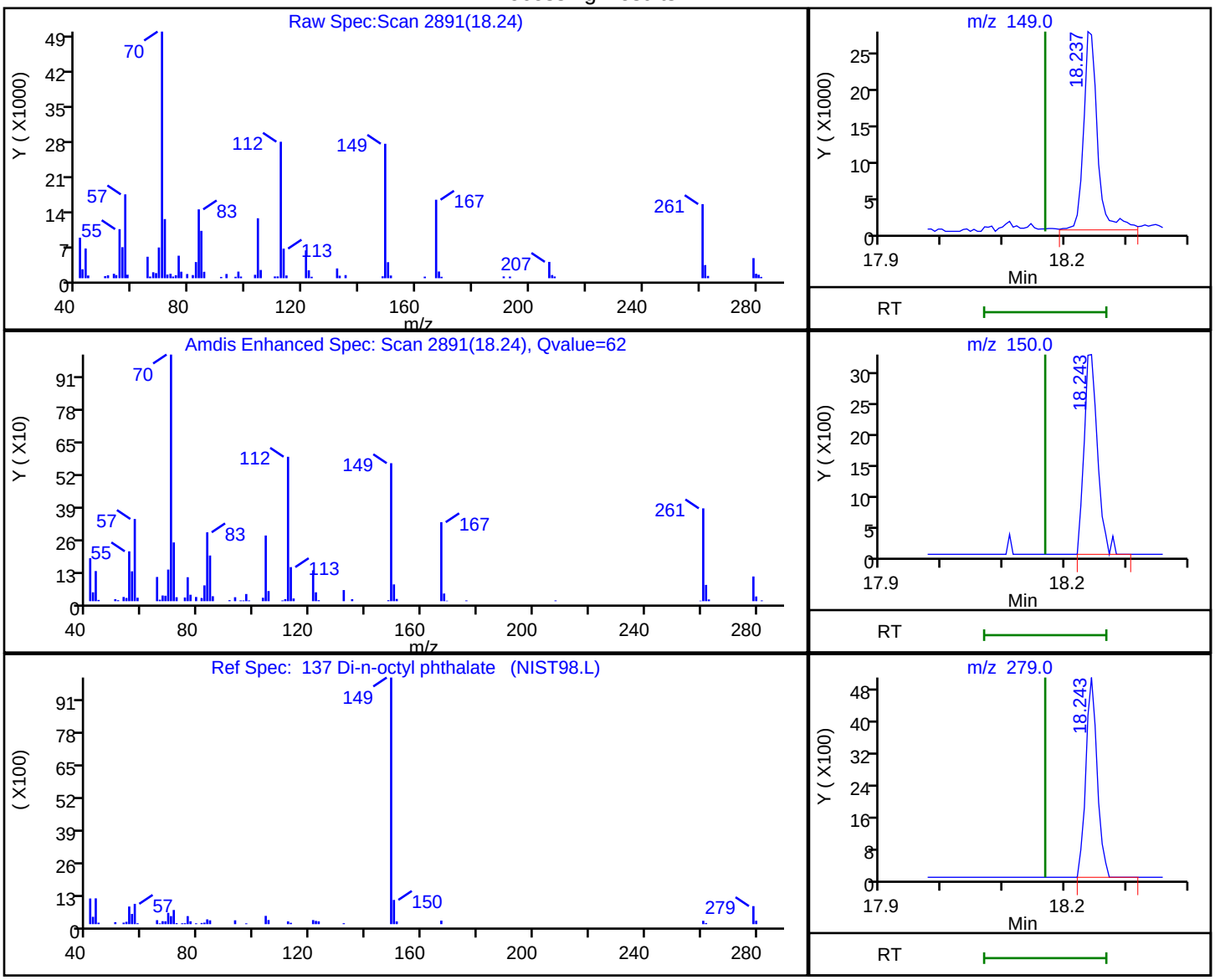
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1409.D				
Injection Date:	25-Aug-2020 02:51:30	Instrument ID:	HP19760		
Lims ID:	MB 410-35738/1-A				
Client ID:					
Operator ID:	sw30417	ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

137 Di-n-octyl phthalate, CAS: 117-84-0

Processing Results



RT	Mass	Response	Amount
18.24	149.00	42938	1.266860
18.24	150.00	4949	
18.24	279.00	6437	

Reviewer: monbornee, 25-Aug-2020 10:01:47

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

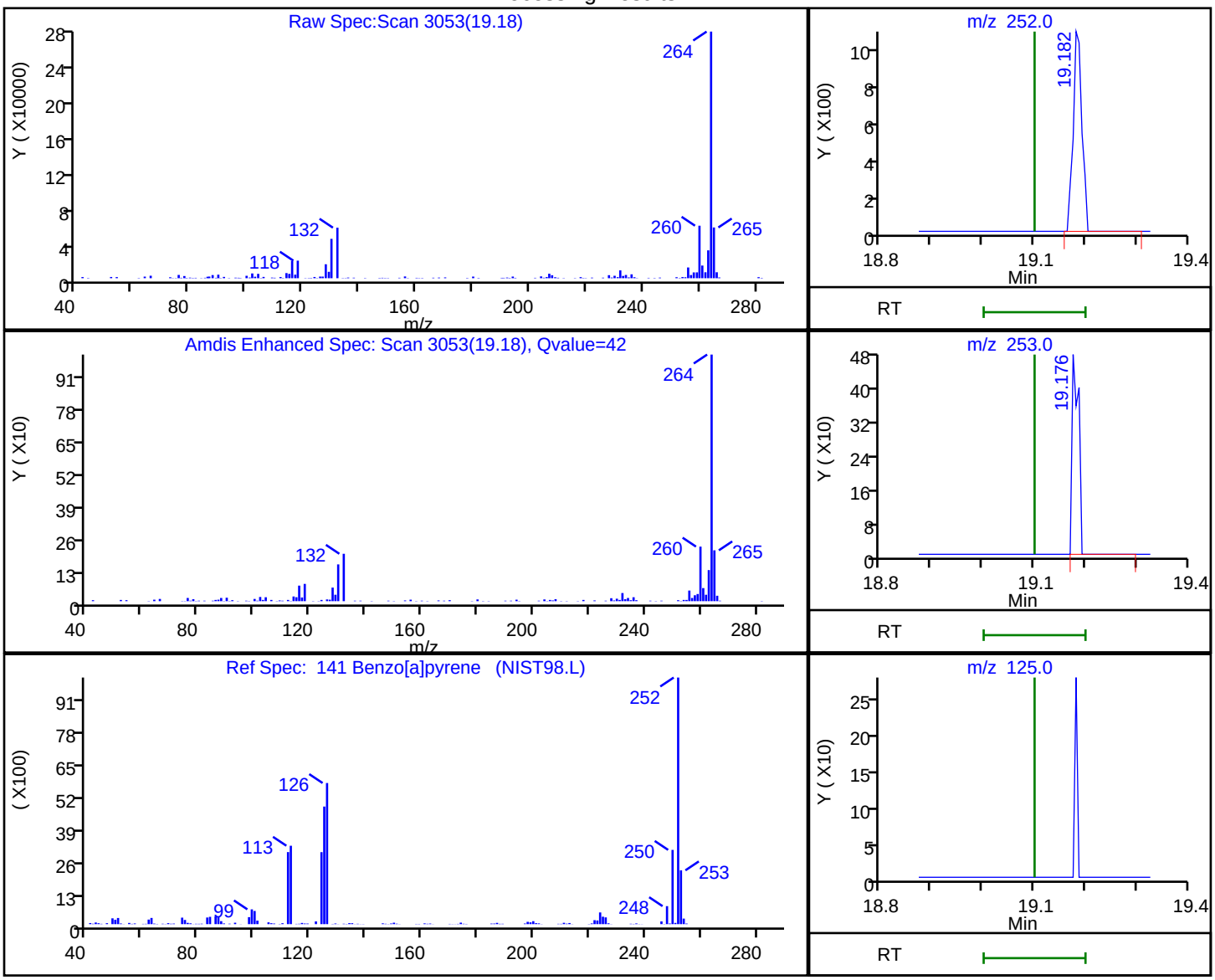
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1409.D				
Injection Date:	25-Aug-2020 02:51:30	Instrument ID:	HP19760		
Lims ID:	MB 410-35738/1-A				
Client ID:					
Operator ID:	sw30417	ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

141 Benzo[a]pyrene, CAS: 50-32-8

Processing Results



RT	Mass	Response	Amount
19.18	252.00	1313	0.110134
19.18	253.00	425	
19.10	125.00	0	

Reviewer: monbornee, 25-Aug-2020 10:01:49

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

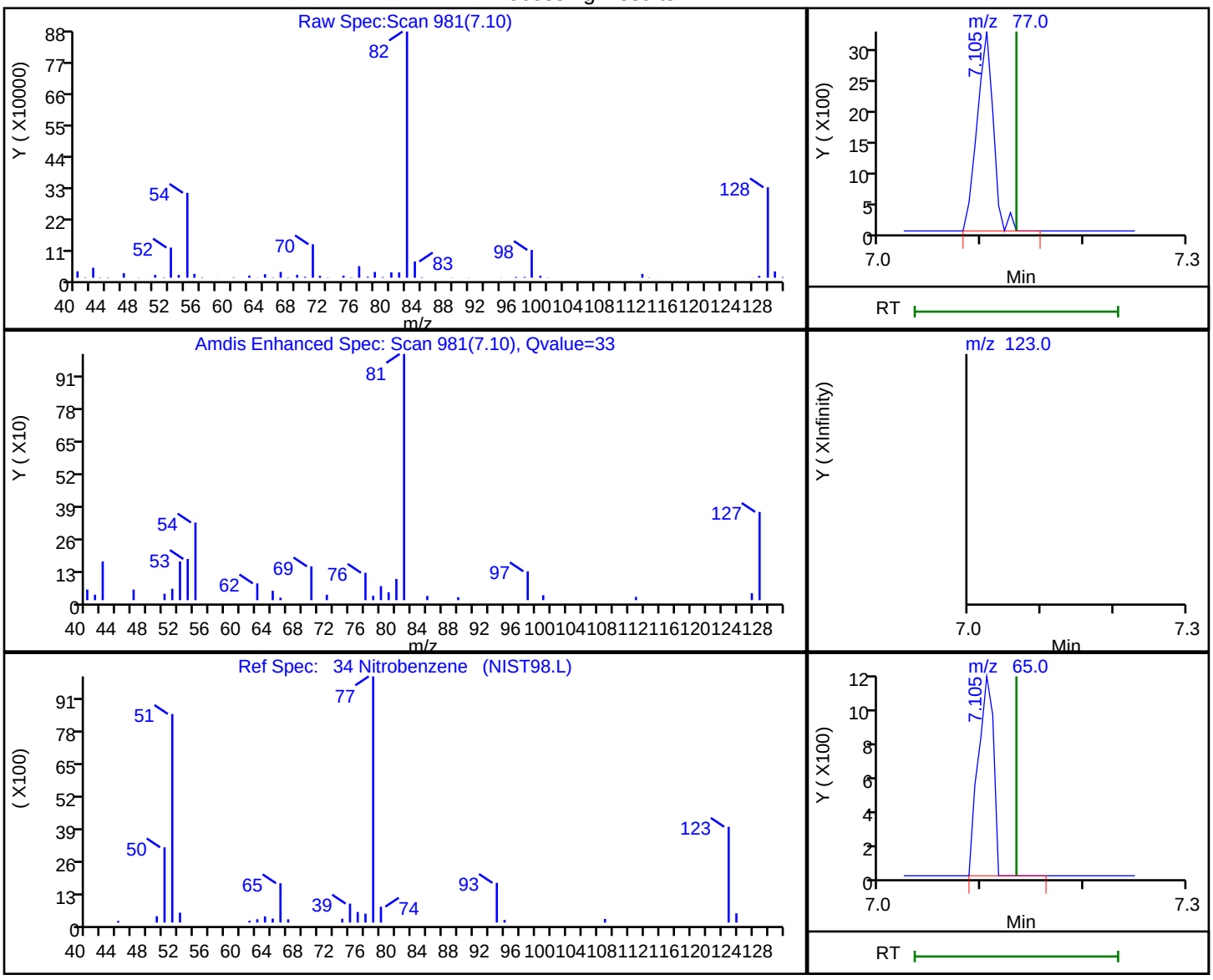
User Disabled Compound Report

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1409.D				
Injection Date:	25-Aug-2020 02:51:30	Instrument ID:	HP19760		
Lims ID:	MB 410-35738/1-A				
Client ID:					
Operator ID:	sw30417	ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		
Column:	DB-5MS 20m 0.25mm (0.25 mm)	Detector	MS SCAN		

34 Nitrobenzene, CAS: 98-95-3

Processing Results



RT	Mass	Response	Amount
7.10	77.00	3598	0.070500
7.13	123.00	0	
7.10	65.00	1143	

Reviewer: monbornee, 25-Aug-2020 10:01:21

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 410-33824/2-A

Matrix: Water Lab File ID: DH1004.D

Analysis Method: 8270D Date Collected:

Extract. Method: 3510C Date Extracted: 08/17/2020 08:45

Sample wt/vol: 250(mL) Date Analyzed: 08/18/2020 11:29

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34301 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
92-52-4	1,1'-Biphenyl	26.7		10	3.0
120-83-2	2,4-Dichlorophenol	30.9		2.0	0.50
105-67-9	2,4-Dimethylphenol	26.2		10	3.0
51-28-5	2,4-Dinitrophenol	67.0		30	14
121-14-2	2,4-Dinitrotoluene	32.0		5.0	1.0
95-95-4	2,4,5-Trichlorophenol	33.0		2.0	0.50
88-06-2	2,4,6-Trichlorophenol	33.2		2.0	0.50
108-60-1	2,2'-oxybis[1-chloropropane]	26.0		2.0	0.50
84-74-2	Di-n-butyl phthalate	31.2		5.0	2.0
117-84-0	Di-n-octyl phthalate	30.9		11	5.0
56-55-3	Benzo[a]anthracene	30.4		0.50	0.10
50-32-8	Benzo[a]pyrene	26.8		0.50	0.10
205-99-2	Benzo[b]fluoranthene	28.2		0.50	0.10
191-24-2	Benzo[g,h,i]perylene	25.9		0.50	0.10
207-08-9	Benzo[k]fluoranthene	30.4		0.50	0.10
83-32-9	Acenaphthene	26.0		0.50	0.10
208-96-8	Acenaphthylene	29.0		0.50	0.10
98-86-2	Acetophenone	30.2		10	4.0
120-12-7	Anthracene	31.1		0.50	0.10
1912-24-9	Atrazine	35.6		5.0	2.0
100-52-7	Benzaldehyde	27.2		10	3.0
85-68-7	Butylbenzylphthalate	27.7		5.0	2.0
105-60-2	Caprolactam	7.56	J	11	5.0
86-74-8	Carbazole	33.4		2.0	0.50
218-01-9	Chrysene	33.5		0.50	0.10
53-70-3	Dibenz(a,h)anthracene	25.8		0.50	0.10
132-64-9	Dibenzofuran	27.4		2.0	0.50
84-66-2	Diethyl phthalate	26.4		5.0	2.0
131-11-3	Dimethyl phthalate	18.2		5.0	2.0
118-74-1	Hexachlorobenzene	29.7		0.50	0.10
87-68-3	Hexachlorobutadiene	20.5		2.0	0.50
77-47-4	Hexachlorocyclopentadiene	15.1		11	5.0
67-72-1	Hexachloroethane	19.0		5.0	1.0
206-44-0	Fluoranthene	34.9		0.50	0.10

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 410-33824/2-A

Matrix: Water Lab File ID: DH1004.D

Analysis Method: 8270D Date Collected:

Extract. Method: 3510C Date Extracted: 08/17/2020 08:45

Sample wt/vol: 250(mL) Date Analyzed: 08/18/2020 11:29

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34301 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
86-73-7	Fluorene	29.5		0.50	0.10
193-39-5	Indeno[1,2,3-cd]pyrene	25.2		0.50	0.10
78-59-1	Isophorone	31.2		2.0	0.50
621-64-7	N-Nitrosodi-n-propylamine	31.7		3.0	0.70
86-30-6	N-Nitrosodiphenylamine	31.0		3.0	0.70
91-20-3	Naphthalene	25.5		0.50	0.10
98-95-3	Nitrobenzene	29.9		2.0	0.50
87-86-5	Pentachlorophenol	33.8		5.0	1.0
85-01-8	Phenanthrene	29.8		0.50	0.10
108-95-2	Phenol	16.0		2.0	0.50
129-00-0	Pyrene	30.1		0.50	0.10
91-58-7	2-Chloronaphthalene	25.8		1.0	0.40
95-57-8	2-Chlorophenol	28.7		2.0	0.50
91-57-6	2-Methylnaphthalene	26.5		0.50	0.10
95-48-7	2-Methylphenol	28.7		2.0	0.50
88-74-4	2-Nitroaniline	30.8		5.0	2.0
88-75-5	2-Nitrophenol	31.4		10	3.0
91-94-1	3,3'-Dichlorobenzidine	26.8		10	3.0
99-09-2	3-Nitroaniline	28.7		7.0	3.0
534-52-1	4,6-Dinitro-2-methylphenol	33.5		21	8.0
101-55-3	4-Bromophenyl-phenylether	29.8		2.0	0.50
106-44-5	4-Methylphenol	26.7		2.0	0.50
100-01-6	4-Nitroaniline	28.8		3.0	0.90
100-02-7	4-Nitrophenol	18.8	J	30	10
111-91-1	Bis(2-chloroethoxy)methane	30.3		2.0	0.50
111-44-4	Bis(2-chloroethyl)ether	28.6		2.0	0.50
117-81-7	Bis(2-ethylhexyl) phthalate	34.3		11	5.0
606-20-2	2,6-Dinitrotoluene	29.7		2.0	0.50
59-50-7	4-Chloro-3-methylphenol	34.6		3.5	1.6
106-47-8	4-Chloroaniline	25.0		10	4.0
7005-72-3	4-Chlorophenyl-phenyl ether	26.9		2.0	0.50

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 410-33824/2-A

Matrix: Water Lab File ID: DH1004.D

Analysis Method: 8270D Date Collected:

Extract. Method: 3510C Date Extracted: 08/17/2020 08:45

Sample wt/vol: 250(mL) Date Analyzed: 08/18/2020 11:29

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34301 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	62		18-141
321-60-8	2-Fluorobiphenyl (Surr)	47		44-102
367-12-4	2-Fluorophenol (Surr)	34		10-84
4165-60-0	Nitrobenzene-d5 (Surr)	51		38-113
1718-51-0	p-Terphenyl-d14 (Surr)	51		34-128
4165-62-2	Phenol-d5 (Surr)	27		10-67

Report Date: 19-Aug-2020 13:57:51 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1004.D
Lims ID: LCS 410-33824/2-A
Client ID:
Sample Type: LCS
Inject. Date: 18-Aug-2020 11:29:30 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCS 410-33824/2-A
Misc. Info.: 410-0008313-005
Operator ID: em10340 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 19-Aug-2020 09:41:10 Calib Date: 14-Aug-2020 02:06:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200813-8022.b\DH0756.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1035

First Level Reviewer: monbornee Date: 19-Aug-2020 08:13:18

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 1,4-Dioxane	88	1.636	1.595	0.041	86	98730	12.5	3.45	
	3 Pyridine	79	2.295	2.242	0.052	88	239986	12.5	3.12	
$	8 2-Fluorophenol	112	4.457	4.434	0.023	92	1098907	50.2	17.2	
	12 Benzaldehyde	77	5.693	5.692	0.000	94	391870	12.6	6.79	
$	13 Phenol-d5	99	5.856	5.843	0.012	96	1079344	50.2	13.3	
	14 Phenol	94	5.873	5.867	0.005	90	382234	12.5	4.00	
	16 Bis(2-chloroethyl)ether	93	5.990	5.984	0.006	99	515084	12.6	7.15	
	17 2-Chlorophenol	128	6.031	6.019	0.012	95	420728	12.6	7.17	
*	19 1,4-Dichlorobenzene-d4	152	6.340	6.340	0.000	96	204597	5.00	5.00	
	20 1,4-Dichlorobenzene	146	6.369	6.363	0.006	90	353247	12.5	5.25	
	23 2-Methylphenol	108	6.771	6.765	0.006	94	409053	12.5	7.17	
	25 2,2'-oxybis[1-chloropropane]	45	6.806	6.788	0.017	89	369414	12.6	6.49	
	27 Acetophenone	105	6.963	6.963	0.000	93	651406	12.5	7.56	
	29 N-Nitrosodi-n-propylamine	70	6.992	6.987	0.005	72	393187	12.5	7.93	
	28 4-Methylphenol	108	7.010	7.004	0.006	85	459017	12.5	6.67	
	32 Hexachloroethane	117	7.091	7.091	0.000	96	144526	12.6	4.74	
$	33 Nitrobenzene-d5	82	7.179	7.173	0.006	85	972578	25.1	12.9	
	34 Nitrobenzene	77	7.208	7.202	0.006	81	567234	12.5	7.48	
	36 Isophorone	82	7.593	7.587	0.006	96	1010077	12.5	7.81	
	37 2-Nitrophenol	139	7.698	7.698	0.000	90	226297	12.5	7.85	
	38 2,4-Dimethylphenol	107	7.820	7.820	0.000	97	408645	12.5	6.55	
	41 Bis(2-chloroethoxy)methane	93	7.972	7.972	0.000	98	621595	12.6	7.58	
	42 2,4-Dichlorophenol	162	8.077	8.071	0.006	96	364479	12.5	7.72	
*	44 Naphthalene-d8	136	8.275	8.269	0.006	99	769927	5.00	5.00	
	45 Naphthalene	128	8.304	8.409	0.000	98	1076212	12.6	6.38	
	46 4-Chloroaniline	127	8.420	8.426	-0.006	93	421871	12.5	6.25	
	49 Hexachlorobutadiene	225	8.537	8.537	0.000	97	154267	12.6	5.13	
	52 Caprolactam	113	8.962	8.962	0.000	89	33102	12.6	1.89	
	54 4-Chloro-3-methylphenol	107	9.236	9.236	0.000	91	427398	12.5	8.66	
	56 2-Methylnaphthalene	142	9.411	9.406	0.005	91	696122	12.5	6.62	
	58 Hexachlorocyclopentadiene	237	9.674	9.674	0.000	97	112921	25.1	3.78	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
59 1,2,4,5-Tetrachlorobenzene	216	9.679	9.674	0.005	98	310164	12.5	5.71	
61 2,4,6-Trichlorophenol	196	9.878	9.878	0.000	94	277318	12.5	8.29	
62 2,4,5-Trichlorophenol	196	9.930	9.924	0.006	92	293611	12.6	8.25	
$ 63 2-Fluorobiphenyl (Surr)	172	10.029	10.023	0.006	99	1484125	25.1	11.7	
66 2-Chloronaphthalene	162	10.175	10.169	0.006	98	726326	12.5	6.46	
65 1,1'-Biphenyl	154	10.175	10.175	0.000	96	879571	12.5	6.68	
69 2-Nitroaniline	138	10.367	10.356	0.011	80	260532	12.5	7.71	
72 Dimethyl phthalate	163	10.717	10.711	0.006	97	532196	12.5	4.54	
74 2,6-Dinitrotoluene	165	10.781	10.775	0.006	89	203737	12.6	7.43	
75 Acenaphthylene	152	10.828	10.822	0.006	99	1015765	12.5	7.26	
76 3-Nitroaniline	138	11.026	11.026	0.000	89	204837	12.5	7.17	
* 77 Acenaphthene-d10	164	11.061	11.055	0.006	97	384998	5.00	5.00	
78 Acenaphthene	153	11.107	11.108	-0.001	96	689436	12.5	6.50	
79 2,4-Dinitrophenol	184	11.201	11.201	0.000	86	271425	25.1	16.8	
80 4-Nitrophenol	109	11.358	11.352	0.006	84	111809	12.5	4.69	
83 Dibenzofuran	168	11.393	11.387	0.006	98	971696	12.5	6.85	
82 2,4-Dinitrotoluene	165	11.416	11.416	0.000	87	273204	12.6	8.01	
85 2,3,4,6-Tetrachlorophenol	232	11.591	11.597	-0.006	75	228347	12.5	8.51	
87 Diethyl phthalate	149	11.819	11.818	0.000	97	748383	12.5	6.60	
89 Fluorene	166	11.883	11.883	0.000	94	820082	12.5	7.38	
91 4-Chlorophenyl phenyl ether	204	11.923	11.918	0.005	93	393438	12.6	6.71	
92 4-Nitroaniline	138	11.929	11.918	0.011	81	225369	12.5	7.21	
93 4,6-Dinitro-2-methylphenol	198	11.982	11.982	0.000	87	178238	12.5	8.37	
94 N-Nitrosodiphenylamine	169	12.081	12.075	0.006	60	761579	12.5	7.75	
$ 96 2,4,6-Tribromophenol	330	12.192	12.186	0.006	89	445498	50.1	31.1	
101 4-Bromophenyl phenyl ether	248	12.506	12.506	0.000	69	228585	12.6	7.45	
103 Hexachlorobenzene	284	12.547	12.541	0.006	92	235049	12.5	7.43	
105 Atrazine	200	12.739	12.739	0.000	93	258163	12.6	8.91	
106 Pentachlorophenol	266	12.786	12.792	-0.006	90	181396	12.6	8.44	
* 110 Phenanthrene-d10	188	13.002	13.002	0.000	97	720894	5.00	5.00	
112 Phenanthrene	178	13.031	13.025	0.006	98	1240428	12.5	7.45	
113 Anthracene	178	13.089	13.078	0.000	98	1239925	12.5	7.78	
114 Carbazole	167	13.311	13.305	0.006	96	1210270	12.5	8.35	
116 Di-n-butyl phthalate	149	13.818	13.818	0.000	100	1451110	12.5	7.80	
121 Fluoranthene	202	14.587	14.587	0.000	99	1468118	12.5	8.73	
* 123 Pyrene-d10 (IS)	212	14.884	14.879	0.005	98	780484	5.00	5.00	
124 Pyrene	202	14.914	14.908	0.006	97	1556989	12.6	7.52	
$ 125 p-Terphenyl-d14	244	15.205	15.199	0.006	99	1906774	25.1	12.7	
129 Butyl benzyl phthalate	149	16.044	16.056	-0.006	95	609107	12.5	6.92	
132 Benzo[a]anthracene	228	16.860	16.849	0.011	99	1489442	12.5	7.60	
131 3,3'-Dichlorobenzidine	252	16.872	16.873	0.006	76	494722	12.5	6.70	
134 Chrysene	228	16.919	16.913	0.012	97	1492905	12.5	8.38	
135 Bis(2-ethylhexyl) phthalate	149	17.105	17.105	0.000	97	1018362	12.6	8.58	
137 Di-n-octyl phthalate	149	18.253	18.248	0.005	99	1695816	12.6	7.72	
138 Benzo[b]fluoranthene	252	18.679	18.667	0.012	97	1548874	12.5	7.06	
140 Benzo[k]fluoranthene	252	18.731	18.714	0.017	99	1519468	12.5	7.60	
141 Benzo[a]pyrene	252	19.192	19.186	0.006	77	1366492	12.5	6.70	
* 142 Perylene-d12	264	19.285	19.279	0.006	98	778431	5.00	5.00	
146 Indeno[1,2,3-cd]pyrene	276	20.870	20.859	0.011	99	1048064	12.6	6.30	
147 Dibenz(a,h)anthracene	278	20.917	20.905	0.011	93	1185238	12.5	6.46	
148 Benzo[g,h,i]perylene	276	21.226	21.209	0.017	98	1192470	12.5	6.47	

Reagents:

MSS_RV8270_IS_00012 Amount Added: 20.00 Units: uL Run Reagent

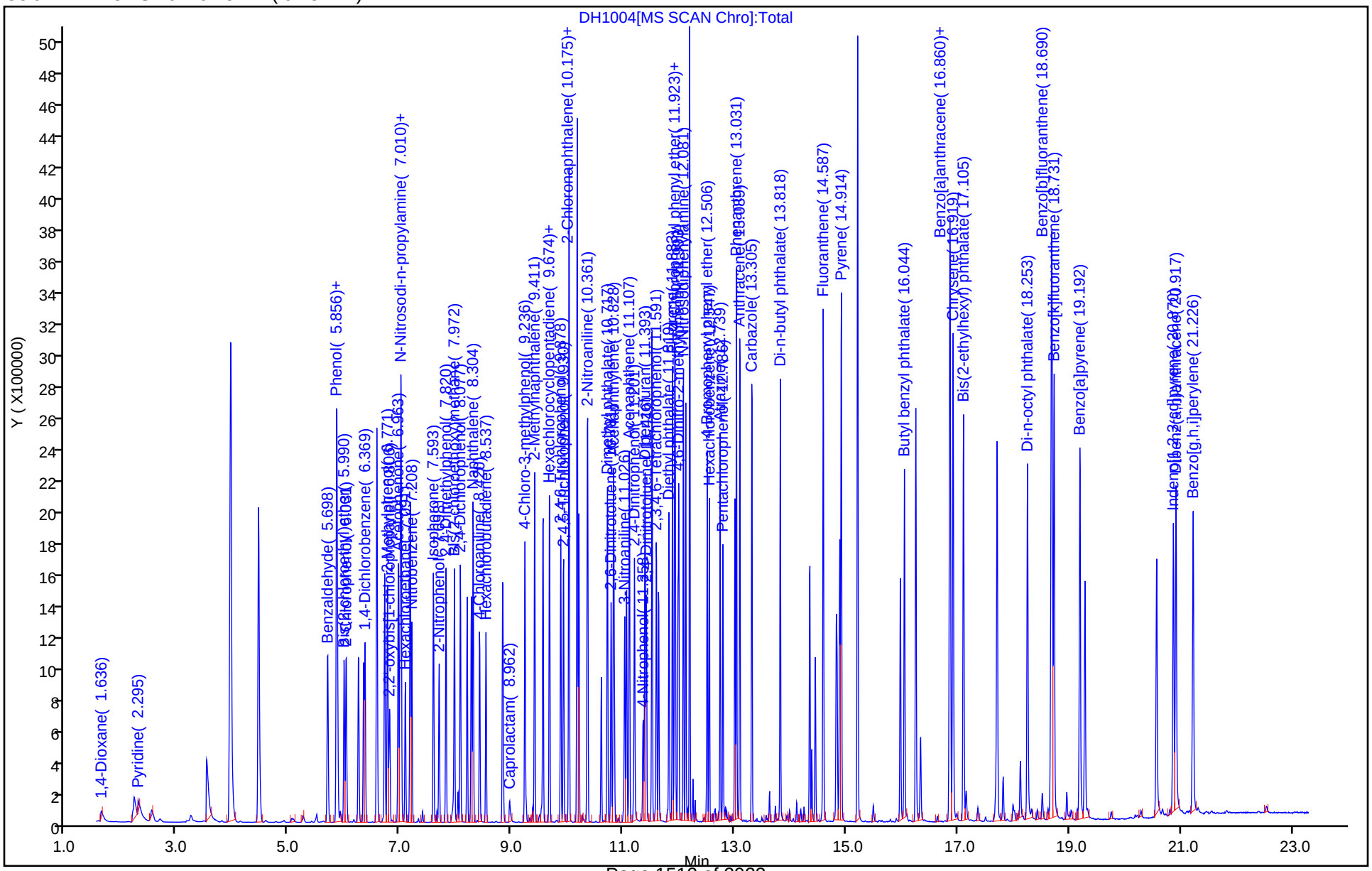
Report Date: 19-Aug-2020 13:57:51 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1004.D

Injection Date:	18-Aug-2020 11:29:30	Instrument ID:	HP19760	Operator ID:	em10340
Lims ID:	LCS 410-33824/2-A			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	5
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\DH1004.D
Lims ID: LCS 410-33824/2-A
Client ID:
Sample Type: LCS
Inject. Date: 18-Aug-2020 11:29:30 ALS Bottle#: 5 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCS 410-33824/2-A
Misc. Info.: 410-0008313-005
Operator ID: em10340 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200818-8313.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 19-Aug-2020 09:41:10 Calib Date: 14-Aug-2020 02:06:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200813-8022.b\DH0756.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1035

First Level Reviewer: monbornee Date: 19-Aug-2020 08:13:18

Compound	Amount Added	Amount Recovered	% Rec.
$ 8 2-Fluorophenol	50.2	17.2	34.22
$ 13 Phenol-d5	50.2	13.3	26.51
$ 33 Nitrobenzene-d5	25.1	12.9	51.46
$ 63 2-Fluorobiphenyl (Surr)	25.1	11.7	46.79
$ 96 2,4,6-Tribromophenol	50.1	31.1	62.20
$ 125 p-Terphenyl-d14	25.1	12.7	50.85

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 410-35738/2-A

Matrix: Water Lab File ID: DH1410.D

Analysis Method: 8270D Date Collected:

Extract. Method: 3510C Date Extracted: 08/21/2020 08:45

Sample wt/vol: 250(mL) Date Analyzed: 08/25/2020 03:20

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 36695 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
92-52-4	*1,1'-Biphenyl*	*42.9*		*10*	*3.0*
120-83-2	*2,4-Dichlorophenol*	*48.7*		*2.0*	*0.50*
105-67-9	*2,4-Dimethylphenol*	*41.5*		*10*	*3.0*
51-28-5	*2,4-Dinitrophenol*	*118*		*30*	*14*
121-14-2	*2,4-Dinitrotoluene*	*55.1*		*5.0*	*1.0*
95-95-4	*2,4,5-Trichlorophenol*	*51.5*		*2.0*	*0.50*
88-06-2	*2,4,6-Trichlorophenol*	*52.9*		*2.0*	*0.50*
108-60-1	*2,2'-oxybis[1-chloropropane]*	*42.2*		*2.0*	*0.50*
84-74-2	*Di-n-butyl phthalate*	*50.5*		*5.0*	*2.0*
117-84-0	*Di-n-octyl phthalate*	*47.3*		*11*	*5.0*
56-55-3	*Benzo[a]anthracene*	*48.3*		*0.50*	*0.10*
50-32-8	*Benzo[a]pyrene*	*45.3*		*0.50*	*0.10*
205-99-2	*Benzo[b]fluoranthene*	*46.7*		*0.50*	*0.10*
191-24-2	*Benzo[g,h,i]perylene*	*43.7*		*0.50*	*0.10*
207-08-9	*Benzo[k]fluoranthene*	*51.5*		*0.50*	*0.10*
83-32-9	*Acenaphthene*	*42.8*		*0.50*	*0.10*
208-96-8	*Acenaphthylene*	*47.4*		*0.50*	*0.10*
98-86-2	*Acetophenone*	*49.3*		*10*	*4.0*
120-12-7	*Anthracene*	*51.2*		*0.50*	*0.10*
1912-24-9	*Atrazine*	*57.6*		*5.0*	*2.0*
100-52-7	*Benzaldehyde*	*43.2*		*10*	*3.0*
85-68-7	*Butylbenzylphthalate*	*42.3*		*5.0*	*2.0*
105-60-2	*Caprolactam*	*11.8*		*11*	*5.0*
86-74-8	*Carbazole*	*55.4*		*2.0*	*0.50*
218-01-9	*Chrysene*	*53.0*		*0.50*	*0.10*
53-70-3	*Dibenz(a,h)anthracene*	*42.9*		*0.50*	*0.10*
132-64-9	*Dibenzofuran*	*44.9*		*2.0*	*0.50*
84-66-2	*Diethyl phthalate*	*44.2*		*5.0*	*2.0*
131-11-3	*Dimethyl phthalate*	*30.3*		*5.0*	*2.0*
118-74-1	*Hexachlorobenzene*	*48.6*		*0.50*	*0.10*
87-68-3	*Hexachlorobutadiene*	*35.6*		*2.0*	*0.50*
77-47-4	*Hexachlorocyclopentadiene*	*21.5*		*11*	*5.0*
67-72-1	*Hexachloroethane*	*31.6*		*5.0*	*1.0*
206-44-0	*Fluoranthene*	*58.1*		*0.50*	*0.10*

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 410-35738/2-A

Matrix: Water Lab File ID: DH1410.D

Analysis Method: 8270D Date Collected:

Extract. Method: 3510C Date Extracted: 08/21/2020 08:45

Sample wt/vol: 250(mL) Date Analyzed: 08/25/2020 03:20

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 36695 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
86-73-7	Fluorene	49.1		0.50	0.10
193-39-5	Indeno[1,2,3-cd]pyrene	42.0		0.50	0.10
78-59-1	Isophorone	50.8		2.0	0.50
621-64-7	N-Nitrosodi-n-propylamine	51.3		3.0	0.70
86-30-6	N-Nitrosodiphenylamine	50.8		3.0	0.70
91-20-3	Naphthalene	41.0		0.50	0.10
98-95-3	Nitrobenzene	48.4		2.0	0.50
87-86-5	Pentachlorophenol	56.9		5.0	1.0
85-01-8	Phenanthrene	49.2		0.50	0.10
108-95-2	Phenol	23.9		2.0	0.50
129-00-0	Pyrene	49.3		0.50	0.10
91-58-7	2-Chloronaphthalene	41.6		1.0	0.40
95-57-8	2-Chlorophenol	45.0		2.0	0.50
91-57-6	2-Methylnaphthalene	43.3		0.50	0.10
95-48-7	2-Methylphenol	44.3		2.0	0.50
88-74-4	2-Nitroaniline	50.4		5.0	2.0
88-75-5	2-Nitrophenol	49.9		10	3.0
91-94-1	3,3'-Dichlorobenzidine	35.7		10	3.0
99-09-2	3-Nitroaniline	44.0		7.0	3.0
534-52-1	4,6-Dinitro-2-methylphenol	56.3		21	8.0
101-55-3	4-Bromophenyl-phenylether	48.2		2.0	0.50
106-44-5	4-Methylphenol	40.6		2.0	0.50
100-01-6	4-Nitroaniline	44.1		3.0	0.90
100-02-7	4-Nitrophenol	28.6	J	30	10
111-91-1	Bis(2-chloroethoxy)methane	50.0		2.0	0.50
111-44-4	Bis(2-chloroethyl)ether	46.6		2.0	0.50
117-81-7	Bis(2-ethylhexyl) phthalate	52.7		11	5.0
606-20-2	2,6-Dinitrotoluene	49.2		2.0	0.50
59-50-7	4-Chloro-3-methylphenol	54.3		3.5	1.6
106-47-8	4-Chloroaniline	37.4		10	4.0
7005-72-3	4-Chlorophenyl-phenyl ether	43.8		2.0	0.50

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 410-35738/2-A

Matrix: Water Lab File ID: DH1410.D

Analysis Method: 8270D Date Collected:

Extract. Method: 3510C Date Extracted: 08/21/2020 08:45

Sample wt/vol: 250(mL) Date Analyzed: 08/25/2020 03:20

Con. Extract Vol.: 1(mL) Dilution Factor: 1

Injection Volume: 1(uL) Level: (low/med) Low

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 36695 Units: ug/L

CAS NO.	SURROGATE	%REC	Q	LIMITS
118-79-6	2,4,6-Tribromophenol (Surr)	104		18-141
321-60-8	2-Fluorobiphenyl (Surr)	74		44-102
367-12-4	2-Fluorophenol (Surr)	55		10-84
4165-60-0	Nitrobenzene-d5 (Surr)	85		38-113
1718-51-0	p-Terphenyl-d14 (Surr)	86		34-128
4165-62-2	Phenol-d5 (Surr)	40		10-67

Report Date: 25-Aug-2020 13:50:50 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1410.D
Lims ID: LCS 410-35738/2-A
Client ID:
Sample Type: LCS
Inject. Date: 25-Aug-2020 03:20:30 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCS 410-35738/2-A
Misc. Info.: 410-0008846-011
Operator ID: sw30417 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 25-Aug-2020 10:12:22 Calib Date: 25-Aug-2020 02:23:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1408.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1066

First Level Reviewer: monbornee Date: 25-Aug-2020 10:03:11

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	2 N-Nitrosodimethylamine	74	2.127	2.092	0.035	88	248166	12.5	7.38	
	3 Pyridine	79	2.191	2.145	0.046	94	317126	12.5	5.20	
	4 2-Picoline	93	3.438	3.427	0.011	90	510174	12.6	8.48	
$	8 2-Fluorophenol	112	4.383	4.359	0.024	91	1396987	50.2	27.5	
	12 Benzaldehyde	77	5.624	5.618	0.006	95	494877	12.6	10.8	
$	13 Phenol-d5	99	5.787	5.782	0.005	97	1297151	50.2	20.1	
	15 Aniline	93	5.793	5.787	0.006	85	546829	12.5	6.18	
	14 Phenol	94	5.805	5.799	0.006	91	453258	12.5	5.97	
	16 Bis(2-chloroethyl)ether	93	5.921	5.916	0.005	98	666240	12.6	11.7	
	17 2-Chlorophenol	128	5.956	5.951	0.005	91	524366	12.6	11.3	
	18 1,3-Dichlorobenzene	146	6.178	6.172	0.006	94	449912	12.5	8.54	
*	19 1,4-Dichlorobenzene-d4	152	6.265	6.265	0.000	95	162441	5.00	5.00	
	20 1,4-Dichlorobenzene	146	6.294	6.295	-0.001	91	467286	12.5	8.74	
	21 Benzyl alcohol	108	6.510	6.504	0.006	88	364310	12.5	10.9	
	22 1,2-Dichlorobenzene	146	6.510	6.510	0.000	90	463533	12.5	9.10	
	23 2-Methylphenol	108	6.702	6.702	-0.001	94	501448	12.5	11.1	
	25 2,2'-oxybis[1-chloropropane]	45	6.737	6.732	0.005	88	476439	12.6	10.6	
	27 Acetophenone	105	6.895	6.895	0.000	94	843315	12.5	12.3	
	29 N-Nitrosodi-n-propylamine	70	6.924	6.924	0.000	69	504355	12.5	12.8	
	28 4-Methylphenol	108	6.941	6.942	-0.001	85	554512	12.5	10.2	
	31 2-Toluidine	106	6.941	6.942	-0.001	78	725325	12.5	8.96	
	32 Hexachloroethane	117	7.017	7.017	0.000	97	190934	12.6	7.89	
$	33 Nitrobenzene-d5	82	7.110	7.111	-0.001	84	1261458	25.1	21.3	
	34 Nitrobenzene	77	7.134	7.134	0.000	81	721384	12.5	12.1	
	36 Isophorone	82	7.524	7.524	0.000	96	1290896	12.5	12.7	
	37 2-Nitrophenol	139	7.623	7.623	0.000	91	282741	12.5	12.5	
	38 2,4-Dimethylphenol	107	7.752	7.752	0.000	97	508617	12.5	10.4	
	41 Bis(2-chloroethoxy)methane	93	7.903	7.903	0.000	98	804426	12.6	12.5	
	42 2,4-Dichlorophenol	162	8.008	8.003	0.000	96	451532	12.5	12.2	
	43 1,2,4-Trichlorobenzene	180	8.125	8.125	-0.006	91	386633	12.5	9.30	
*	44 Naphthalene-d8	136	8.200	8.201	-0.001	99	604825	5.00	5.00	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
45 Naphthalene	128	8.235	8.235	0.000	98	1356771	12.6	10.2	
46 4-Chloroaniline	127	8.352	8.352	0.000	93	495674	12.5	9.35	
49 Hexachlorobutadiene	225	8.463	8.468	-0.006	97	210335	12.6	8.90	
52 Caprolactam	113	8.900	8.900	0.000	90	40754	12.6	2.96	
54 4-Chloro-3-methylphenol	107	9.168	9.168	0.000	91	526577	12.5	13.6	
56 2-Methylnaphthalene	142	9.337	9.337	0.000	91	894449	12.5	10.8	
58 Hexachlorocyclopentadiene	237	9.599	9.600	-0.006	97	126430	25.1	5.38	
59 1,2,4,5-Tetrachlorobenzene	216	9.605	9.600	0.000	98	404479	12.5	9.48	
61 2,4,6-Trichlorophenol	196	9.809	9.804	0.000	94	347723	12.5	13.2	
62 2,4,5-Trichlorophenol	196	9.856	9.857	-0.006	92	360374	12.6	12.9	
$ 63 2-Fluorobiphenyl (Surr)	172	9.955	9.955	0.000	100	1856312	25.1	18.7	
65 1,1'-Biphenyl	154	10.101	10.095	0.000	95	1110201	12.5	10.7	
66 2-Chloronaphthalene	162	10.101	10.095	0.000	81	918759	12.5	10.4	
69 2-Nitroaniline	138	10.293	10.287	0.000	77	338527	12.5	12.6	
72 Dimethyl phthalate	163	10.648	10.637	0.005	87	698053	12.5	7.58	
73 1,3-Dinitrobenzene	168	10.648	10.643	-0.001	63	202146	12.5	13.7	
74 2,6-Dinitrotoluene	165	10.713	10.707	0.000	89	267988	12.6	12.3	
75 Acenaphthylene	152	10.753	10.748	0.000	98	1303471	12.5	11.9	
76 3-Nitroaniline	138	10.957	10.946	0.005	89	249894	12.5	11.0	
* 77 Acenaphthene-d10	164	10.987	10.987	-0.001	97	302577	5.00	5.00	
78 Acenaphthene	153	11.039	11.033	0.000	95	890632	12.5	10.7	
79 2,4-Dinitrophenol	184	11.132	11.126	0.000	87	374371	25.1	29.4	
80 4-Nitrophenol	109	11.290	11.278	0.006	84	133917	12.5	7.15	
83 Dibenzofuran	168	11.319	11.313	0.000	96	1252797	12.5	11.2	
82 2,4-Dinitrotoluene	165	11.348	11.342	0.000	88	369203	12.6	13.8	
84 1-Naphthylamine	143	11.447	11.441	0.000	97	1093704	25.1	13.3	
85 2,3,4,6-Tetrachlorophenol	232	11.529	11.523	0.000	75	284645	12.5	13.5	
86 2-Naphthylamine	143	11.569	11.563	0.000	94	506770	25.2	6.12	
87 Diethyl phthalate	149	11.762	11.755	0.000	97	985067	12.5	11.0	
89 Fluorene	166	11.820	11.814	0.000	95	1071928	12.5	12.3	
91 4-Chlorophenyl phenyl ether	204	11.861	11.854	0.000	93	504738	12.6	11.0	
92 4-Nitroaniline	138	11.878	11.866	0.005	85	272984	12.5	11.0	
93 4,6-Dinitro-2-methylphenol	198	11.925	11.919	0.000	86	241560	12.5	14.1	
94 N-Nitrosodiphenylamine	169	12.024	12.013	0.006	60	1005252	12.5	12.7	
$ 96 2,4,6-Tribromophenol	330	12.135	12.135	0.000	90	583431	50.1	51.9	
101 4-Bromophenyl phenyl ether	248	12.455	12.450	0.000	67	297778	12.6	12.1	
103 Hexachlorobenzene	284	12.490	12.485	0.000	92	309974	12.5	12.2	
105 Atrazine	200	12.688	12.683	-0.001	94	335956	12.6	14.4	
106 Pentachlorophenol	266	12.729	12.729	-0.006	91	246093	12.6	14.2	
* 110 Phenanthrene-d10	188	12.939	12.945	-0.006	98	580577	5.00	5.00	
112 Phenanthrene	178	12.968	12.974	-0.006	98	1649206	12.5	12.3	
113 Anthracene	178	13.032	13.032	0.000	98	1643276	12.5	12.8	
114 Carbazole	167	13.248	13.242	0.000	96	1616310	12.5	13.9	
116 Di-n-butyl phthalate	149	13.755	13.755	0.000	100	1890601	12.5	12.6	
121 Fluoranthene	202	14.519	14.519	0.000	98	1967658	12.5	14.5	
* 123 Pyrene-d10 (IS)	212	14.804	14.810	-0.006	99	625035	5.00	5.00	
124 Pyrene	202	14.833	14.839	-0.006	97	2043515	12.6	12.3	
$ 125 p-Terphenyl-d14	244	15.131	15.131	0.000	98	2590544	25.1	21.6	
128 3,3'-Dimethylbenzidine	212	15.888	15.888	-0.006	99	559814	25.0	5.54	
129 Butyl benzyl phthalate	149	15.964	15.964	-0.006	95	746011	12.5	10.6	
132 Benzo[a]anthracene	228	16.774	16.768	0.000	99	1906108	12.5	12.1	
131 3,3'-Dichlorobenzidine	252	16.786	16.779	0.000	74	544853	12.5	8.93	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
134 Chrysene	228	16.833	16.826	0.000	97	1892236	12.5	13.3	
135 Bis(2-ethylhexyl) phthalate	149	17.025	17.018	0.000	97	1252925	12.6	13.2	
137 Di-n-octyl phthalate	149	18.167	18.167	0.000	99	2068372	12.6	11.8	
138 Benzo[b]fluoranthene	252	18.587	18.581	0.000	97	1957587	12.5	11.7	
139 7,12-Dimethylbenz(a)anthracene	256	18.605	18.610	0.006	92	897671	12.5	11.5	
140 Benzo[k]fluoranthene	252	18.640	18.628	0.006	99	1955870	12.5	12.9	
141 Benzo[a]pyrene	252	19.106	19.100	0.006	78	1764667	12.5	11.3	
* 142 Perylene-d12	264	19.187	19.193	-0.006	98	591191	5.00	5.00	
146 Indeno[1,2,3-cd]pyrene	276	20.779	20.772	0.000	99	1336691	12.6	10.5	
147 Dibenz(a,h)anthracene	278	20.831	20.813	0.006	93	1505465	12.5	10.7	
148 Benzo[g,h,i]perylene	276	21.134	21.128	0.000	98	1538699	12.5	10.9	

Reagents:

MSS_RV8270_IS_00012 Amount Added: 20.00 Units: uL Run Reagent

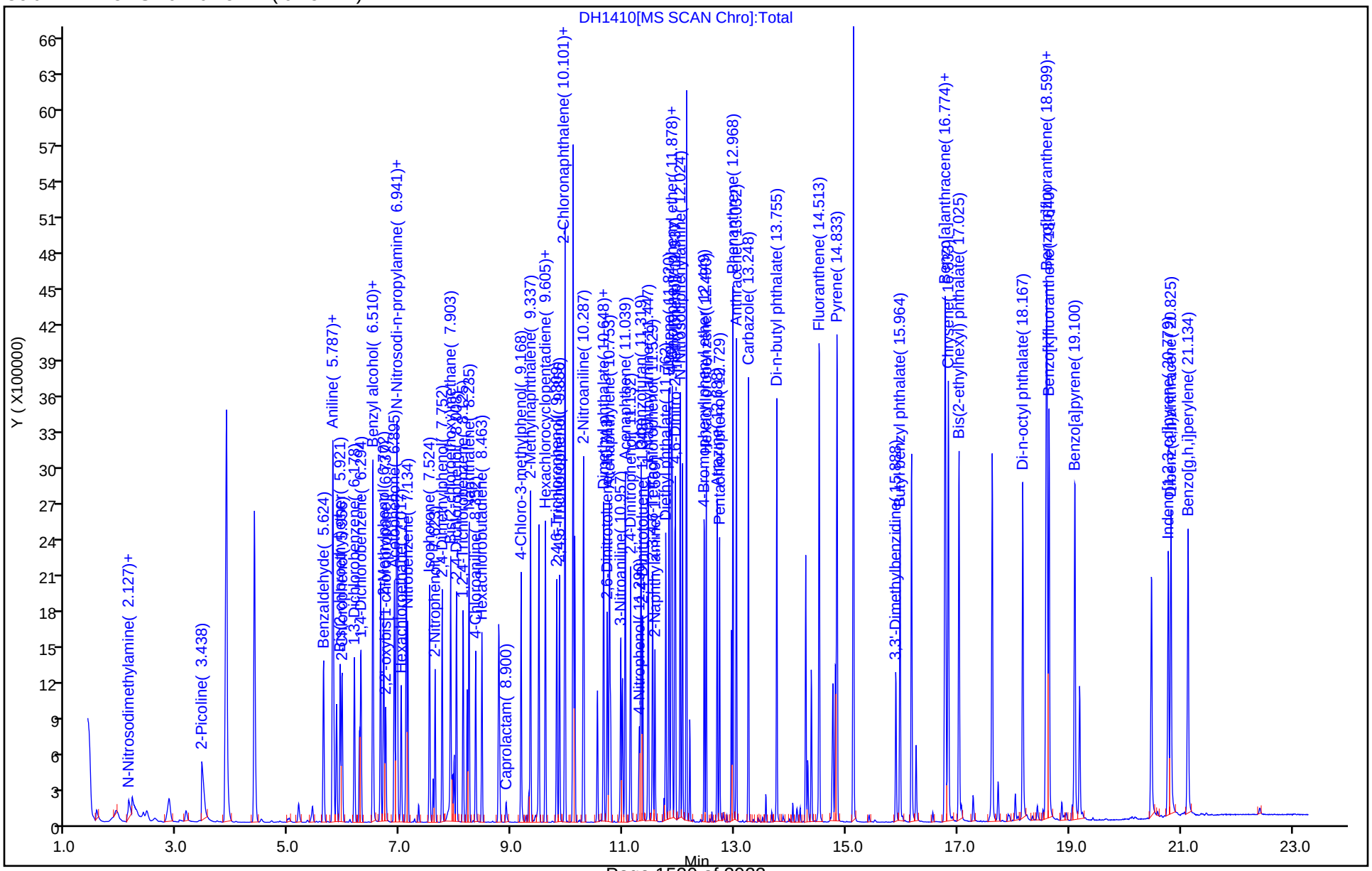
Report Date: 25-Aug-2020 13:50:50 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1410.D

Injection Date:	25-Aug-2020 03:20:30	Instrument ID:	HP19760	Operator ID:	sw30417
Lims ID:	LCS 410-35738/2-A			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	11
Method:	MSSemi_HP19760	Limit Group:	MSSV - 8270D_E LVI		

Column: DB-5MS 20m 0.25mm (0.25 mm)



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1410.D
Lims ID: LCS 410-35738/2-A
Client ID:
Sample Type: LCS
Inject. Date: 25-Aug-2020 03:20:30 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCS 410-35738/2-A
Misc. Info.: 410-0008846-011
Operator ID: sw30417 Instrument ID: HP19760

Method: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\MSSemi_HP19760.m
Limit Group: MSSV - 8270D_E LVI
Last Update: 25-Aug-2020 10:12:22 Calib Date: 25-Aug-2020 02:23:30
Integrator: Falcon ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\HP19760\20200824-8846.b\DH1408.D

Column 1 : DB-5MS 20m 0.25mm (0.25 mm) Det: MS SCAN
Process Host: CTX1066

First Level Reviewer: monbornee Date: 25-Aug-2020 10:03:11

Compound	Amount Added	Amount Recovered	% Rec.
$ 8 2-Fluorophenol	50.2	27.5	54.80
$ 13 Phenol-d5	50.2	20.1	40.12
$ 33 Nitrobenzene-d5	25.1	21.3	84.96
$ 63 2-Fluorobiphenyl (Surr)	25.1	18.7	74.47
$ 96 2,4,6-Tribromophenol	50.1	51.9	103.65
$ 125 p-Terphenyl-d14	25.1	21.6	86.26

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: HP19760 Start Date: 07/31/2020 15:03

Analysis Batch Number: 28519 End Date: 07/31/2020 22:35

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 410-28519/1		07/31/2020 15:03	1	DG1950z.D	DB-5MS 30m 0.25 0.25(mm)
ICIS 410-28519/2		07/31/2020 16:07	1	DG1951.D	DB-5MS 30m 0.25 0.25(mm)
IC 410-28519/3		07/31/2020 16:46	1	DG1952.D	DB-5MS 30m 0.25 0.25(mm)
IC 410-28519/4		07/31/2020 17:15	1	DG1953.D	DB-5MS 30m 0.25 0.25(mm)
IC 410-28519/5		07/31/2020 17:44	1	DG1954.D	DB-5MS 30m 0.25 0.25(mm)
IC 410-28519/6		07/31/2020 18:13	1	DG1955.D	DB-5MS 30m 0.25 0.25(mm)
IC 410-28519/7		07/31/2020 18:42	1	DG1956.D	DB-5MS 30m 0.25 0.25(mm)
IC 410-28519/8		07/31/2020 19:12	1	DG1957.D	DB-5MS 30m 0.25 0.25(mm)
IC 410-28519/9		07/31/2020 19:41	1	DG1958.D	DB-5MS 30m 0.25 0.25(mm)
ICVL 410-28519/10		07/31/2020 20:10	1		DB-5MS 30m 0.25 0.25(mm)
ICVL 410-28519/11		07/31/2020 20:39	1		DB-5MS 30m 0.25 0.25(mm)
ICV 410-28519/12		07/31/2020 21:08	1	DG1961.D	DB-5MS 30m 0.25 0.25(mm)
ICV 410-28519/13		07/31/2020 21:37	1	DG1962.D	DB-5MS 30m 0.25 0.25(mm)
ICV 410-28519/14		07/31/2020 22:06	1	DG1963.D	DB-5MS 30m 0.25 0.25(mm)
ICV 410-28519/15		07/31/2020 22:35	1	DG1964.D	DB-5MS 30m 0.25 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: HP19760 Start Date: 08/18/2020 09:30

Analysis Batch Number: 34301 End Date: 08/18/2020 21:28

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 410-34301/1		08/18/2020 09:30	1	DH1000.D	DB-5MS 30m 0.25 0.25(mm)
CCVIS 410-34301/2		08/18/2020 10:03	1	DH1001.D	DB-5MS 30m 0.25 0.25(mm)
ICVL 410-34301/3		08/18/2020 10:32	1		DB-5MS 30m 0.25 0.25(mm)
MB 410-33824/1-A		08/18/2020 11:00	1	DH1003.D	DB-5MS 30m 0.25 0.25(mm)
LCS 410-33824/2-A		08/18/2020 11:29	1	DH1004.D	DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/18/2020 11:57	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/18/2020 12:26	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/18/2020 12:55	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/18/2020 13:23	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/18/2020 13:51	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/18/2020 14:20	200		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/18/2020 14:49	10		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/18/2020 15:17	1		DB-5MS 30m 0.25 0.25(mm)
410-10696-1	MW-01	08/18/2020 15:46	1	DH1013.D	DB-5MS 30m 0.25 0.25(mm)
410-10696-3	MW-04	08/18/2020 16:14	1	DH1014.D	DB-5MS 30m 0.25 0.25(mm)
410-10696-6	WPA-GW-02	08/18/2020 16:43	1	DH1015.D	DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/18/2020 17:11	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/18/2020 17:40	10		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/18/2020 18:08	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/18/2020 18:37	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/18/2020 19:06	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/18/2020 19:34	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/18/2020 20:03	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/18/2020 20:31	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/18/2020 21:00	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/18/2020 21:28	1		DB-5MS 30m 0.25 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: HP19760 Start Date: 08/19/2020 08:02

Analysis Batch Number: 34776 End Date: 08/19/2020 18:54

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 410-34776/1		08/19/2020 08:02	1	DH1050.D	DB-5MS 30m 0.25 0.25(mm)
CCVIS 410-34776/2		08/19/2020 08:30	1	DH1051.D	DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/19/2020 10:50	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/19/2020 11:18	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/19/2020 11:47	10		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/19/2020 12:15	20		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/19/2020 12:44	10		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/19/2020 13:12	100		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/19/2020 13:41	10		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/19/2020 14:09	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/19/2020 14:38	20		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/19/2020 15:06	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/19/2020 16:03	10		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/19/2020 16:31	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/19/2020 17:00	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/19/2020 17:28	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/19/2020 17:57	200		DB-5MS 30m 0.25 0.25(mm)
410-10696-3 DL	MW-04 DL	08/19/2020 18:26	2	DH1078a.D	DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/19/2020 18:54	10		DB-5MS 30m 0.25 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: HP19760 Start Date: 08/24/2020 20:29

Analysis Batch Number: 36695 End Date: 08/25/2020 07:36

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 410-36695/1		08/24/2020 20:29	1	DH1400a.D	DB-5MS 30m 0.25 0.25(mm)
CCVIS 410-36695/2		08/24/2020 20:52	1	DH1401.D	DB-5MS 30m 0.25 0.25(mm)
ICVL 410-36695/3		08/24/2020 21:21	1		DB-5MS 30m 0.25 0.25(mm)
MB 410-35738/1-A		08/25/2020 02:51	1	DH1409.D	DB-5MS 30m 0.25 0.25(mm)
LCS 410-35738/2-A		08/25/2020 03:20	1	DH1410.D	DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/25/2020 03:48	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/25/2020 04:17	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/25/2020 04:45	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/25/2020 05:14	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/25/2020 05:42	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/25/2020 06:11	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/25/2020 07:08	10		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/25/2020 07:36	1		DB-5MS 30m 0.25 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: HP19760 Start Date: 08/25/2020 09:12

Analysis Batch Number: 36891 End Date: 08/25/2020 20:53

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 410-36891/1		08/25/2020 09:12	1	DH1450.D	DB-5MS 30m 0.25 0.25(mm)
CCVIS 410-36891/2		08/25/2020 09:57	1	DH1451.D	DB-5MS 30m 0.25 0.25(mm)
ICVL 410-36891/3		08/25/2020 10:35	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/25/2020 11:51	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/25/2020 12:20	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/25/2020 12:48	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/25/2020 13:17	1		DB-5MS 30m 0.25 0.25(mm)
410-10696-3 RE	MW-04 RE	08/25/2020 13:45	1	DH1457.D	DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/25/2020 14:14	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/25/2020 14:43	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/25/2020 19:00	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/25/2020 19:28	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/25/2020 19:56	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/25/2020 20:25	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/25/2020 20:53	1		DB-5MS 30m 0.25 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: HP19760 Start Date: 08/26/2020 11:55

Analysis Batch Number: 37350 End Date: 08/26/2020 23:32

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 410-37350/1		08/26/2020 11:55	1	DH1510a.D	DB-5MS 30m 0.25 0.25(mm)
CCVIS 410-37350/2		08/26/2020 12:17	1	DH1511.D	DB-5MS 30m 0.25 0.25(mm)
ICVL 410-37350/3		08/26/2020 12:45	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/26/2020 13:35	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/26/2020 14:03	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/26/2020 14:32	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/26/2020 15:00	1		DB-5MS 30m 0.25 0.25(mm)
410-10696-3 REDL	MW-04 REDL	08/26/2020 15:28	5	DH1517.D	DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/26/2020 15:57	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/26/2020 16:25	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/26/2020 16:53	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/26/2020 17:22	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/26/2020 18:19	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/26/2020 18:47	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/26/2020 19:16	5		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/26/2020 21:09	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/26/2020 21:38	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/26/2020 22:06	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/26/2020 22:35	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/26/2020 23:03	1		DB-5MS 30m 0.25 0.25(mm)
ZZZZZ		08/26/2020 23:32	1		DB-5MS 30m 0.25 0.25(mm)

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 33824 Batch Start Date: 08/17/20 08:45 Batch Analyst: Ruth, Joshua R

Batch Method: 3510C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ReceivedpH	FirstAdjustpH	SecondAdjustpH	OP_MINIBNA_SS 00019
MB 410-33824/1		3510C, 8270D		250 mL	1 mL	n/a SU	>11 SU	<2 SU	1 mL
LCS 410-33824/2		3510C, 8270D		250 mL	1 mL	n/a SU	>11 SU	<2 SU	1 mL
410-10696-C-1	MW-01	3510C, 8270D	T	248 mL	1 mL	n/a SU	>11 SU	<2 SU	1 mL
410-10696-B-3	MW-04	3510C, 8270D	T	247 mL	1 mL	n/a SU	>11 SU	<2 SU	1 mL
410-10696-C-6	WPA-GW-02	3510C, 8270D	T	234 mL	1 mL	n/a SU	>11 SU	<2 SU	1 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	OP_MINLCS1_MS 00033	OP_MINLCS2_MS 00019	AnalysisComment			
MB 410-33824/1		3510C, 8270D				Tap H2O			
LCS 410-33824/2		3510C, 8270D		1 mL	1 mL	Tap H2O			
410-10696-C-1	MW-01	3510C, 8270D	T			Orange Cloudy			
410-10696-B-3	MW-04	3510C, 8270D	T			Orange Cloudy			
410-10696-C-6	WPA-GW-02	3510C, 8270D	T			Tan CLoudy			

Batch Notes	
Acid Used for pH Adjustment ID	H2SO4 194547
Balance ID	25996
Base Used to Adjust pH ID	NaOH 4911F26
Analyst ID - Concentration	JSR12366
Equipment ID - Concentration 1	RVAP 1, 2, 9,
Analyst ID - Extraction	JSR12366
Na2SO4 ID	20227A
Pipette/Syringe/Dispenser ID	2
Prep Solvent ID	MeCl2 201485
Prep Solvent Volume Used	90 mL
Analyst ID - Spike Analyst	JSR12366
Concentration 1 Uncorrected Temperature	90 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 35738 Batch Start Date: 08/21/20 08:45 Batch Analyst: Ruth, Joshua R

Batch Method: 3510C Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	ReceivedpH	FirstAdjustpH	SecondAdjustpH	OP_MINIBNA_SS 00019
MB 410-35738/1		3510C, 8270D		250 mL	1 mL	n/a SU	>11 SU	<2 SU	1 mL
LCS 410-35738/2		3510C, 8270D		250 mL	1 mL	n/a SU	>11 SU	<2 SU	1 mL
410-10696-C-3	MW-04	3510C, 8270D	T	235 mL	1 mL	n/a SU	>11 SU	<2 SU	1 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	OP_MINLCS1_MS 00034	OP_MINLCS2_MS 00019	AnalysisComment			
MB 410-35738/1		3510C, 8270D				Tap H2O			
LCS 410-35738/2		3510C, 8270D		1 mL	1 mL	Tap H2O			
410-10696-C-3	MW-04	3510C, 8270D	T			Tan Cloudy			

Batch Notes	
Acid Used for pH Adjustment ID	H2SO4 194547
Balance ID	25996
Base Used to Adjust pH ID	NaOH 4911F26
Analyst ID - Concentration	JSR12366
Equipment ID - Concentration 1	RVAP 2, 9, 1
Analyst ID - Extraction	JSR12366
Na2SO4 ID	20232B
Pipette/Syringe/Dispenser ID	2
Prep Solvent ID	MeCl2 202983
Prep Solvent Volume Used	90 mL
Analyst ID - Spike Analyst	JSR12366
Concentration 1 Uncorrected Temperature	90 Degrees C

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method RSK-175

Dissolved Gases (GC) by Method RSK_175

FORM II
GC VOA SURROGATE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): HP Plot ID: 0.53(mm)

Client Sample ID	Lab Sample ID	Propene1#
MW-01	410-10696-1	88
MW-04	410-10696-3	89
WPA-GW-02	410-10696-6	91
	MB 410-33890/1-A	97
	LCS 410-33890/2-A	92
	LCSD 410-33890/3-A	97

	QC LIMITS
Propene = Propene	28-140

Column to be used to flag recovery values

FORM II RSK-175

FORM III
GC VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 1971058_17_2020.007.d

Lab ID: LCS 410-33890/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Methane	59.4	58.3	98	85-115	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM III
GC VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 1971058_17_2020.008.d

Lab ID: LCSD 410-33890/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Methane	59.4	60.6	102	4	20	85-115	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM IV
GC VOA METHOD BLANK SUMMARY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab Sample ID: MB 410-33890/1-A

Matrix: Water Date Extracted: 08/17/2020 08:59

Lab File ID:(1) 1971058_17_2020.006.d Lab File ID:(2)

Date Analyzed:(1) 08/17/2020 11:22 Date Analyzed:(2)

Instrument ID:(1) 4132 Instrument ID:(2)

GC Column:(1) HP Plot ID: 0.53(mm) GC Column:(2) ID:

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 410-33890/2-A	08/17/2020 11:40	
	LCSD 410-33890/3-A	08/17/2020 11:58	
MW-01	410-10696-1	08/17/2020 15:25	
MW-04	410-10696-3	08/17/2020 15:43	
WPA-GW-02	410-10696-6	08/17/2020 16:01	

FORM VIII
GC VOA ANALYTICAL SEQUENCE

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Sample No.: ICRT 410-6933/6 Date Analyzed: 03/26/2020 12:33

Instrument ID: 4132 GC Column: HP Plot ID: 0.53(mm)

Lab File ID (Standard): 19710520086001.006. Heated Purge: (Y/N) N

Calibration ID: 3480

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, STANDARDS, MS/MSDs AND LCSs IS GIVEN BELOW:

				Propene RT #		
INITIAL CALIBRATION SURROGATE				2.61		
UPPER LIMIT				2.64		
LOWER LIMIT				2.58		
LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	LAB FILE ID			
ICRT 410-6933/6		03/26/2020 12:33	19710520086001.006.d	2.61		
ICV 410-6933/13		03/26/2020 14:44	19710520086001.013.d	2.61		

Propene = Propene

Propene RT Limit = ± 0.03 minutes of surrogate RT

Column used to flag values outside QC limits

FORM VIII RSK-175

FORM VIII
GC VOA ANALYTICAL SEQUENCE

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Sample No.: CCVRT 410-33923/4 Date Analyzed: 08/17/2020 10:46

Instrument ID: 4132 GC Column: HP Plot ID: 0.53(mm)

Lab File ID (Standard): 1971058_17_2020.004 Heated Purge: (Y/N) N

Calibration ID: 3480

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, STANDARDS, MS/MSDs AND LCSs IS GIVEN BELOW:

				Propene		
				RT #		
CONTINUING CALIBRATION SURROGATE				2.59		
UPPER LIMIT				2.62		
LOWER LIMIT				2.56		
LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	LAB FILE ID			
CCVRT 410-33923/4		08/17/2020 10:46	1971058_17_2020.004.d	2.59		
MB 410-33890/1-A		08/17/2020 11:22	1971058_17_2020.006.d	2.60		
LCS 410-33890/2-A		08/17/2020 11:40	1971058_17_2020.007.d	2.60		
LCSD 410-33890/3-A		08/17/2020 11:58	1971058_17_2020.008.d	2.60		
CCV 410-33923/15		08/17/2020 14:12	1971058_17_2020.015.d	2.60		
410-10696-1	MW-01	08/17/2020 15:25	1971058_17_2020.019.d	2.60		
410-10696-3	MW-04	08/17/2020 15:43	1971058_17_2020.020.d	2.60		
410-10696-6	WPA-GW-02	08/17/2020 16:01	1971058_17_2020.021.d	2.60		
CCV 410-33923/25		08/17/2020 17:14	1971058_17_2020.025.d	2.61		

Propene = Propene

Propene RT Limit = ± 0.03 minutes of surrogate RT

Column used to flag values outside QC limits

FORM VIII RSK-175

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-01 Lab Sample ID: 410-10696-1

Matrix: Water Lab File ID: 1971058_17_2020.019.d

Analysis Method: RSK-175 Date Collected: 08/11/2020 15:45

Sample wt/vol: 5(mL) Date Analyzed: 08/17/2020 15:25

Soil Aliquot Vol: Dilution Factor: 50

Soil Extract Vol.: GC Column: HP Plot ID: 0.53(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 33923 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	12000		250	150

CAS NO.	SURROGATE	%REC	Q	LIMITS
115-07-1	Propene	88		28-140

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\1971058_17_2020.019.d
Lims ID: 410-10696-K-1-A
Client ID: MW-01
Sample Type: Client
Inject. Date: 17-Aug-2020 15:25:00 ALS Bottle#: 0 Worklist Smp#: 19
Purge Vol: 1.000 mL Dil. Factor: 50.0000
Sample Info: 1 AAAA MISC 2022999999
Operator ID: 32136 Instrument ID: 4132

Method: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\RSK_4132.m
Limit Group: GCV - RSK175
Last Update: 18-Aug-2020 07:27:47 Calib Date: 26-Mar-2020 13:29:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.009.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1048

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
1	Methane	0.628	0.628	0.000	515410444	H 242.1	
$ 5	Propene	2.603	2.594	0.009	39837526	H 18.4	

Reagents:

GCS_HSSSS_00002 Amount Added: 60.00 Units: uL

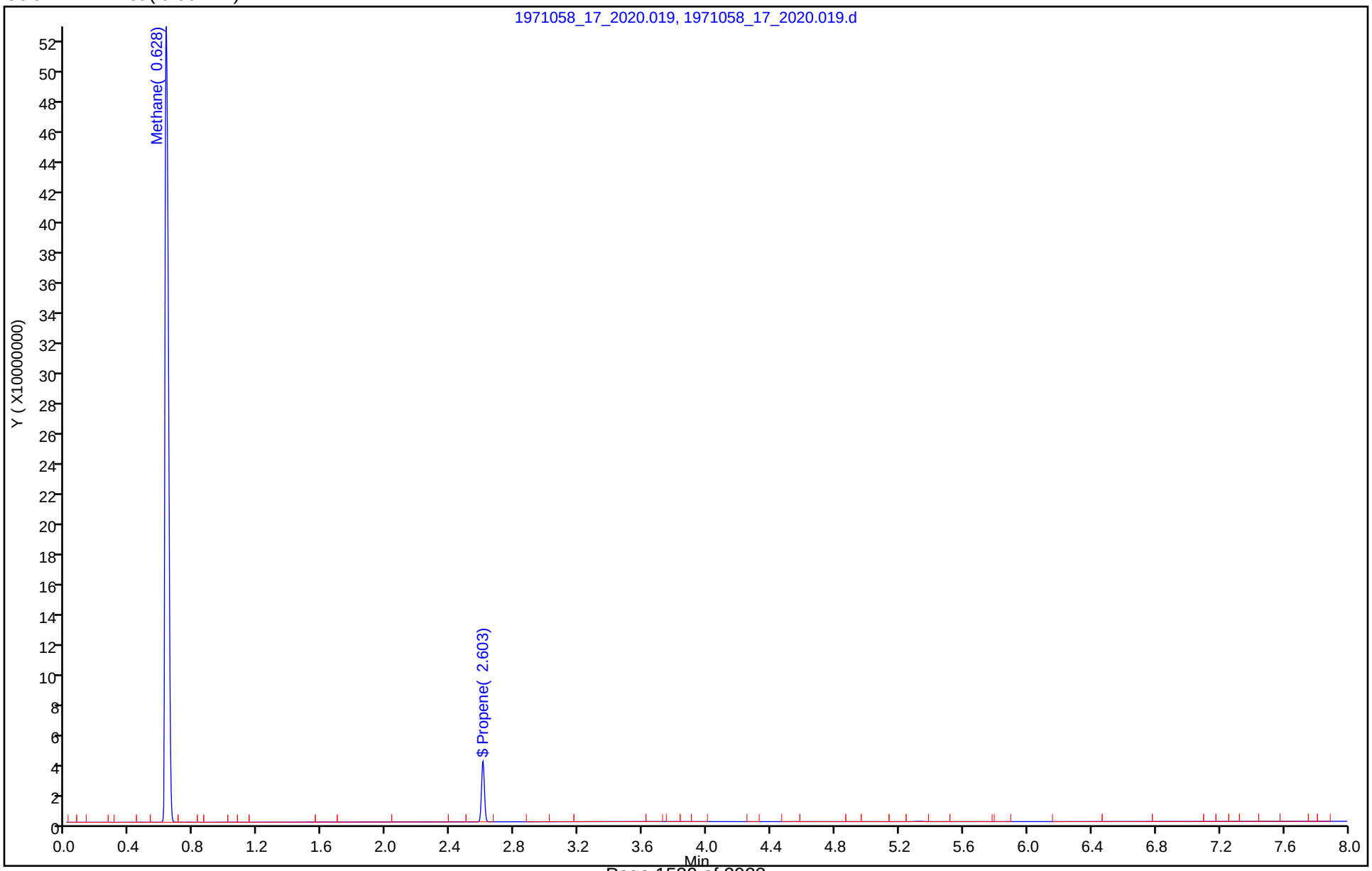
Report Date: 18-Aug-2020 07:27:48 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\1971058_17_2020.019.d

Injection Date:	17-Aug-2020 15:25:00	Instrument ID:	4132	Operator ID:	32136
Lims ID:	410-10696-K-1-A	Lab Sample ID:	410-10696-1	Worklist Smp#:	19
Client ID:	MW-01				
Purge Vol:	1.000 mL	Dil. Factor:	50.0000	ALS Bottle#:	0
Method:	RSK_4132	Limit Group:	GCV - RSK175		

Column: HP Plot (0.00 mm)



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\1971058_17_2020.019.d
Lims ID: 410-10696-K-1-A
Client ID: MW-01
Sample Type: Client
Inject. Date: 17-Aug-2020 15:25:00 ALS Bottle#: 0 Worklist Smp#: 19
Purge Vol: 1.000 mL Dil. Factor: 50.0000
Sample Info: 1 AAAA MISC 2022999999
Operator ID: 32136 Instrument ID: 4132

Method: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\RSK_4132.m
Limit Group: GCV - RSK175
Last Update: 18-Aug-2020 07:27:47 Calib Date: 26-Mar-2020 13:29:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.009.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1048

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Propene	21.0	18.4	87.58

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-04 Lab Sample ID: 410-10696-3

Matrix: Water Lab File ID: 1971058_17_2020.020.d

Analysis Method: RSK-175 Date Collected: 08/11/2020 13:40

Sample wt/vol: 5(mL) Date Analyzed: 08/17/2020 15:43

Soil Aliquot Vol: Dilution Factor: 100

Soil Extract Vol.: GC Column: HP Plot ID: 0.53(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 33923 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	18000		500	300

CAS NO.	SURROGATE	%REC	Q	LIMITS
115-07-1	Propene	89		28-140

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\1971058_17_2020.020.d
Lims ID: 410-10696-K-3-A
Client ID: MW-04
Sample Type: Client
Inject. Date: 17-Aug-2020 15:43:00 ALS Bottle#: 0 Worklist Smp#: 20
Purge Vol: 1.000 mL Dil. Factor: 100.0000
Sample Info: 3 AAAA MISC 2022999999
Operator ID: 32136 Instrument ID: 4132

Method: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\RSK_4132.m
Limit Group: GCV - RSK175
Last Update: 18-Aug-2020 07:27:47 Calib Date: 26-Mar-2020 13:29:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.009.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1048

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
1	Methane	0.626	0.628	-0.002	380767243H	177.6	
$ 5	Propene	2.603	2.594	0.009	40372352H	18.6	

Reagents:

GCS_HSSSS_00002 Amount Added: 60.00 Units: uL

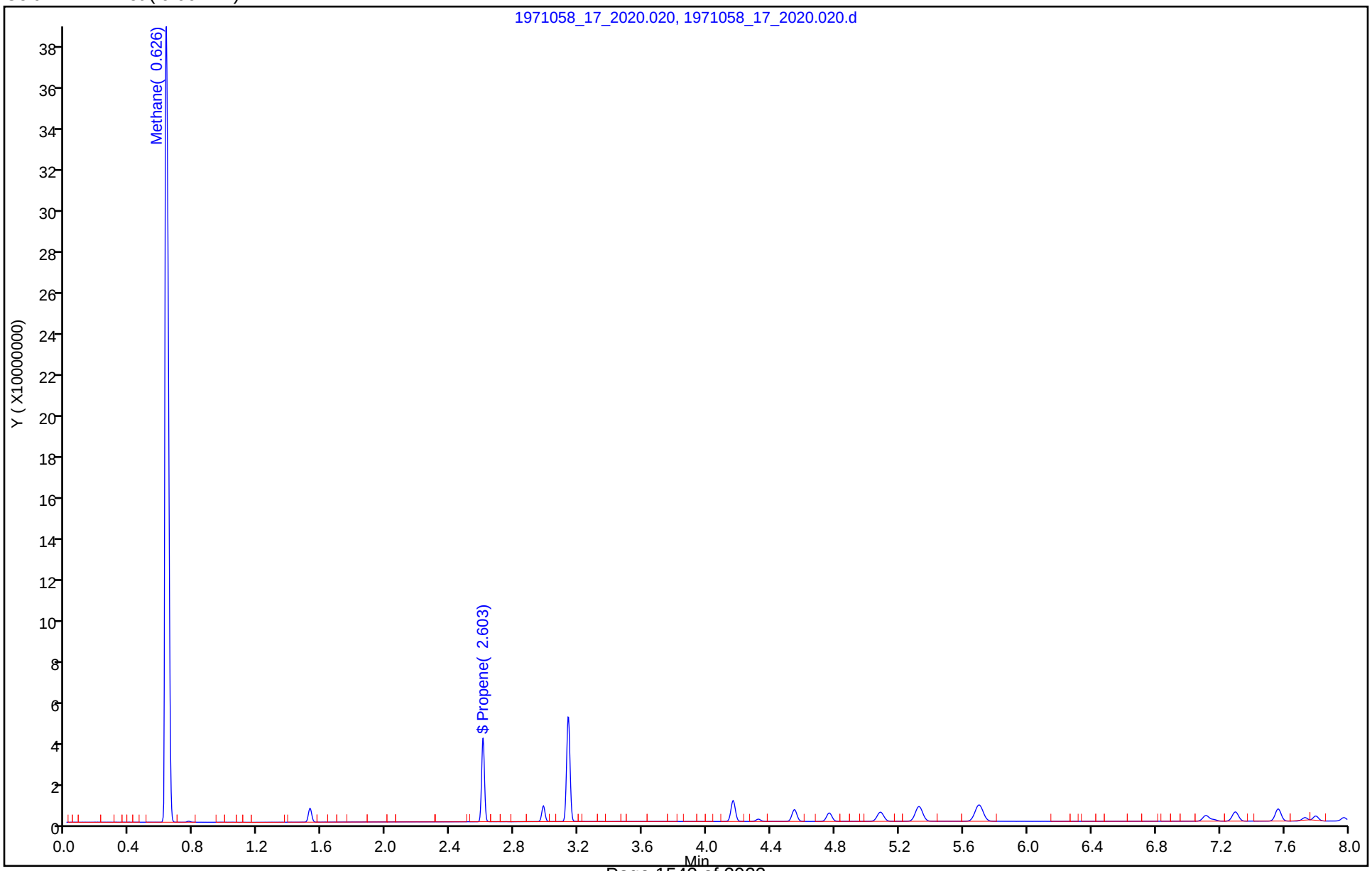
Report Date: 18-Aug-2020 07:27:48 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\1971058_17_2020.020.d

Injection Date:	17-Aug-2020 15:43:00	Instrument ID:	4132	Operator ID:	32136
Lims ID:	410-10696-K-3-A	Lab Sample ID:	410-10696-3	Worklist Smp#:	20
Client ID:	MW-04				
Purge Vol:	1.000 mL	Dil. Factor:	100.0000	ALS Bottle#:	0
Method:	RSK_4132	Limit Group:	GCV - RSK175		

Column: HP Plot (0.00 mm)



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\1971058_17_2020.020.d
Lims ID: 410-10696-K-3-A
Client ID: MW-04
Sample Type: Client
Inject. Date: 17-Aug-2020 15:43:00 ALS Bottle#: 0 Worklist Smp#: 20
Purge Vol: 1.000 mL Dil. Factor: 100.0000
Sample Info: 3 AAAA MISC 2022999999
Operator ID: 32136 Instrument ID: 4132

Method: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\RSK_4132.m
Limit Group: GCV - RSK175
Last Update: 18-Aug-2020 07:27:47 Calib Date: 26-Mar-2020 13:29:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.009.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1048

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Propene	21.0	18.6	88.76

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: WPA-GW-02 Lab Sample ID: 410-10696-6

Matrix: Water Lab File ID: 1971058_17_2020.021.d

Analysis Method: RSK-175 Date Collected: 08/11/2020 14:15

Sample wt/vol: 5(mL) Date Analyzed: 08/17/2020 16:01

Soil Aliquot Vol: Dilution Factor: 20

Soil Extract Vol.: GC Column: HP Plot ID: 0.53(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 33923 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	2800		100	60

CAS NO.	SURROGATE	%REC	Q	LIMITS
115-07-1	Propene	91		28-140

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\1971058_17_2020.021.d
Lims ID: 410-10696-K-6-A
Client ID: WPA-GW-02
Sample Type: Client
Inject. Date: 17-Aug-2020 16:01:00 ALS Bottle#: 0 Worklist Smp#: 21
Purge Vol: 1.000 mL Dil. Factor: 20.0000
Sample Info: 6 AAAA MISC 2022999999
Operator ID: 32136 Instrument ID: 4132

Method: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\RSK_4132.m
Limit Group: GCV - RSK175
Last Update: 18-Aug-2020 07:27:47 Calib Date: 26-Mar-2020 13:29:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.009.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1048

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
1	Methane	0.626	0.628	-0.002	298719916	138.3	H
$ 5	Propene	2.603	2.594	0.009	41236337	19.0	H

Reagents:

GCS_HSSSS_00002 Amount Added: 60.00 Units: uL

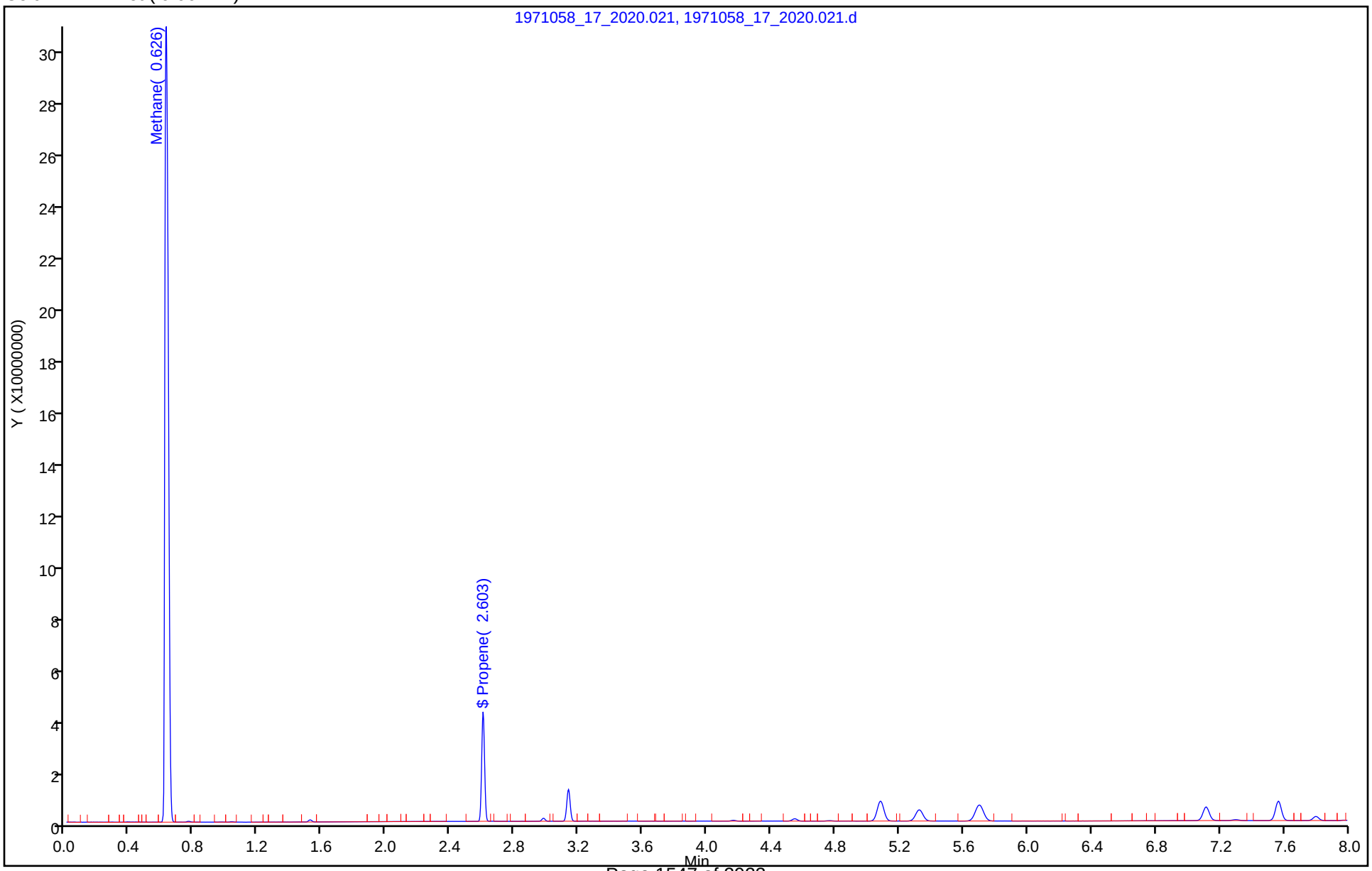
Report Date: 18-Aug-2020 07:27:49 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\1971058_17_2020.021.d

Injection Date:	17-Aug-2020 16:01:00	Instrument ID:	4132	Operator ID:	32136
Lims ID:	410-10696-K-6-A	Lab Sample ID:	410-10696-6	Worklist Smp#:	21
Client ID:	WPA-GW-02				
Purge Vol:	1.000 mL	Dil. Factor:	20.0000	ALS Bottle#:	0
Method:	RSK_4132	Limit Group:	GCV - RSK175		

Column: HP Plot (0.00 mm)



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\1971058_17_2020.021.d
Lims ID: 410-10696-K-6-A
Client ID: WPA-GW-02
Sample Type: Client
Inject. Date: 17-Aug-2020 16:01:00 ALS Bottle#: 0 Worklist Smp#: 21
Purge Vol: 1.000 mL Dil. Factor: 20.0000
Sample Info: 6 AAAA MISC 2022999999
Operator ID: 32136 Instrument ID: 4132

Method: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\RSK_4132.m
Limit Group: GCV - RSK175
Last Update: 18-Aug-2020 07:27:47 Calib Date: 26-Mar-2020 13:29:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.009.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1048

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Propene	21.0	19.0	90.65

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 6933

SDG No.:

Instrument ID: 4132 GC Column: HP Plot ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/26/2020 11:56 Calibration End Date: 03/26/2020 13:29 Calibration ID: 3480

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-6933/4	19710520086001.004.d
Level 2	IC 410-6933/5	19710520086001.005.d
Level 3	ICRT 410-6933/6	19710520086001.006.d
Level 4	IC 410-6933/7	19710520086001.007.d
Level 5	IC 410-6933/8	19710520086001.008.d
Level 6	IC 410-6933/9	19710520086001.009.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6					RT WINDOW	AVG RT
Methane	0.626	0.628	0.628	0.628	0.628	0.628					0.598 - 0.658	0.628
Ethane	0.767	0.768	0.767	0.768	0.767	0.768					0.737 - 0.797	0.768
Ethene	1.035	1.036	1.032	1.033	1.033	1.033					1.002 - 1.062	1.034
Propane	1.530	1.530	1.526	1.527	1.527	1.527					1.496 - 1.556	1.528
Isobutane	2.989	2.989	2.987	2.986	2.986	2.976					2.957 - 3.017	2.986
n-Butane	3.146	3.146	3.145	3.144	3.144	3.136					3.115 - 3.175	3.144
Acetylene	3.483	3.481	3.469	3.464	3.459						3.439 - 3.499	3.471
Propene	2.607	2.608	2.607	2.607	2.608	2.604					2.577 - 2.637	2.607

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 6933

SDG No.:

Instrument ID: 4132 GC Column: HP Plot ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/26/2020 11:56 Calibration End Date: 03/26/2020 13:29 Calibration ID: 3480

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-6933/4	19710520086001.004.d
Level 2	IC 410-6933/5	19710520086001.005.d
Level 3	ICRT 410-6933/6	19710520086001.006.d
Level 4	IC 410-6933/7	19710520086001.007.d
Level 5	IC 410-6933/8	19710520086001.008.d
Level 6	IC 410-6933/9	19710520086001.009.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3	LVL 4		B	M1	M2								
Methane	3789484 2266289	2625889 2024681	2495355	2319561	Lin1	9897534.58	2087702.39				10.4			0.9960		0.9900
Ethane	2023556 1990801	2034807 1836890	2088679	2050873	Ave		2004267.75				4.4		20.0			
Ethene	1995969 1954223	1999436 1828427	2050734	2017147	Ave		1974322.88				4.0		20.0			
Propane	1962295 1920091	1966143 1802953	2034477	1987187	Ave		1945524.31				4.1		20.0			
Isobutane	1780170 1831092	1849086 1622447	1953207	1896403	Ave		1822067.53				6.3		20.0			
n-Butane	1615881 1649697	1677884 1496965	1791951	1722573	Ave		1659158.54				6.0		20.0			
Acetylene	1307474 1007369	1230371	1239344	1157483	Ave		1188408.42				9.6		20.0			
Propene	2196106 2144885	2194677 1963606	2280369	2216722	Ave		2166060.75				5.0		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 6933

SDG No.:

Instrument ID: 4132 GC Column: HP Plot ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 03/26/2020 11:56 Calibration End Date: 03/26/2020 13:29 Calibration ID: 3480

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-6933/4	19710520086001.004.d
Level 2	IC 410-6933/5	19710520086001.005.d
Level 3	ICRT 410-6933/6	19710520086001.006.d
Level 4	IC 410-6933/7	19710520086001.007.d
Level 5	IC 410-6933/8	19710520086001.008.d
Level 6	IC 410-6933/9	19710520086001.009.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Methane	Lin1	18909526 1010316002	39309561	149421861	231492210	339263445	4.99 499	15.0	59.9	99.8	150
Ethane	Ave	9955896 903749832	30033753	123315637	201805929	293842178	4.92 492	14.8	59.0	98.4	148
Ethene	Ave	10079643 923355791	30291454	124274503	203731895	296064834	5.05 505	15.2	60.6	101	152
Propane	Ave	9909588 910491329	29787064	123289329	200705839	290893835	5.05 505	15.2	60.6	101	152
Isobutane	Ave	8883049 809601100	27680813	116958064	189261043	274114402	4.99 499	15.0	59.9	99.8	150
n-Butane	Ave	8063246 746985611	25117929	107302019	171912808	246959586	4.99 499	15.0	59.9	99.8	150
Acetylene	Ave	5569841	15724136	63355282	98617594	128741797	4.26	12.8	51.1	85.2	128
Propene	Ave	3843185 343631101	11522054	47887754	77585254	112606449	1.75 175	5.25	21.0	35.0	52.5

Curve Type Legend:

Ave = Average by Height
Lin1 = Linear 1/Conc by Height

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.004.d
Lims ID: ic 1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 26-Mar-2020 11:56:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 710512032G AA71051AA ICAL 208599999
Operator ID: 9051 Instrument ID: 4132
Sublist: chrom-RSK_4132*sub3

Method: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\RSK_4132.m
Limit Group: GCV - RSK175
Last Update: 16-Jun-2020 11:17:53 Calib Date: 26-Mar-2020 13:29:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.009.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1044

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
	1 Methane	0.626	0.628	-0.002	18909526H	4.99	4.32	
	2 Ethane	0.767	0.767	0.000	9955896H	4.92	4.97	
	3 Ethylene	1.035	1.032	0.003	10079643H	5.05	5.11	
	4 Propane	1.530	1.526	0.004	9909588H	5.05	5.09	
$	5 Propene	2.607	2.607	0.000	3843185H	1.75	1.77	
	6 Propane, 2-methyl	2.989	2.987	0.002	8883049H	4.99	4.88	
	7 Butane	3.146	3.145	0.001	8063246H	4.99	4.86	
	8 Acetylene	3.483	3.469	0.014	5569841H	4.26	4.69	

Reagents:

GCV_HSSSS_00004 Amount Added: 5.00 Units: uL
GCV_HSSMS_00005 Amount Added: 5.00 Units: uL

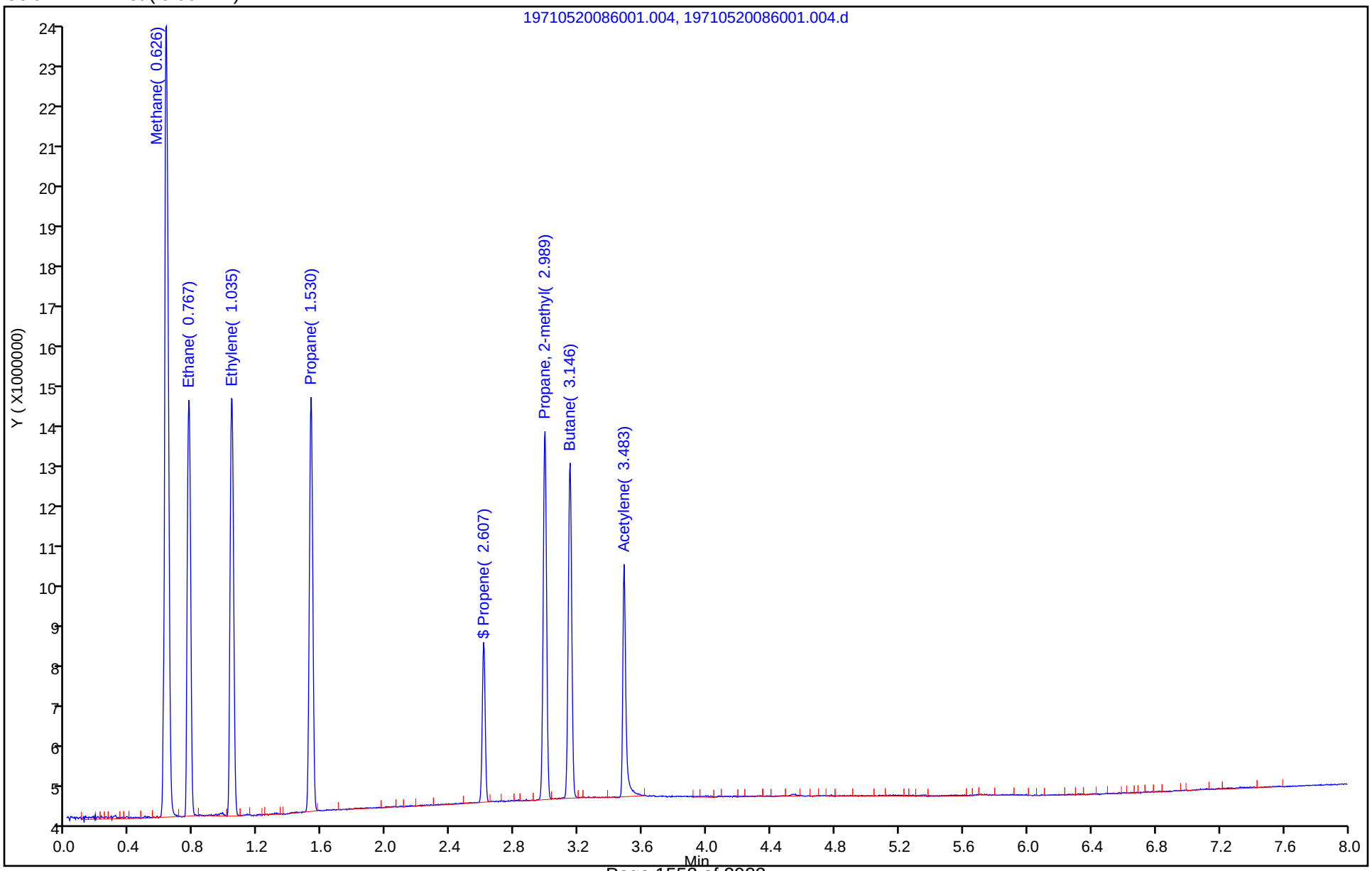
Report Date: 16-Jun-2020 11:17:54 Chrom Revision: 2.3 13-Jun-2020 09:53:24

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.004.d

Injection Date:	26-Mar-2020 11:56:00	Instrument ID:	4132	Operator ID:	9051
Lims ID:	ic 1			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_4132	Limit Group:	GCV - RSK175		

Column: HP Plot (0.00 mm)



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.005.d
Lims ID: ic 2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 26-Mar-2020 12:14:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 710522032F AA71052AA ICAL 208599999
Operator ID: 9051 Instrument ID: 4132
Sublist: chrom-RSK_4132*sub3

Method: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\RSK_4132.m
Limit Group: GCV - RSK175
Last Update: 16-Jun-2020 11:17:54 Calib Date: 26-Mar-2020 13:29:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.009.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1044

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
	1 Methane	0.628	0.628	0.000	39309561H	15.0	14.1	
	2 Ethane	0.768	0.767	0.001	30033753H	14.8	15.0	
	3 Ethylene	1.036	1.032	0.004	30291454H	15.2	15.3	
	4 Propane	1.530	1.526	0.004	29787064H	15.2	15.3	
$	5 Propene	2.608	2.607	0.001	11522054H	5.25	5.32	
	6 Propane, 2-methyl	2.989	2.987	0.002	27680813H	15.0	15.2	
	7 Butane	3.146	3.145	0.001	25117929H	15.0	15.1	
	8 Acetylene	3.481	3.469	0.012	15724136H	12.8	13.2	

Reagents:

GCV_HSSSS_00004 Amount Added: 15.00 Units: uL
GCV_HSSMS_00005 Amount Added: 15.00 Units: uL

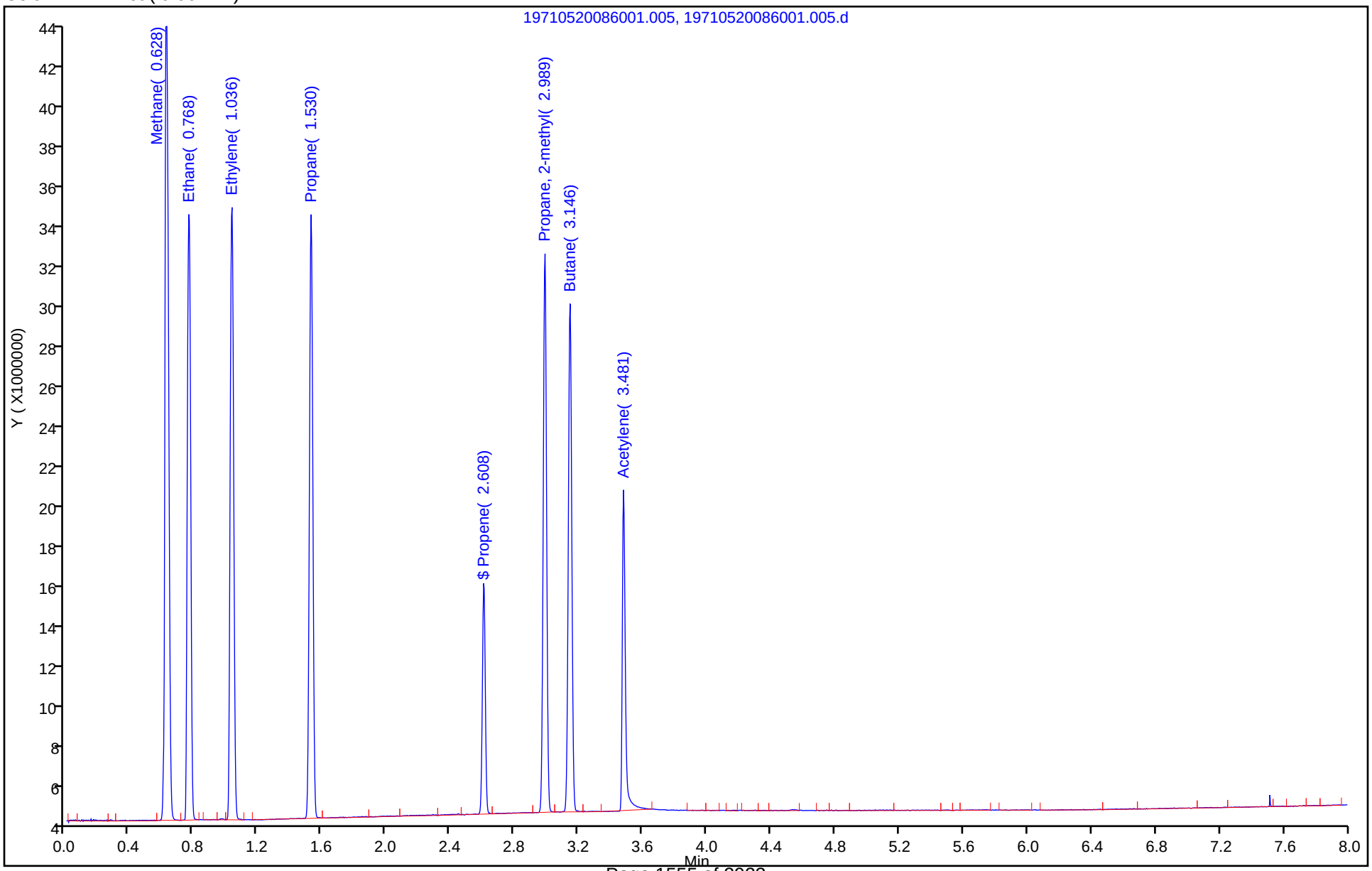
Report Date: 16-Jun-2020 11:17:55 Chrom Revision: 2.3 13-Jun-2020 09:53:24

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.005.d

Injection Date:	26-Mar-2020 12:14:00	Instrument ID:	4132	Operator ID:	9051
Lims ID:	ic 2			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_4132	Limit Group:	GCV - RSK175		

Column: HP Plot (0.00 mm)



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.006.d
Lims ID: icrt 3
Client ID:
Sample Type: ICRT Calib Level: 3
Inject. Date: 26-Mar-2020 12:33:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 710532032BJ AA71053AA ICAL 208599999
Operator ID: 9051 Instrument ID: 4132
Sublist: chrom-RSK_4132*sub3

Method: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\RSK_4132.m
Limit Group: GCV - RSK175
Last Update: 16-Jun-2020 11:17:55 Calib Date: 26-Mar-2020 13:29:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.009.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1044

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
	1 Methane	0.628	0.628	0.000	149421861H	59.9	66.8	
	2 Ethane	0.767	0.767	0.000	123315637H	59.0	61.5	
	3 Ethylene	1.032	1.032	0.000	124274503H	60.6	62.9	
	4 Propane	1.526	1.526	0.000	123289329H	60.6	63.4	
$	5 Propene	2.607	2.607	0.000	47887754H	21.0	22.1	
	6 Propane, 2-methyl	2.987	2.987	0.000	116958064H	59.9	64.2	
	7 Butane	3.145	3.145	0.000	107302019H	59.9	64.7	
	8 Acetylene	3.469	3.469	0.000	63355282H	51.1	53.3	

Reagents:

GCV_HSSSS_00004 Amount Added: 60.00 Units: uL
GCV_HSSMS_00005 Amount Added: 60.00 Units: uL

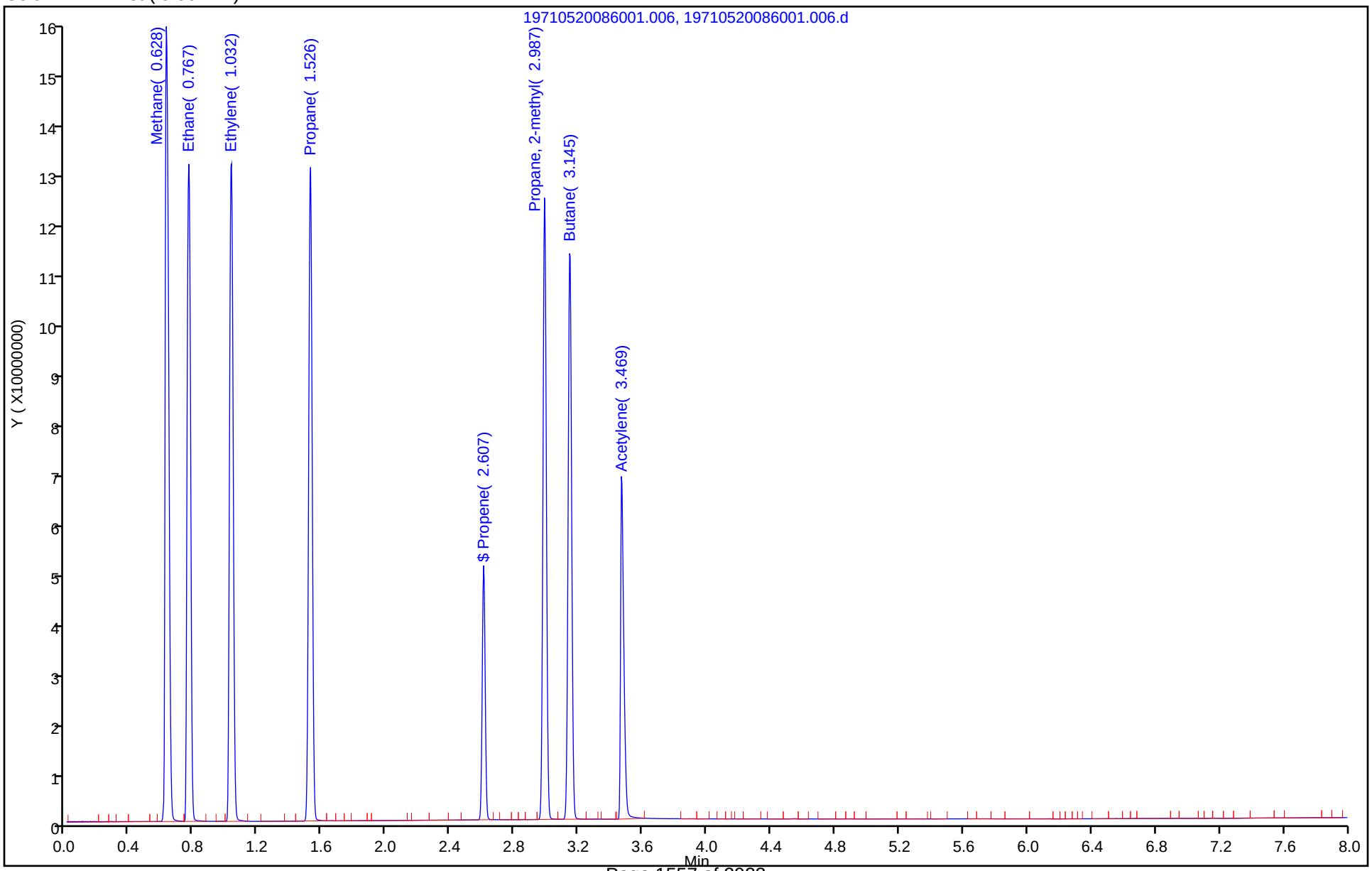
Report Date: 16-Jun-2020 11:17:56 Chrom Revision: 2.3 13-Jun-2020 09:53:24

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.006.d

Injection Date:	26-Mar-2020 12:33:00	Instrument ID:	4132	Operator ID:	9051
Lims ID:	icrt 3			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_4132	Limit Group:	GCV - RSK175		

Column: HP Plot (0.00 mm)



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.007.d
Lims ID: ic 4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 26-Mar-2020 12:52:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 710542032E AA71054AA ICAL 208599999
Operator ID: 9051 Instrument ID: 4132
Sublist: chrom-RSK_4132*sub3

Method: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\RSK_4132.m
Limit Group: GCV - RSK175
Last Update: 16-Jun-2020 11:17:56 Calib Date: 26-Mar-2020 13:29:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.009.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1044

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
	1 Methane	0.628	0.628	0.000	231492210H	99.8	106.1	
	2 Ethane	0.768	0.767	0.001	201805929H	98.4	100.7	
	3 Ethylene	1.033	1.032	0.001	203731895H	101.0	103.2	
	4 Propane	1.527	1.526	0.001	200705839H	101.0	103.2	
$	5 Propene	2.607	2.607	0.000	77585254H	35.0	35.8	
	6 Propane, 2-methyl	2.986	2.987	-0.001	189261043H	99.8	103.9	
	7 Butane	3.144	3.145	-0.001	171912808H	99.8	103.6	
	8 Acetylene	3.464	3.469	-0.005	98617594H	85.2	83.0	

Reagents:

GCV_HSSSS_00004 Amount Added: 100.00 Units: uL
GCV_HSSMS_00005 Amount Added: 100.00 Units: uL

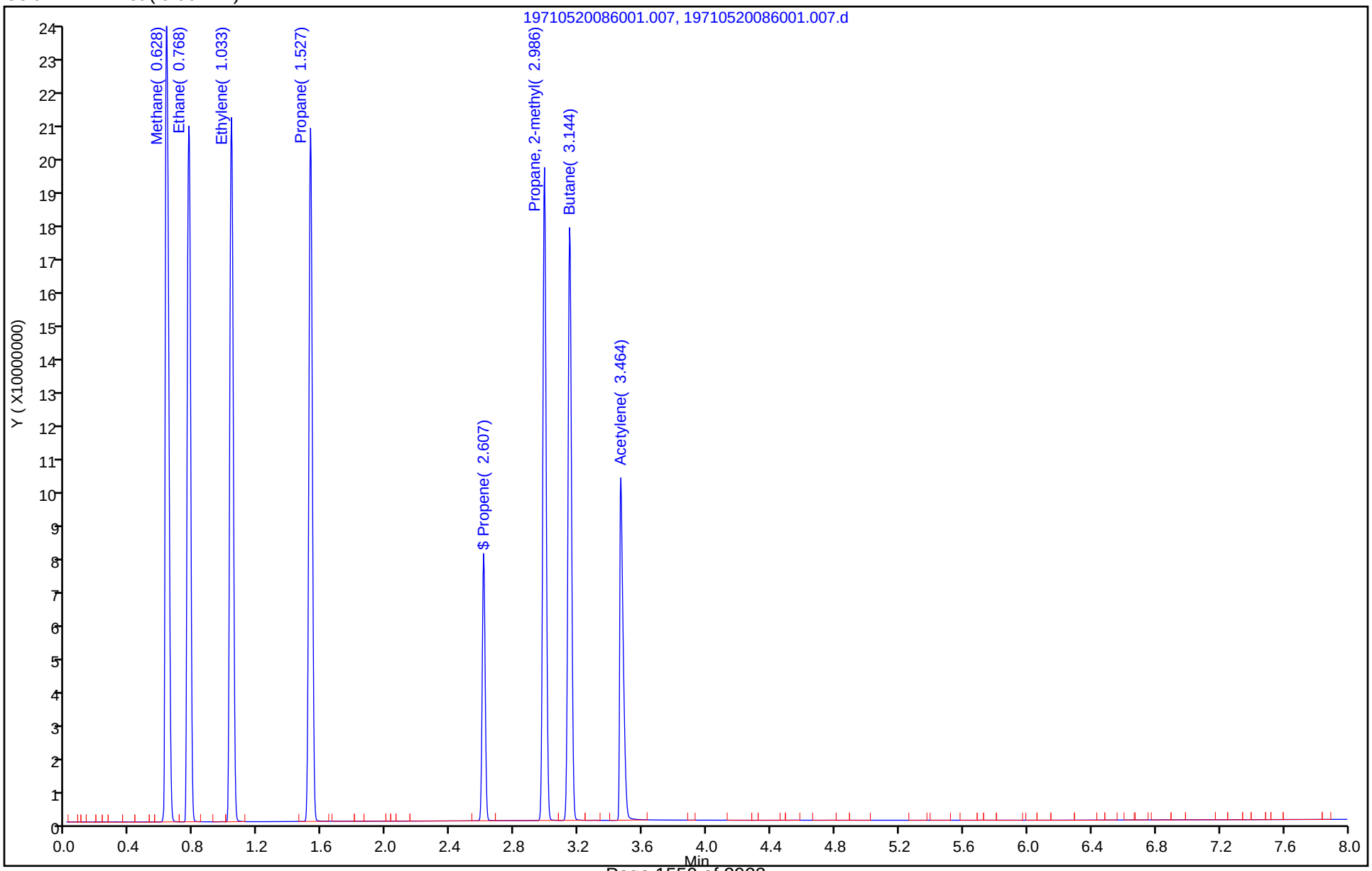
Report Date: 16-Jun-2020 11:17:57 Chrom Revision: 2.3 13-Jun-2020 09:53:24

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.007.d

Injection Date:	26-Mar-2020 12:52:00	Instrument ID:	4132	Operator ID:	9051
Lims ID:	ic 4			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_4132	Limit Group:	GCV - RSK175		

Column: HP Plot (0.00 mm)



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.008.d
Lims ID: ic 5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 26-Mar-2020 13:11:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 710552032E AA71055AA ICAL 208599999
Operator ID: 9051 Instrument ID: 4132
Sublist: chrom-RSK_4132*sub3

Method: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\RSK_4132.m
Limit Group: GCV - RSK175
Last Update: 16-Jun-2020 11:17:57 Calib Date: 26-Mar-2020 13:29:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.009.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1044

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response		Cal Amt ug/l	OnCol Amt ug/l	Flags
	1 Methane	0.628	0.628	0.000	339263445	H	149.7	157.8	
	2 Ethane	0.767	0.767	0.000	293842178	H	147.6	146.6	
	3 Ethylene	1.033	1.032	0.001	296064834	H	151.5	150.0	
	4 Propane	1.527	1.526	0.001	290893835	H	151.5	149.5	
$	5 Propene	2.608	2.607	0.001	112606449	H	52.5	52.0	
	6 Propane, 2-methyl	2.986	2.987	-0.001	274114402	H	149.7	150.4	
	7 Butane	3.144	3.145	-0.001	246959586	H	149.7	148.8	
	8 Acetylene	3.459	3.469	-0.010	128741797	H	127.8	108.3	

Reagents:

GCV_HSSSS_00004 Amount Added: 150.00 Units: uL
GCV_HSSMS_00005 Amount Added: 150.00 Units: uL

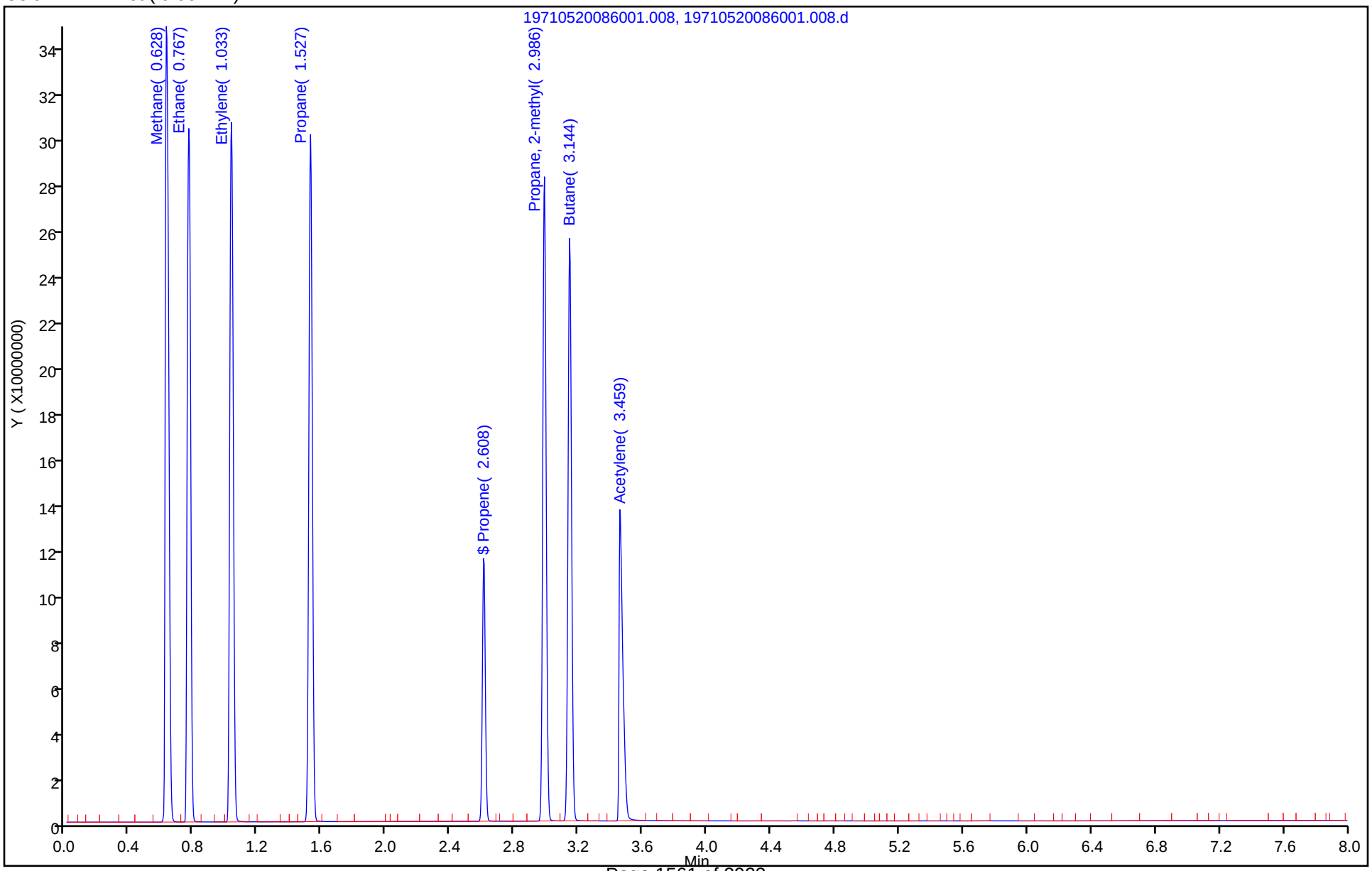
Report Date: 16-Jun-2020 11:17:58 Chrom Revision: 2.3 13-Jun-2020 09:53:24

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.008.d

Injection Date:	26-Mar-2020 13:11:00	Instrument ID:	4132	Operator ID:	9051
Lims ID:	ic 5			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_4132	Limit Group:	GCV - RSK175		

Column: HP Plot (0.00 mm)



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.009.d
Lims ID: ic 6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 26-Mar-2020 13:29:00 ALS Bottle#: 0 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: 710562032E AA71056AA ICAL 208599999
Operator ID: 9051 Instrument ID: 4132
Sublist: chrom-RSK_4132*sub3

Method: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\RSK_4132.m
Limit Group: GCV - RSK175
Last Update: 16-Jun-2020 11:17:58 Calib Date: 26-Mar-2020 13:29:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.009.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1044

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1	Methane	0.628	0.628	0.000	1010316002H	499.0	479.2	
2	Ethane	0.768	0.767	0.001	903749832H	492.0	450.9	
3	Ethylene	1.033	1.032	0.001	923355791H	505.0	467.7	
4	Propane	1.527	1.526	0.001	910491329H	505.0	468.0	
$ 5	Propene	2.604	2.607	-0.003	343631101H	175.0	158.6	
6	Propane, 2-methyl	2.976	2.987	-0.011	809601100H	499.0	444.3	
7	Butane	3.136	3.145	-0.009	746985611H	499.0	450.2	
8	Acetylene		3.469			ND	ND	

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND
H - Response Measured by Height

Reagents:

GCV_HSSSS_00004 Amount Added: 500.00 Units: uL
GCV_HSSMS_00005 Amount Added: 500.00 Units: uL

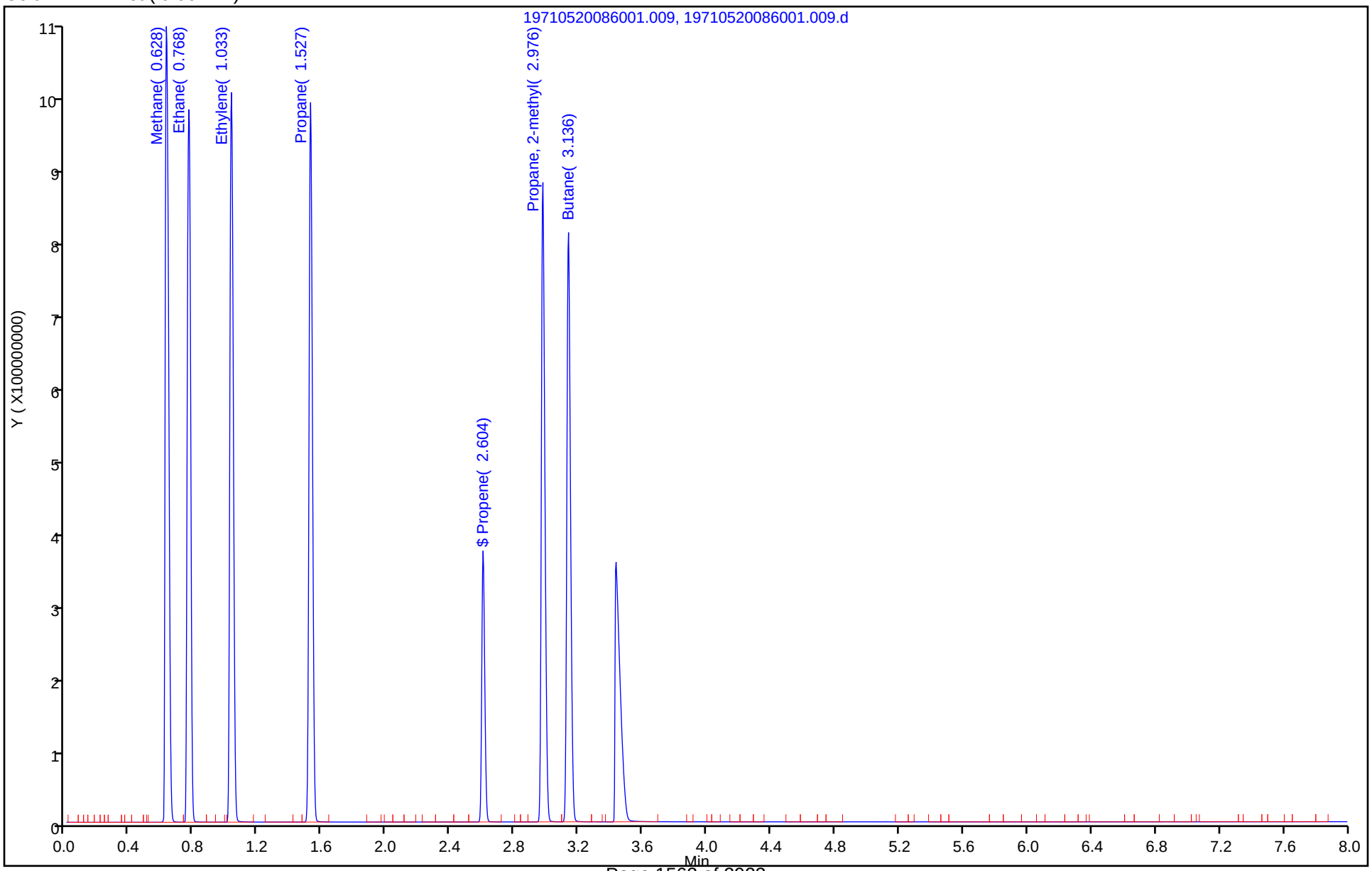
Report Date: 16-Jun-2020 11:17:59 Chrom Revision: 2.3 13-Jun-2020 09:53:24

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.009.d

Injection Date:	26-Mar-2020 13:29:00	Instrument ID:	4132	Operator ID:	9051
Lims ID:	ic 6			Worklist Smp#:	9
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_4132	Limit Group:	GCV - RSK175		

Column: HP Plot (0.00 mm)



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICV 410-6933/13 Calibration Date: 03/26/2020 14:44

Instrument ID: 4132 Calib Start Date: 03/26/2020 11:56

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 03/26/2020 13:29

Lab File ID: 19710520086001.013.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		2386722		63.7	59.9	6.4	15.0
Ethane	Ave	2004268	1999405		58.9	59.0	-0.2	15.0
Ethene	Ave	1974323	2005955		61.6	60.6	1.6	15.0
Propane	Ave	1945524	2030223		63.2	60.6	4.4	15.0
Isobutane	Ave	1822068	1974999		64.9	59.9	8.4	15.0
n-Butane	Ave	1659159	1820726		65.7	59.9	9.7	15.0
Acetylene	Ave	1188408	1177332		50.6	51.1	-0.9	15.0
Propene	Ave	2166061	2176062		21.1	21.0	0.5	15.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICV 410-6933/13 Calibration Date: 03/26/2020 14:44

Instrument ID: 4132 Calib Start Date: 03/26/2020 11:56

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 03/26/2020 13:29

Lab File ID: 19710520086001.013.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.63	0.60	0.66
Ethane	0.77	0.74	0.80
Ethene	1.04	1.00	1.06
Propane	1.53	1.50	1.56
Isobutane	2.99	2.96	3.02
n-Butane	3.15	3.12	3.18
Acetylene	3.48	3.44	3.50
Propene	2.61	2.58	2.64

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.013.d
Lims ID: icv
Client ID:
Sample Type: ICV
Inject. Date: 26-Mar-2020 14:44:00 ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: HICVX2032H AAHICVXAA CCAL 208599999
Operator ID: 9051 Instrument ID: 4132
Sublist:

Method: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\RSK_4132.m
Limit Group: GCV - RSK175
Last Update: 16-Jun-2020 11:18:06 Calib Date: 26-Mar-2020 13:29:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.009.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1050

First Level Reviewer: kennedyj Date: 22-Apr-2020 13:25:37

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
	1 Methane	0.628	0.628	0.000	142916943H	59.9	63.7	
	2 Ethane	0.767	0.767	0.000	118044869H	59.0	58.9	
	3 Ethylene	1.035	1.032	0.002	121560885H	60.6	61.6	
	4 Propane	1.529	1.526	0.003	123031484H	60.6	63.2	
$	5 Propene	2.612	2.607	0.005	45697312H	21.0	21.1	
	6 Propane, 2-methyl	2.991	2.987	0.004	118262928H	59.9	64.9	
	7 Butane	3.149	3.145	0.004	109025093H	59.9	65.7	
	8 Acetylene	3.481	3.469	0.012	60185233H	51.1	50.6	

Reagents:

GCV_HSSSS_00004 Amount Added: 60.00 Units: uL
GCS_HSSICVMS_00001 Amount Added: 60.00 Units: uL

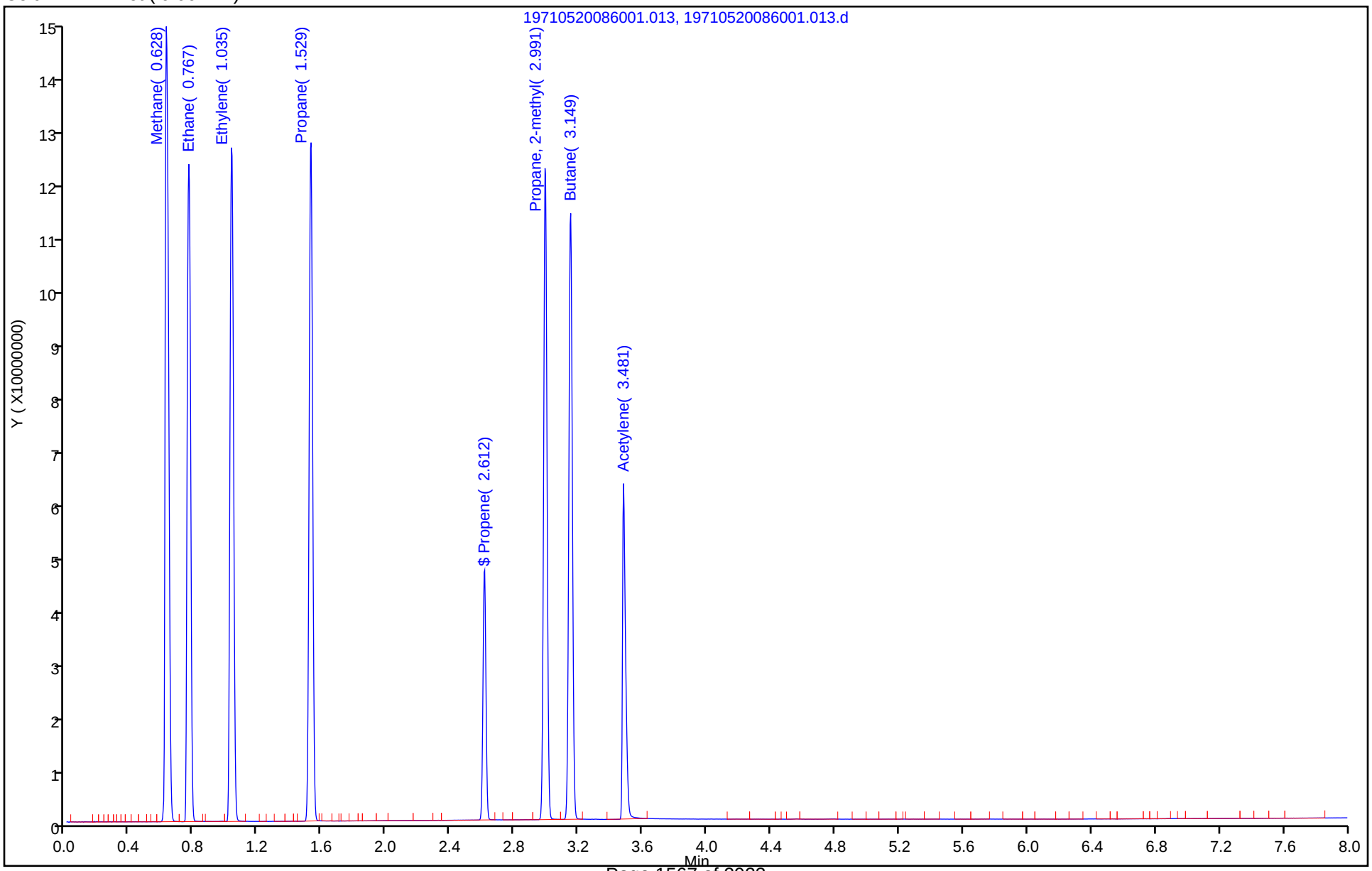
Report Date: 22-Jun-2020 14:08:37 Chrom Revision: 2.3 21-Jun-2020 18:30:46

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.013.d

Injection Date:	26-Mar-2020 14:44:00	Instrument ID:	4132	Operator ID:	9051
Lims ID:	icv			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_4132	Limit Group:	GCV - RSK175		

Column: HP Plot (0.00 mm)



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVRT 410-33923/4 Calibration Date: 08/17/2020 10:46

Instrument ID: 4132 Calib Start Date: 03/26/2020 11:56

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 03/26/2020 13:29

Lab File ID: 1971058_17_2020.004.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		2283460		60.2	59.4	1.4	15.0
Ethane	Ave	2004268	1904040		56.4	59.4	-5.0	15.0
Ethene	Ave	1974323	1916993		58.6	60.4	-2.9	15.0
Propane	Ave	1945524	1864586		58.3	60.8	-4.2	15.0
Isobutane	Ave	1822068	1758128		58.0	60.1	-3.5	15.0
n-Butane	Ave	1659159	1631008		58.7	59.8	-1.7	15.0
Acetylene	Ave	1188408	1254308		54.1	51.2	5.5	15.0
Propene	Ave	2166061	2122640		20.6	21.0	-2.0	15.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVRT 410-33923/4 Calibration Date: 08/17/2020 10:46

Instrument ID: 4132 Calib Start Date: 03/26/2020 11:56

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 03/26/2020 13:29

Lab File ID: 1971058_17_2020.004.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.63	0.60	0.66
Ethane	0.77	0.74	0.80
Ethene	1.03	1.00	1.06
Propane	1.52	1.49	1.55
Isobutane	2.97	2.94	3.00
n-Butane	3.13	3.10	3.16
Acetylene	3.44	3.41	3.47
Propene	2.59	2.56	2.62

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\1971058_17_2020.004.d
Lims ID: CCVRT
Client ID:
Sample Type: CCVRT
Inject. Date: 17-Aug-2020 10:46:00 ALS Bottle#: 0 Worklist Smp#: 4
Purge Vol: 1.000 mL Dil. Factor: 1.0000
Sample Info: CCVRT AAAA MISC 2022999999
Operator ID: 32136 Instrument ID: 4132
Sublist: chrom-RSK_4132*sub3

Method: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\RSK_4132.m
Limit Group: GCV - RSK175
Last Update: 18-Aug-2020 07:27:42 Calib Date: 26-Mar-2020 13:29:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.009.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1048

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
	1 Methane	0.628	0.628	0.000	135637498H	59.4	60.2	
	2 Ethane	0.766	0.766	0.000	113100003H	59.4	56.4	
	3 Ethylene	1.029	1.029	0.000	115709682H	60.4	58.6	
	4 Propane	1.519	1.519	0.000	113441414H	60.8	58.3	
$	5 Propene	2.594	2.594	0.000	44575433H	21.0	20.6	
	6 Propane, 2-methyl	2.973	2.973	0.000	105698673H	60.1	58.0	
	7 Butane	3.129	3.129	0.000	97469060H	59.8	58.7	
	8 Acetylene	3.438	3.438	0.000	64270736H	51.2	54.1	

Reagents:

GCS_HSSMS_00002 Amount Added: 60.00 Units: uL
GCS_HSSSS_00002 Amount Added: 60.00 Units: uL

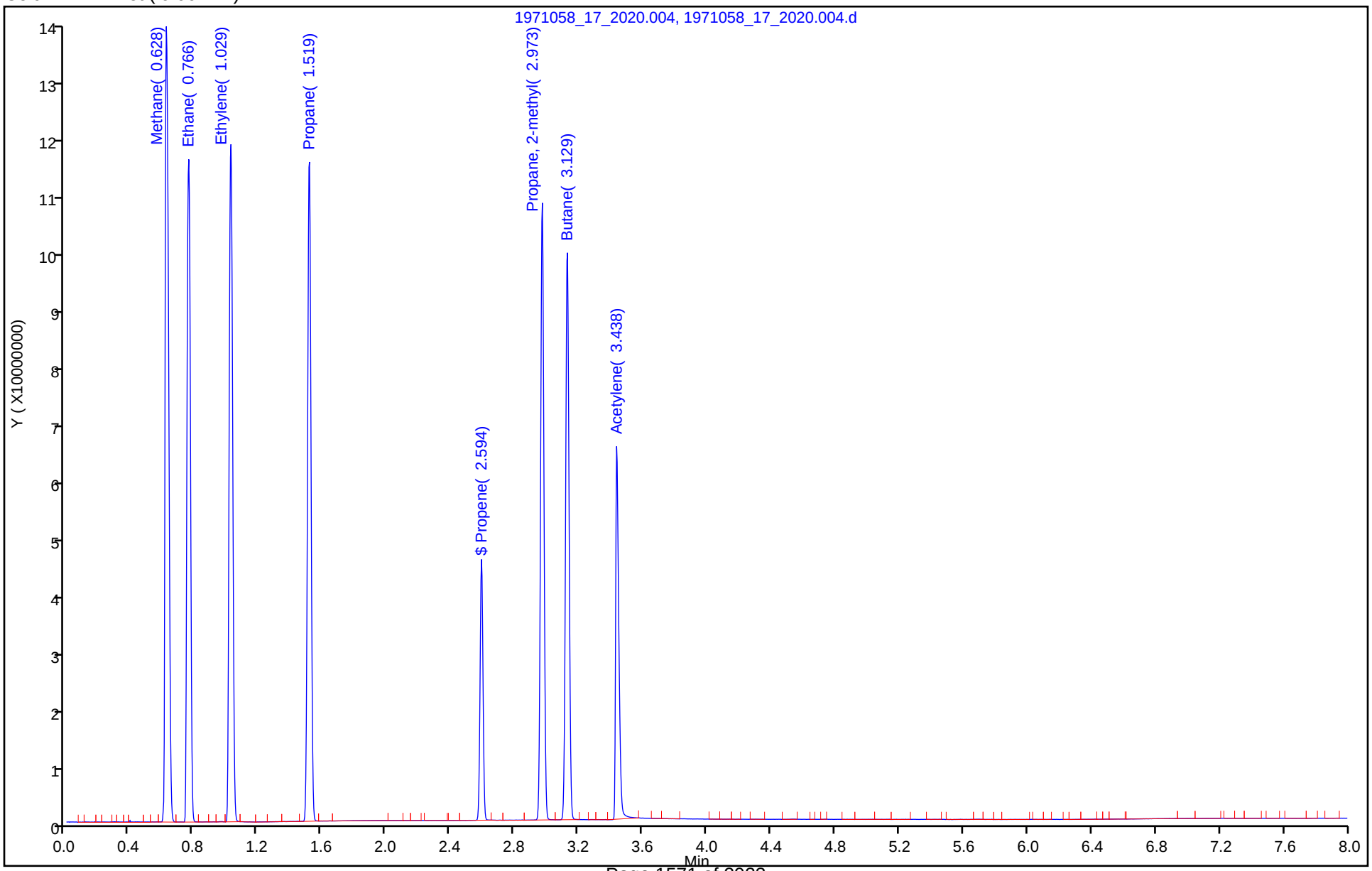
Report Date: 18-Aug-2020 07:27:43 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\1971058_17_2020.004.d

Injection Date:	17-Aug-2020 10:46:00	Instrument ID:	4132	Operator ID:	32136
Lims ID:	CCVRT			Worklist Smp#:	4
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_4132	Limit Group:	GCV - RSK175		

Column: HP Plot (0.00 mm)



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCV 410-33923/15 Calibration Date: 08/17/2020 14:12

Instrument ID: 4132 Calib Start Date: 03/26/2020 11:56

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 03/26/2020 13:29

Lab File ID: 1971058_17_2020.015.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		2257599		59.5	59.4	0.2	15.0
Ethane	Ave	2004268	1875934		55.6	59.4	-6.4	15.0
Ethene	Ave	1974323	1862012		56.9	60.4	-5.7	15.0
Propane	Ave	1945524	1813760		56.7	60.8	-6.8	15.0
Isobutane	Ave	1822068	1741474		57.5	60.1	-4.4	15.0
n-Butane	Ave	1659159	1596962		57.5	59.8	-3.7	15.0
Acetylene	Ave	1188408	1186404		51.2	51.2	-0.2	15.0
Propene	Ave	2166061	2019006		19.6	21.0	-6.8	15.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCV 410-33923/15 Calibration Date: 08/17/2020 14:12

Instrument ID: 4132 Calib Start Date: 03/26/2020 11:56

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 03/26/2020 13:29

Lab File ID: 1971058_17_2020.015.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.63	0.60	0.66
Ethane	0.77	0.74	0.80
Ethene	1.03	1.00	1.06
Propane	1.52	1.49	1.55
Isobutane	2.98	2.94	3.00
n-Butane	3.13	3.10	3.16
Acetylene	3.45	3.41	3.47
Propene	2.60	2.56	2.62

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\1971058_17_2020.015.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 17-Aug-2020 14:12:00 ALS Bottle#: 0 Worklist Smp#: 15
Purge Vol: 1.000 mL Dil. Factor: 1.0000
Sample Info: CCV AAAA MISC 2022999999
Operator ID: 32136 Instrument ID: 4132
Sublist: chrom-RSK_4132*sub3

Method: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\RSK_4132.m
Limit Group: GCV - RSK175
Last Update: 18-Aug-2020 07:27:47 Calib Date: 26-Mar-2020 13:29:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.009.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1048

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
	1 Methane	0.627	0.628	-0.001	134101354H	59.4	59.5	
	2 Ethane	0.765	0.766	-0.001	111430463H	59.4	55.6	
	3 Ethylene	1.030	1.029	0.001	112391069H	60.4	56.9	
	4 Propane	1.519	1.519	0.000	110349170H	60.8	56.7	
$	5 Propene	2.601	2.594	0.007	42399130H	21.0	19.6	
	6 Propane, 2-methyl	2.977	2.973	0.004	104697402H	60.1	57.5	
	7 Butane	3.134	3.129	0.005	95434426H	59.8	57.5	
	8 Acetylene	3.454	3.438	0.016	60791343H	51.2	51.2	

Reagents:

GCS_HSSMS_00002 Amount Added: 60.00 Units: uL
GCS_HSSSS_00002 Amount Added: 60.00 Units: uL

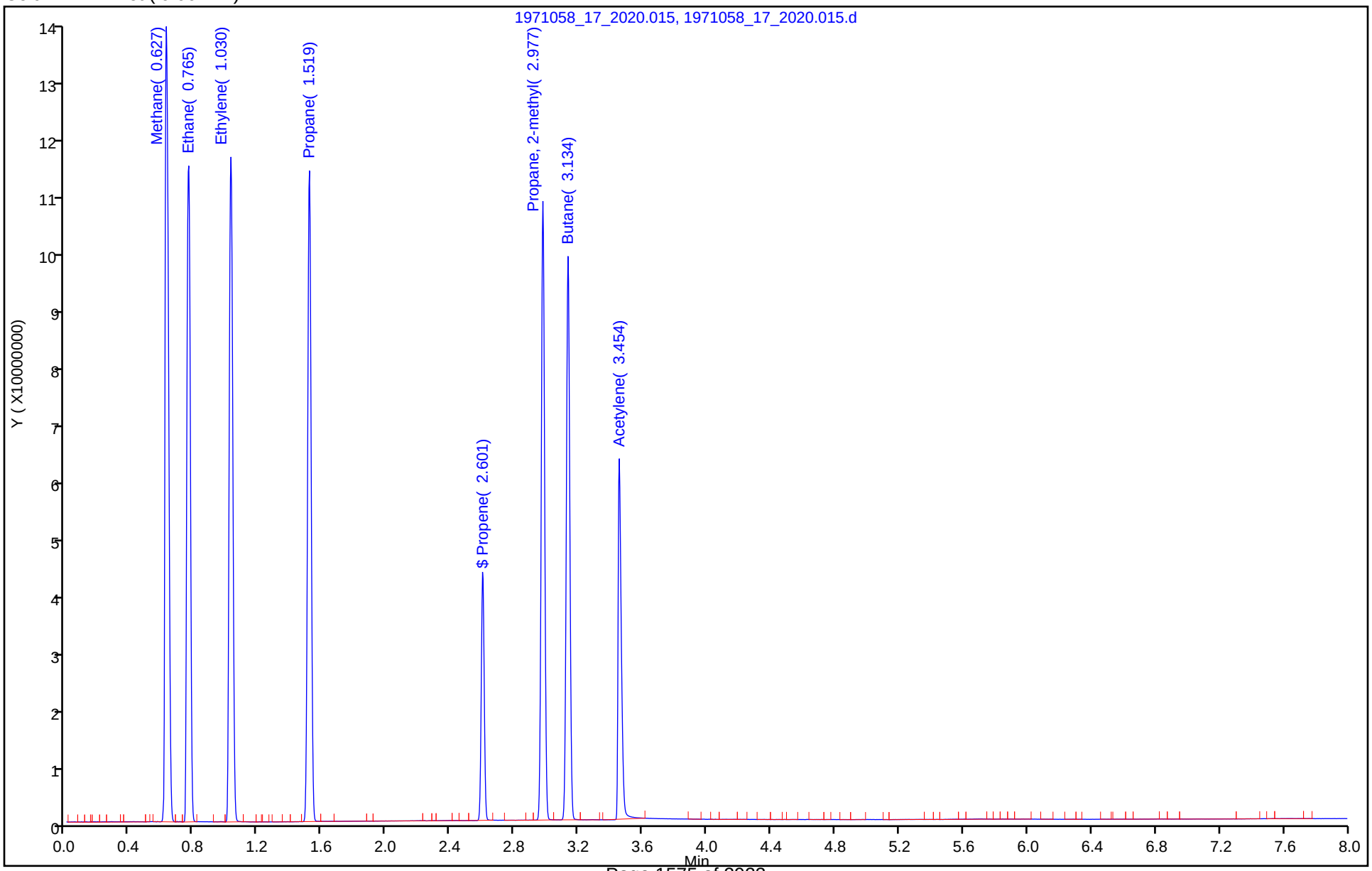
Report Date: 18-Aug-2020 07:27:47 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\1971058_17_2020.015.d

Injection Date:	17-Aug-2020 14:12:00	Instrument ID:	4132	Operator ID:	32136
Lims ID:	CCV			Worklist Smp#:	15
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_4132	Limit Group:	GCV - RSK175		

Column: HP Plot (0.00 mm)



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCV 410-33923/25 Calibration Date: 08/17/2020 17:14

Instrument ID: 4132 Calib Start Date: 03/26/2020 11:56

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 03/26/2020 13:29

Lab File ID: 1971058_17_2020.025.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Methane	Lin1		2138320		56.1	59.4	-5.6	15.0
Ethane	Ave	2004268	1805403		53.5	59.4	-9.9	15.0
Ethene	Ave	1974323	1803804		55.1	60.4	-8.6	15.0
Propane	Ave	1945524	1757761		55.0	60.8	-9.7	15.0
Isobutane	Ave	1822068	1687583		55.7	60.1	-7.4	15.0
n-Butane	Ave	1659159	1517354		54.7	59.8	-8.5	15.0
Acetylene	Ave	1188408	1178458		50.8	51.2	-0.8	15.0
Propene	Ave	2166061	1992508		19.3	21.0	-8.0	15.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCV 410-33923/25 Calibration Date: 08/17/2020 17:14

Instrument ID: 4132 Calib Start Date: 03/26/2020 11:56

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 03/26/2020 13:29

Lab File ID: 1971058_17_2020.025.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
Methane	0.63	0.60	0.66
Ethane	0.77	0.74	0.80
Ethene	1.04	1.00	1.06
Propane	1.53	1.49	1.55
Isobutane	2.98	2.94	3.00
n-Butane	3.14	3.10	3.16
Acetylene	3.46	3.41	3.47
Propene	2.61	2.56	2.62

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\1971058_17_2020.025.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 17-Aug-2020 17:14:00 ALS Bottle#: 0 Worklist Smp#: 25
Purge Vol: 1.000 mL Dil. Factor: 1.0000
Sample Info: CCV AAAA MISC 2022999999
Operator ID: 32136 Instrument ID: 4132
Sublist: chrom-RSK_4132*sub3

Method: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\RSK_4132.m
Limit Group: GCV - RSK175
Last Update: 18-Aug-2020 07:27:50 Calib Date: 26-Mar-2020 13:29:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.009.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1048

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
	1 Methane	0.626	0.628	-0.002	127016231H	59.4	56.1	
	2 Ethane	0.766	0.766	0.000	107240954H	59.4	53.5	
	3 Ethylene	1.036	1.029	0.007	108877592H	60.4	55.1	
	4 Propane	1.526	1.519	0.007	106942151H	60.8	55.0	
$	5 Propene	2.606	2.594	0.012	41842669H	21.0	19.3	
	6 Propane, 2-methyl	2.980	2.973	0.007	101457513H	60.1	55.7	
	7 Butane	3.137	3.129	0.008	90677092H	59.8	54.7	
	8 Acetylene	3.458	3.438	0.020	60384174H	51.2	50.8	

Reagents:

GCS_HSSMS_00002 Amount Added: 60.00 Units: uL
GCS_HSSSS_00002 Amount Added: 60.00 Units: uL

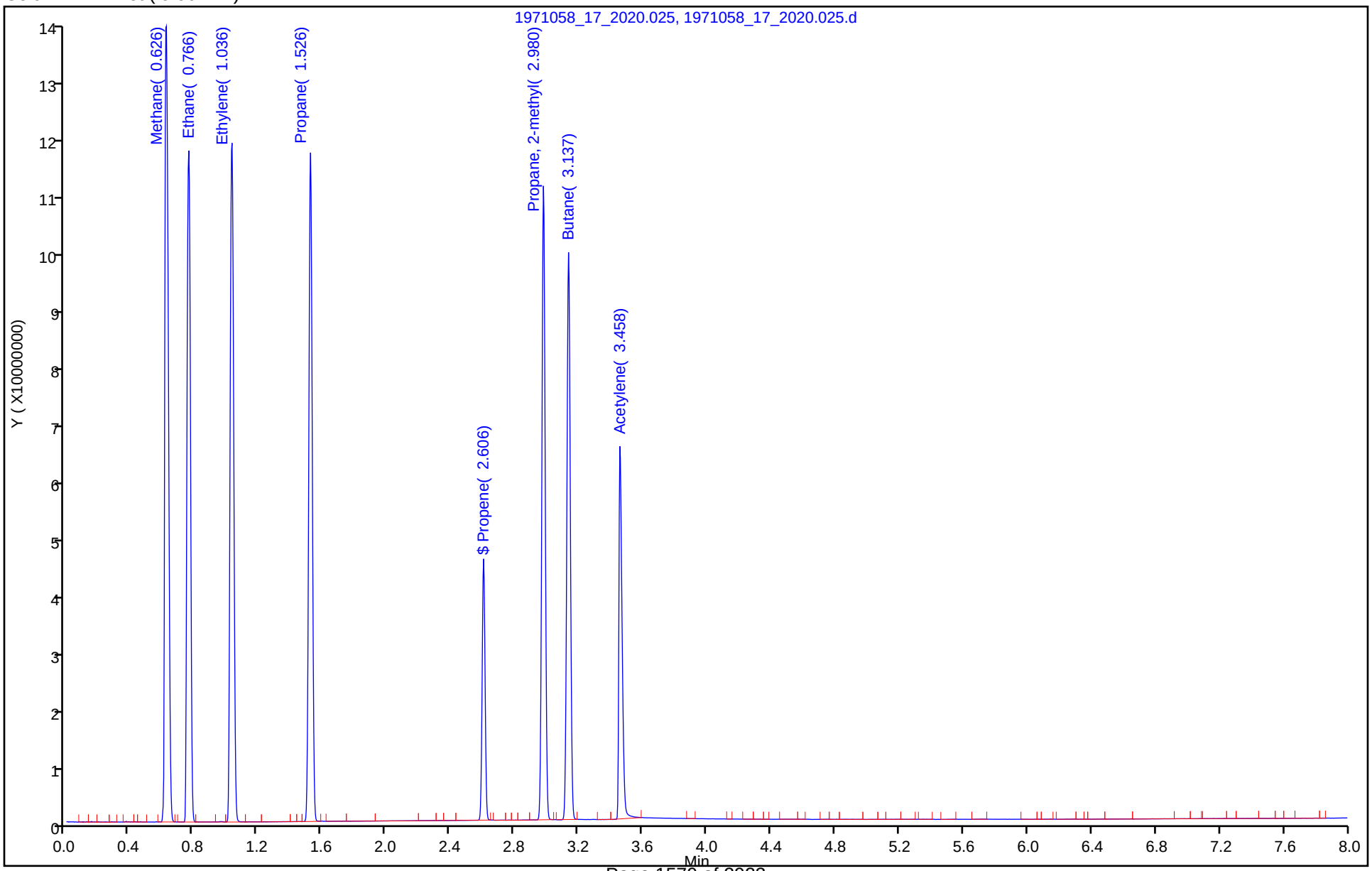
Report Date: 18-Aug-2020 07:27:50 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\1971058_17_2020.025.d

Injection Date:	17-Aug-2020 17:14:00	Instrument ID:	4132	Operator ID:	32136
Lims ID:	CCV			Worklist Smp#:	25
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_4132	Limit Group:	GCV - RSK175		

Column: HP Plot (0.00 mm)



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 410-33890/1-A

Matrix: Water Lab File ID: 1971058_17_2020.006.d

Analysis Method: RSK-175 Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 08/17/2020 11:22

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: HP Plot ID: 0.53(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 33923 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	ND		5.0	3.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
115-07-1	Propene	97		28-140

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\1971058_17_2020.006.d
Lims ID: MB 410-33890/1-A
Client ID:
Sample Type: MB
Inject. Date: 17-Aug-2020 11:22:00 ALS Bottle#: 0 Worklist Smp#: 6
Purge Vol: 1.000 mL Dil. Factor: 1.0000
Sample Info: MB AAAA MISC 2022999999
Operator ID: 32136 Instrument ID: 4132

Method: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\RSK_4132.m
Limit Group: GCV - RSK175
Last Update: 18-Aug-2020 07:27:42 Calib Date: 26-Mar-2020 13:29:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.009.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1048

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1	Methane	0.626	0.628	-0.002	8568602H		-0.6366	
2	Ethane	0.767	0.766	0.001	43921H		0.0219	
3	Ethylene	1.035	1.029	0.006	26042H		0.0132	
4	Propane	1.517	1.519	-0.002	86581H		0.0445	
$ 5	Propene	2.596	2.594	0.002	44066974H	21.0	20.3	
6	Propane, 2-methyl		2.973				ND	
7	Butane	3.103	3.129	-0.027	32162H		0.0194	
8	Acetylene		3.438				ND	

Reagents:

GCS_HSSSS_00002 Amount Added: 60.00 Units: uL

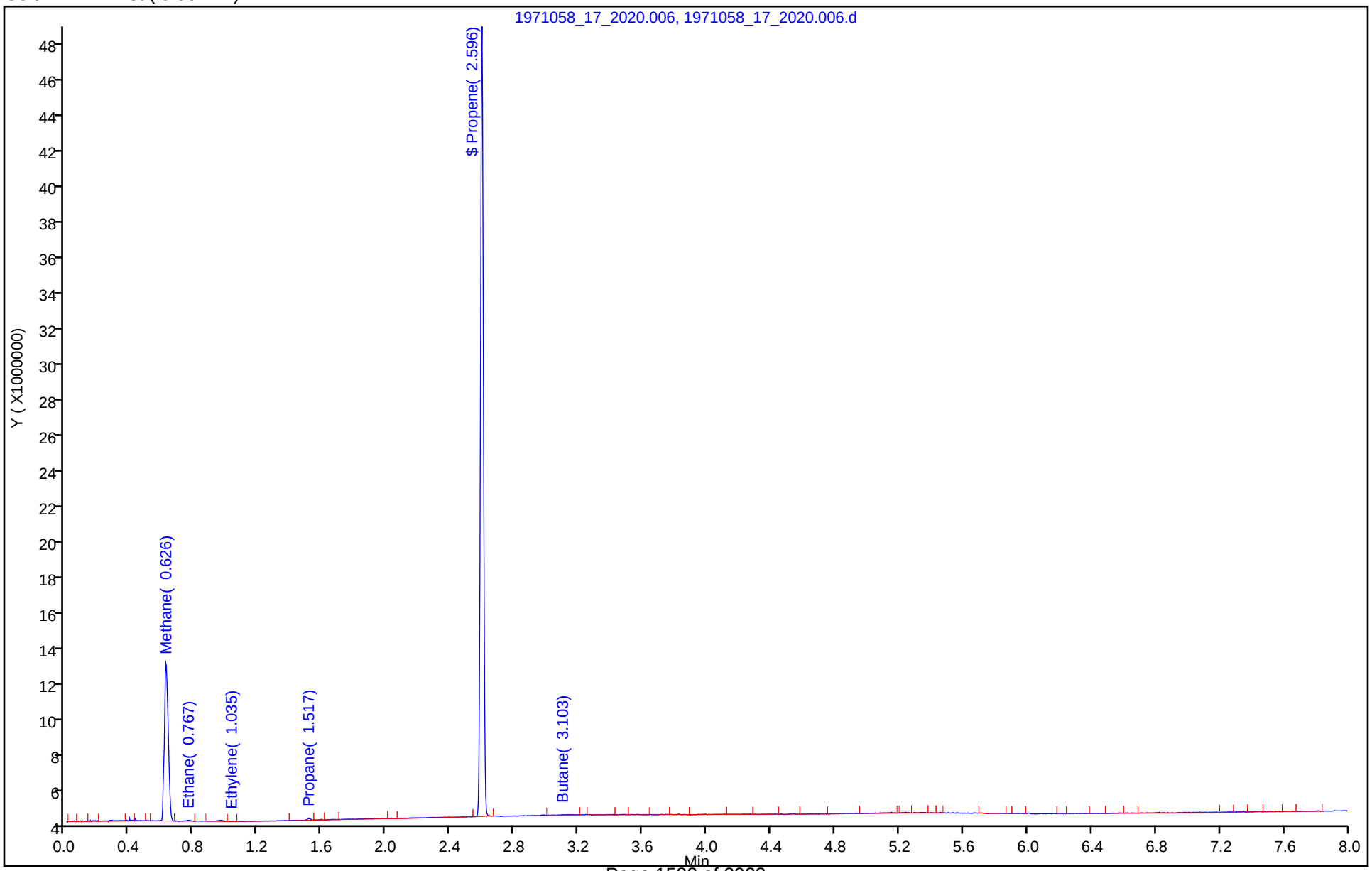
Report Date: 18-Aug-2020 07:27:44 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\1971058_17_2020.006.d

Injection Date:	17-Aug-2020 11:22:00	Instrument ID:	4132	Operator ID:	32136
Lims ID:	MB 410-33890/1-A			Worklist Smp#:	6
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_4132	Limit Group:	GCV - RSK175		

Column: HP Plot (0.00 mm)



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\1971058_17_2020.006.d
Lims ID: MB 410-33890/1-A
Client ID:
Sample Type: MB
Inject. Date: 17-Aug-2020 11:22:00 ALS Bottle#: 0 Worklist Smp#: 6
Purge Vol: 1.000 mL Dil. Factor: 1.0000
Sample Info: MB AAAA MISC 2022999999
Operator ID: 32136 Instrument ID: 4132

Method: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\RSK_4132.m
Limit Group: GCV - RSK175
Last Update: 18-Aug-2020 07:27:42 Calib Date: 26-Mar-2020 13:29:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.009.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1048

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Propene	21.0	20.3	96.88

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 410-33890/2-A

Matrix: Water Lab File ID: 1971058_17_2020.007.d

Analysis Method: RSK-175 Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 08/17/2020 11:40

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: HP Plot ID: 0.53(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 33923 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	58.3		5.0	3.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
115-07-1	Propene	92		28-140

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\1971058_17_2020.007.d
Lims ID: LCS 410-33890/2-A
Client ID:
Sample Type: LCS
Inject. Date: 17-Aug-2020 11:40:00 ALS Bottle#: 0 Worklist Smp#: 7
Purge Vol: 1.000 mL Dil. Factor: 1.0000
Sample Info: LCS AAAA MISC 2022999999
Operator ID: 32136 Instrument ID: 4132

Method: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\RSK_4132.m
Limit Group: GCV - RSK175
Last Update: 18-Aug-2020 07:27:42 Calib Date: 26-Mar-2020 13:29:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.009.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1048

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
	1 Methane	0.627	0.628	-0.001	131697470H	59.4	58.3	
	2 Ethane	0.766	0.766	0.000	109654564H	59.4	54.7	
	3 Ethylene	1.033	1.029	0.004	111812378H	60.4	56.6	
	4 Propane	1.523	1.519	0.004	108816925H	60.8	55.9	
$	5 Propene	2.600	2.594	0.006	42032803H	21.0	19.4	
	6 Propane, 2-methyl	2.977	2.973	0.004	102324783H	60.1	56.2	
	7 Butane	3.133	3.129	0.004	92708307H	59.8	55.9	
	8 Acetylene	3.448	3.438	0.010	61541872H	51.2	51.8	

Reagents:

GCS_HSSMS_00002 Amount Added: 60.00 Units: uL
GCS_HSSSS_00002 Amount Added: 60.00 Units: uL

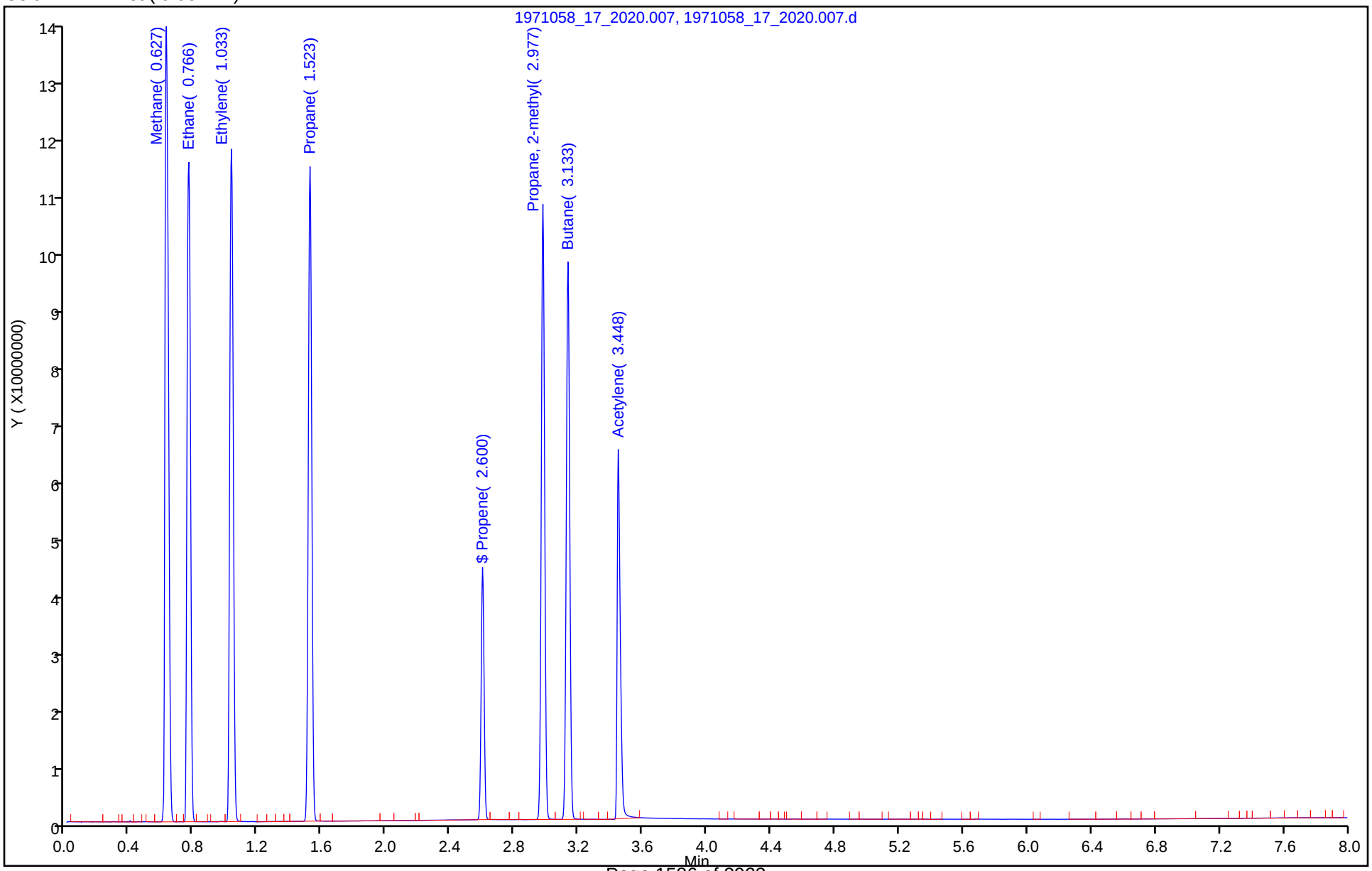
Report Date: 18-Aug-2020 07:27:44 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\1971058_17_2020.007.d

Injection Date:	17-Aug-2020 11:40:00	Instrument ID:	4132	Operator ID:	32136
Lims ID:	LCS 410-33890/2-A			Worklist Smp#:	7
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_4132	Limit Group:	GCV - RSK175		

Column: HP Plot (0.00 mm)



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\1971058_17_2020.007.d
Lims ID: LCS 410-33890/2-A
Client ID:
Sample Type: LCS
Inject. Date: 17-Aug-2020 11:40:00 ALS Bottle#: 0 Worklist Smp#: 7
Purge Vol: 1.000 mL Dil. Factor: 1.0000
Sample Info: LCS AAAA MISC 2022999999
Operator ID: 32136 Instrument ID: 4132

Method: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\RSK_4132.m
Limit Group: GCV - RSK175
Last Update: 18-Aug-2020 07:27:42 Calib Date: 26-Mar-2020 13:29:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.009.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1048

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Propene	21.0	19.4	92.41

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: LCSD 410-33890/3-A

Matrix: Water Lab File ID: 1971058_17_2020.008.d

Analysis Method: RSK-175 Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 08/17/2020 11:58

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: HP Plot ID: 0.53(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 33923 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
74-82-8	Methane	60.6		5.0	3.0

CAS NO.	SURROGATE	%REC	Q	LIMITS
115-07-1	Propene	97		28-140

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\1971058_17_2020.008.d
Lims ID: LCSD 410-33890/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 17-Aug-2020 11:58:00 ALS Bottle#: 0 Worklist Smp#: 8
Purge Vol: 1.000 mL Dil. Factor: 1.0000
Sample Info: LCSD AAAA MISC 2022999999
Operator ID: 32136 Instrument ID: 4132

Method: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\RSK_4132.m
Limit Group: GCV - RSK175
Last Update: 18-Aug-2020 07:27:42 Calib Date: 26-Mar-2020 13:29:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.009.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1048

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
	1 Methane	0.625	0.628	-0.003	136470209H	59.4	60.6	
	2 Ethane	0.766	0.766	0.000	113367709H	59.4	56.6	
	3 Ethylene	1.033	1.029	0.004	115335759H	60.4	58.4	
	4 Propane	1.524	1.519	0.005	112227184H	60.8	57.7	
$	5 Propene	2.601	2.594	0.007	44335924H	21.0	20.5	
	6 Propane, 2-methyl	2.977	2.973	0.004	106090264H	60.1	58.2	
	7 Butane	3.133	3.129	0.004	95527849H	59.8	57.6	
	8 Acetylene	3.449	3.438	0.011	61418673H	51.2	51.7	

Reagents:

GCS_HSSMS_00002 Amount Added: 60.00 Units: uL
GCS_HSSSS_00002 Amount Added: 60.00 Units: uL

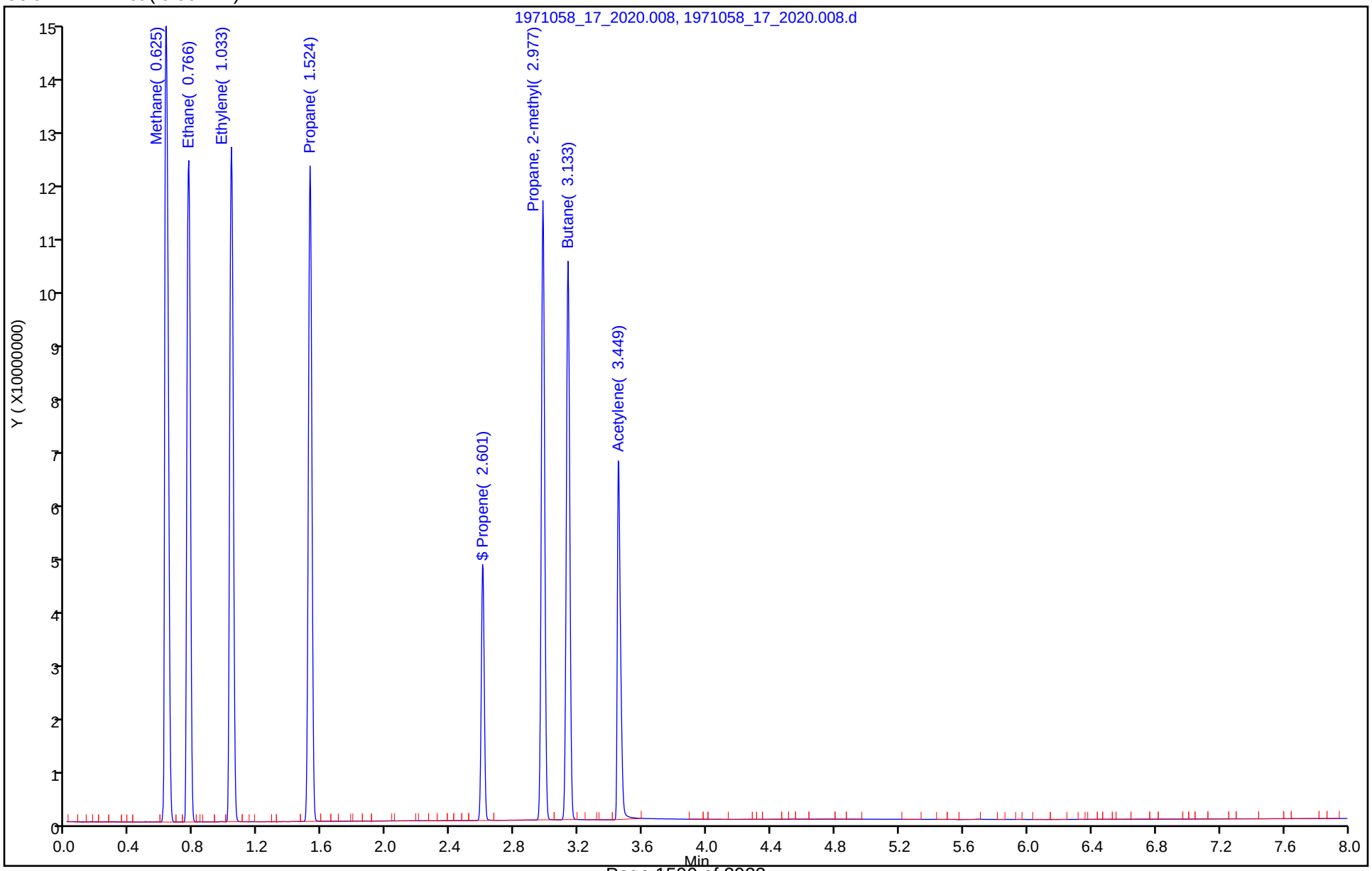
Report Date: 18-Aug-2020 07:27:45 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\1971058_17_2020.008.d

Injection Date:	17-Aug-2020 11:58:00	Instrument ID:	4132	Operator ID:	32136
Lims ID:	LCSD 410-33890/3-A			Worklist Smp#:	8
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_4132	Limit Group:	GCV - RSK175		

Column: HP Plot (0.00 mm)



Eurofins Lancaster Laboratories Env, LLC

Recovery Report

Data File: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\1971058_17_2020.008.d
Lims ID: LCSD 410-33890/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 17-Aug-2020 11:58:00 ALS Bottle#: 0 Worklist Smp#: 8
Purge Vol: 1.000 mL Dil. Factor: 1.0000
Sample Info: LCSD AAAA MISC 2022999999
Operator ID: 32136 Instrument ID: 4132

Method: \\chromfs\Lancaster\ChromData\4132\20200817-8226.b\RSK_4132.m
Limit Group: GCV - RSK175
Last Update: 18-Aug-2020 07:27:42 Calib Date: 26-Mar-2020 13:29:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\4132\20200413-1910.b\19710520086001.009.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1048

Compound	Amount Added	Amount Recovered	% Rec.
$ 5 Propene	21.0	20.5	97.47

GC VOA ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 4132 Start Date: 03/26/2020 11:38

Analysis Batch Number: 6933 End Date: 03/26/2020 14:44

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
PIBLK 410-6933/3		03/26/2020 11:38	1		HP Plot 0.53(mm)
IC 410-6933/4		03/26/2020 11:56	1	19710520086001.004.d	HP Plot 0.53(mm)
IC 410-6933/5		03/26/2020 12:14	1	19710520086001.005.d	HP Plot 0.53(mm)
ICRT 410-6933/6		03/26/2020 12:33	1	19710520086001.006.d	HP Plot 0.53(mm)
IC 410-6933/7		03/26/2020 12:52	1	19710520086001.007.d	HP Plot 0.53(mm)
IC 410-6933/8		03/26/2020 13:11	1	19710520086001.008.d	HP Plot 0.53(mm)
IC 410-6933/9		03/26/2020 13:29	1	19710520086001.009.d	HP Plot 0.53(mm)
PIBLK 410-6933/10		03/26/2020 13:47	1		HP Plot 0.53(mm)
ICVL 410-6933/11		03/26/2020 14:06	1		HP Plot 0.53(mm)
ICVL 410-6933/12		03/26/2020 14:25	1		HP Plot 0.53(mm)
ICV 410-6933/13		03/26/2020 14:44	1	19710520086001.013.d	HP Plot 0.53(mm)

GC VOA ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 4132 Start Date: 08/17/2020 10:46

Analysis Batch Number: 33923 End Date: 08/17/2020 23:18

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 410-33923/4		08/17/2020 10:46	1	1971058_17_2020.004.d	HP Plot 0.53(mm)
ICVL 410-33923/5		08/17/2020 11:03	1		HP Plot 0.53(mm)
MB 410-33890/1-A		08/17/2020 11:22	1	1971058_17_2020.006.d	HP Plot 0.53(mm)
LCS 410-33890/2-A		08/17/2020 11:40	1	1971058_17_2020.007.d	HP Plot 0.53(mm)
LCSD 410-33890/3-A		08/17/2020 11:58	1	1971058_17_2020.008.d	HP Plot 0.53(mm)
ZZZZZ		08/17/2020 12:17	20		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 12:35	200		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 12:53	200		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 13:12	20		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 13:30	5		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 13:49	5		HP Plot 0.53(mm)
CCV 410-33923/15		08/17/2020 14:12	1	1971058_17_2020.015.d	HP Plot 0.53(mm)
ZZZZZ		08/17/2020 14:30	20		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 14:49	5		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 15:07	1		HP Plot 0.53(mm)
410-10696-1	MW-01	08/17/2020 15:25	50	1971058_17_2020.019.d	HP Plot 0.53(mm)
410-10696-3	MW-04	08/17/2020 15:43	100	1971058_17_2020.020.d	HP Plot 0.53(mm)
410-10696-6	WPA-GW-02	08/17/2020 16:01	20	1971058_17_2020.021.d	HP Plot 0.53(mm)
ZZZZZ		08/17/2020 16:20	5		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 16:38	100		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 16:56	50		HP Plot 0.53(mm)
CCV 410-33923/25		08/17/2020 17:14	1	1971058_17_2020.025.d	HP Plot 0.53(mm)
ZZZZZ		08/17/2020 17:32	1		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 17:51	1		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 18:09	1		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 18:27	50		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 18:45	50		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 19:04	50		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 19:22	100		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 19:40	100		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 19:58	20		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 20:16	100		HP Plot 0.53(mm)
CCV 410-33923/36		08/17/2020 20:34	1		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 20:53	5		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 21:11	50		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 21:29	5		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 21:47	10		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 22:06	5		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 22:24	50		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 22:42	5		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 23:00	1		HP Plot 0.53(mm)

RSK-175

GC VOA ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 4132 Start Date: 08/17/2020 10:46

Analysis Batch Number: 33923 End Date: 08/17/2020 23:18

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 410-33923/45		08/17/2020 23:18	1		HP Plot 0.53(mm)

RSK-175

GC VOA BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 33890 Batch Start Date: 08/17/20 08:59 Batch Analyst: Lane, Ester K

Batch Method: RSK-175 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	Headspace	AnalysisComment	
MB 410-33890/1		RSK-175, RSK-175			5 mL	5 mL			
LCS 410-33890/2		RSK-175, RSK-175			5 mL	5 mL			
LCSD 410-33890/3		RSK-175, RSK-175			5 mL	5 mL			
410-10696-K-1	MW-01	RSK-175, RSK-175	T	<2 SU	5 mL	5 mL	no	x50	
410-10696-K-3	MW-04	RSK-175, RSK-175	T	<2 SU	5 mL	5 mL	no	x100	
410-10696-K-6	WPA-GW-02	RSK-175, RSK-175	T	<2 SU	5 mL	5 mL	no	x20	

Batch Notes	
Pipette/Syringe/Dispenser ID	07105
Reagent Water ID	In House

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Method RSK-175 CO2

Dissolved Gases (GC) by Method RSK_175_CO2

FORM III
GC VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 20CO2X8_17_2020.006.d

Lab ID: LCS 410-33917/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
CO2	35800	38200	107	72-116	

Column to be used to flag recovery and RPD values

FORM III RSK-175

FORM IV
GC VOA METHOD BLANK SUMMARY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab File ID: 20CO2X8_17_2020.005.d Lab Sample ID: MB 410-33917/1-A

Matrix: Water Heated Purge:(Y/N) N

Instrument ID: 3145 Date Analyzed: 08/17/2020 11:21

GC Column: HP Plot ID: 0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 410-33917/2-A	20CO2X8_17_2020.006.d	08/17/2020 11:31
MW-01	410-10696-1	20CO2X8_17_2020.010.d	08/17/2020 12:13
MW-04	410-10696-3	20CO2X8_17_2020.011.d	08/17/2020 12:23
WPA-GW-02	410-10696-6	20CO2X8_17_2020.012.d	08/17/2020 12:33

FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-01 Lab Sample ID: 410-10696-1

Matrix: Water Lab File ID: 20CO2X8_17_2020.010.d

Analysis Method: RSK-175 Date Collected: 08/11/2020 15:45

Sample wt/vol: 5(mL) Date Analyzed: 08/17/2020 12:13

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: HP Plot ID: 0.53(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 33932 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-38-9	CO2	130000		12000	2600

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\3145\20200817-8228.b\20CO2X8_17_2020.010.d
Lims ID: 410-10696-L-1-A
Client ID: MW-01
Sample Type: Client
Inject. Date: 17-Aug-2020 12:13:00 ALS Bottle#: 0 Worklist Smp#: 10
Purge Vol: 1.000 mL Dil. Factor: 1.0000
Sample Info: 1 AAAA MISC 2022999999
Operator ID: 32136 Instrument ID: 3145

Method: \\chromfs\Lancaster\ChromData\3145\20200817-8228.b\RSK_3145A.m
Limit Group: GCV - RSK175 CO2
Last Update: 18-Aug-2020 07:26:14 Calib Date: 18-Feb-2020 11:58:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.007.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1048

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.472	1.491	-0.019	371665545	128641	H

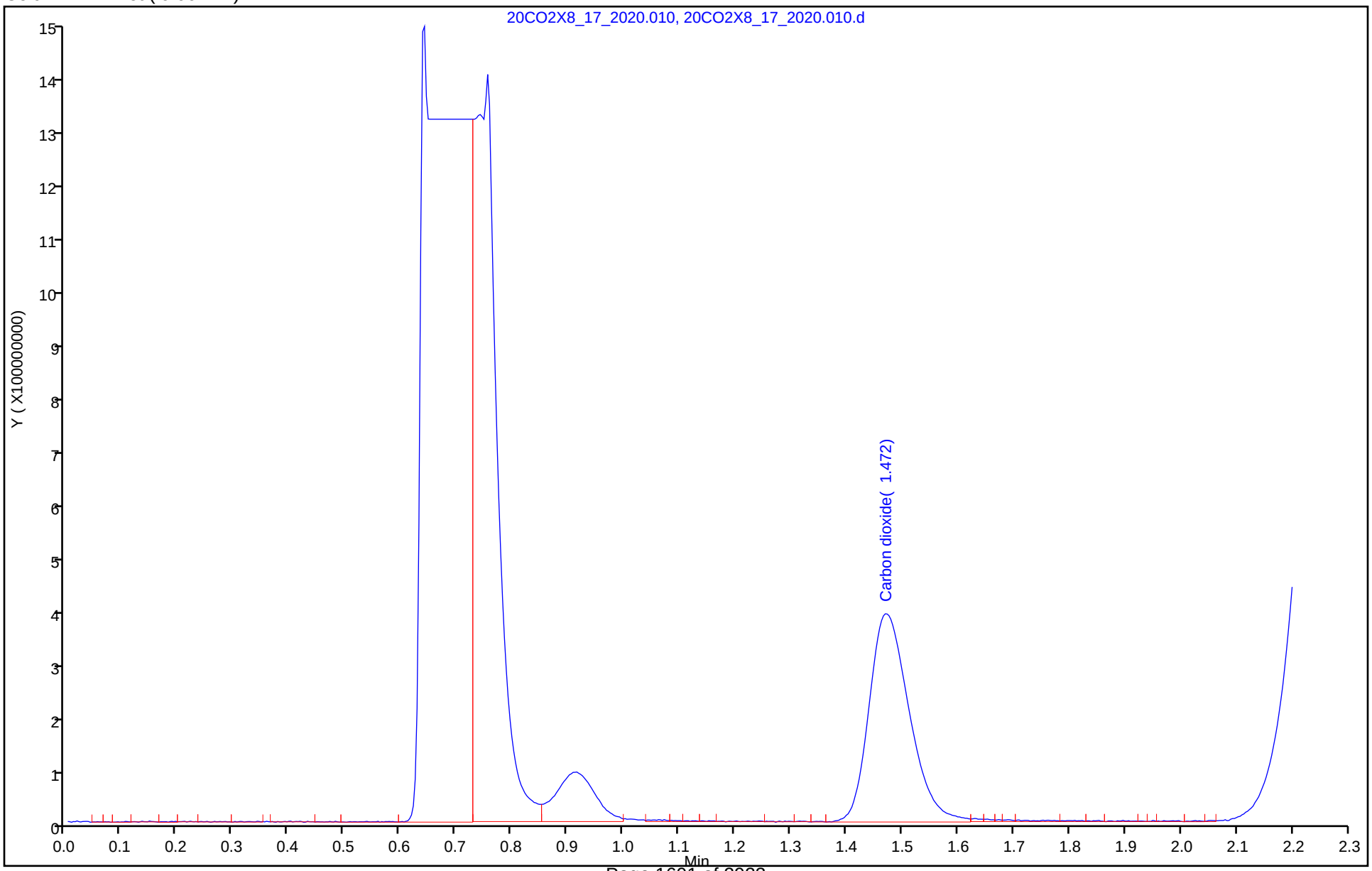
Report Date: 18-Aug-2020 07:26:16 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\3145\20200817-8228.b\20CO2X8_17_2020.010.d

Injection Date:	17-Aug-2020 12:13:00	Instrument ID:	3145	Operator ID:	32136
Lims ID:	410-10696-L-1-A	Lab Sample ID:	410-10696-1	Worklist Smp#:	10
Client ID:	MW-01				
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_3145A	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-04 Lab Sample ID: 410-10696-3

Matrix: Water Lab File ID: 20CO2X8_17_2020.011.d

Analysis Method: RSK-175 Date Collected: 08/11/2020 13:40

Sample wt/vol: 5(mL) Date Analyzed: 08/17/2020 12:23

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: HP Plot ID: 0.53(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 33932 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-38-9	CO2	110000		12000	2600

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\3145\20200817-8228.b\20CO2X8_17_2020.011.d
Lims ID: 410-10696-L-3-A
Client ID: MW-04
Sample Type: Client
Inject. Date: 17-Aug-2020 12:23:00 ALS Bottle#: 0 Worklist Smp#: 11
Purge Vol: 1.000 mL Dil. Factor: 1.0000
Sample Info: 3 AAAA MISC 2022999999
Operator ID: 32136 Instrument ID: 3145

Method: \\chromfs\Lancaster\ChromData\3145\20200817-8228.b\RSK_3145A.m
Limit Group: GCV - RSK175 CO2
Last Update: 18-Aug-2020 07:26:14 Calib Date: 18-Feb-2020 11:58:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.007.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1048

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.471	1.491	-0.020	309911222	H 107267	

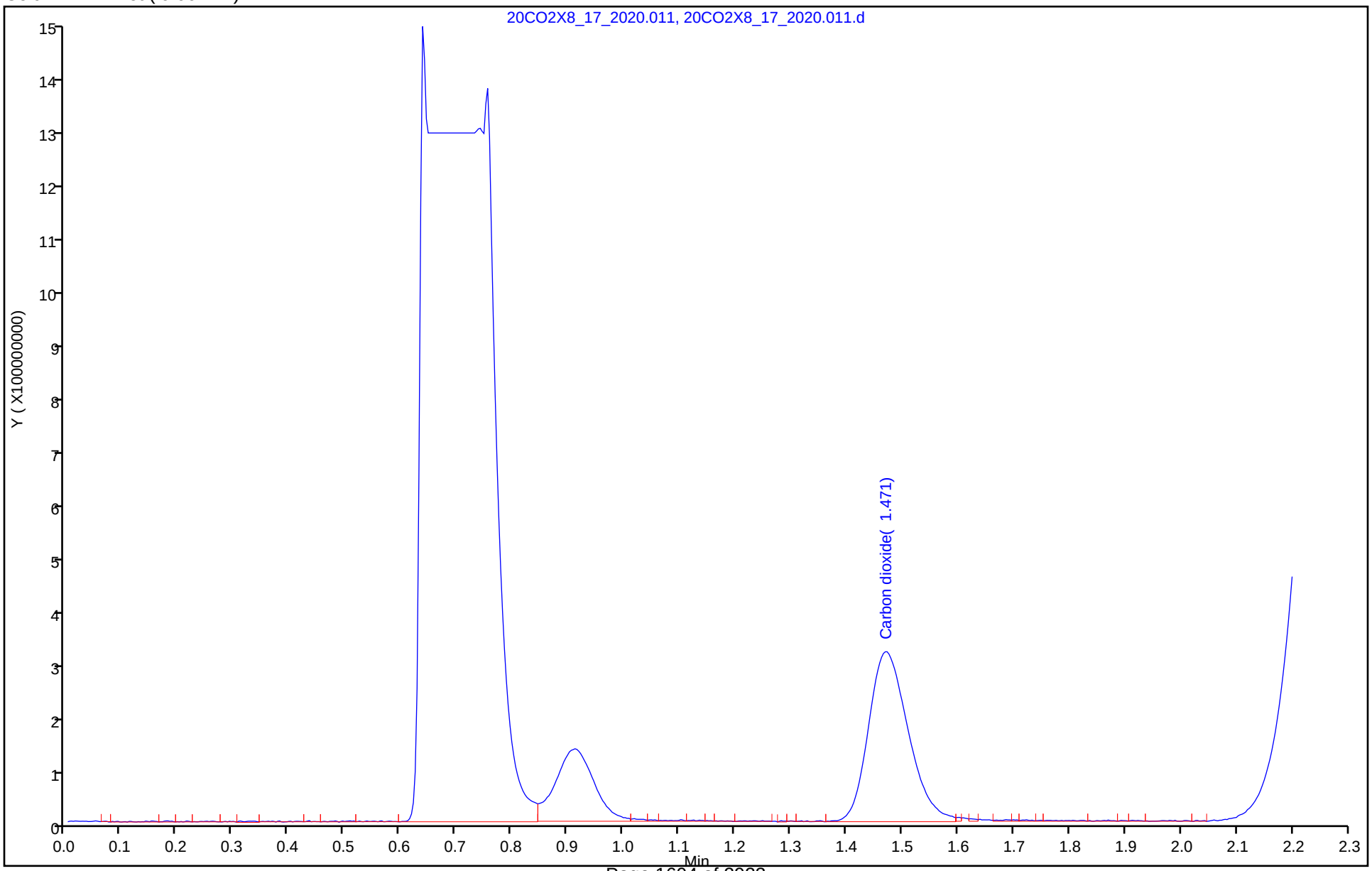
Report Date: 18-Aug-2020 07:26:16 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\3145\20200817-8228.b\20CO2X8_17_2020.011.d

Injection Date:	17-Aug-2020 12:23:00	Instrument ID:	3145	Operator ID:	32136
Lims ID:	410-10696-L-3-A	Lab Sample ID:	410-10696-3	Worklist Smp#:	11
Client ID:	MW-04				
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_3145A	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: WPA-GW-02 Lab Sample ID: 410-10696-6

Matrix: Water Lab File ID: 20CO2X8_17_2020.012.d

Analysis Method: RSK-175 Date Collected: 08/11/2020 14:15

Sample wt/vol: 5(mL) Date Analyzed: 08/17/2020 12:33

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: HP Plot ID: 0.53(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 33932 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-38-9	CO2	30000		12000	2600

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\3145\20200817-8228.b\20CO2X8_17_2020.012.d
Lims ID: 410-10696-L-6-A
Client ID: WPA-GW-02
Sample Type: Client
Inject. Date: 17-Aug-2020 12:33:00 ALS Bottle#: 0 Worklist Smp#: 12
Purge Vol: 1.000 mL Dil. Factor: 1.0000
Sample Info: 6 AAAA MISC 2022999999
Operator ID: 32136 Instrument ID: 3145

Method: \\chromfs\Lancaster\ChromData\3145\20200817-8228.b\RSK_3145A.m
Limit Group: GCV - RSK175 CO2
Last Update: 18-Aug-2020 07:26:14 Calib Date: 18-Feb-2020 11:58:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.007.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1048

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.468	1.491	-0.023	85548492H	29610	

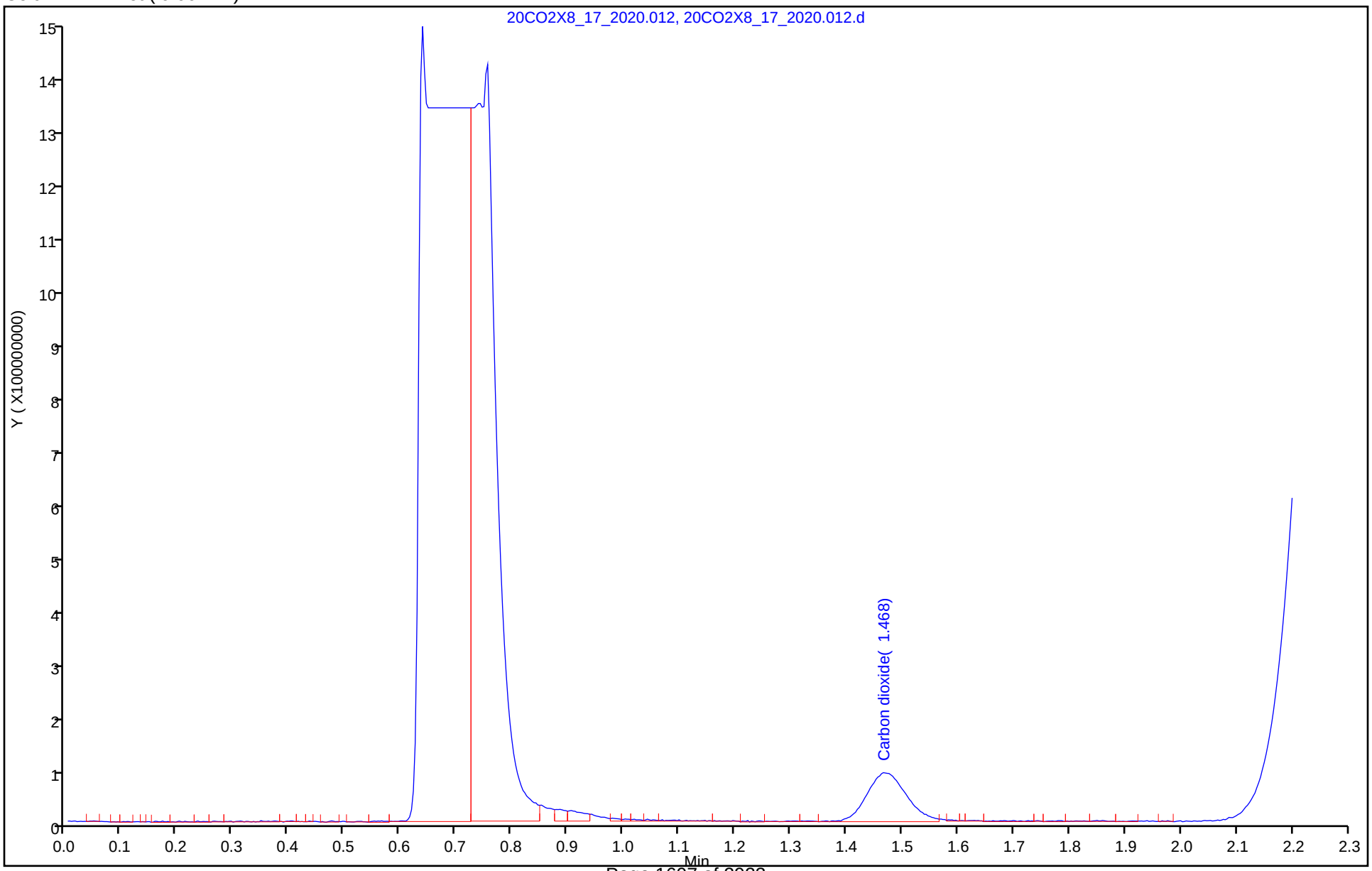
Report Date: 18-Aug-2020 07:26:17 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\3145\20200817-8228.b\20CO2X8_17_2020.012.d

Injection Date:	17-Aug-2020 12:33:00	Instrument ID:	3145	Operator ID:	32136
Lims ID:	410-10696-L-6-A	Lab Sample ID:	410-10696-6	Worklist Smp#:	12
Client ID:	WPA-GW-02				
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_3145A	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 5414

SDG No.:

Instrument ID: 3145 GC Column: HP Plot ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/18/2020 11:08 Calibration End Date: 02/18/2020 11:58 Calibration ID: 3737

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-5414/2	20CO2X20049001.002.d
Level 2	IC 410-5414/3	20CO2X20049001.003.d
Level 3	ICRT 410-5414/4	20CO2X20049001.004.d
Level 4	IC 410-5414/5	20CO2X20049001.005.d
Level 5	IC 410-5414/6	20CO2X20049001.006.d
Level 6	IC 410-5414/7	20CO2X20049001.007.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6					RT WINDOW	AVG RT
CO2	1.494	1.493	1.486	1.482	1.474	1.459					1.456 - 1.516	1.481

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 5414

SDG No.:

Instrument ID: 3145 GC Column: HP Plot ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/18/2020 11:08 Calibration End Date: 02/18/2020 11:58 Calibration ID: 3737

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-5414/2	20CO2X20049001.002.d
Level 2	IC 410-5414/3	20CO2X20049001.003.d
Level 3	ICRT 410-5414/4	20CO2X20049001.004.d
Level 4	IC 410-5414/5	20CO2X20049001.005.d
Level 5	IC 410-5414/6	20CO2X20049001.006.d
Level 6	IC 410-5414/7	20CO2X20049001.007.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3	LVL 4		B	M1	M2								
CO2	2243.5 3157.6	2746.7 2930.1	3060.2	3196.9	Ave		2889.16393				12.3		20.0			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
GC VOA BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 5414

SDG No.:

Instrument ID: 3145 GC Column: HP Plot ID: 0.53(mm) Heated Purge: (Y/N) N

Calibration Start Date: 02/18/2020 11:08 Calibration End Date: 02/18/2020 11:58 Calibration ID: 3737

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-5414/2	20CO2X20049001.002.d
Level 2	IC 410-5414/3	20CO2X20049001.003.d
Level 3	ICRT 410-5414/4	20CO2X20049001.004.d
Level 4	IC 410-5414/5	20CO2X20049001.005.d
Level 5	IC 410-5414/6	20CO2X20049001.006.d
Level 6	IC 410-5414/7	20CO2X20049001.007.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/L)				
		LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
CO2	Ave	24108693 1049556170	59032411	109615505	286278476	565534684	10746 358200	21492	35820	89550	179100

Curve Type Legend:
Ave = Average by Height

Lancaster, PA
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.002.d				
Lims ID:	ic 1				
Client ID:					
Sample Type:	IC		Calib Level:	1	
Inject. Date:	18-Feb-2020 11:08:00		ALS Bottle#:	0	Worklist Smp#: 2
Injection Vol:	1.0 ul		Dil. Factor:	1.0000	
Sample Info:	CO2_12032F	AACO2_1AA	ICAL 204899999		
Operator ID:	32136		Instrument ID:	3145	
Sublist:	chrom-RSK_3145A*sub2				
Method:	\\chromfs\Lancaster\ChromData\3145\20200220-1555.b\RSK_3145A.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	01-May-2020 11:25:08		Calib Date:	18-Feb-2020 11:58:00	
Integrator:	Genie				
Quant Method:	External Standard		Quant By:	Initial Calibration	
Last ICal File:	\\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.007.d				
Column 1 :	HP Plot (0.00 mm)			Det: 0FIDA	
Process Host:	CTX1025				
First Level Reviewer: kennedyj			Date:	30-Apr-2020 12:36:04	

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.494	1.486	0.008	24108693H	10746	8344.5	

Reagents:

GCV_CO2MS_00001 Amount Added: 30.00 Units: uL

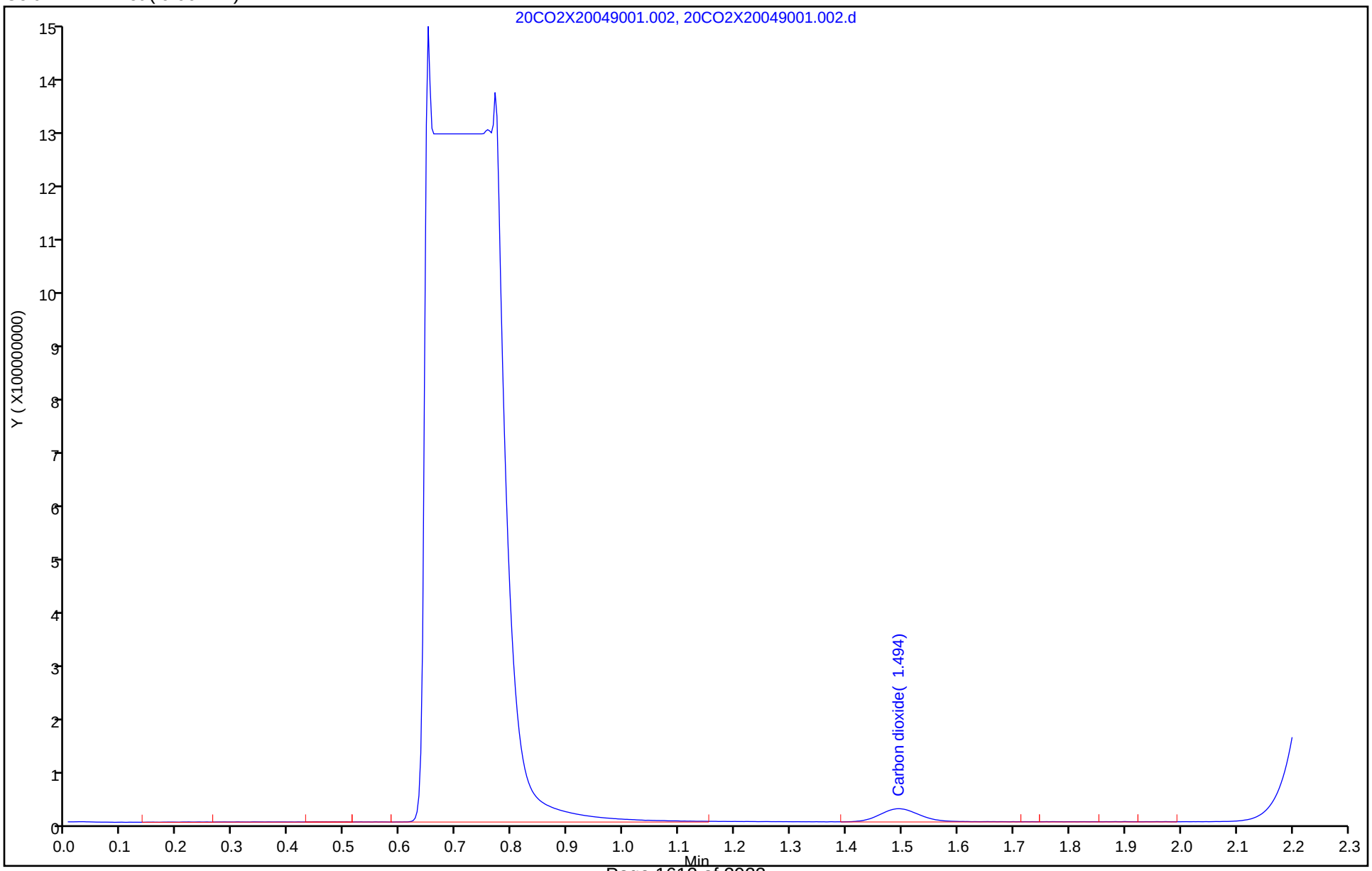
Report Date: 01-May-2020 11:25:08 Chrom Revision: 2.3 27-Apr-2020 15:18:36

Lancaster, PA

Data File: \\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.002.d

Injection Date:	18-Feb-2020 11:08:00	Instrument ID:	3145	Operator ID:	32136
Lims ID:	ic 1			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_3145A	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



Lancaster, PA
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.003.d
Lims ID: ic 2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 18-Feb-2020 11:18:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CO2_22032F AACO2_2AA ICAL 204899999
Operator ID: 32136 Instrument ID: 3145
Sublist: chrom-RSK_3145A*sub2

Method: \\chromfs\Lancaster\ChromData\3145\20200220-1555.b\RSK_3145A.m
Limit Group: GCV - RSK175 CO2
Last Update: 01-May-2020 11:25:08 Calib Date: 18-Feb-2020 11:58:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.007.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1025

First Level Reviewer: kennedyj Date: 30-Apr-2020 12:35:54

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.493	1.486	0.007	59032411H	21492	20432	

Reagents:

GCV_CO2MS_00001 Amount Added: 60.00 Units: uL

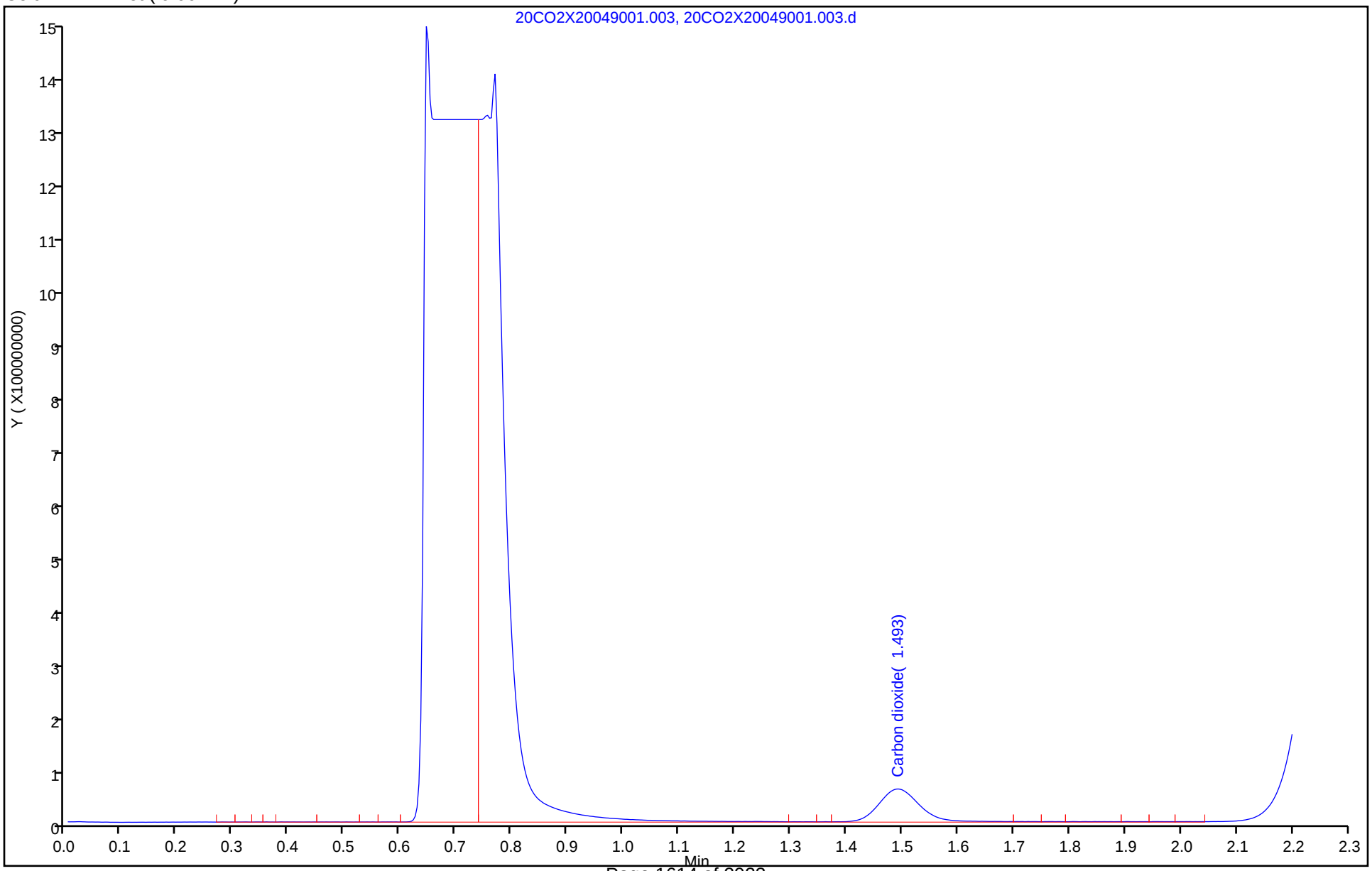
Report Date: 01-May-2020 11:25:09 Chrom Revision: 2.3 27-Apr-2020 15:18:36

Lancaster, PA

Data File: \\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.003.d

Injection Date:	18-Feb-2020 11:18:00	Instrument ID:	3145	Operator ID:	32136
Lims ID:	ic 2			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_3145A	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



Lancaster, PA
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.004.d				
Lims ID:	icrt 3				
Client ID:					
Sample Type:	ICRT		Calib Level:	3	
Inject. Date:	18-Feb-2020 11:28:00		ALS Bottle#:	0	Worklist Smp#: 4
Injection Vol:	1.0 ul		Dil. Factor:	1.0000	
Sample Info:	CO2_32032M	AACO2_3AA	ICAL 204899999		
Operator ID:	32136		Instrument ID:	3145	
Sublist:	chrom-RSK_3145A*sub2				
Method:	\\chromfs\Lancaster\ChromData\3145\20200220-1555.b\RSK_3145A.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	01-May-2020 11:25:09		Calib Date:	18-Feb-2020 11:58:00	
Integrator:	Genie				
Quant Method:	External Standard		Quant By:	Initial Calibration	
Last ICal File:	\\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.007.d				
Column 1 :	HP Plot (0.00 mm)			Det: 0FIDA	
Process Host:	CTX1025				
First Level Reviewer: kennedyj			Date:	01-May-2020 06:33:01	

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.486	1.486	0.000	109615505	H 35820	37940	

Reagents:

GCV_CO2MS_00001 Amount Added: 100.00 Units: uL

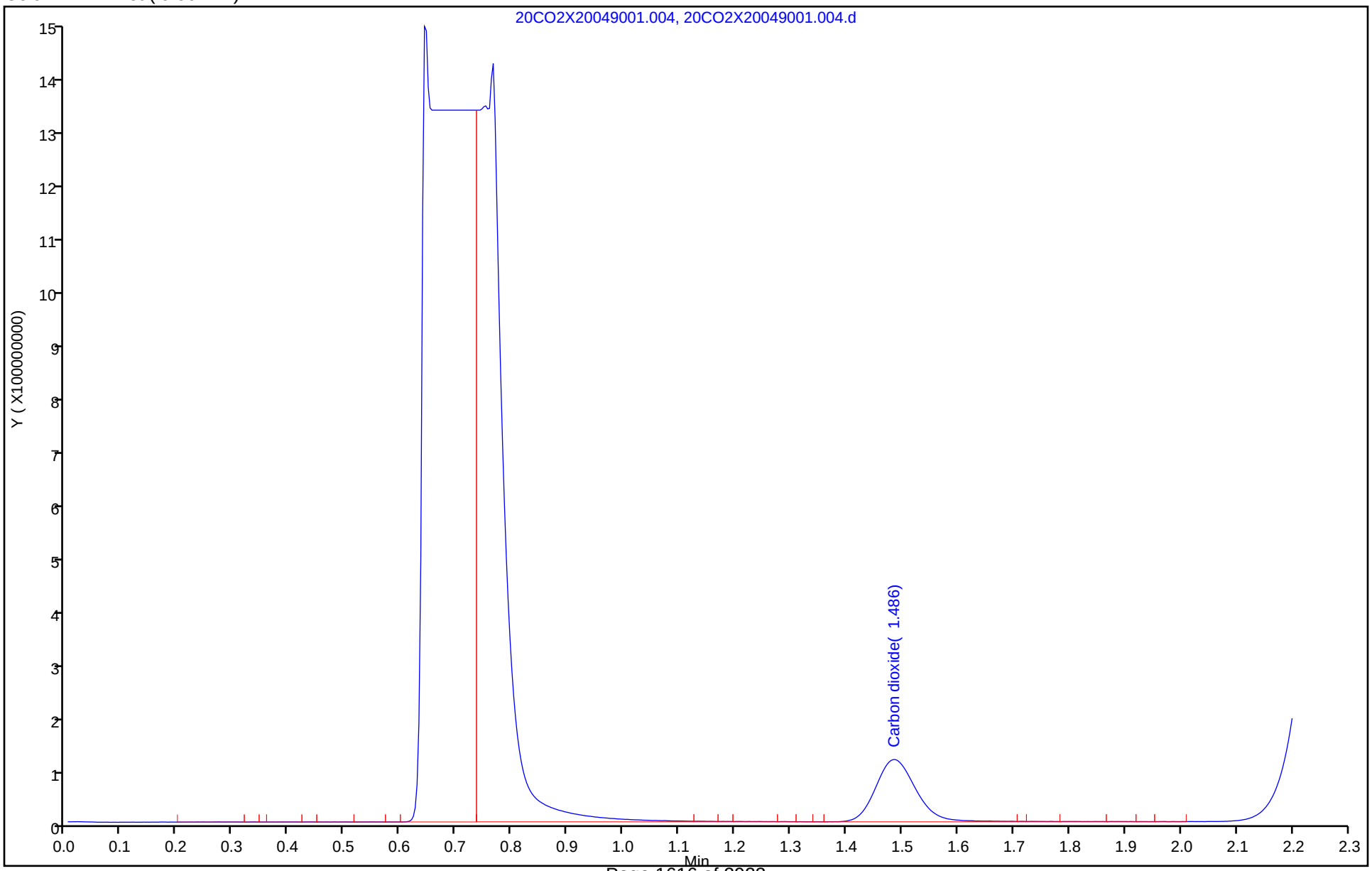
Report Date: 01-May-2020 11:25:09 Chrom Revision: 2.3 27-Apr-2020 15:18:36

Lancaster, PA

Data File: \\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.004.d

Injection Date:	18-Feb-2020 11:28:00	Instrument ID:	3145	Operator ID:	32136
Lims ID:	icrt 3			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_3145A	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



Lancaster, PA
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.005.d				
Lims ID:	ic 4				
Client ID:					
Sample Type:	IC	Calib Level:	4		
Inject. Date:	18-Feb-2020 11:38:00	ALS Bottle#:	0	Worklist Smp#:	5
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	CO2_42032F AACO2_4AA	ICAL 204899999			
Operator ID:	32136	Instrument ID:	3145		
Sublist:	chrom-RSK_3145A*sub2				
Method:	\\chromfs\Lancaster\ChromData\3145\20200220-1555.b\RSK_3145A.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	01-May-2020 11:25:10	Calib Date:	18-Feb-2020 11:58:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.007.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1025				
First Level Reviewer: kennedyj		Date:	30-Apr-2020 12:36:12		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.482	1.486	-0.004	286278476	H 89550	99087	

Reagents:

GCV_CO2MS_00001 Amount Added: 250.00 Units: uL

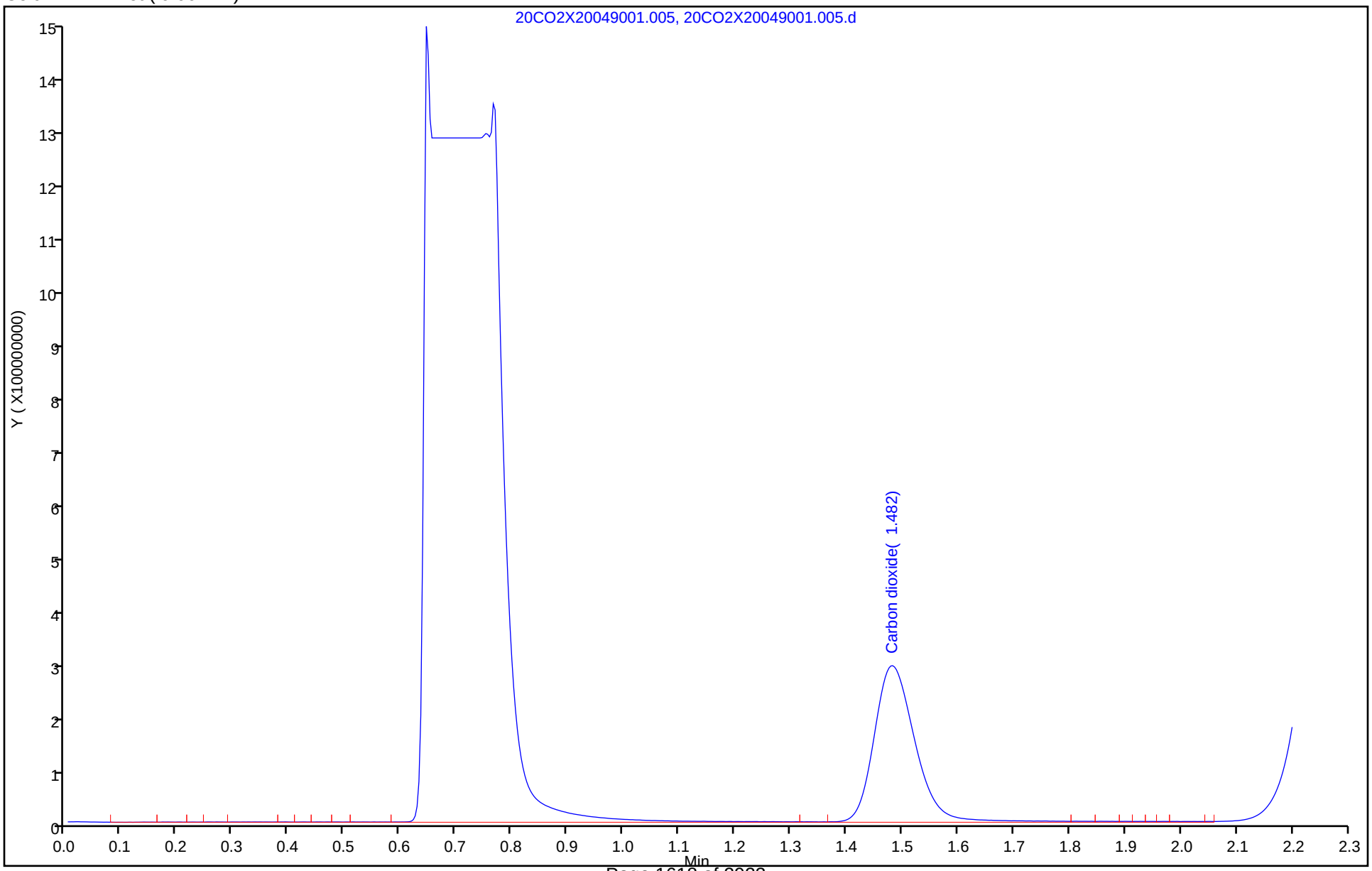
Report Date: 01-May-2020 11:25:10 Chrom Revision: 2.3 27-Apr-2020 15:18:36

Lancaster, PA

Data File: \\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.005.d

Injection Date:	18-Feb-2020 11:38:00	Instrument ID:	3145	Operator ID:	32136
Lims ID:	ic 4			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_3145A	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



Lancaster, PA
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.006.d				
Lims ID:	ic 5				
Client ID:					
Sample Type:	IC		Calib Level:	5	
Inject. Date:	18-Feb-2020 11:48:00		ALS Bottle#:	0	Worklist Smp#: 6
Injection Vol:	1.0 ul		Dil. Factor:	1.0000	
Sample Info:	CO2_52032F	AACO2_5AA	ICAL 204899999		
Operator ID:	32136		Instrument ID:	3145	
Sublist:	chrom-RSK_3145A*sub2				
Method:	\\chromfs\Lancaster\ChromData\3145\20200220-1555.b\RSK_3145A.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	01-May-2020 11:25:11		Calib Date:	18-Feb-2020 11:58:00	
Integrator:	Genie				
Quant Method:	External Standard		Quant By:	Initial Calibration	
Last ICal File:	\\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.007.d				
Column 1 :	HP Plot (0.00 mm)			Det: 0FIDA	
Process Host:	CTX1025				
First Level Reviewer: kennedyj			Date:	30-Apr-2020 12:36:20	

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.474	1.486	-0.012	565534684	H 179100	195743	

Reagents:

GCV_CO2MS_00001 Amount Added: 500.00 Units: uL

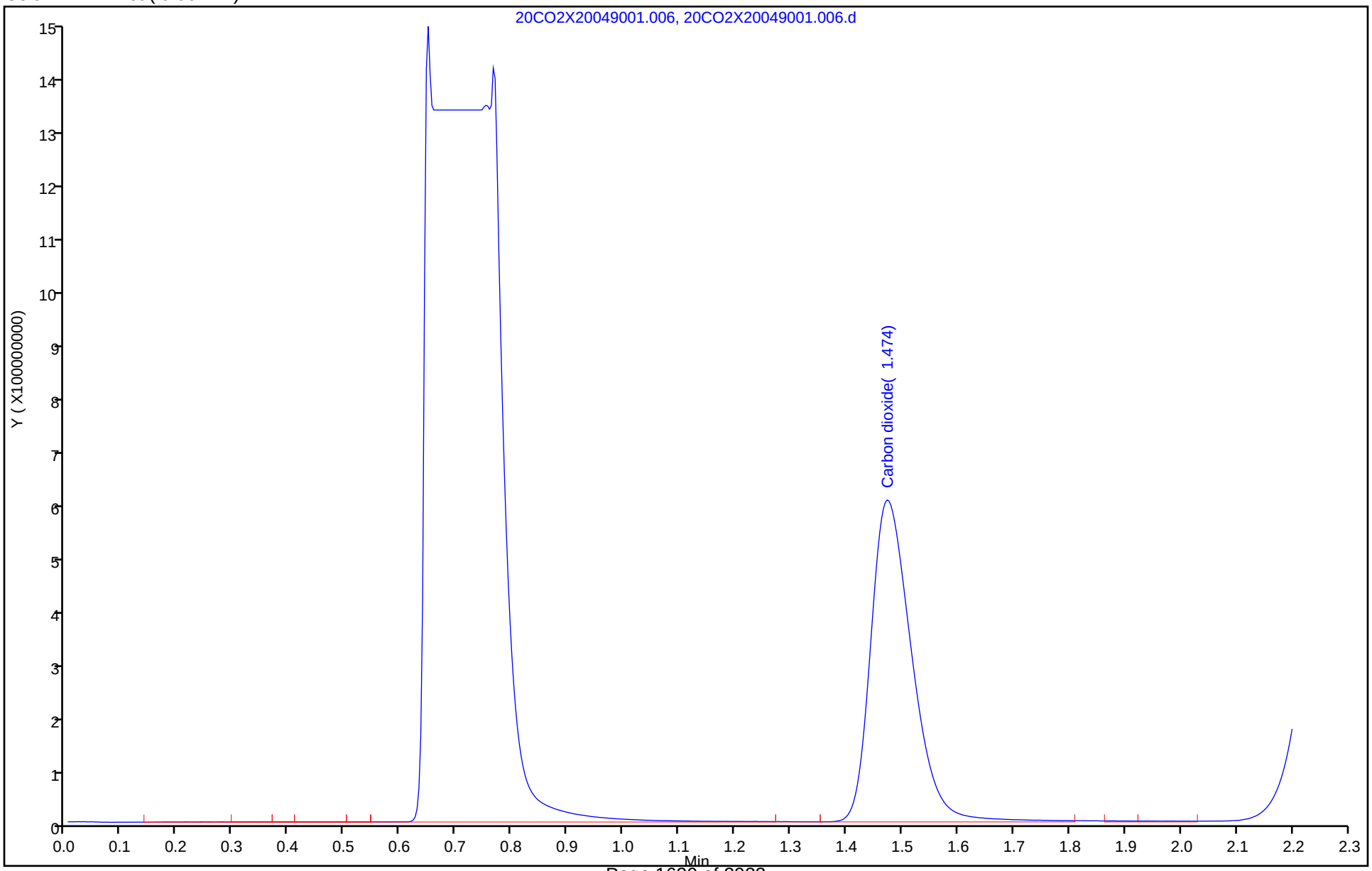
Report Date: 01-May-2020 11:25:11 Chrom Revision: 2.3 27-Apr-2020 15:18:36

Lancaster, PA

Data File: \\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.006.d

Injection Date:	18-Feb-2020 11:48:00	Instrument ID:	3145	Operator ID:	32136
Lims ID:	ic 5			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_3145A	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



Lancaster, PA
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.007.d				
Lims ID:	ic 6				
Client ID:					
Sample Type:	IC	Calib Level:	6		
Inject. Date:	18-Feb-2020 11:58:00	ALS Bottle#:	0	Worklist Smp#:	7
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	CO2_62032F AACO2_6AA	ICAL 204899999			
Operator ID:	32136	Instrument ID:	3145		
Sublist:	chrom-RSK_3145A*sub2				
Method:	\\chromfs\Lancaster\ChromData\3145\20200220-1555.b\RSK_3145A.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	01-May-2020 11:25:11	Calib Date:	18-Feb-2020 11:58:00		
Integrator:	Genie				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.007.d				
Column 1 :	HP Plot (0.00 mm)		Det: 0FIDA		
Process Host:	CTX1025				
First Level Reviewer: kennedyj		Date:	30-Apr-2020 12:36:28		

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.459	1.486	-0.027	1049556170	H 358200	363273	

Reagents:

GCV_CO2MS_00001 Amount Added: 1000.00 Units: uL

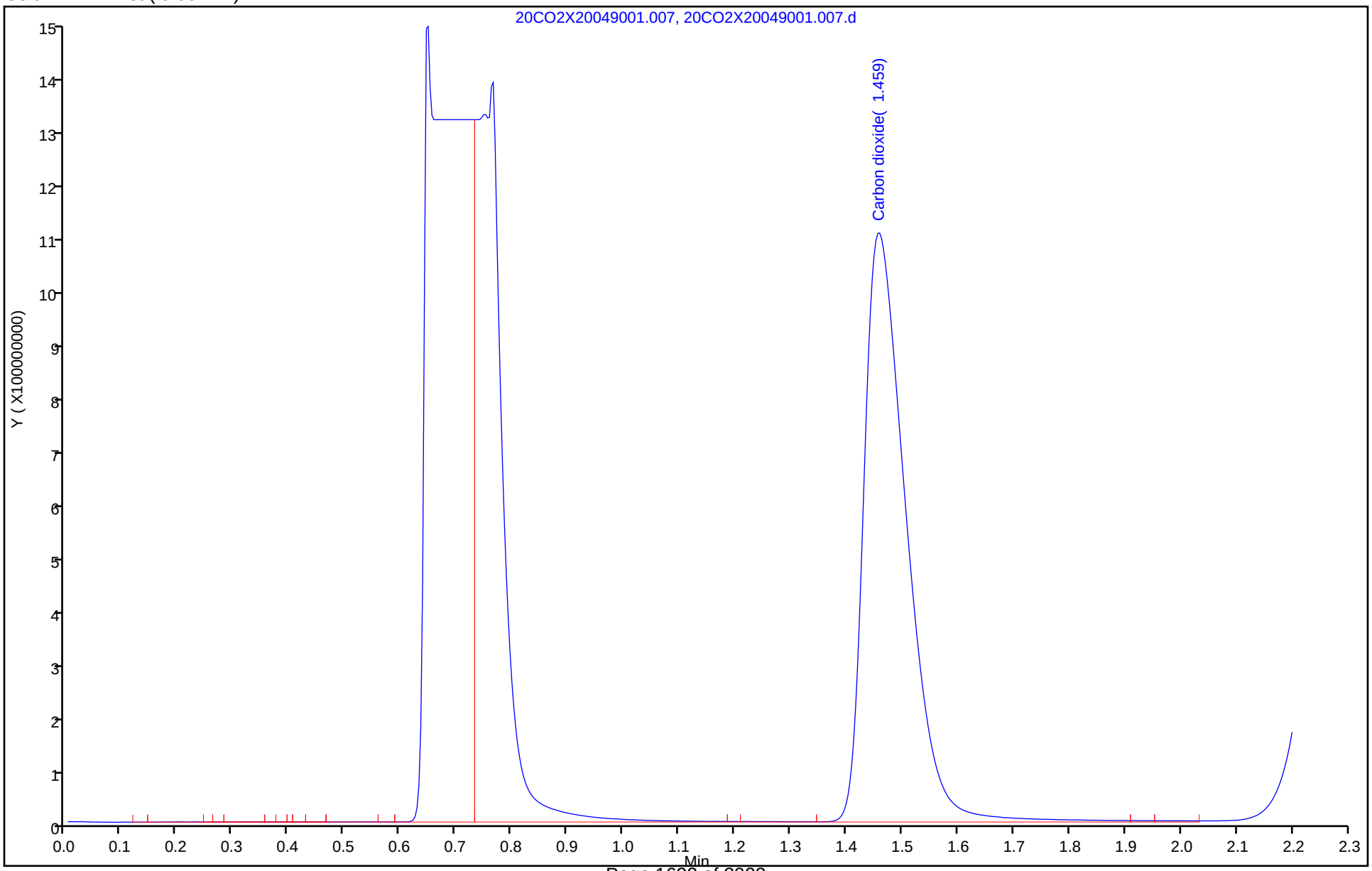
Report Date: 01-May-2020 11:25:12 Chrom Revision: 2.3 27-Apr-2020 15:18:36

Lancaster, PA

Data File: \\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.007.d

Injection Date:	18-Feb-2020 11:58:00	Instrument ID:	3145	Operator ID:	32136
Lims ID:	ic 6			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_3145A	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICV 410-5414/11 Calibration Date: 02/18/2020 12:38

Instrument ID: 3145 Calib Start Date: 02/18/2020 11:08

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 02/18/2020 11:58

Lab File ID: 20CO2X20049001.011.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
CO2	Ave	2889	2830		34300	35000	-2.1	15.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICV 410-5414/11 Calibration Date: 02/18/2020 12:38

Instrument ID: 3145 Calib Start Date: 02/18/2020 11:08

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 02/18/2020 11:58

Lab File ID: 20CO2X20049001.011.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
CO2	1.49	1.46	1.52

Form VII RSK-175

Lancaster, PA
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.011.d				
Lims ID:	icv				
Client ID:					
Sample Type:	ICV				
Inject. Date:	18-Feb-2020 12:38:00		ALS Bottle#:	0	Worklist Smp#: 11
Injection Vol:	1.0 ul		Dil. Factor:	1.0000	
Sample Info:	CO2CX2032E	AACO2CXAA	CCAL 204899999		
Operator ID:	32136		Instrument ID:	3145	
Sublist:					
Method:	\\chromfs\Lancaster\ChromData\3145\20200220-1555.b\RSK_3145A.m				
Limit Group:	GCV - RSK175 CO2				
Last Update:	01-May-2020 06:34:39		Calib Date:	18-Feb-2020 11:58:00	
Integrator:	Genie				
Quant Method:	External Standard		Quant By:	Initial Calibration	
Last ICal File:	\\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.007.d				
Column 1 :	HP Plot (0.00 mm)			Det: 0FIDA	
Process Host:	CTX1025				
First Level Reviewer: kennedyj			Date:	30-Apr-2020 12:41:21	

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.485	1.486	-0.001	99057902	H 35008	34286	

Reagents:

GCV_CO2ICV_00001 Amount Added: 320.00 Units: uL

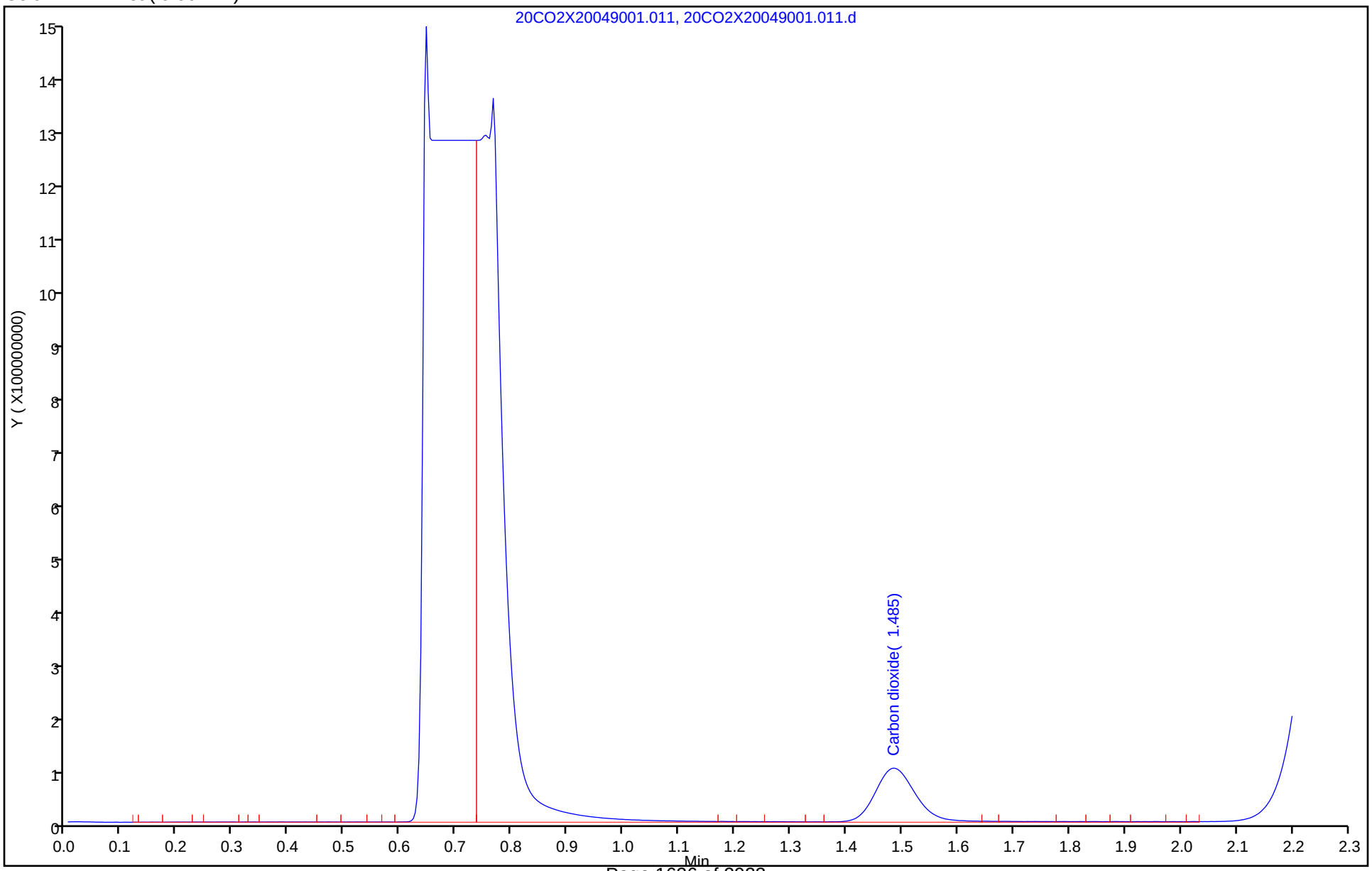
Report Date: 01-May-2020 06:35:29 Chrom Revision: 2.3 27-Apr-2020 15:18:36

Lancaster, PA

Data File: \\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.011.d

Injection Date:	18-Feb-2020 12:38:00	Instrument ID:	3145	Operator ID:	32136
Lims ID:	icv			Worklist Smp#:	11
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_3145A	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVRT 410-33932/4 Calibration Date: 08/17/2020 11:11

Instrument ID: 3145 Calib Start Date: 02/18/2020 11:08

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 02/18/2020 11:58

Lab File ID: 20CO2X8_17_2020.004.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
CO2	Ave	2889	3061		38000	35800	6.0	15.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVRT 410-33932/4 Calibration Date: 08/17/2020 11:11

Instrument ID: 3145 Calib Start Date: 02/18/2020 11:08

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 02/18/2020 11:58

Lab File ID: 20CO2X8_17_2020.004.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
CO2	1.49	1.46	1.52

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\3145\20200817-8228.b\20CO2X8_17_2020.004.d
Lims ID: CCVRT
Client ID:
Sample Type: CCVRT
Inject. Date: 17-Aug-2020 11:11:00 ALS Bottle#: 0 Worklist Smp#: 4
Purge Vol: 1.000 mL Dil. Factor: 1.0000
Sample Info: CCVRT AAAA MISC 2022999999
Operator ID: 32136 Instrument ID: 3145
Sublist: chrom-RSK_3145A*sub2

Method: \\chromfs\Lancaster\ChromData\3145\20200817-8228.b\RSK_3145A.m
Limit Group: GCV - RSK175 CO2
Last Update: 18-Aug-2020 07:26:14 Calib Date: 18-Feb-2020 11:58:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.007.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1048

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.491	1.491	0.000	109652425H	35820	37953	

Reagents:

GCV_CO2MS_00001 Amount Added: 100.00 Units: uL

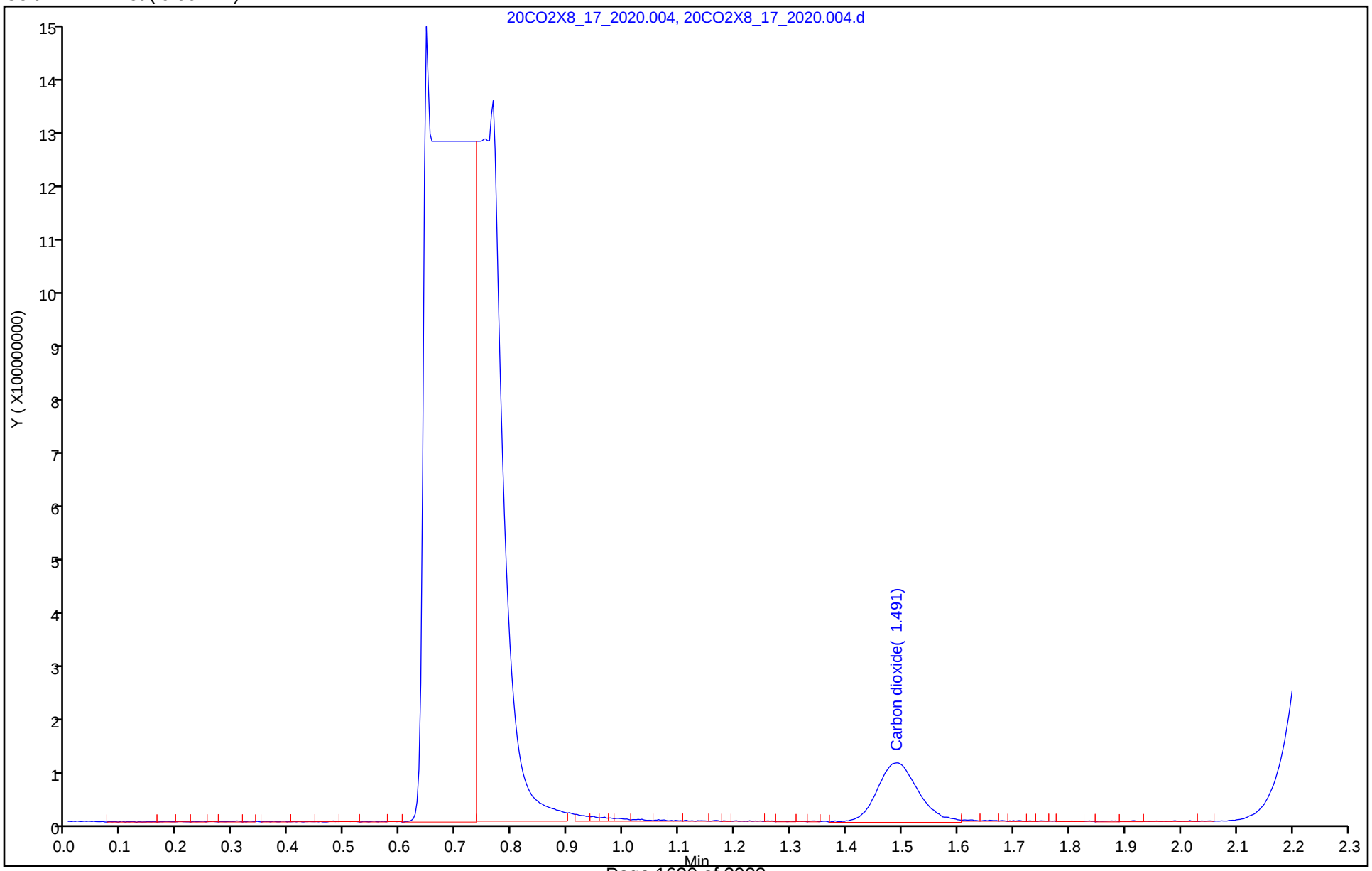
Report Date: 18-Aug-2020 07:26:14 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\3145\20200817-8228.b\20CO2X8_17_2020.004.d

Injection Date:	17-Aug-2020 11:11:00	Instrument ID:	3145	Operator ID:	32136
Lims ID:	CCVRT			Worklist Smp#:	4
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_3145A	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



FORM VII
GC VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCV 410-33932/15 Calibration Date: 08/17/2020 13:04

Instrument ID: 3145 Calib Start Date: 02/18/2020 11:08

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 02/18/2020 11:58

Lab File ID: 20CO2X8_17_2020.015.d Conc. Units: ug/L Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
CO2	Ave	2889	2921		36200	35800	1.1	15.0

FORM VII
GC VOA CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCV 410-33932/15 Calibration Date: 08/17/2020 13:04

Instrument ID: 3145 Calib Start Date: 02/18/2020 11:08

GC Column: HP Plot ID: 0.53(mm) Calib End Date: 02/18/2020 11:58

Lab File ID: 20CO2X8_17_2020.015.d Heated Purge: (Y/N) N

Analyte	RT	RT WINDOW	
		FROM	TO
CO2	1.47	1.46	1.52

Form VII RSK-175

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\3145\20200817-8228.b\20CO2X8_17_2020.015.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 17-Aug-2020 13:04:00 ALS Bottle#: 0 Worklist Smp#: 15
Purge Vol: 1.000 mL Dil. Factor: 1.0000
Sample Info: CCV AAAA MISC 2022999999
Operator ID: 32136 Instrument ID: 3145
Sublist: chrom-RSK_3145A*sub2

Method: \\chromfs\Lancaster\ChromData\3145\20200817-8228.b\RSK_3145A.m
Limit Group: GCV - RSK175 CO2
Last Update: 18-Aug-2020 07:26:17 Calib Date: 18-Feb-2020 11:58:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.007.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1048

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.469	1.491	-0.022	104620336	H 35820	36211	

Reagents:

GCV_CO2MS_00001 Amount Added: 100.00 Units: uL

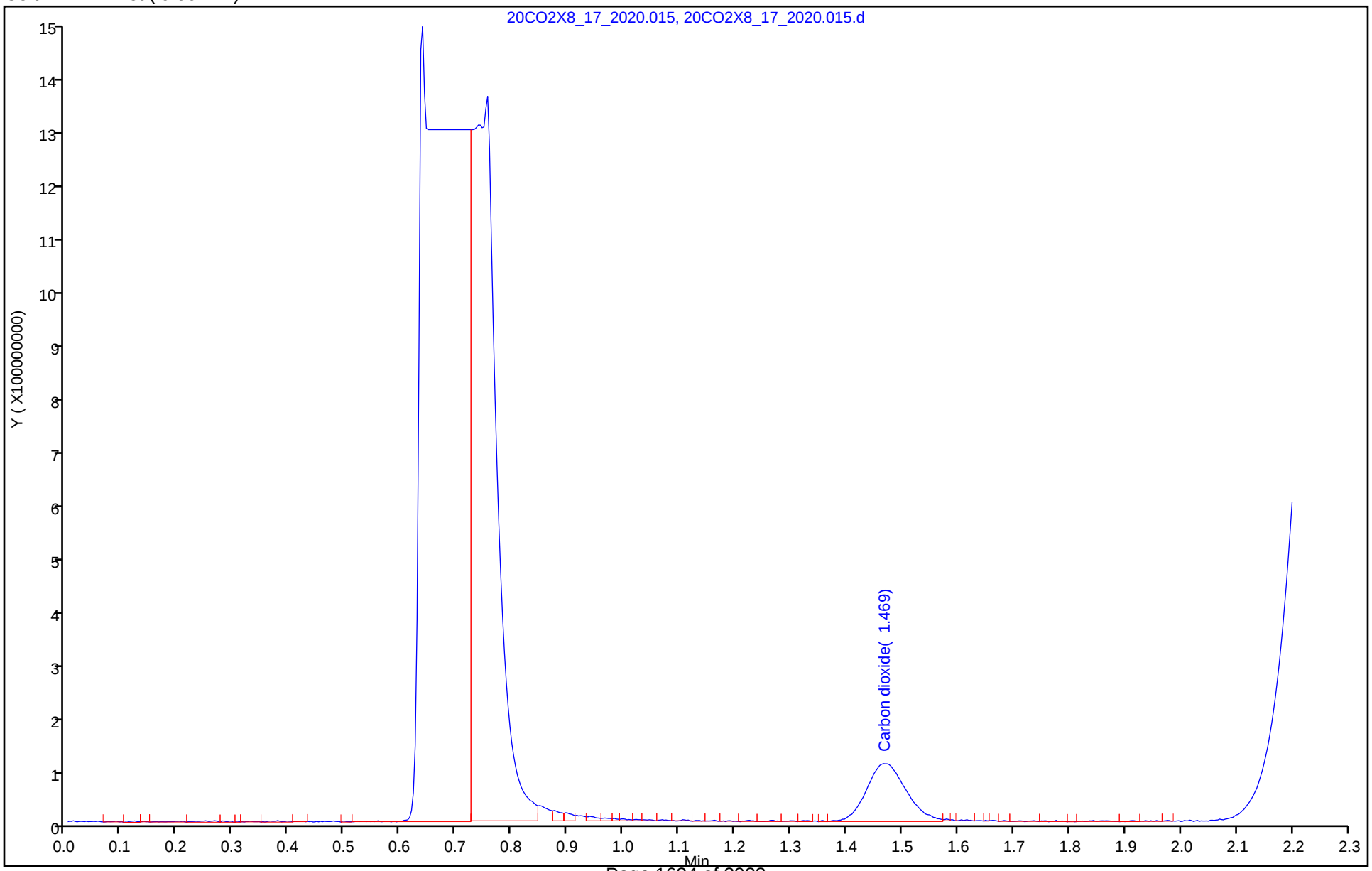
Report Date: 18-Aug-2020 07:26:17 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\3145\20200817-8228.b\20CO2X8_17_2020.015.d

Injection Date:	17-Aug-2020 13:04:00	Instrument ID:	3145	Operator ID:	32136
Lims ID:	CCV			Worklist Smp#:	15
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_3145A	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 410-33917/1-A

Matrix: Water Lab File ID: 20CO2X8_17_2020.005.d

Analysis Method: RSK-175 Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 08/17/2020 11:21

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: HP Plot ID: 0.53(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 33932 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-38-9	CO2	ND		12000	2600

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\3145\20200817-8228.b\20CO2X8_17_2020.005.d
Lims ID: MB 410-33917/1-A
Client ID:
Sample Type: MB
Inject. Date: 17-Aug-2020 11:21:00 ALS Bottle#: 0 Worklist Smp#: 5
Purge Vol: 1.000 mL Dil. Factor: 1.0000
Sample Info: MB AAAA MISC 2022999999
Operator ID: 32136 Instrument ID: 3145

Method: \\chromfs\Lancaster\ChromData\3145\20200817-8228.b\RSK_3145A.m
Limit Group: GCV - RSK175 CO2
Last Update: 18-Aug-2020 07:26:14 Calib Date: 18-Feb-2020 11:58:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.007.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1048

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.505	1.491	0.014	1696647	H	587.2	

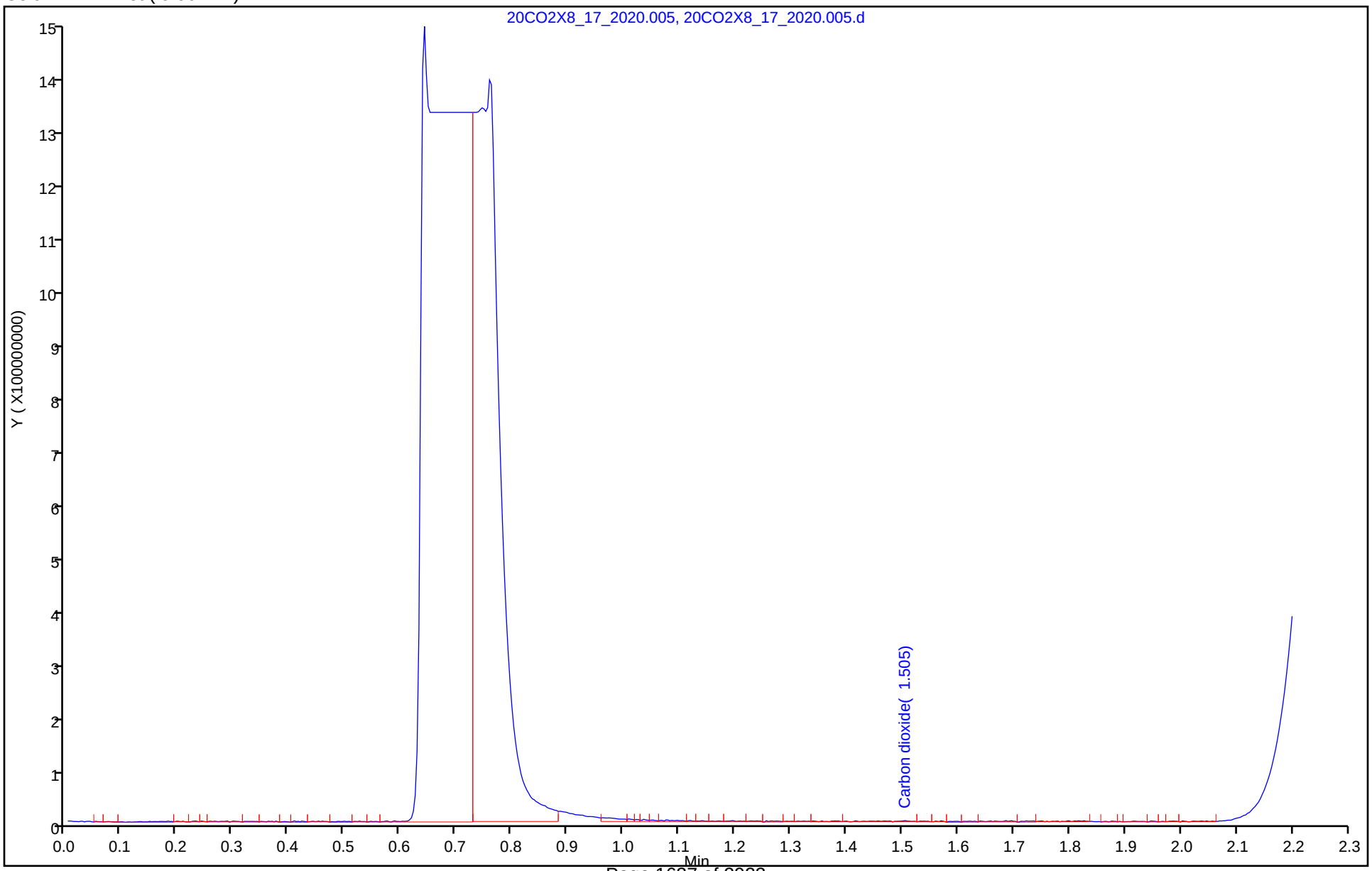
Report Date: 18-Aug-2020 07:26:15 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\3145\20200817-8228.b\20CO2X8_17_2020.005.d

Injection Date:	17-Aug-2020 11:21:00	Instrument ID:	3145	Operator ID:	32136
Lims ID:	MB 410-33917/1-A			Worklist Smp#:	5
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_3145A	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



FORM I
GC VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 410-33917/2-A

Matrix: Water Lab File ID: 20CO2X8_17_2020.006.d

Analysis Method: RSK-175 Date Collected:

Sample wt/vol: 5(mL) Date Analyzed: 08/17/2020 11:31

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: HP Plot ID: 0.53(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 33932 Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
124-38-9	CO2	38200		12000	2600

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\3145\20200817-8228.b\20CO2X8_17_2020.006.d
Lims ID: LCS 410-33917/2-A
Client ID:
Sample Type: LCS
Inject. Date: 17-Aug-2020 11:31:00 ALS Bottle#: 0 Worklist Smp#: 6
Purge Vol: 1.000 mL Dil. Factor: 1.0000
Sample Info: LCS AAAA MISC 2022999999
Operator ID: 32136 Instrument ID: 3145

Method: \\chromfs\Lancaster\ChromData\3145\20200817-8228.b\RSK_3145A.m
Limit Group: GCV - RSK175 CO2
Last Update: 18-Aug-2020 07:26:14 Calib Date: 18-Feb-2020 11:58:00
Integrator: Genie
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\3145\20200220-1555.b\20CO2X20049001.007.d

Column 1 : HP Plot (0.00 mm) Det: 0FIDA
Process Host: CTX1048

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/l	OnCol Amt ug/l	Flags
1 Carbon dioxide	1.484	1.491	-0.007	110225939	H 35820	38152	

Reagents:

GCV_CO2MS_00001 Amount Added: 100.00 Units: uL

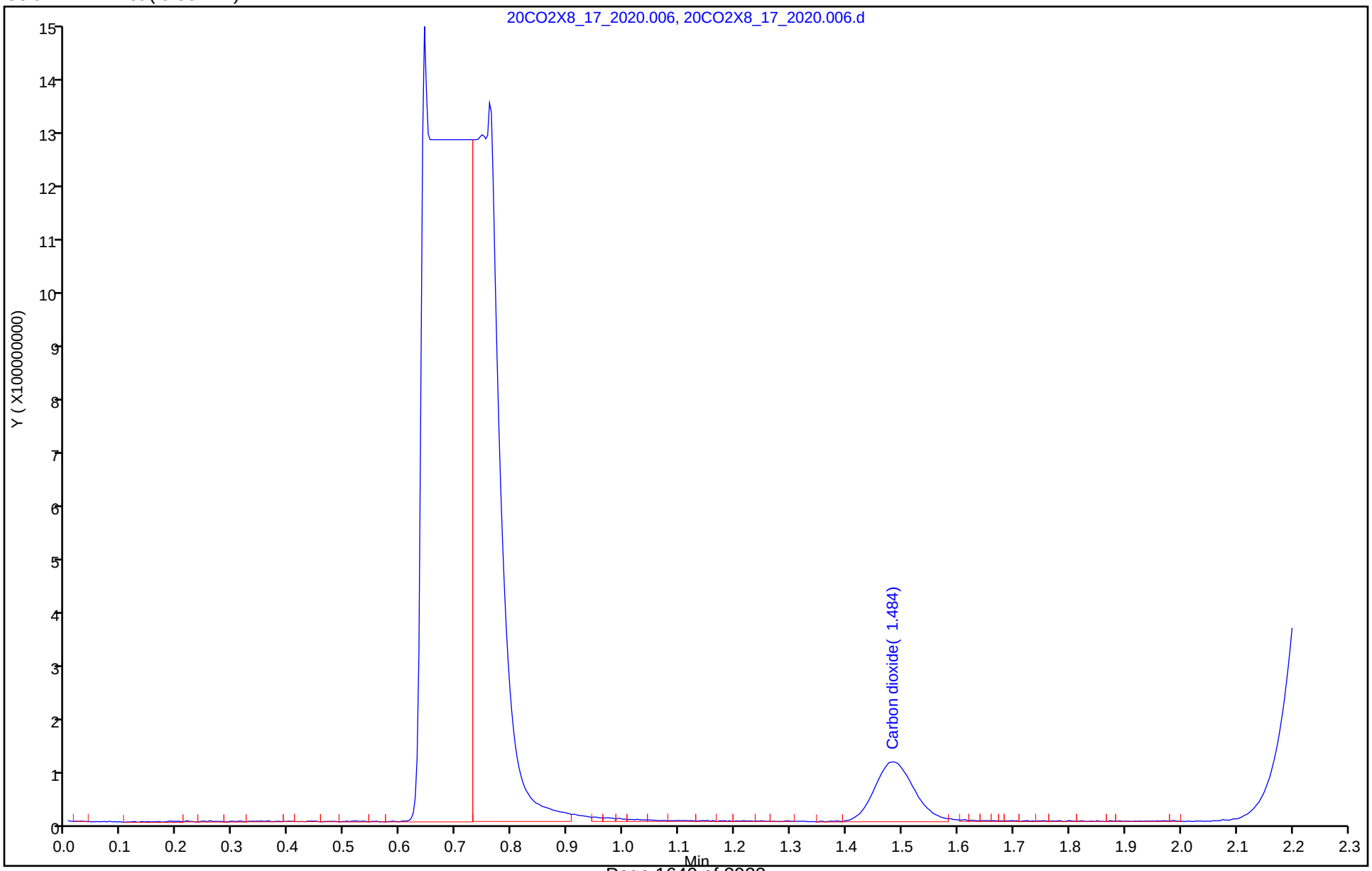
Report Date: 18-Aug-2020 07:26:15 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\3145\20200817-8228.b\20CO2X8_17_2020.006.d

Injection Date:	17-Aug-2020 11:31:00	Instrument ID:	3145	Operator ID:	32136
Lims ID:	LCS 410-33917/2-A			Worklist Smp#:	6
Client ID:					
Purge Vol:	1.000 mL	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	RSK_3145A	Limit Group:	GCV - RSK175 CO2		

Column: HP Plot (0.00 mm)



GC VOA ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 3145 Start Date: 02/18/2020 10:58

Analysis Batch Number: 5414 End Date: 02/18/2020 12:38

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
PIBLK 410-5414/1		02/18/2020 10:58	1		HP Plot 0.53(mm)
IC 410-5414/2		02/18/2020 11:08	1	20CO2X20049001.002.d	HP Plot 0.53(mm)
IC 410-5414/3		02/18/2020 11:18	1	20CO2X20049001.003.d	HP Plot 0.53(mm)
ICRT 410-5414/4		02/18/2020 11:28	1	20CO2X20049001.004.d	HP Plot 0.53(mm)
IC 410-5414/5		02/18/2020 11:38	1	20CO2X20049001.005.d	HP Plot 0.53(mm)
IC 410-5414/6		02/18/2020 11:48	1	20CO2X20049001.006.d	HP Plot 0.53(mm)
IC 410-5414/7		02/18/2020 11:58	1	20CO2X20049001.007.d	HP Plot 0.53(mm)
PIBLK 410-5414/8		02/18/2020 12:08	1		HP Plot 0.53(mm)
ICVL 410-5414/9		02/18/2020 12:18	1		HP Plot 0.53(mm)
PIBLK 410-5414/10		02/18/2020 12:28	1		HP Plot 0.53(mm)
ICV 410-5414/11		02/18/2020 12:38	1	20CO2X20049001.011.d	HP Plot 0.53(mm)

GC VOA ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 3145 Start Date: 08/17/2020 11:11

Analysis Batch Number: 33932 End Date: 08/17/2020 14:47

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 410-33932/4		08/17/2020 11:11	1	20CO2X8_17_2020.004.d	HP Plot 0.53(mm)
MB 410-33917/1-A		08/17/2020 11:21	1	20CO2X8_17_2020.005.d	HP Plot 0.53(mm)
LCS 410-33917/2-A		08/17/2020 11:31	1	20CO2X8_17_2020.006.d	HP Plot 0.53(mm)
ZZZZZ		08/17/2020 11:42	1		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 11:52	1		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 12:02	1		HP Plot 0.53(mm)
410-10696-1	MW-01	08/17/2020 12:13	1	20CO2X8_17_2020.010.d	HP Plot 0.53(mm)
410-10696-3	MW-04	08/17/2020 12:23	1	20CO2X8_17_2020.011.d	HP Plot 0.53(mm)
410-10696-6	WPA-GW-02	08/17/2020 12:33	1	20CO2X8_17_2020.012.d	HP Plot 0.53(mm)
ZZZZZ		08/17/2020 12:44	1		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 12:54	1		HP Plot 0.53(mm)
CCV 410-33932/15		08/17/2020 13:04	1	20CO2X8_17_2020.015.d	HP Plot 0.53(mm)
ZZZZZ		08/17/2020 13:15	1		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 13:25	1		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 13:35	1		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 13:45	1		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 13:56	1		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 14:06	1		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 14:16	1		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 14:27	1		HP Plot 0.53(mm)
ZZZZZ		08/17/2020 14:37	1		HP Plot 0.53(mm)
CCV 410-33932/25		08/17/2020 14:47	1		HP Plot 0.53(mm)

GC VOA BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 33917 Batch Start Date: 08/17/20 09:26 Batch Analyst: Lane, Ester K

Batch Method: RSK-175 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Headspace			
MB 410-33917/1		RSK-175, RSK-175		5 mL	5 mL				
LCS 410-33917/2		RSK-175, RSK-175		5 mL	5 mL				
410-10696-L-1	MW-01	RSK-175, RSK-175	T	5 mL	5 mL	no			
410-10696-L-3	MW-04	RSK-175, RSK-175	T	5 mL	5 mL	no			
410-10696-L-6	WPA-GW-02	RSK-175, RSK-175	T	5 mL	5 mL	no			

Batch Notes	
Pipette/Syringe/Dispenser ID	07105
Reagent Water ID	In House

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300_ORGFM_28D

Anions, Ion Chromatography

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2022913_3.d

Lab ID: LCS 410-33689/3 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Sulfate	7.50	7.97	106	90-110	

Column to be used to flag recovery and RPD values

FORM III EPA 300.0 R2.1

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2023115B_3.d

Lab ID: LCS 410-34575/3 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Sulfate	7.50	7.66	102	90-110	

Column to be used to flag recovery and RPD values

FORM III EPA 300.0 R2.1

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab File ID: 2023115B_4.d Lab Sample ID: MB 410-34575/4

Matrix: Water Date Extracted:

Instrument ID: 12115 Date Analyzed: 08/19/2020 00:57

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	CCB 410-34575/2	2023115B_2.d	08/19/2020 00:23
	LCS 410-34575/3	2023115B_3.d	08/19/2020 00:40
	CCB 410-34575/14	2023115B_14.d	08/19/2020 03:48
	CCB 410-34575/26	2023115B_26.d	08/19/2020 07:14
WPA-GW-02	410-10696-6	2023115B_30.d	08/19/2020 08:23
	CCB 410-34575/38	2023115B_38.d	08/19/2020 10:40

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab File ID: 2022913_4.d Lab Sample ID: MB 410-33689/4

Matrix: Water Date Extracted:

Instrument ID: 19052 Date Analyzed: 08/16/2020 11:59

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	CCB 410-33689/2	2022913_2.d	08/16/2020 11:25
	LCS 410-33689/3	2022913_3.d	08/16/2020 11:42
MW-04	410-10696-3	2022913_9.d	08/16/2020 14:31
MW-01	410-10696-1	2022913_11.d	08/16/2020 15:05
	CCB 410-33689/36	2022913_13.d	08/16/2020 15:39

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-01 Lab Sample ID: 410-10696-1

Matrix: Water Lab File ID: 2022913_11.d

Analysis Method: EPA 300.0 R2.1 Date Collected: 08/11/2020 15:45

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/16/2020 15:05

Con. Extract Vol.: Dilution Factor: 5

Injection Volume: 1(uL) GC Column: IC06-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 33689 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14808-79-8	Sulfate	ND		5.0	1.5

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

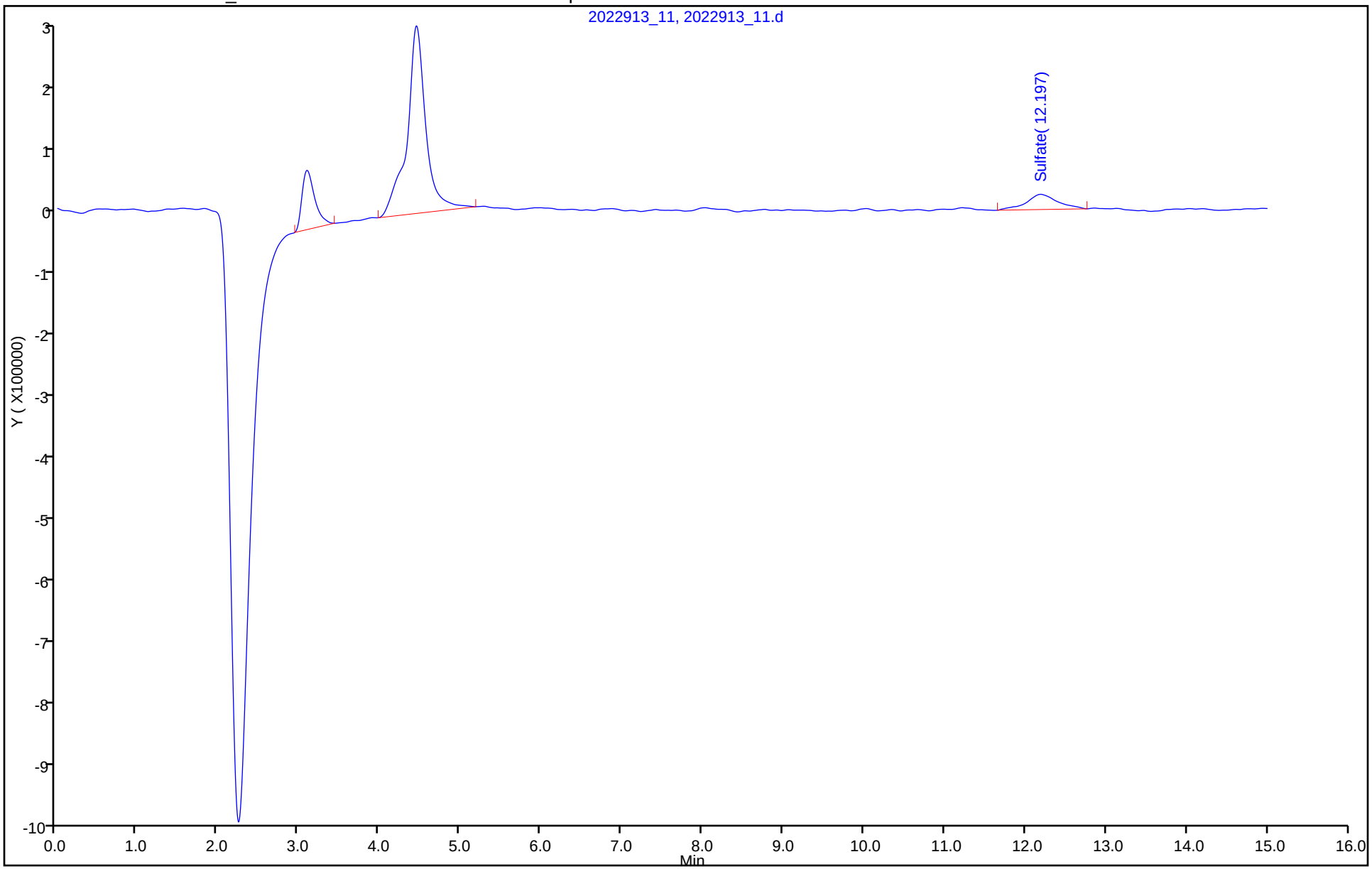
Data File:	\\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_11.d				
Lims ID:	410-10696-F-1				
Client ID:	MW-01				
Sample Type:	Client				
Inject. Date:	16-Aug-2020 15:05:00	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	5.0000		
Sample Info:	410-10696-F-1				
Misc. Info.:	20229135113				
Operator ID:		Instrument ID:	19052		
Method:	\\chromfs\Lancaster\ChromData\19052\20200816-8175.b\Anions_19052.m				
Limit Group:	IC - 300 28D				
Last Update:	17-Aug-2020 06:32:18	Calib Date:	29-Jul-2020 13:57:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d				
Column 1 :			Det: det0		
Process Host:	CTX1046				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
5 Nitrate as N		7.967			ND	
6 Sulfate	12.197	12.203	-0.006	671079	0.2319	

Report Date: 17-Aug-2020 06:36:56 Chrom Revision: 2.3 10-Aug-2020 14:39:50

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_11.d				
Injection Date:	16-Aug-2020 15:05:00	Instrument ID:	19052	Operator ID:	
Lims ID:	410-10696-F-1	Lab Sample ID:	410-10696-1	Worklist Smp#:	11
Client ID:	MW-01				
Injection Vol:	1.0 ul	Dil. Factor:	5.0000	ALS Bottle#:	0
Method:	Anions_19052	Limit Group:	IC - 300 28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-04 Lab Sample ID: 410-10696-3

Matrix: Water Lab File ID: 2022913_9.d

Analysis Method: EPA 300.0 R2.1 Date Collected: 08/11/2020 13:40

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/16/2020 14:31

Con. Extract Vol.: Dilution Factor: 5

Injection Volume: 1(uL) GC Column: IC06-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 33689 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14808-79-8	Sulfate	1.5	J	5.0	1.5

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

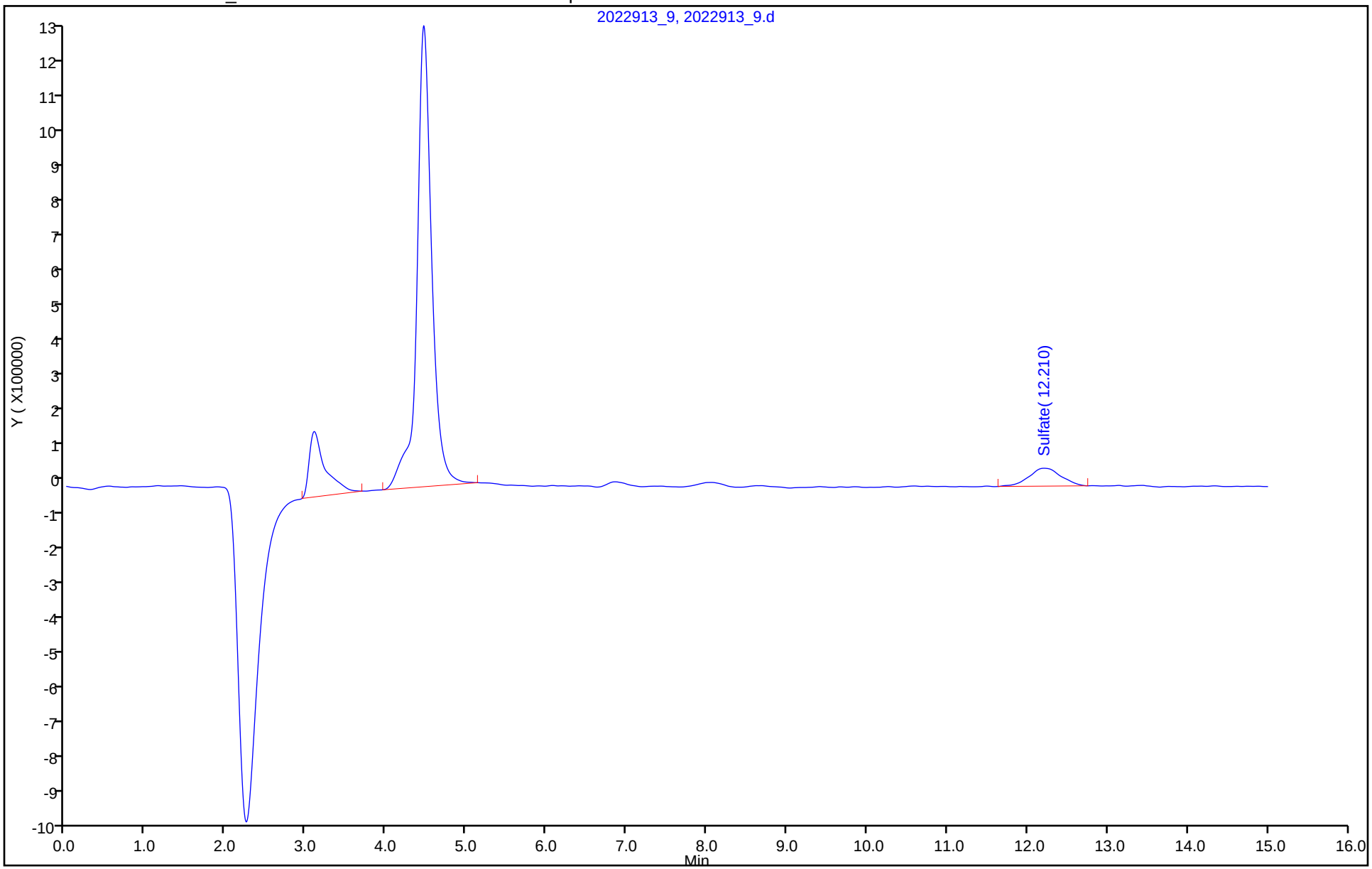
Data File:	\\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_9.d				
Lims ID:	410-10696-F-3				
Client ID:	MW-04				
Sample Type:	Client				
Inject. Date:	16-Aug-2020 14:31:00	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	5.0000		
Sample Info:	410-10696-F-3				
Misc. Info.:	20229135113				
Operator ID:		Instrument ID:	19052		
Method:	\\chromfs\Lancaster\ChromData\19052\20200816-8175.b\Anions_19052.m				
Limit Group:	IC - 300 28D				
Last Update:	17-Aug-2020 06:32:18	Calib Date:	29-Jul-2020 13:57:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d				
Column 1 :			Det: det0		
Process Host:	CTX1046				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
5 Nitrate as N		7.967			ND	
6 Sulfate	12.210	12.203	0.007	1341138	0.2945	

Report Date: 17-Aug-2020 06:36:56 Chrom Revision: 2.3 10-Aug-2020 14:39:50

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_9.d				
Injection Date:	16-Aug-2020 14:31:00	Instrument ID:	19052	Operator ID:	
Lims ID:	410-10696-F-3	Lab Sample ID:	410-10696-3	Worklist Smp#:	9
Client ID:	MW-04				
Injection Vol:	1.0 ul	Dil. Factor:	5.0000	ALS Bottle#:	0
Method:	Anions_19052	Limit Group:	IC - 300 28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: WPA-GW-02 Lab Sample ID: 410-10696-6

Matrix: Water Lab File ID: 2023115B_30.d

Analysis Method: EPA 300.0 R2.1 Date Collected: 08/11/2020 14:15

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/19/2020 08:23

Con. Extract Vol.: Dilution Factor: 5

Injection Volume: 1(uL) GC Column: IC15-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34575 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14808-79-8	Sulfate	2.4	J	5.0	1.5

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

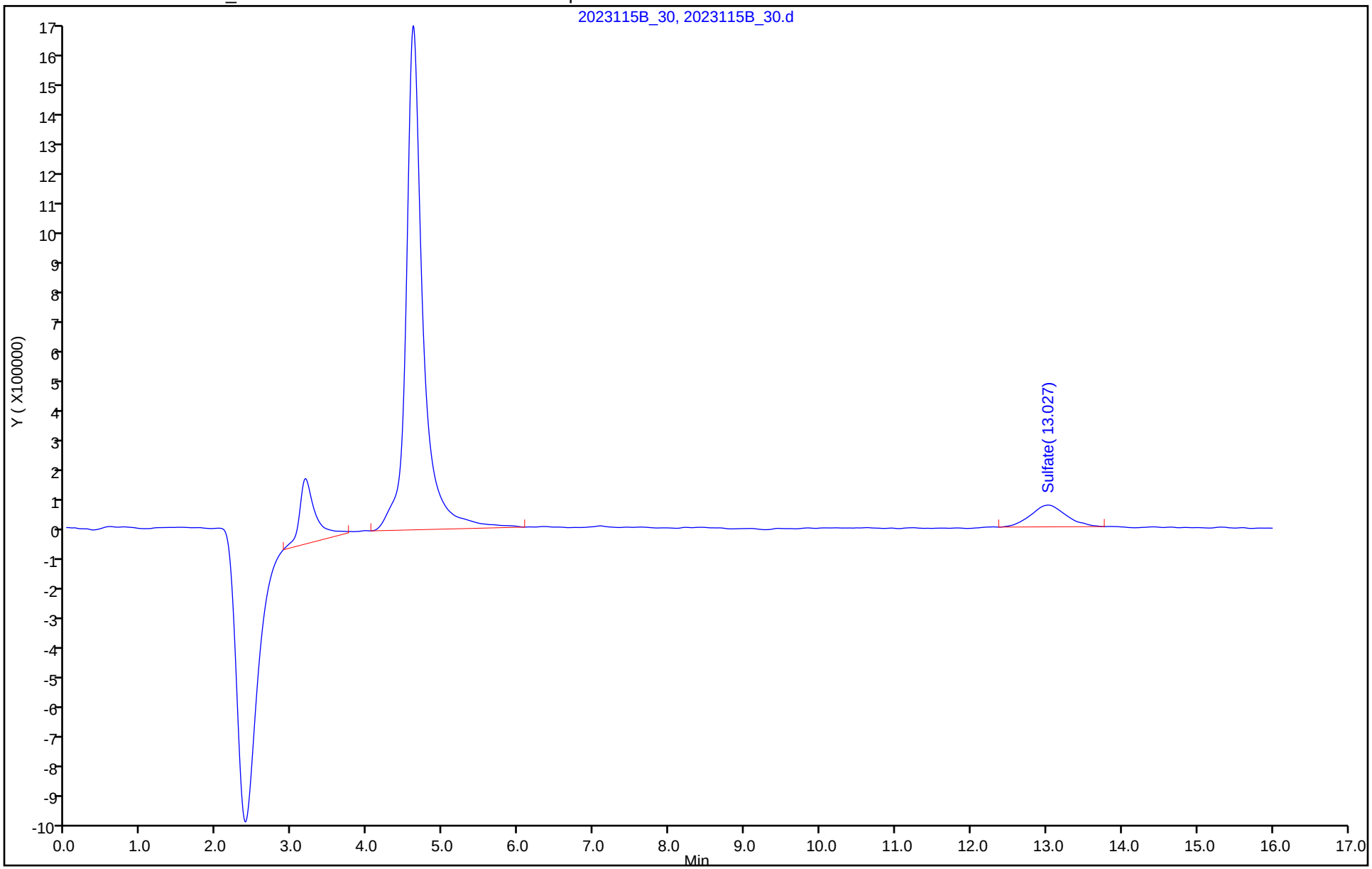
Data File:	\\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_30.d				
Lims ID:	410-10696-F-6				
Client ID:	WPA-GW-02				
Sample Type:	Client				
Inject. Date:	19-Aug-2020 08:23:00	ALS Bottle#:	0	Worklist Smp#:	30
Injection Vol:	1.0 ul	Dil. Factor:	5.0000		
Sample Info:	410-10696-F-6				
Misc. Info.:	32076				
Operator ID:		Instrument ID:	12115		
Method:	\\chromfs\Lancaster\ChromData\12115\20200818-8369.b\Anions_12115.m				
Limit Group:	IC - 300 28D				
Last Update:	19-Aug-2020 12:32:43	Calib Date:	08-Jul-2020 12:31:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d				
Column 1 :			Det: det0		
Process Host:	CTX1050				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
5 Nitrate as N		8.377			ND	
6 Sulfate	13.027	13.000	0.027	2375489	0.4786	

Report Date: 19-Aug-2020 12:32:46 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_30.d				
Injection Date:	19-Aug-2020 08:23:00	Instrument ID:	12115	Operator ID:	
Lims ID:	410-10696-F-6	Lab Sample ID:	410-10696-6	Worklist Smp#:	30
Client ID:	WPA-GW-02				
Injection Vol:	1.0 ul	Dil. Factor:	5.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 28D		



FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 22225

SDG No.:

Instrument ID: 12115 GC Column: IC15-AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/08/2020 11:05 Calibration End Date: 07/08/2020 12:31 Calibration ID: 6774

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-22225/1	2019015C_1.d
Level 2	IC 410-22225/2	2019015C_2.d
Level 3	IC 410-22225/3	2019015C_3.d
Level 4	IC 410-22225/4	2019015C_4.d
Level 5	IC 410-22225/5	2019015C_5.d
Level 6	IC 410-22225/6	2019015C_6.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6					RT WINDOW	AVG RT
Fluoride		3.197	3.193	3.190	3.197	3.197					0.000 - 0.000	3.195
Chloride		4.660	4.657	4.653	4.663	4.667					0.000 - 0.000	4.660
Bromide		7.400	7.373	7.360	7.357	7.353					0.000 - 0.000	7.369
Sulfate		13.553	13.547	13.533	13.537	13.530					0.000 - 0.000	13.540

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 22225

SDG No.:

Instrument ID: 12115 GC Column: IC15-AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/08/2020 11:05 Calibration End Date: 07/08/2020 12:31 Calibration ID: 6774

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-22225/1	2019015C_1.d
Level 2	IC 410-22225/2	2019015C_2.d
Level 3	IC 410-22225/3	2019015C_3.d
Level 4	IC 410-22225/4	2019015C_4.d
Level 5	IC 410-22225/5	2019015C_5.d
Level 6	IC 410-22225/6	2019015C_6.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3	LVL 4		B	M1	M2								
Fluoride	22191749	21945490 22331580	21153463	21184779	Lin	-352992.54	22359523.9							1.0000		0.9900
Chloride	15792759	13106483 15734219	15581196	15047801	Lin	-604050.27	15833621.5							1.0000		0.9900
Bromide	6689717	4333158 6741129	6177396	6090153	Lin	-1283356.4	6790350.13							0.9990		0.9900
Sulfate	11477082	7941249 11631742	10218494	10216691	Lin	-3254716.4	11764756.0							0.9990		0.9900

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 22225

SDG No.:

Instrument ID: 12115 GC Column: IC15-AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/08/2020 11:05 Calibration End Date: 07/08/2020 12:31 Calibration ID: 6774

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-22225/1	2019015C_1.d
Level 2	IC 410-22225/2	2019015C_2.d
Level 3	IC 410-22225/3	2019015C_3.d
Level 4	IC 410-22225/4	2019015C_4.d
Level 5	IC 410-22225/5	2019015C_5.d
Level 6	IC 410-22225/6	2019015C_6.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Fluoride	Lin	66994740	2194549	8461385	21184779	44383497	0.000000 3.00	0.100	0.400	1.00	2.00
Chloride	Lin	94405314	5242593	12464957	30095601	63171037	0.000000 6.00	0.400	0.800	2.00	4.00
Bromide	Lin	101116937	2166579	12354791	30450763	66897171	0.000000 15.0	0.500	2.00	5.00	10.0
Sulfate	Lin	174476133	7941249	20436987	51083457	114770824	0.000000 15.0	1.00	2.00	5.00	10.0

Curve Type Legend:
Lin = Linear

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_1.d
Lims ID: IC CAL0
Client ID:
Sample Type: IC Calib Level: 0
Inject. Date: 08-Jul-2020 11:05:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 0
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\Anions_12115.m
Limit Group: IC - 300 28D
Last Update: 14-Jul-2020 10:59:05 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1031

First Level Reviewer: litwak Date: 14-Jul-2020 10:59:05

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride		3.190				ND	
2	Chloride		4.660				ND	
3	Nitrite as N		5.667				ND	
4	Bromide		7.363				ND	
5	Nitrate as N		8.683				ND	
6	Sulfate		13.537				ND	
S 7	Nitrate Nitrite as N		0.000				ND	

Reagents:

WC_IC_C_Det_00011 Amount Added: 0.00 Units: mL

Report Date: 14-Jul-2020 10:59:05 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_1.d

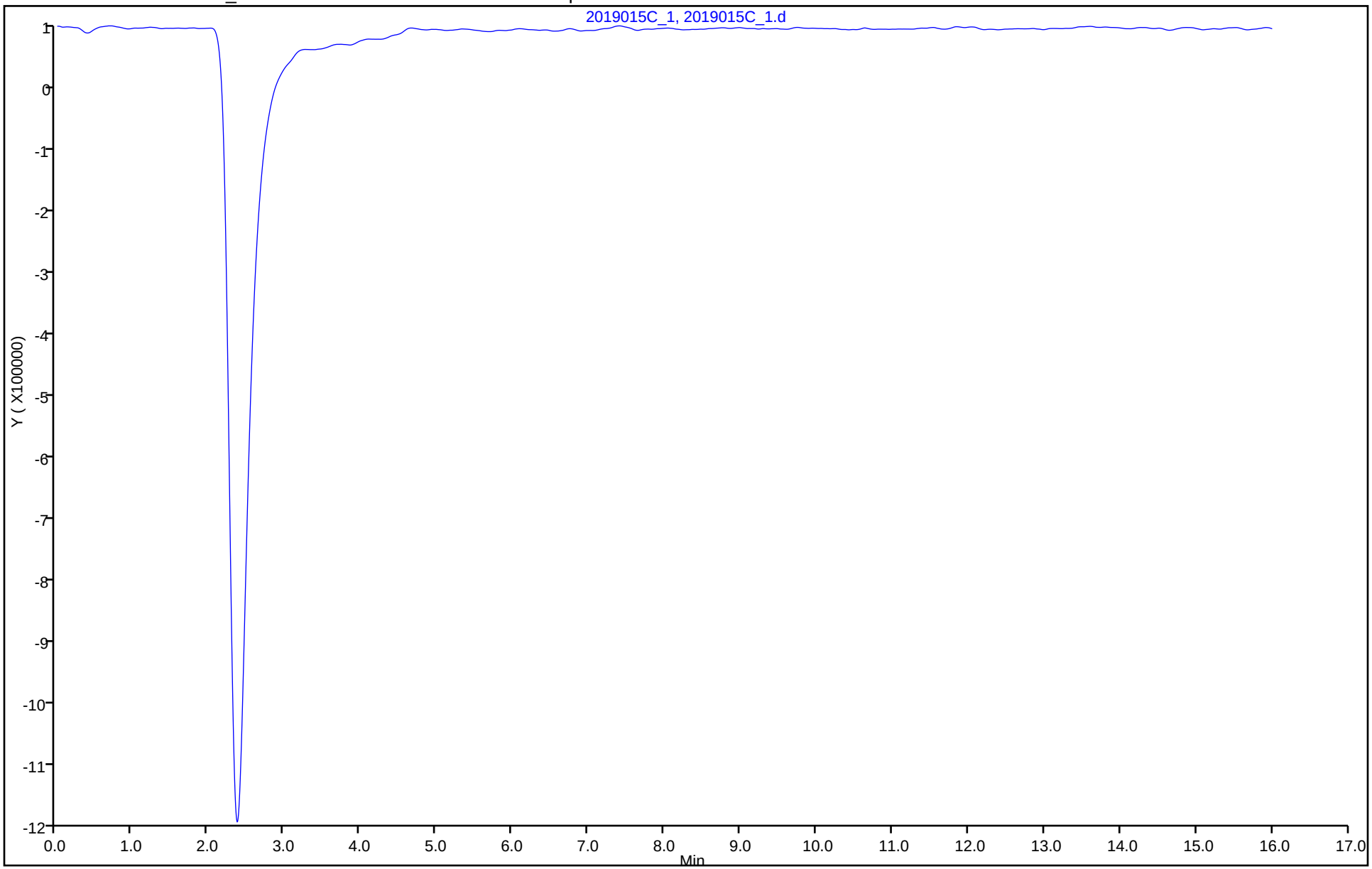
Injection Date: 08-Jul-2020 11:05:00 Instrument ID: 12115 Operator ID:

Lims ID: IC CAL0 Worklist Smp#: 1

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Anions_12115 Limit Group: IC - 300 28D



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_2.d
Lims ID: IC CAL1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 08-Jul-2020 11:22:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 1
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\Anions_12115.m
Limit Group: IC - 300 28D
Last Update: 14-Jul-2020 10:59:05 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1031

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	3.197	3.190	0.007	2194549	0.1000	0.1139	
	2 Chloride	4.660	4.660	0.000	5242593	0.4000	0.3693	
	3 Nitrite as N	5.673	5.667	0.006	2401888	NC	NC	
	4 Bromide	7.400	7.363	0.037	2166579	0.5000	0.5081	
	5 Nitrate as N	8.757	8.683	0.074	2498502	NC	NC	
	6 Sulfate	13.553	13.537	0.016	7941249	1.00	0.9517	
S	7 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

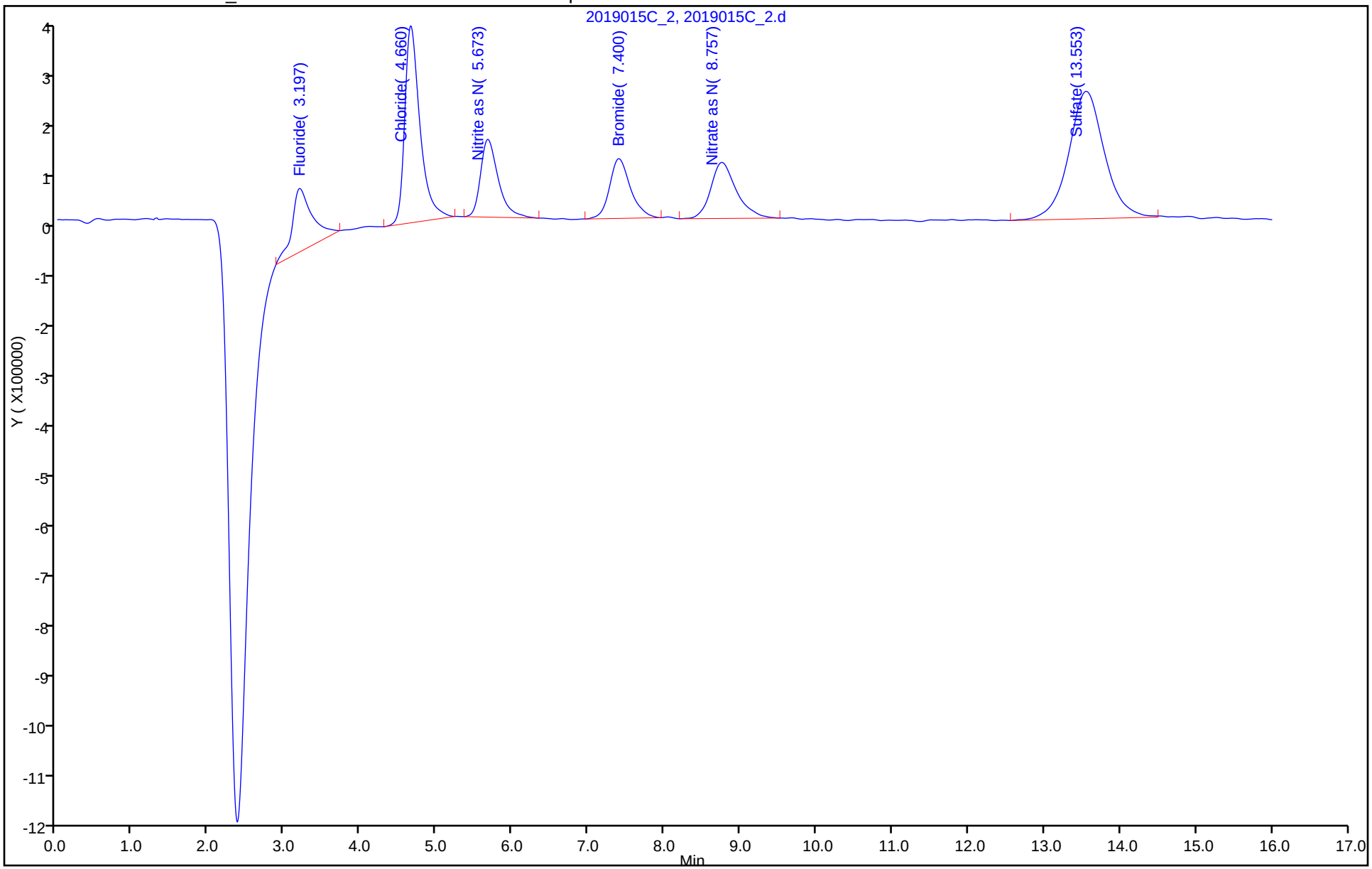
WC_IC_C_Det_00011 Amount Added: 0.10 Units: mL

Report Date: 14-Jul-2020 10:59:06 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_2.d

Injection Date:	08-Jul-2020 11:22:00	Instrument ID:	12115	Operator ID:	
Lims ID:	IC CAL1			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 28D		



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_3.d
Lims ID: IC CAL2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 08-Jul-2020 11:40:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 2
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\Anions_12115.m
Limit Group: IC - 300 28D
Last Update: 14-Jul-2020 10:59:06 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1031

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.193	3.190	0.003	8461385	0.4000	0.3942	
2	Chloride	4.657	4.660	-0.003	12464957	0.8000	0.8254	
3	Nitrite as N	5.663	5.667	-0.004	12754032	NC	NC	
4	Bromide	7.373	7.363	0.010	12354791	2.00	2.01	
5	Nitrate as N	8.693	8.683	0.010	14223277	NC	NC	
6	Sulfate	13.547	13.537	0.010	20436987	2.00	2.01	
S 7	Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

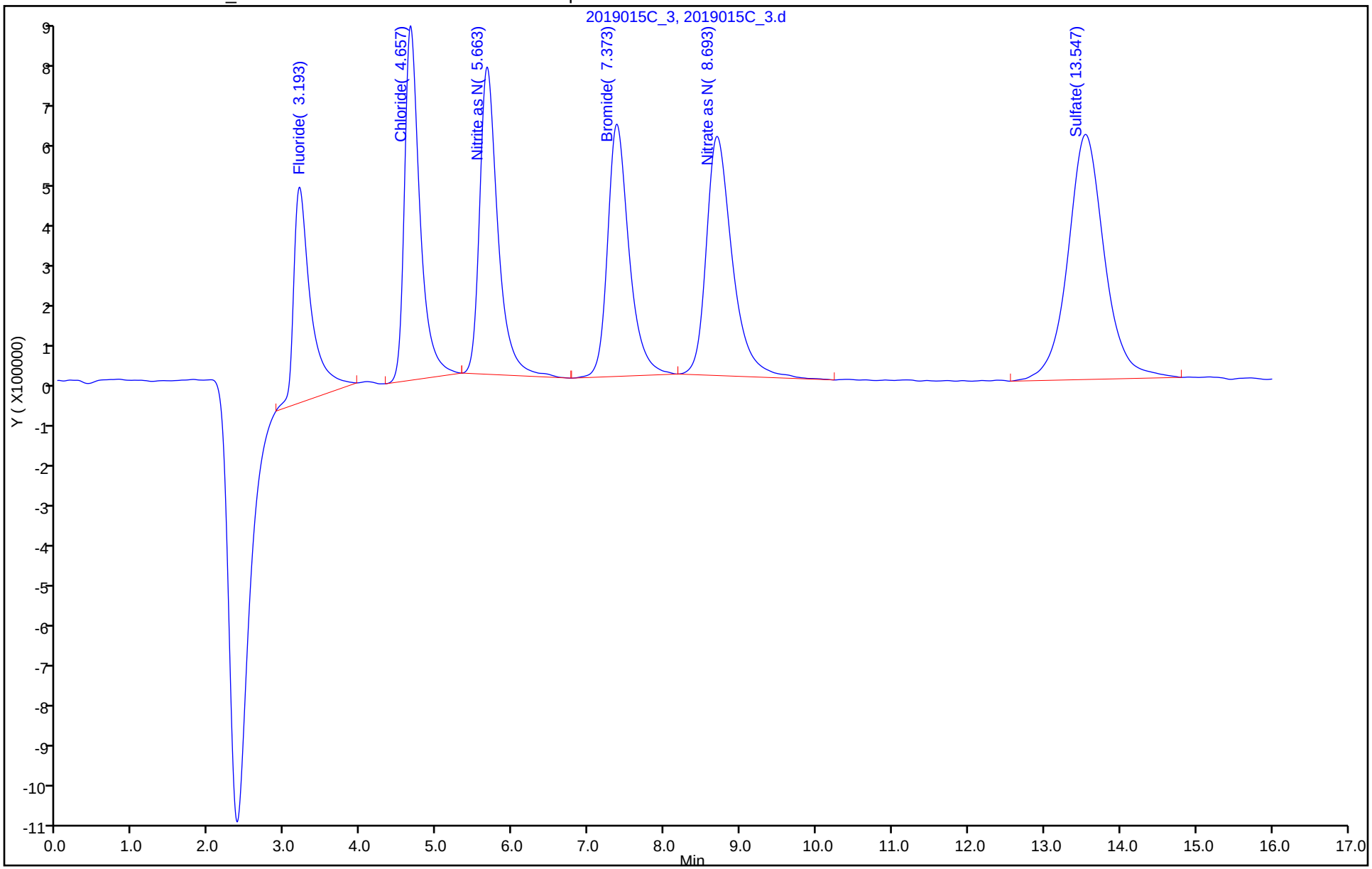
WC_IC_C_Int_00011 Amount Added: 0.40 Units: mL

Report Date: 14-Jul-2020 10:59:06 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_3.d

Injection Date:	08-Jul-2020 11:40:00	Instrument ID:	12115	Operator ID:	
Lims ID:	IC CAL2			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 28D		



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_4.d
Lims ID: IC CAL3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 08-Jul-2020 11:57:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 3
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\Anions_12115.m
Limit Group: IC - 300 28D
Last Update: 14-Jul-2020 10:59:07 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1031

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	3.190	3.190	0.000	21184779	1.00	0.9632	
	2 Chloride	4.653	4.660	-0.007	30095601	2.00	1.94	
	3 Nitrite as N	5.660	5.667	-0.007	30766849	NC	NC	
	4 Bromide	7.360	7.363	-0.003	30450763	5.00	4.67	
	5 Nitrate as N	8.663	8.683	-0.020	35575189	NC	NC	
	6 Sulfate	13.533	13.537	-0.004	51083457	5.00	4.62	
S	7 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

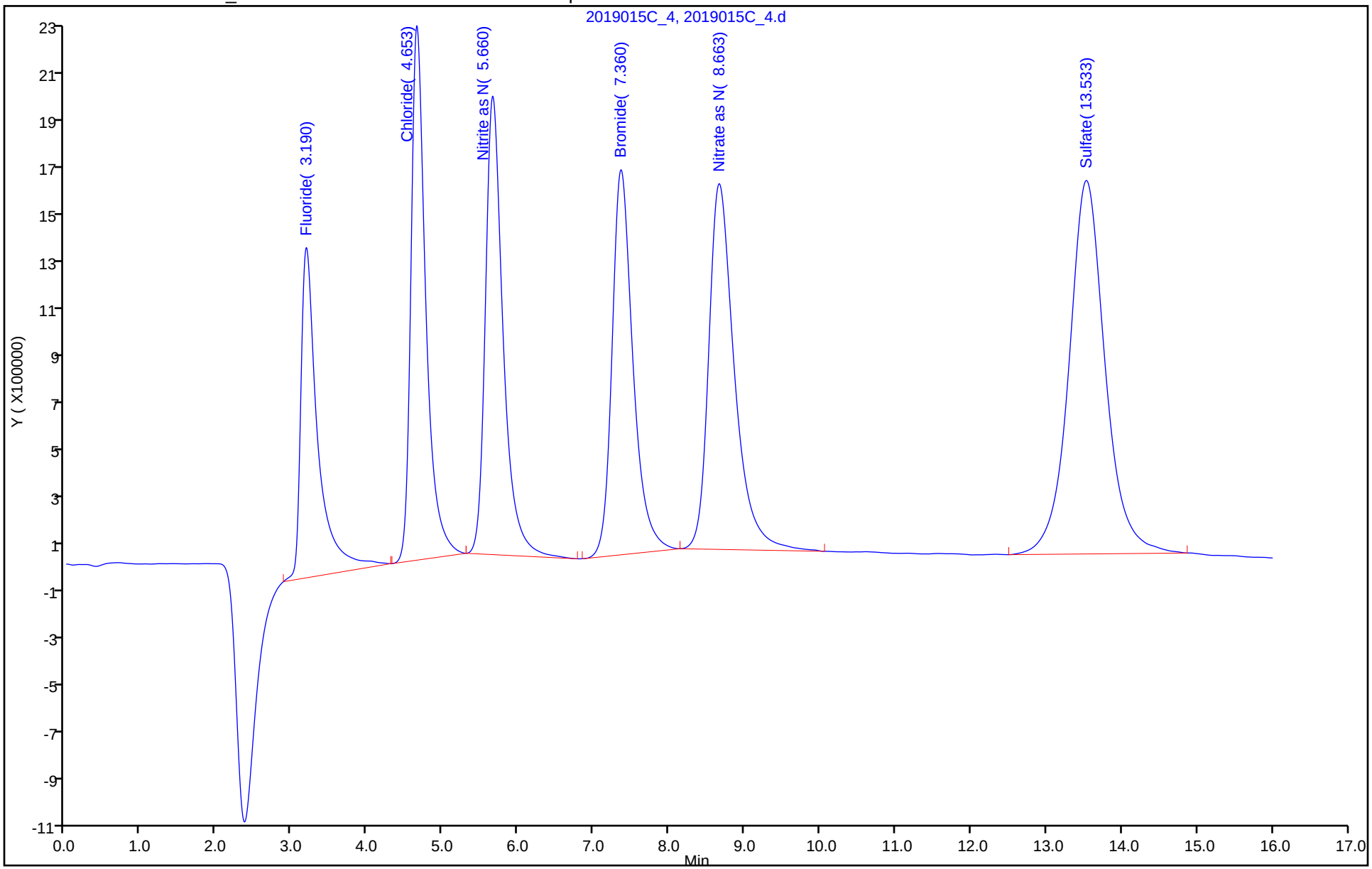
WC_IC_C_Int_00011 Amount Added: 1.00 Units: mL

Report Date: 14-Jul-2020 10:59:07 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_4.d

Injection Date:	08-Jul-2020 11:57:00	Instrument ID:	12115	Operator ID:	
Lims ID:	IC CAL3			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 28D		



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_5.d
Lims ID: IC CAL4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 08-Jul-2020 12:14:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 4
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\Anions_12115.m
Limit Group: IC - 300 28D
Last Update: 14-Jul-2020 10:59:08 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1031

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	3.197	3.197	0.000	44383497	2.00	2.00	
	2 Chloride	4.663	4.663	0.000	63171037	4.00	4.03	
	3 Nitrite as N	5.667	5.667	0.000	66809968	NC	NC	
	4 Bromide	7.357	7.357	0.000	66897171	10.0	10.0	
	5 Nitrate as N	8.637	8.637	0.000	75792377	NC	NC	
	6 Sulfate	13.537	13.537	0.000	114770824	10.0	10.0	
S	7 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

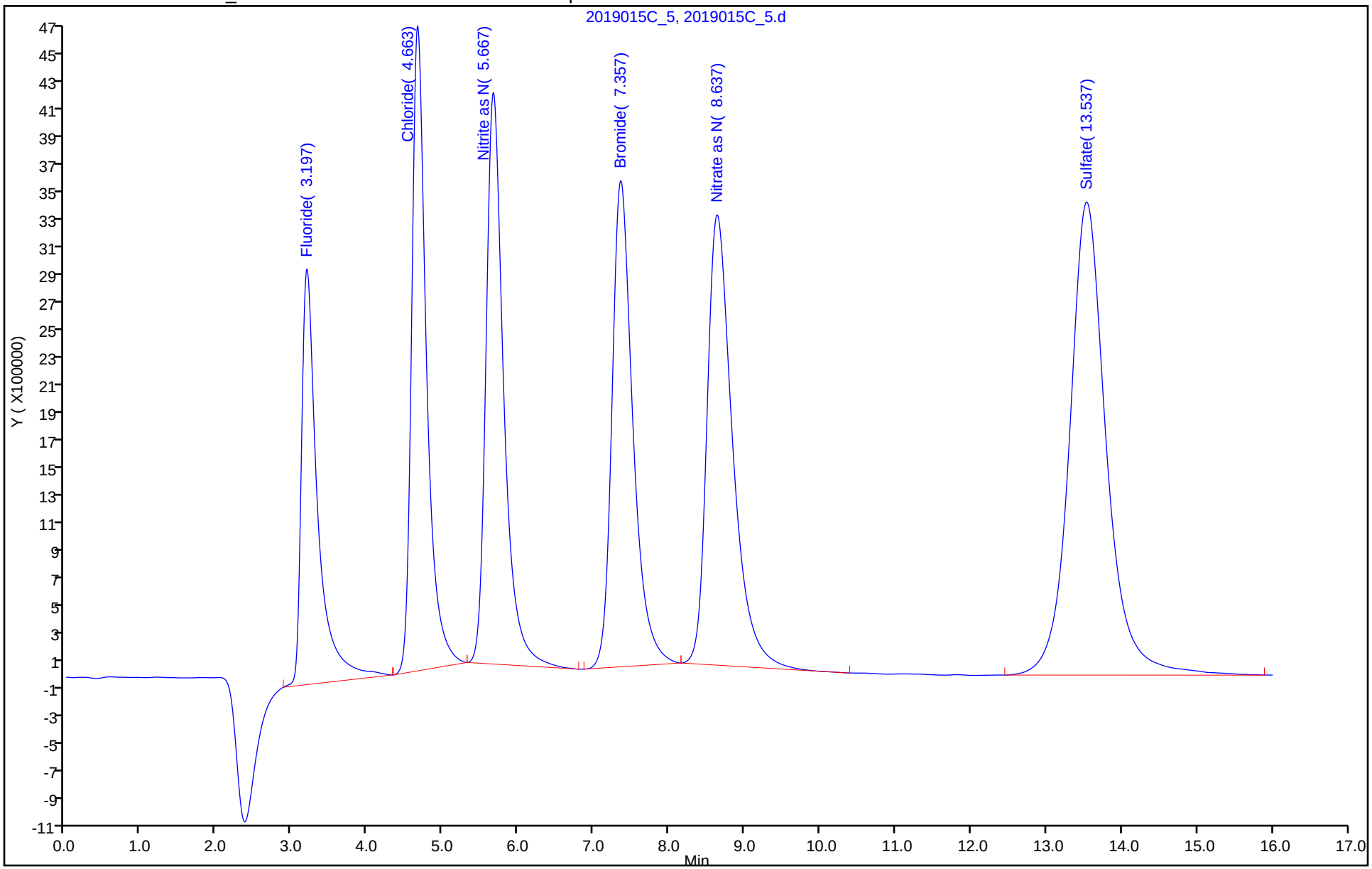
WC_IC_C_Int_00011 Amount Added: 2.00 Units: mL

Report Date: 14-Jul-2020 10:59:08 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_5.d

Injection Date:	08-Jul-2020 12:14:00	Instrument ID:	12115	Operator ID:	
Lims ID:	IC CAL4			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 28D		



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d
Lims ID: IC CAL5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 08-Jul-2020 12:31:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 5
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\Anions_12115.m
Limit Group: IC - 300 28D
Last Update: 14-Jul-2020 10:59:09 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1031

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	3.197	3.197	0.000	66994740	3.00	3.01	
	2 Chloride	4.667	4.663	0.004	94405314	6.00	6.00	
	3 Nitrite as N	5.670	5.667	0.003	100348830	NC	NC	
	4 Bromide	7.353	7.357	-0.004	101116937	15.0	15.1	
	5 Nitrate as N	8.617	8.637	-0.020	113830125	NC	NC	
	6 Sulfate	13.530	13.537	-0.007	174476133	15.0	15.1	
S	7 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

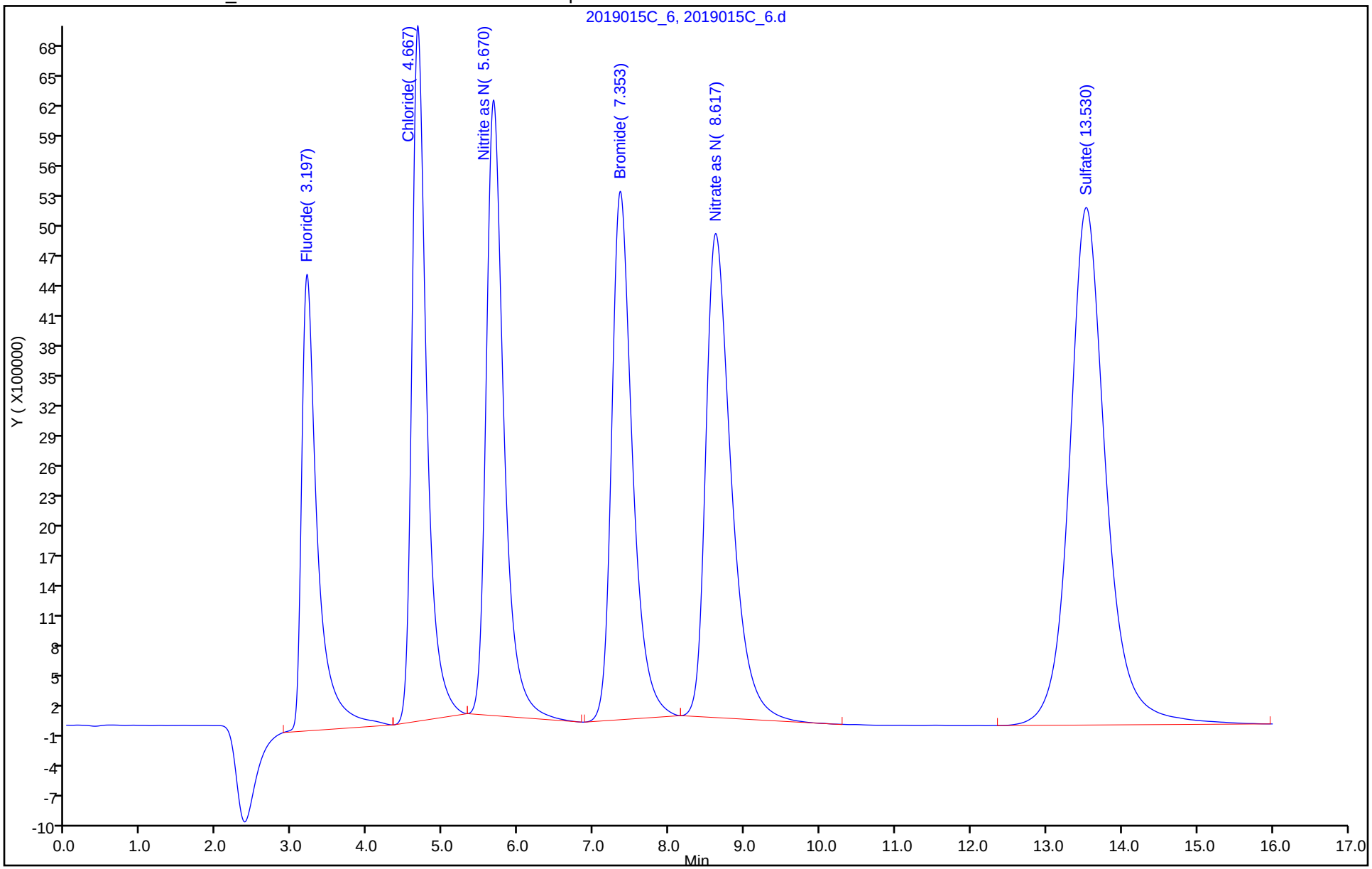
WC_IC_C_Int_00011 Amount Added: 3.00 Units: mL

Report Date: 14-Jul-2020 10:59:09 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Injection Date:	08-Jul-2020 12:31:00	Instrument ID:	12115	Operator ID:	
Lims ID:	IC CAL5			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 28D		



FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 27551

SDG No.:

Instrument ID: 19052 GC Column: IC06-AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2020 12:31 Calibration End Date: 07/29/2020 13:57 Calibration ID: 7960

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-27551/1	2021113C_1.d
Level 2	IC 410-27551/2	2021113C_2.d
Level 3	IC 410-27551/3	2021113C_3.d
Level 4	IC 410-27551/4	2021113C_4.d
Level 5	IC 410-27551/5	2021113C_5.d
Level 6	IC 410-27551/6	2021113C_6.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6					RT WINDOW	AVG RT
Fluoride		3.123	3.123	3.123	3.123	3.127					0.000 - 0.000	3.124
Chloride		4.500	4.503	4.510	4.507	4.507					0.000 - 0.000	4.505
Bromide		7.023	7.020	7.030	6.990	6.980					0.000 - 0.000	7.009
Sulfate		12.577	12.570	12.567	12.567	12.553					0.000 - 0.000	12.567

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 27551

SDG No.:

Instrument ID: 19052 GC Column: IC06-AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2020 12:31 Calibration End Date: 07/29/2020 13:57 Calibration ID: 7960

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-27551/1	2021113C_1.d
Level 2	IC 410-27551/2	2021113C_2.d
Level 3	IC 410-27551/3	2021113C_3.d
Level 4	IC 410-27551/4	2021113C_4.d
Level 5	IC 410-27551/5	2021113C_5.d
Level 6	IC 410-27551/6	2021113C_6.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3	LVL 4		B	M1	M2								
Fluoride	17254235	13735350 19303269	16491575	17318306	Lin	-948322.60	18984105.3							0.9960		0.9900
Chloride	13635497	16846798 15190245	15733468	14620417	Lin	-31750.549	14730324.7							0.9950		0.9900
Bromide	5879186	4990350 6536047	6047110	5812585	Lin	-1337220.5	6415637.23							0.9960		0.9900
Sulfate	9854990	9678983 10911314	10461448	9896964	Lin	-1810324.7	10702068.6							0.9960		0.9900

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 27551

SDG No.:

Instrument ID: 19052 GC Column: IC06-AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2020 12:31 Calibration End Date: 07/29/2020 13:57 Calibration ID: 7960

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-27551/1	2021113C_1.d
Level 2	IC 410-27551/2	2021113C_2.d
Level 3	IC 410-27551/3	2021113C_3.d
Level 4	IC 410-27551/4	2021113C_4.d
Level 5	IC 410-27551/5	2021113C_5.d
Level 6	IC 410-27551/6	2021113C_6.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Fluoride	Lin	57909808	1373535	6596630	17318306	34508470	0.000000 3.00	0.100	0.400	1.00	2.00
Chloride	Lin	91141469	6738719	12586774	29240834	54541987	0.000000 6.00	0.400	0.800	2.00	4.00
Bromide	Lin	98040702	2495175	12094220	29062927	58791863	0.000000 15.0	0.500	2.00	5.00	10.0
Sulfate	Lin	163669717	9678983	20922896	49484818	98549901	0.000000 15.0	1.00	2.00	5.00	10.0

Curve Type Legend:
Lin = Linear

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_1.d				
Lims ID:	IC CAL0				
Client ID:					
Sample Type:	IC	Calib Level:	0		
Inject. Date:	29-Jul-2020 12:31:00	ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	CAL 0				
Operator ID:		Instrument ID:	19052		
Sublist:	chrom-Anions_19052*sub1				
Method:	\\chromfs\Lancaster\ChromData\19052\20200729-6787.b\Anions_19052.m				
Limit Group:	IC - 300 28D				
Last Update:	30-Jul-2020 11:42:33	Calib Date:	29-Jul-2020 13:57:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d				
Column 1 :			Det: det0		
Process Host:	CTX1035				
First Level Reviewer: litwak		Date:	30-Jul-2020 11:42:31		

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride		3.123				ND	
2	Chloride		4.510				ND	
3	Nitrite as N		5.433				ND	
4	Bromide		7.013				ND	
5	Nitrate as N		8.203				ND	
6	Sulfate		12.560				ND	
S 7	Nitrate Nitrite as N		0.000				ND	

Reagents:

WC_IC_C_Det_00015 Amount Added: 0.00 Units: mL

Report Date: 30-Jul-2020 11:42:34 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_1.d

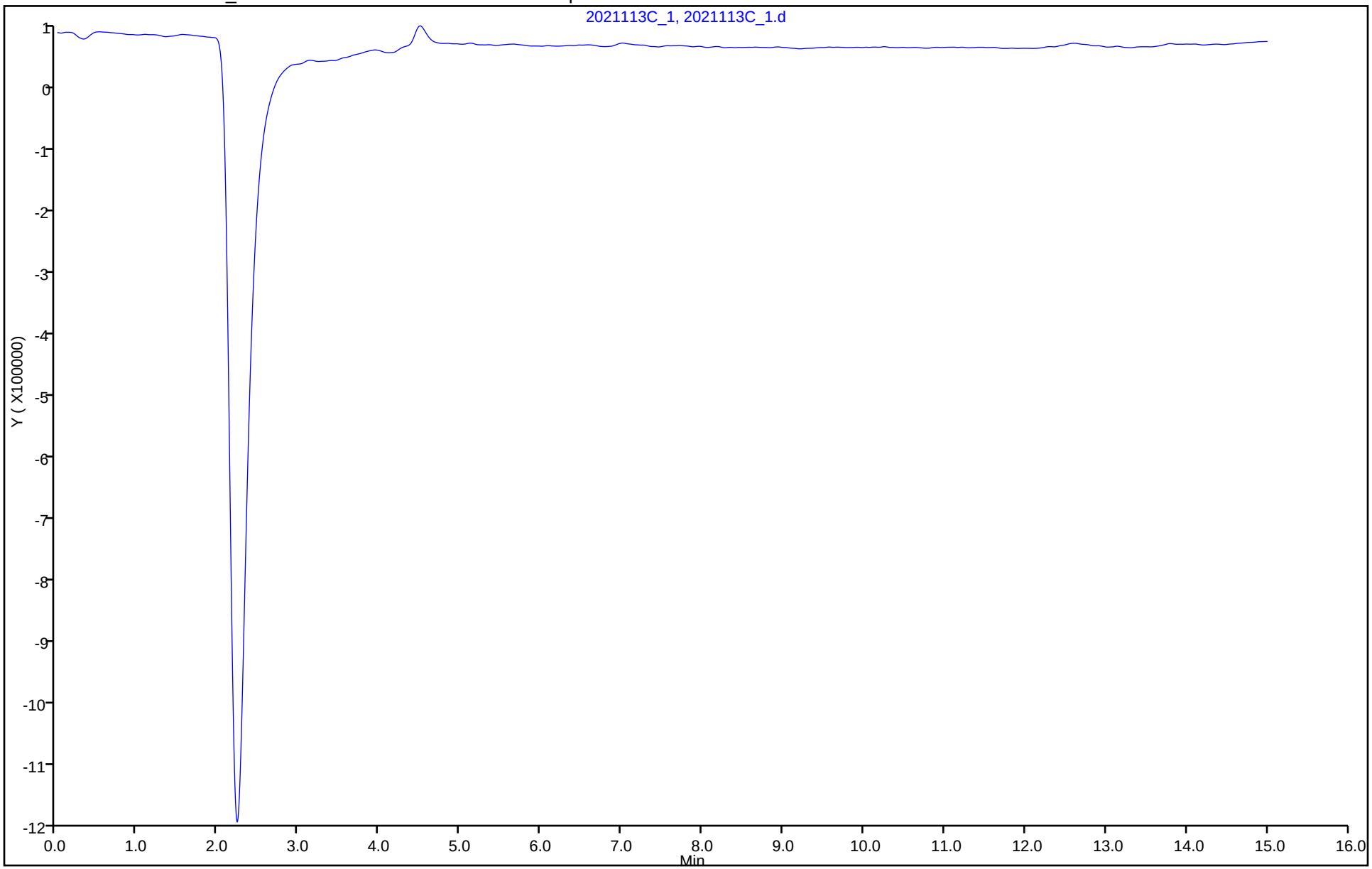
Injection Date: 29-Jul-2020 12:31:00 Instrument ID: 19052 Operator ID:

Lims ID: IC CAL0 Worklist Smp#: 1

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Anions_19052 Limit Group: IC - 300 28D



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_2.d
Lims ID: IC CAL1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 29-Jul-2020 12:48:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 1
Operator ID: Instrument ID: 19052
Sublist: chrom-Anions_19052*sub1

Method: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\Anions_19052.m
Limit Group: IC - 300 28D
Last Update: 30-Jul-2020 11:42:34 Calib Date: 29-Jul-2020 13:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

Column 1 : Det: det0
Process Host: CTX1035

First Level Reviewer: litwak Date: 30-Jul-2020 11:36:33

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.123	3.123	0.000	1373535	0.1000	0.1223	
2	Chloride	4.500	4.510	-0.010	6738719	0.4000	0.4596	
3	Nitrite as N	5.427	5.433	-0.006	2684659	NC	NC	
4	Bromide	7.023	7.013	0.010	2495175	0.5000	0.5974	
5	Nitrate as N	8.230	8.203	0.027	3081777	NC	NC	
6	Sulfate	12.577	12.560	0.017	9678983	1.00	1.07	
S 7	Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

WC_IC_C_Det_00015 Amount Added: 0.10 Units: mL

Report Date: 30-Jul-2020 11:42:34 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_2.d

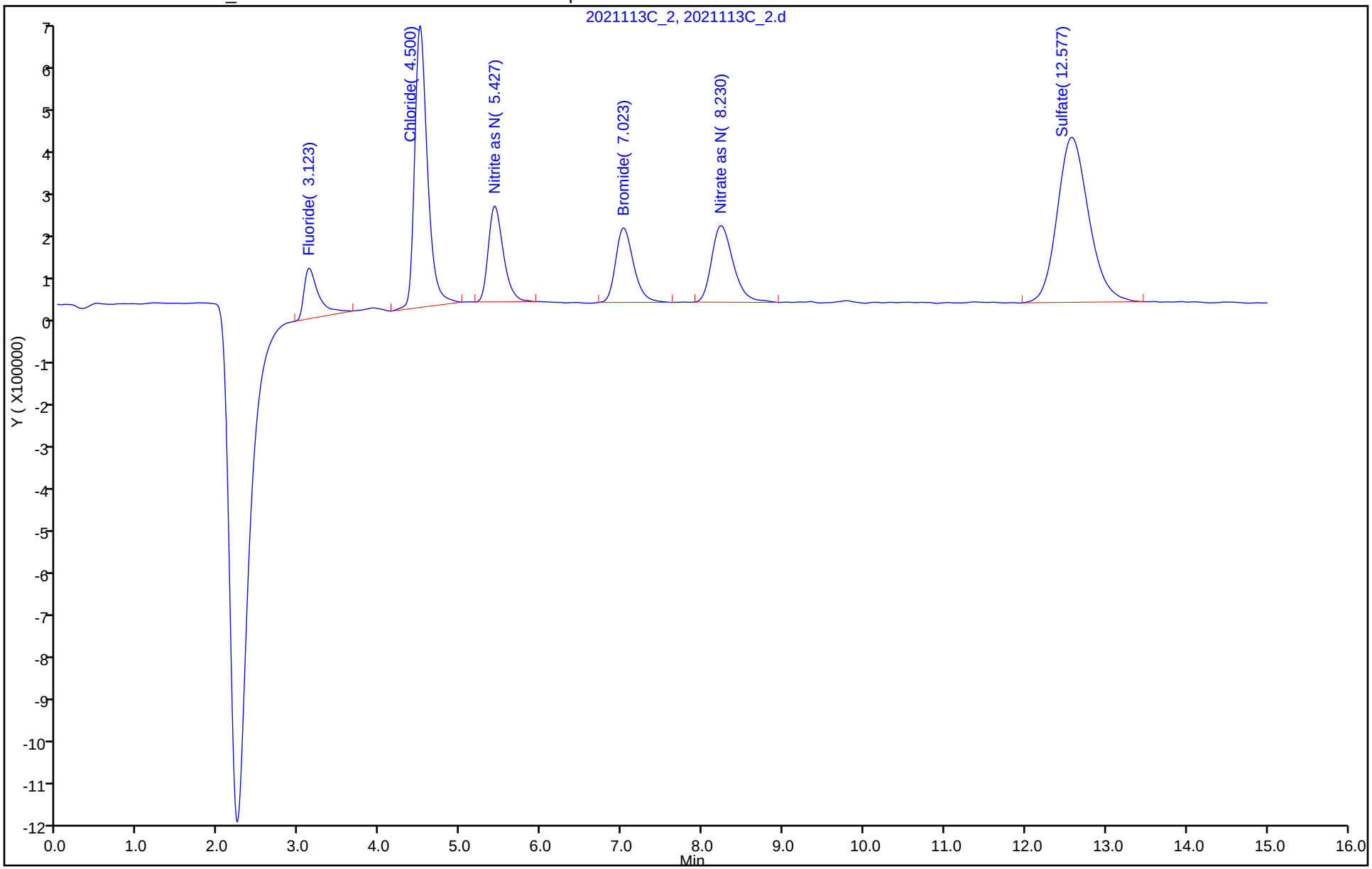
Injection Date: 29-Jul-2020 12:48:00 Instrument ID: 19052 Operator ID:

Lims ID: IC CAL1 Worklist Smp#: 2

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Anions_19052 Limit Group: IC - 300 28D



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_3.d
Lims ID: IC CAL2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 29-Jul-2020 13:05:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 2
Operator ID: Instrument ID: 19052
Sublist: chrom-Anions_19052*sub1

Method: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\Anions_19052.m
Limit Group: IC - 300 28D
Last Update: 30-Jul-2020 11:42:25 Calib Date: 29-Jul-2020 13:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

Column 1 : Det: det0
Process Host: CTX1035

First Level Reviewer: litwak Date: 30-Jul-2020 11:36:58

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.123	3.123	0.000	6596630	0.4000	0.3974	
2	Chloride	4.503	4.510	-0.007	12586774	0.8000	0.8566	
3	Nitrite as N	5.427	5.433	-0.006	12430296	NC	NC	
4	Bromide	7.020	7.013	0.007	12094220	2.00	2.09	
5	Nitrate as N	8.213	8.203	0.010	13889450	NC	NC	
6	Sulfate	12.570	12.560	0.010	20922896	2.00	2.12	
S 7	Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

WC_IC_C_Int_00016 Amount Added: 0.40 Units: mL

Report Date: 30-Jul-2020 11:42:25 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_3.d

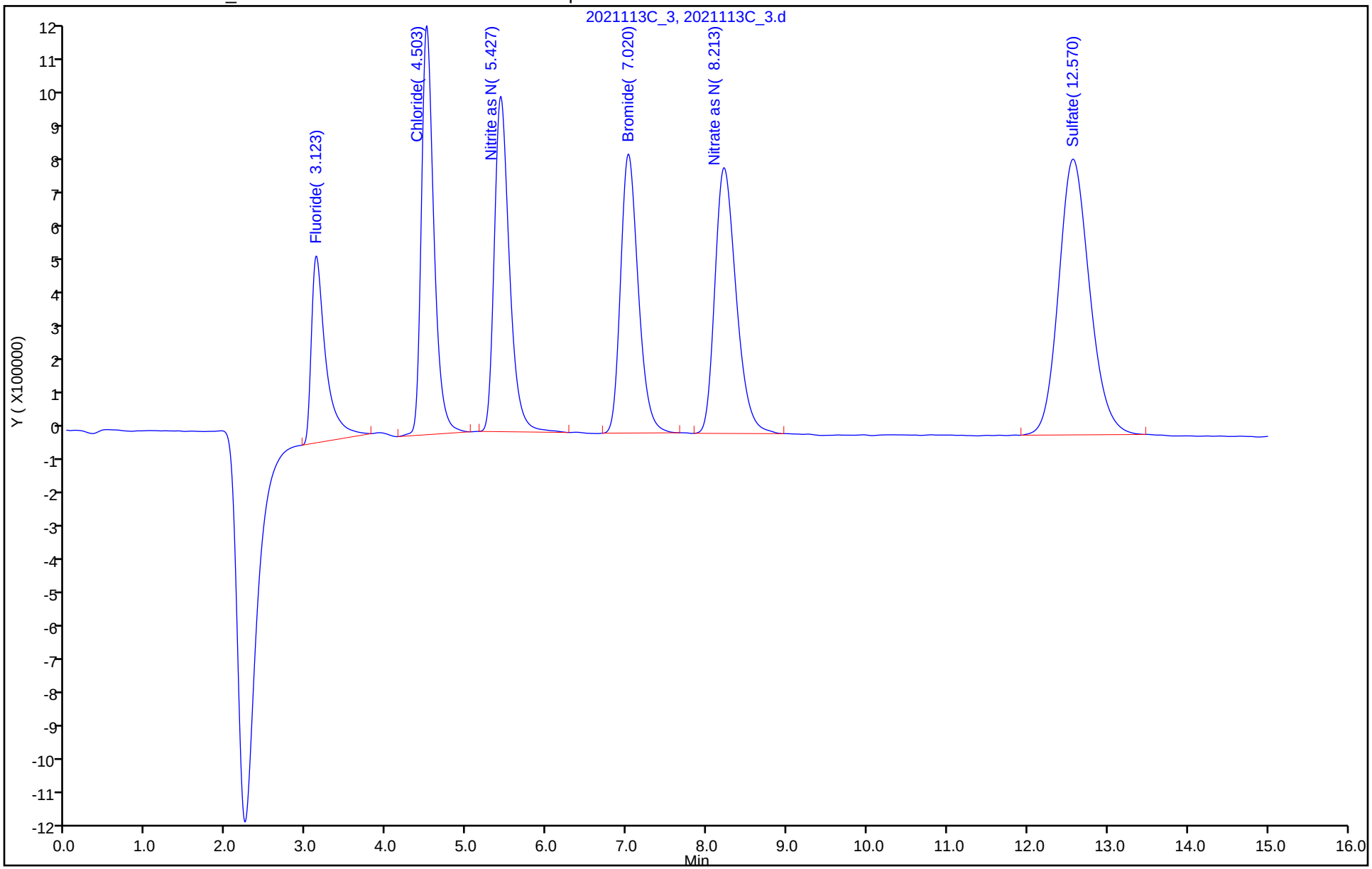
Injection Date: 29-Jul-2020 13:05:00 Instrument ID: 19052 Operator ID:

Lims ID: IC CAL2 Worklist Smp#: 3

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Anions_19052 Limit Group: IC - 300 28D



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_4.d
Lims ID: IC CAL3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 29-Jul-2020 13:23:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 3
Operator ID: Instrument ID: 19052
Sublist: chrom-Anions_19052*sub1

Method: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\Anions_19052.m
Limit Group: IC - 300 28D
Last Update: 30-Jul-2020 11:42:35 Calib Date: 29-Jul-2020 13:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

Column 1 : Det: det0
Process Host: CTX1035

First Level Reviewer: litwak Date: 30-Jul-2020 11:41:49

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.123	3.123	0.000	17318306	1.00	0.9622	
2	Chloride	4.510	4.510	0.000	29240834	2.00	1.99	
3	Nitrite as N	5.437	5.433	0.004	28755860	NC	NC	
4	Bromide	7.030	7.013	0.017	29062927	5.00	4.74	
5	Nitrate as N	8.210	8.203	0.007	32687253	NC	NC	
6	Sulfate	12.567	12.560	0.007	49484818	5.00	4.79	
S 7	Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

WC_IC_C_Int_00016 Amount Added: 1.00 Units: mL

Report Date: 30-Jul-2020 11:42:35 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_4.d

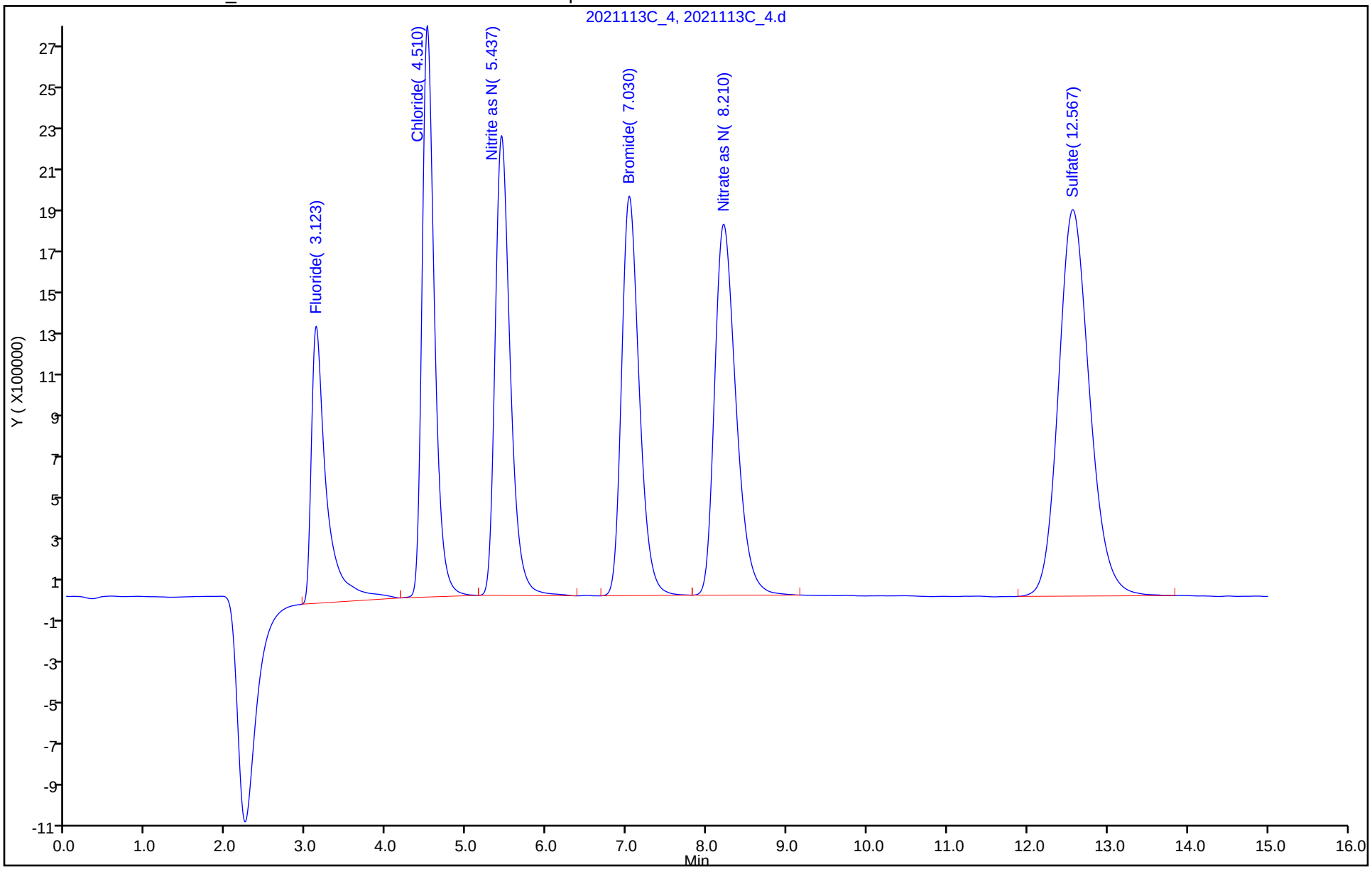
Injection Date: 29-Jul-2020 13:23:00 Instrument ID: 19052 Operator ID:

Lims ID: IC CAL3 Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Anions_19052 Limit Group: IC - 300 28D



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_5.d
Lims ID: IC CAL4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 29-Jul-2020 13:40:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 4
Operator ID: Instrument ID: 19052
Sublist: chrom-Anions_19052*sub1

Method: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\Anions_19052.m
Limit Group: IC - 300 28D
Last Update: 30-Jul-2020 11:42:35 Calib Date: 29-Jul-2020 13:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

Column 1 : Det: det0
Process Host: CTX1035

First Level Reviewer: litwak Date: 30-Jul-2020 11:41:53

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.123	3.123	0.000	34508470	2.00	1.87	
2	Chloride	4.507	4.507	0.000	54541987	4.00	3.70	
3	Nitrite as N	5.423	5.423	0.000	58498579	NC	NC	
4	Bromide	6.990	6.990	0.000	58791863	10.0	9.37	
5	Nitrate as N	8.143	8.143	0.000	65214803	NC	NC	
6	Sulfate	12.567	12.567	0.000	98549901	10.0	9.38	
S 7	Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

WC_IC_C_Int_00016 Amount Added: 2.00 Units: mL

Report Date: 30-Jul-2020 11:42:35 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_5.d

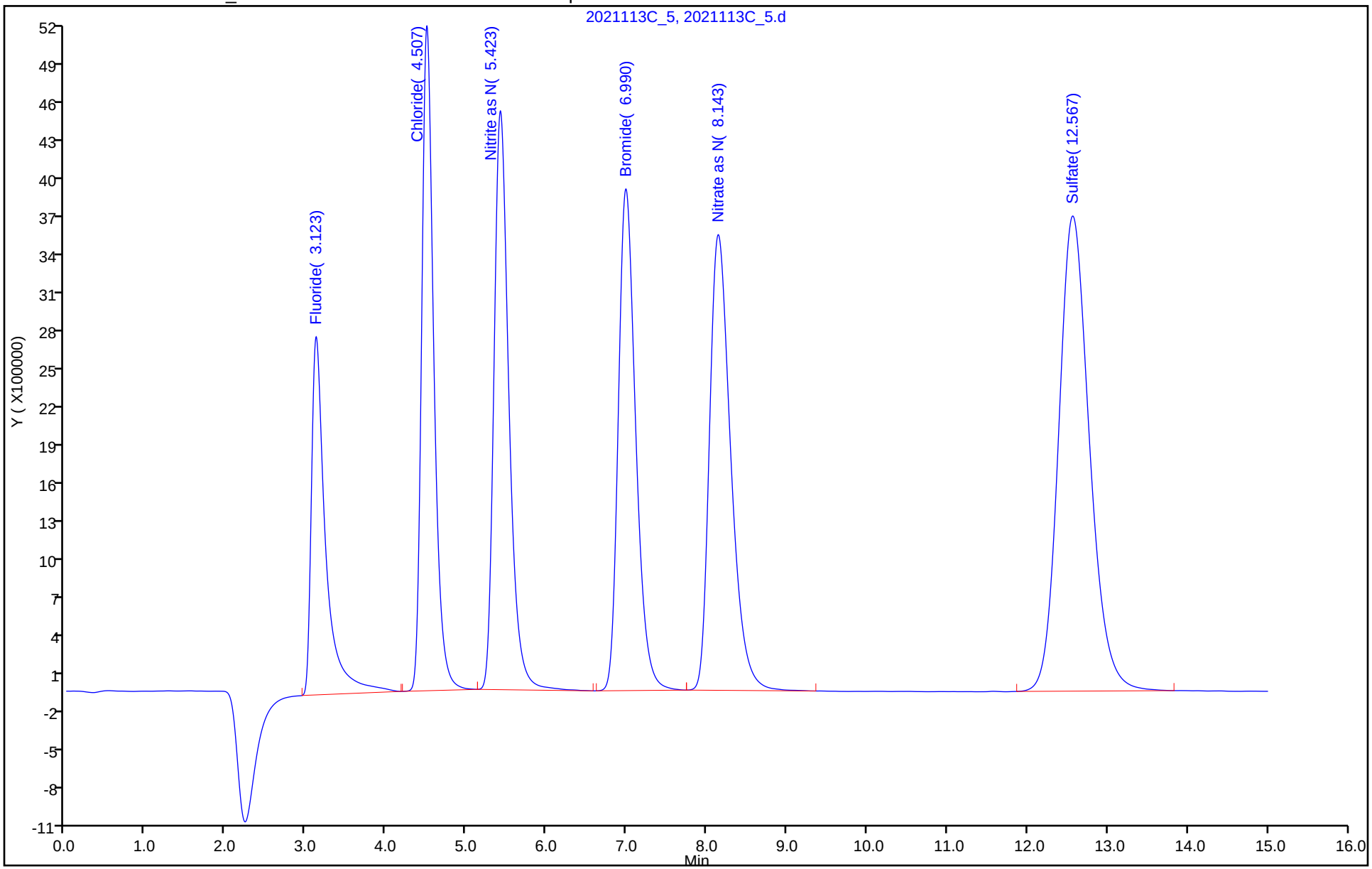
Injection Date: 29-Jul-2020 13:40:00 Instrument ID: 19052 Operator ID:

Lims ID: IC CAL4 Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Anions_19052 Limit Group: IC - 300 28D



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d
Lims ID: IC CAL5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 29-Jul-2020 13:57:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 5
Operator ID: Instrument ID: 19052
Sublist: chrom-Anions_19052*sub1

Method: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\Anions_19052.m
Limit Group: IC - 300 28D
Last Update: 30-Jul-2020 11:42:36 Calib Date: 29-Jul-2020 13:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

Column 1 : Det: det0
Process Host: CTX1035

First Level Reviewer: litwak Date: 30-Jul-2020 11:41:58

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.127	3.123	0.004	57909808	3.00	3.10	
2	Chloride	4.507	4.507	0.000	91141469	6.00	6.19	
3	Nitrite as N	5.423	5.423	0.000	97144051	NC	NC	
4	Bromide	6.980	6.990	-0.010	98040702	15.0	15.5	
5	Nitrate as N	8.117	8.143	-0.026	108220781	NC	NC	
6	Sulfate	12.553	12.567	-0.014	163669717	15.0	15.5	
S 7	Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

WC_IC_C_Int_00016 Amount Added: 3.00 Units: mL

Report Date: 30-Jul-2020 11:42:36 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

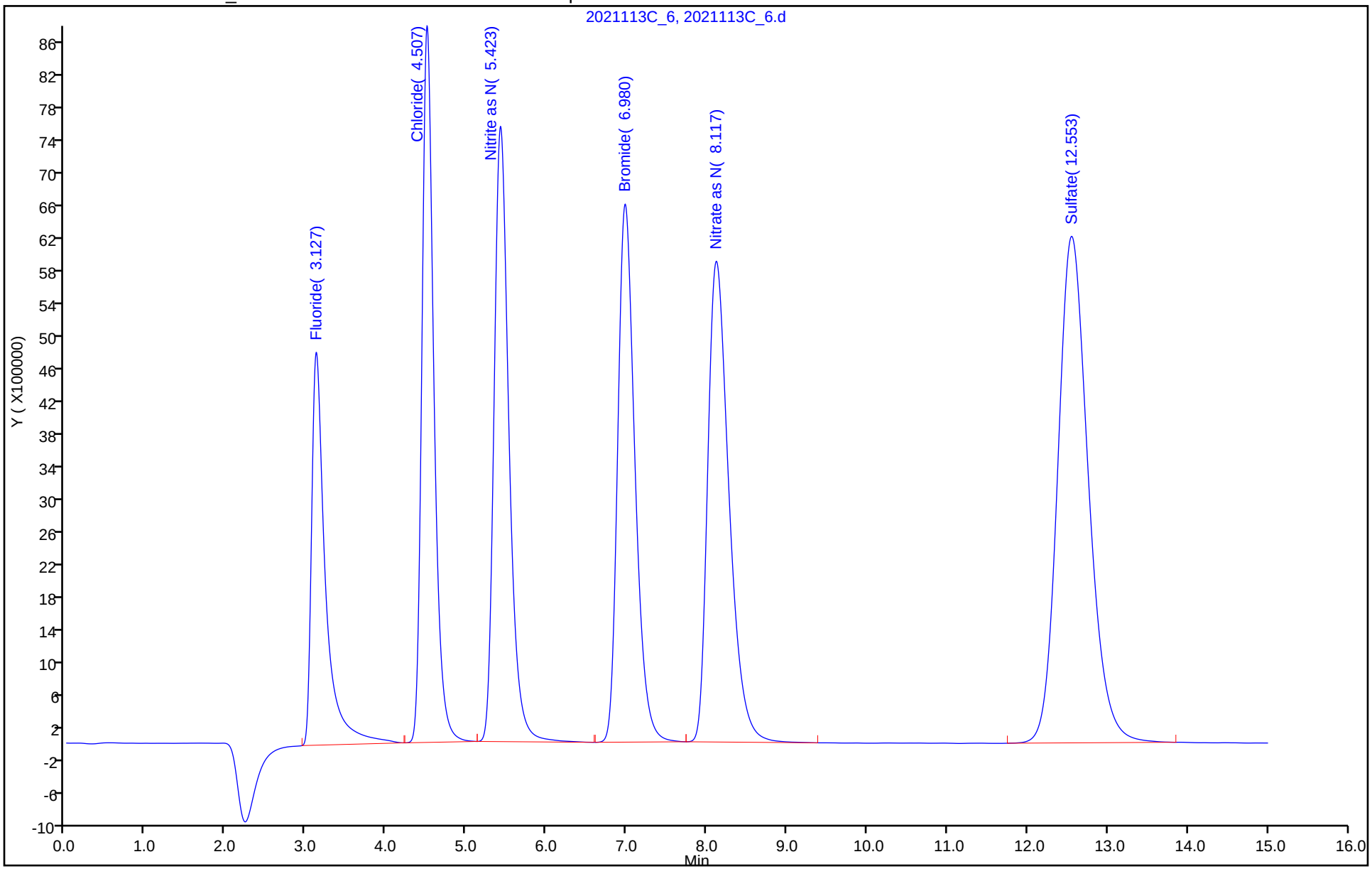
Injection Date: 29-Jul-2020 13:57:00 Instrument ID: 19052 Operator ID:

Lims ID: IC CAL5 Worklist Smp#: 6

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Anions_19052 Limit Group: IC - 300 28D



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICV 410-22225/7 Calibration Date: 07/08/2020 12:48

Instrument ID: 12115 Calib Start Date: 07/08/2020 11:05

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 07/08/2020 12:31

Lab File ID: 2019015C_7.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		20665519		0.709	0.750	-5.5	10.0
Chloride	Lin		15314591		2.94	3.00	-2.0	10.0
Bromide	Lin		6686721		7.57	7.50	1.0	10.0
Sulfate	Lin		11325288		7.50	7.50	-0.0	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICV 410-22225/7 Calibration Date: 07/08/2020 12:48

Instrument ID: 12115 Calib Start Date: 07/08/2020 11:05

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 07/08/2020 12:31

Lab File ID: 2019015C_7.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	3.19	2.94	3.44
Chloride	4.66	4.41	4.91
Bromide	7.36	6.96	7.76
Sulfate	13.54	12.74	14.34

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_7.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 08-Jul-2020 12:48:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Operator ID: Instrument ID: 12115
Sublist:

Method: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\Anions_12115.m
Limit Group: IC - 300 28D
Last Update: 14-Jul-2020 10:40:18 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1031

First Level Reviewer: litwak Date: 14-Jul-2020 10:40:09

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.190	3.190	0.000	15499139	0.7500	0.7090	
2	Chloride	4.660	4.660	0.000	45943772	3.00	2.94	
3	Nitrite as N	5.667	5.667	0.000	22840244	NC	NC	
4	Bromide	7.363	7.363	0.000	50150405	7.50	7.57	
5	Nitrate as N	8.683	8.683	0.000	25521335	NC	NC	
6	Sulfate	13.537	13.537	0.000	84939661	7.50	7.50	
S 7	Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

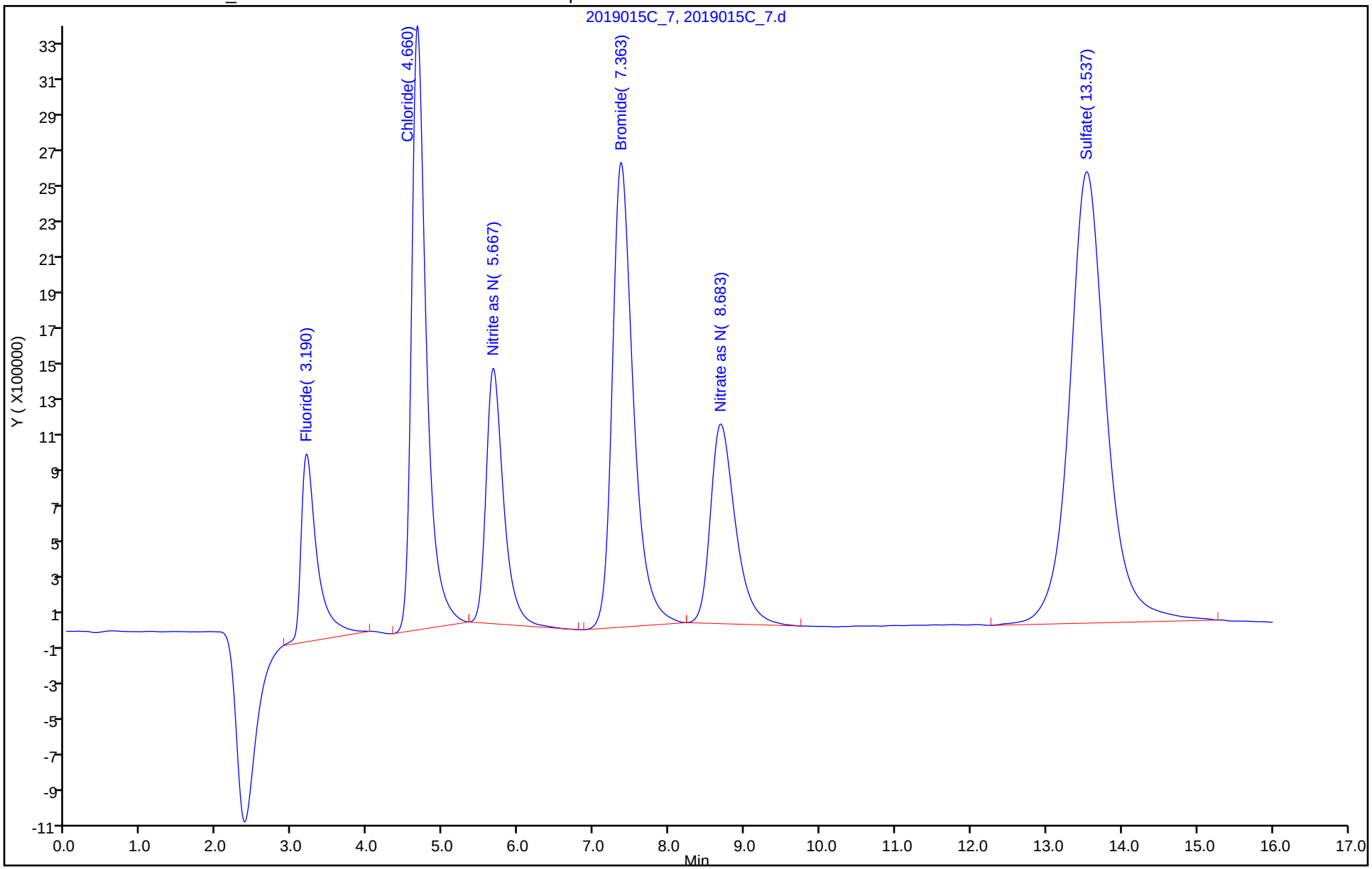
WC_IC_QC2_00079 Amount Added: 7.50 Units: mL

Report Date: 14-Jul-2020 10:40:18 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_7.d

Injection Date:	08-Jul-2020 12:48:00	Instrument ID:	12115	Operator ID:	
Lims ID:	ICV			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 28D		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVRT 410-34575/1 Calibration Date: 08/19/2020 00:06

Instrument ID: 12115 Calib Start Date: 07/08/2020 11:05

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 07/08/2020 12:31

Lab File ID: 2023115B_1.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		22270816		0.763	0.750	1.7	10.0
Chloride	Lin		15368976		2.95	3.00	-1.7	10.0
Bromide	Lin		6650343		7.53	7.50	0.5	10.0
Sulfate	Lin		11581804		7.66	7.50	2.1	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVRT 410-34575/1 Calibration Date: 08/19/2020 00:06

Instrument ID: 12115 Calib Start Date: 07/08/2020 11:05

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 07/08/2020 12:31

Lab File ID: 2023115B_1.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	3.17	2.92	3.42
Chloride	4.59	4.34	4.84
Bromide	7.15	6.75	7.55
Sulfate	13.00	12.20	13.80

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_1.d
Lims ID: CCVRT
Client ID:
Sample Type: CCVRT
Inject. Date: 19-Aug-2020 00:06:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVRT
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\Anions_12115.m
Limit Group: IC - 300 28D
Last Update: 19-Aug-2020 12:32:35 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1050

First Level Reviewer: litwak Date: 19-Aug-2020 12:32:35

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.173	3.173	0.000	16703112	0.7500	0.7628	
2 Chloride	4.590	4.590	0.000	46106928	3.00	2.95	
3 Nitrite as N	5.540	5.540	0.000	23583262	NC	NC	
4 Bromide	7.150	7.150	0.000	49877575	7.50	7.53	
5 Nitrate as N	8.377	8.377	0.000	26242721	NC	NC	
6 Sulfate	13.000	13.000	0.000	86863533	7.50	7.66	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

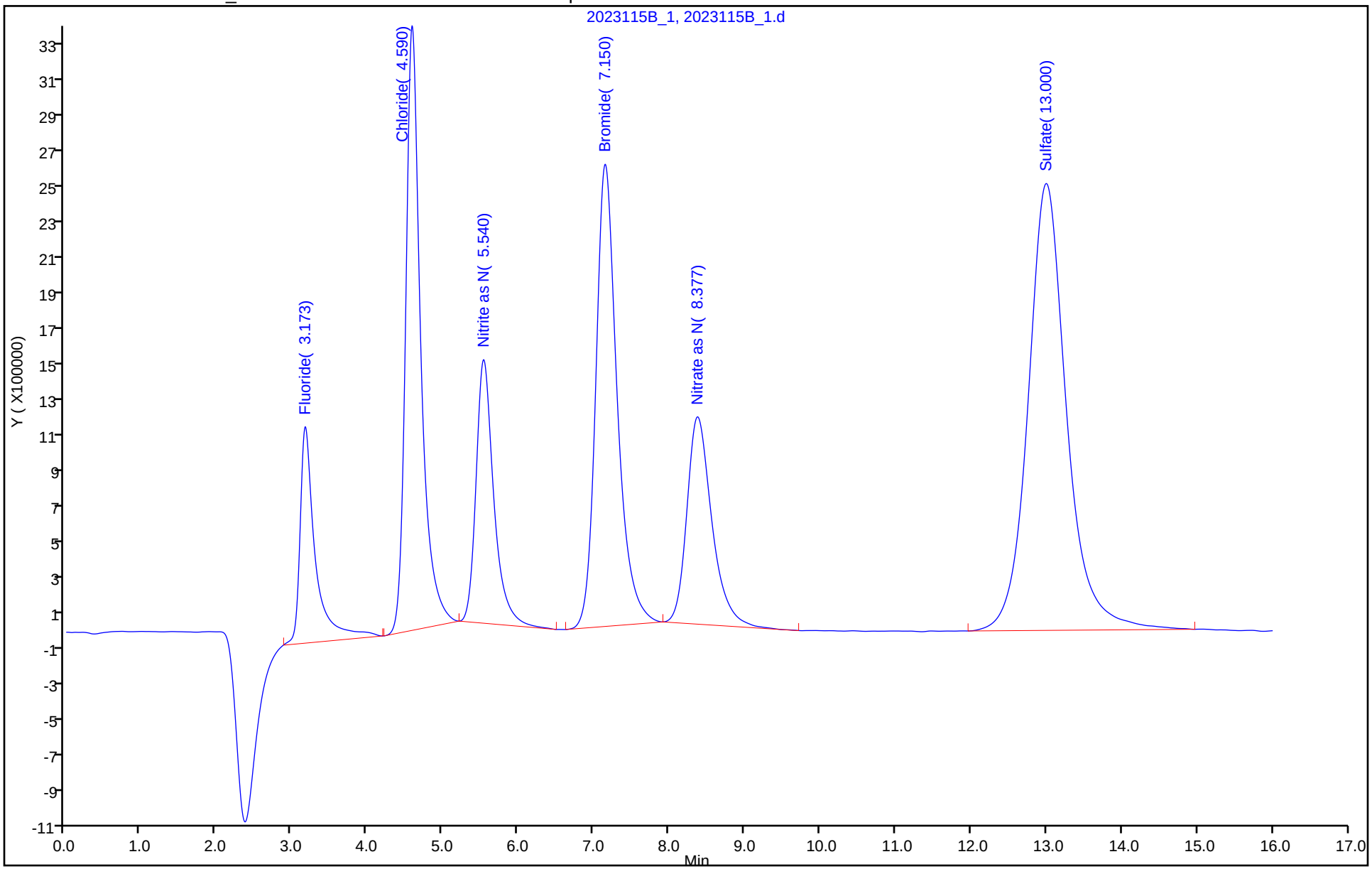
WC_IC_QC2_00125 Amount Added: 7.50 Units: mL

Report Date: 19-Aug-2020 12:32:35 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_1.d

Injection Date:	19-Aug-2020 00:06:00	Instrument ID:	12115	Operator ID:	
Lims ID:	CCVRT			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 28D		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCV 410-34575/13 Calibration Date: 08/19/2020 03:31

Instrument ID: 12115 Calib Start Date: 07/08/2020 11:05

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 07/08/2020 12:31

Lab File ID: 2023115B_13.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		22088148		0.757	0.750	0.9	10.0
Chloride	Lin		15141933		2.91	3.00	-3.1	10.0
Bromide	Lin		6582382		7.46	7.50	-0.5	10.0
Sulfate	Lin		11476921		7.59	7.50	1.2	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCV 410-34575/13 Calibration Date: 08/19/2020 03:31

Instrument ID: 12115 Calib Start Date: 07/08/2020 11:05

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 07/08/2020 12:31

Lab File ID: 2023115B_13.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	3.18	2.92	3.42
Chloride	4.60	4.34	4.84
Bromide	7.17	6.75	7.55
Sulfate	13.01	12.20	13.80

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_13.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 19-Aug-2020 03:31:00 ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\Anions_12115.m
Limit Group: IC - 300 28D
Last Update: 19-Aug-2020 12:32:02 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1050

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	3.180	3.173	0.007	16566111	0.7500	0.7567	
	2 Chloride	4.600	4.590	0.010	45425798	3.00	2.91	
	3 Nitrite as N	5.550	5.540	0.010	23303970	NC	NC	
	4 Bromide	7.170	7.150	0.020	49367868	7.50	7.46	
	5 Nitrate as N	8.397	8.377	0.020	25878574	NC	NC	
	6 Sulfate	13.007	13.000	0.007	86076908	7.50	7.59	
S	7 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

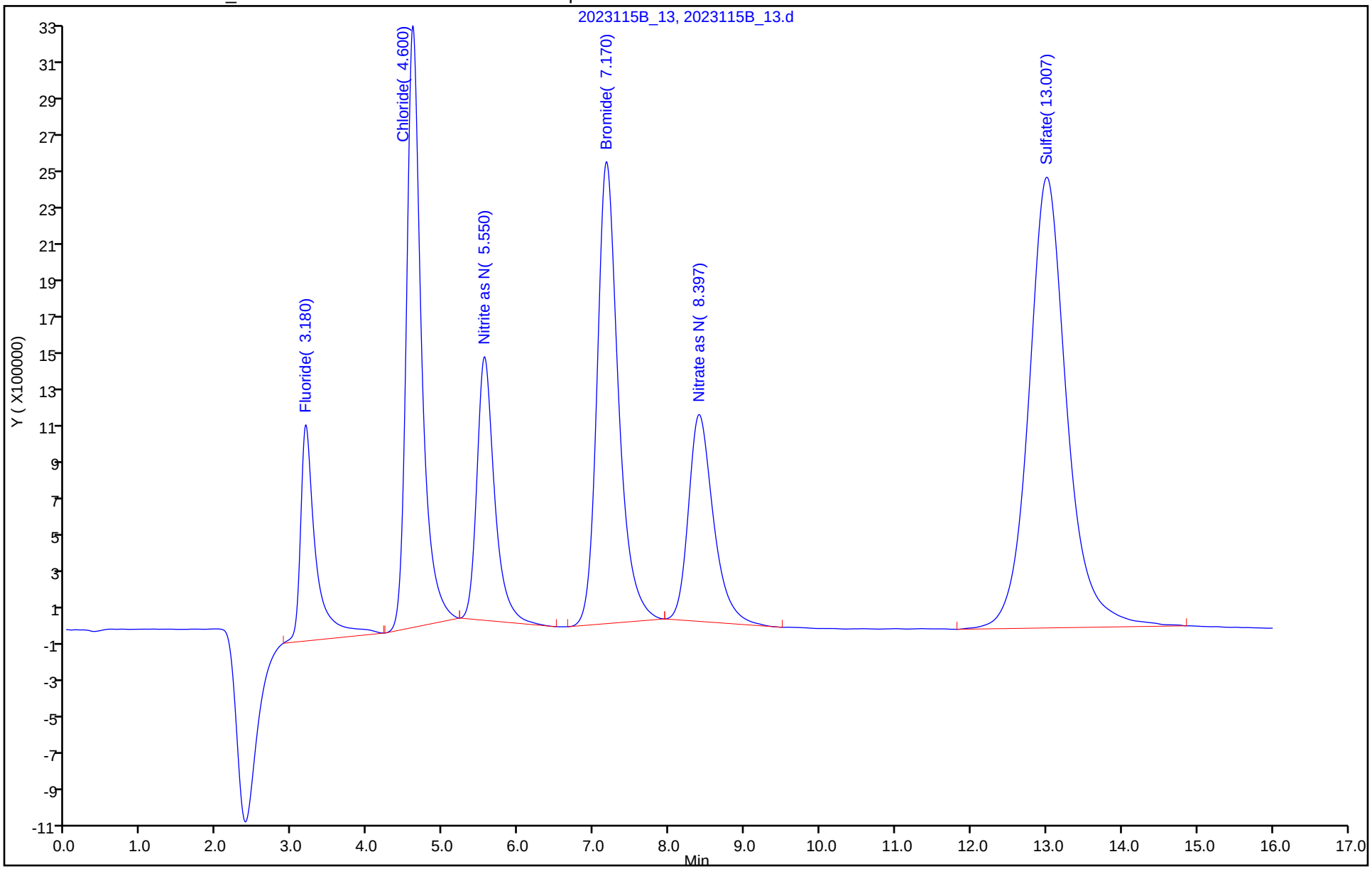
WC_IC_QC2_00125 Amount Added: 7.50 Units: mL

Report Date: 19-Aug-2020 12:32:02 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_13.d

Injection Date:	19-Aug-2020 03:31:00	Instrument ID:	12115	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 28D		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCV 410-34575/25 Calibration Date: 08/19/2020 06:57

Instrument ID: 12115 Calib Start Date: 07/08/2020 11:05

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 07/08/2020 12:31

Lab File ID: 2023115B_25.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		23382208		0.800	0.750	6.7	10.0
Chloride	Lin		15569919		2.99	3.00	-0.4	10.0
Bromide	Lin		6795719		7.69	7.50	2.6	10.0
Sulfate	Lin		11824137		7.81	7.50	4.2	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCV 410-34575/25 Calibration Date: 08/19/2020 06:57

Instrument ID: 12115 Calib Start Date: 07/08/2020 11:05

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 07/08/2020 12:31

Lab File ID: 2023115B_25.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	3.17	2.92	3.42
Chloride	4.59	4.34	4.84
Bromide	7.13	6.75	7.55
Sulfate	12.99	12.20	13.80

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_25.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 19-Aug-2020 06:57:00 ALS Bottle#: 0 Worklist Smp#: 25
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\Anions_12115.m
Limit Group: IC - 300 28D
Last Update: 19-Aug-2020 12:32:43 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1050

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	3.173	3.173	0.000	17536656	0.7500	0.8001	
	2 Chloride	4.587	4.590	-0.003	46709757	3.00	2.99	
	3 Nitrite as N	5.530	5.540	-0.010	24023627	NC	NC	
	4 Bromide	7.133	7.150	-0.017	50967894	7.50	7.69	
	5 Nitrate as N	8.350	8.377	-0.027	26520688	NC	NC	
	6 Sulfate	12.993	13.000	-0.007	88681030	7.50	7.81	
S	7 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

WC_IC_QC2_00125 Amount Added: 7.50 Units: mL

Report Date: 19-Aug-2020 12:32:44 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_25.d

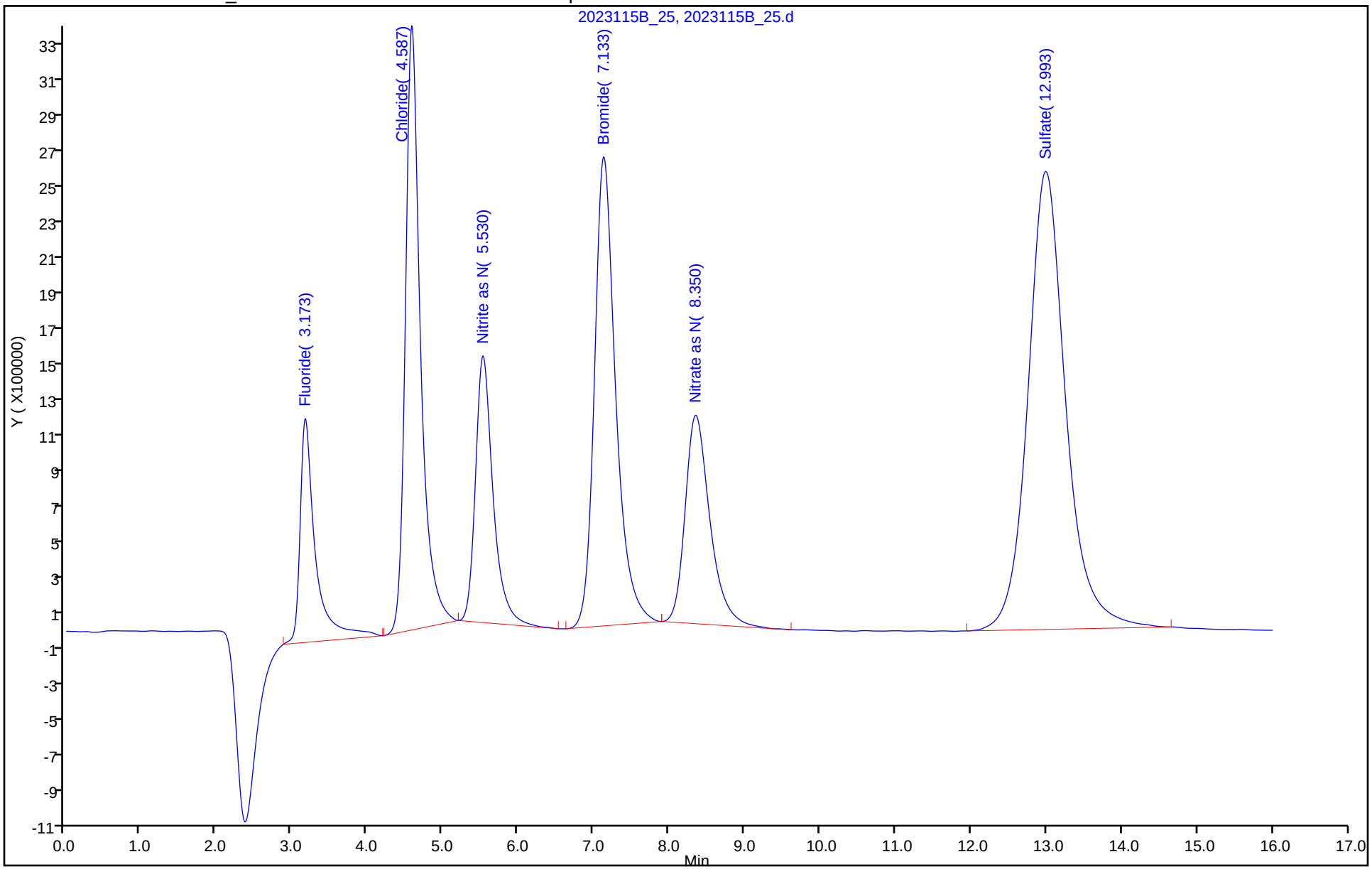
Injection Date: 19-Aug-2020 06:57:00 Instrument ID: 12115 Operator ID:

Lims ID: CCV Worklist Smp#: 25

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Anions_12115 Limit Group: IC - 300 28D



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCV 410-34575/37 Calibration Date: 08/19/2020 10:23

Instrument ID: 12115 Calib Start Date: 07/08/2020 11:05

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 07/08/2020 12:31

Lab File ID: 2023115B_37.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		21669908		0.743	0.750	-1.0	10.0
Chloride	Lin		15180087		2.91	3.00	-2.9	10.0
Bromide	Lin		6609496		7.49	7.50	-0.1	10.0
Sulfate	Lin		11556833		7.64	7.50	1.9	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCV 410-34575/37 Calibration Date: 08/19/2020 10:23

Instrument ID: 12115 Calib Start Date: 07/08/2020 11:05

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 07/08/2020 12:31

Lab File ID: 2023115B_37.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	3.18	2.92	3.42
Chloride	4.59	4.34	4.84
Bromide	7.13	6.75	7.55
Sulfate	13.00	12.20	13.80

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_37.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 19-Aug-2020 10:23:00 ALS Bottle#: 0 Worklist Smp#: 37
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\Anions_12115.m
Limit Group: IC - 300 28D
Last Update: 19-Aug-2020 12:32:49 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1050

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	3.177	3.173	0.004	16252431	0.7500	0.7427	
	2 Chloride	4.587	4.590	-0.003	45540261	3.00	2.91	
	3 Nitrite as N	5.530	5.540	-0.010	23219440	NC	NC	
	4 Bromide	7.130	7.150	-0.020	49571217	7.50	7.49	
	5 Nitrate as N	8.347	8.377	-0.030	25768377	NC	NC	
	6 Sulfate	13.003	13.000	0.003	86676248	7.50	7.64	
S	7 Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

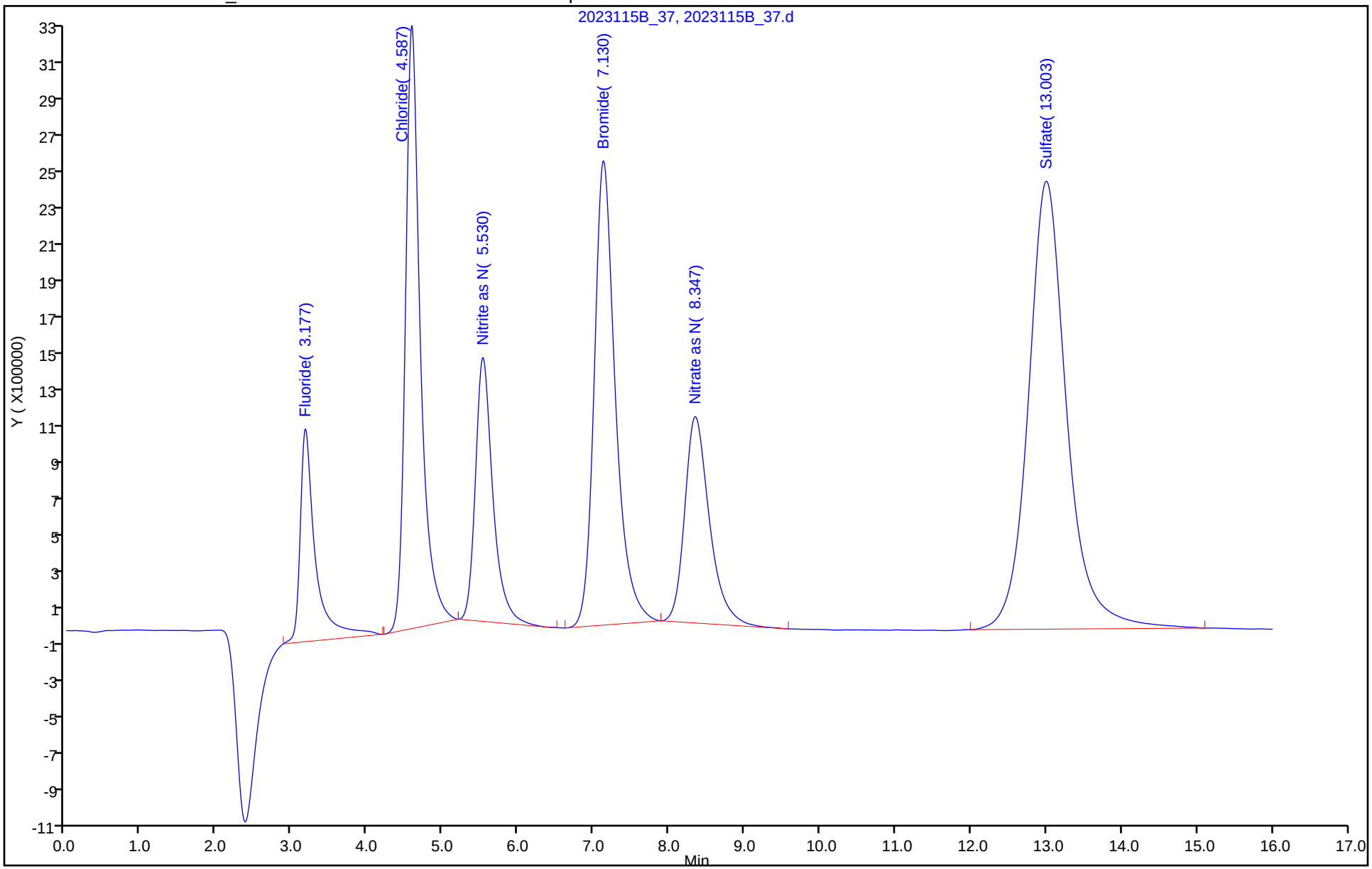
WC_IC_QC2_00125 Amount Added: 7.50 Units: mL

Report Date: 19-Aug-2020 12:32:49 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_37.d

Injection Date:	19-Aug-2020 10:23:00	Instrument ID:	12115	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	37
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 28D		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVRT 410-39350/1 Calibration Date: 09/01/2020 05:54

Instrument ID: 12115 Calib Start Date: 07/08/2020 11:05

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 07/08/2020 12:31

Lab File ID: 2024415B_1.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		23312707		0.798	0.750	6.4	10.0
Chloride	Lin		15824776		3.04	3.00	1.2	10.0
Bromide	Lin		6640063		7.52	7.50	0.3	10.0
Sulfate	Lin		11564073		7.65	7.50	2.0	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVRT 410-39350/1 Calibration Date: 09/01/2020 05:54

Instrument ID: 12115 Calib Start Date: 07/08/2020 11:05

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 07/08/2020 12:31

Lab File ID: 2024415B_1.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	3.25	3.00	3.50
Chloride	4.73	4.48	4.98
Bromide	7.39	6.99	7.79
Sulfate	14.27	13.47	15.07

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200831-9431.b\2024415B_1.d
Lims ID: CCVRT
Client ID:
Sample Type: CCVRT
Inject. Date: 01-Sep-2020 05:54:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVRT
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200831-9431.b\Anions_12115.m
Limit Group: IC - 300 28D
Last Update: 02-Sep-2020 06:20:08 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1015

First Level Reviewer: litwak Date: 02-Sep-2020 06:18:56

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.253	3.253	0.000	17484530	0.7500	0.7978	
2 Chloride	4.733	4.733	0.000	47474327	3.00	3.04	
3 Nitrite as N	5.717	5.717	0.000	23669329	NC	NC	
4 Bromide	7.393	7.393	0.000	49800470	7.50	7.52	
5 Nitrate as N	8.660	8.660	0.000	26202892	NC	NC	
6 Sulfate	14.267	14.267	0.000	86730544	7.50	7.65	a

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
a - User Assigned ID

Reagents:

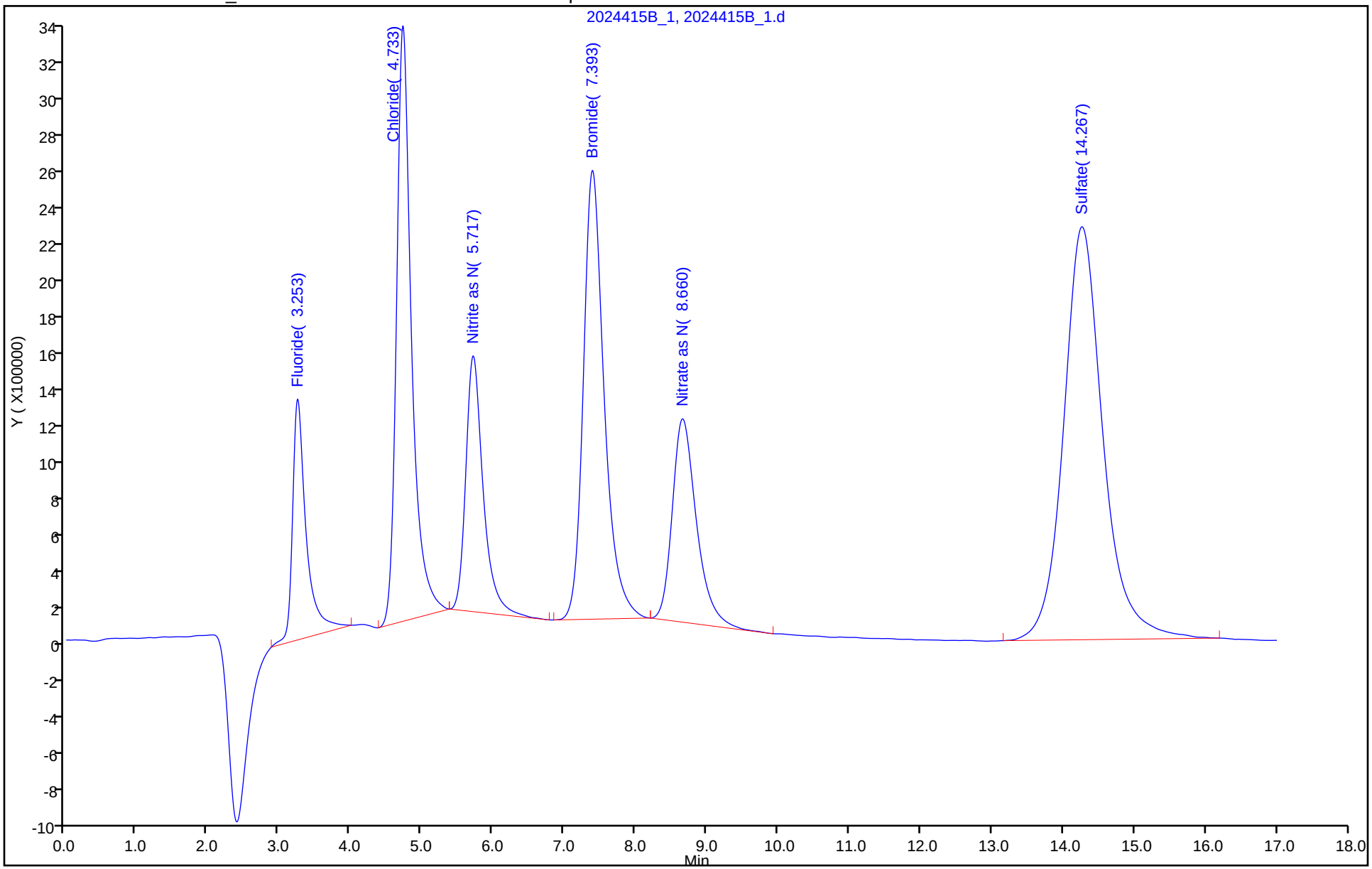
WC_IC_QC2_00140 Amount Added: 7.50 Units: mL

Report Date: 02-Sep-2020 06:20:08 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200831-9431.b\2024415B_1.d

Injection Date:	01-Sep-2020 05:54:00	Instrument ID:	12115	Operator ID:	
Lims ID:	CCVRT			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 28D		



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

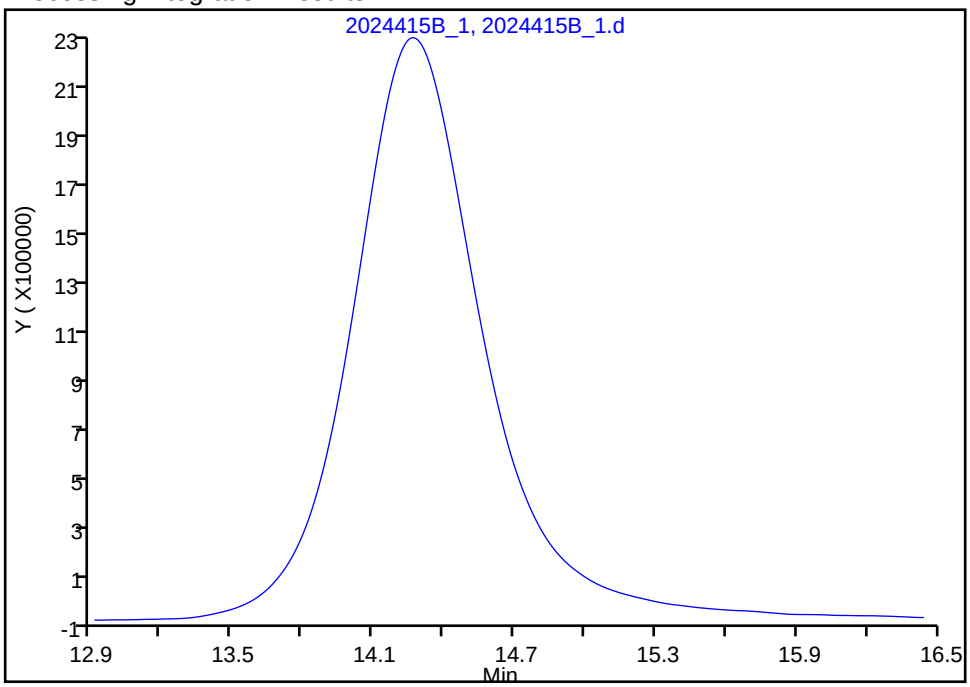
Data File: \\chromfs\Lancaster\ChromData\12115\20200831-9431.b\2024415B_1.d
Injection Date: 01-Sep-2020 05:54:00 Instrument ID: 12115
Lims ID: CCVRT
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Anions_12115 Limit Group: IC - 300 28D
Column: Detector det0

6 Sulfate, CAS: 14808-79-8

Signal: 1

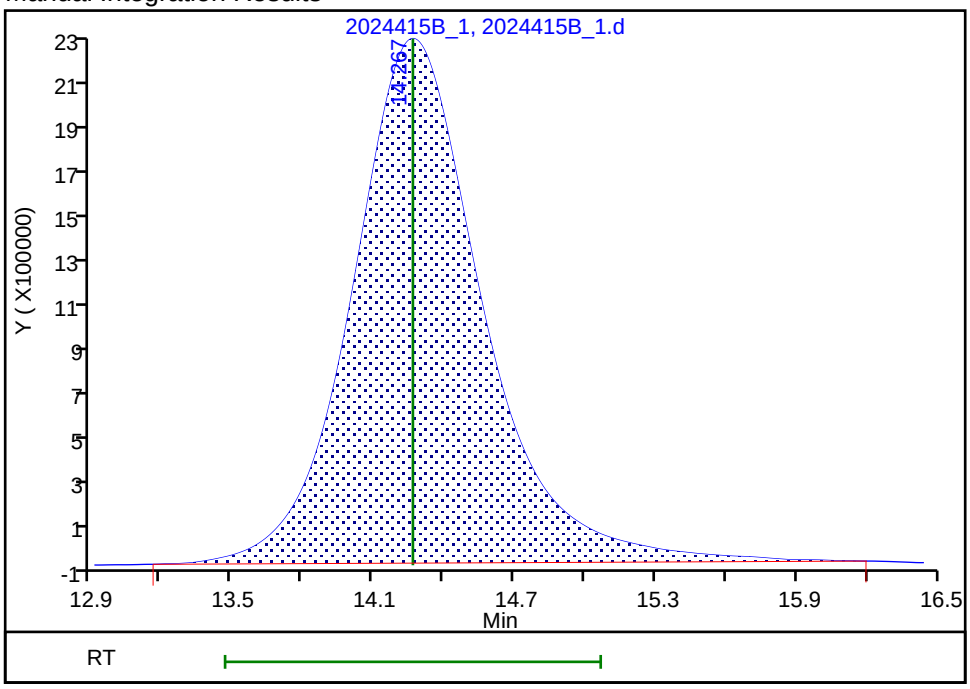
Not Detected
Expected RT: 14.27

Processing Integration Results



Manual Integration Results

RT: 14.27
Area: 86730544
Amount: 7.648715
Amount Units: ug/ml



Reviewer: litwak, 02-Sep-2020 06:18:22
Audit Action: Assigned Compound ID Audit Reason:

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICV 410-27551/7 Calibration Date: 07/29/2020 14:14

Instrument ID: 19052 Calib Start Date: 07/29/2020 12:31

GC Column: IC06-AS14 ID: 4.00(mm) Calib End Date: 07/29/2020 13:57

Lab File ID: 2021113C_7.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		18872156		0.796	0.750	6.1	10.0
Chloride	Lin		15154476		3.09	3.00	3.0	10.0
Bromide	Lin		6602842		7.93	7.50	5.7	10.0
Sulfate	Lin		11063693		7.92	7.50	5.6	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICV 410-27551/7 Calibration Date: 07/29/2020 14:14

Instrument ID: 19052 Calib Start Date: 07/29/2020 12:31

GC Column: IC06-AS14 ID: 4.00(mm) Calib End Date: 07/29/2020 13:57

Lab File ID: 2021113C_7.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	3.12	2.87	3.37
Chloride	4.51	4.21	4.81
Bromide	7.01	6.51	7.51
Sulfate	12.56	11.56	13.56

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_7.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 29-Jul-2020 14:14:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Operator ID: Instrument ID: 19052
Sublist:

Method: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\Anions_19052.m
Limit Group: IC - 300 28D
Last Update: 30-Jul-2020 11:42:36 Calib Date: 29-Jul-2020 13:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

Column 1 : Det: det0
Process Host: CTX1035

First Level Reviewer: litwak Date: 30-Jul-2020 11:39:21

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.123	3.123	0.000	14154117	0.7500	0.7955	
2	Chloride	4.510	4.510	0.000	45463429	3.00	3.09	
3	Nitrite as N	5.433	5.433	0.000	23579097	NC	NC	
4	Bromide	7.013	7.013	0.000	49521317	7.50	7.93	
5	Nitrate as N	8.203	8.203	0.000	26615829	NC	NC	
6	Sulfate	12.560	12.560	0.000	82977695	7.50	7.92	a
S 7	Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
a - User Assigned ID

Reagents:

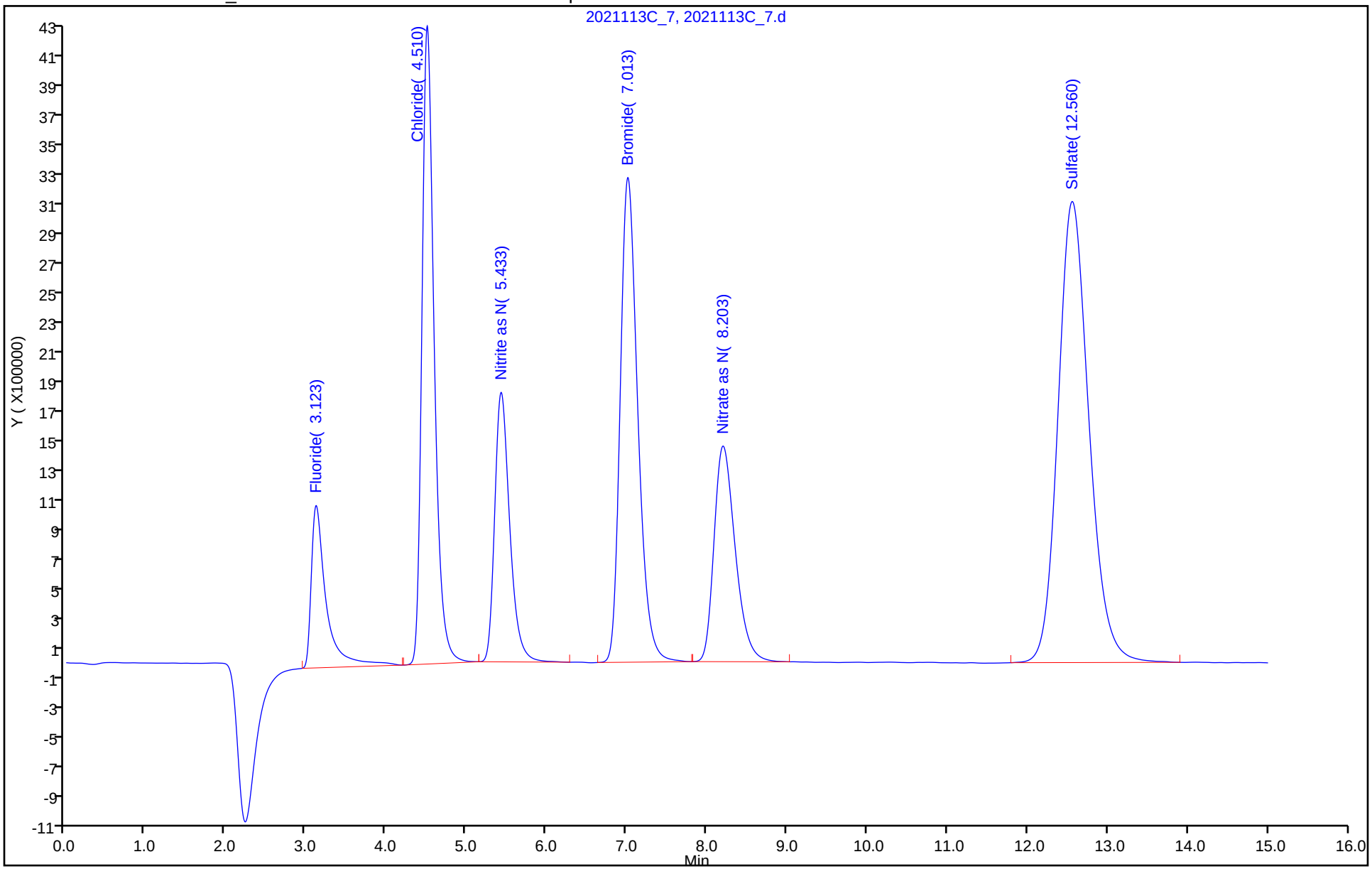
WC_IC_QC2_00105 Amount Added: 7.50 Units: mL

Report Date: 30-Jul-2020 11:42:36 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_7.d

Injection Date:	29-Jul-2020 14:14:00	Instrument ID:	19052	Operator ID:	
Lims ID:	ICV			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_19052	Limit Group:	IC - 300 28D		



Manual Integration/User Assign Peak Report

Eurofins Lancaster Laboratories Env, LLC

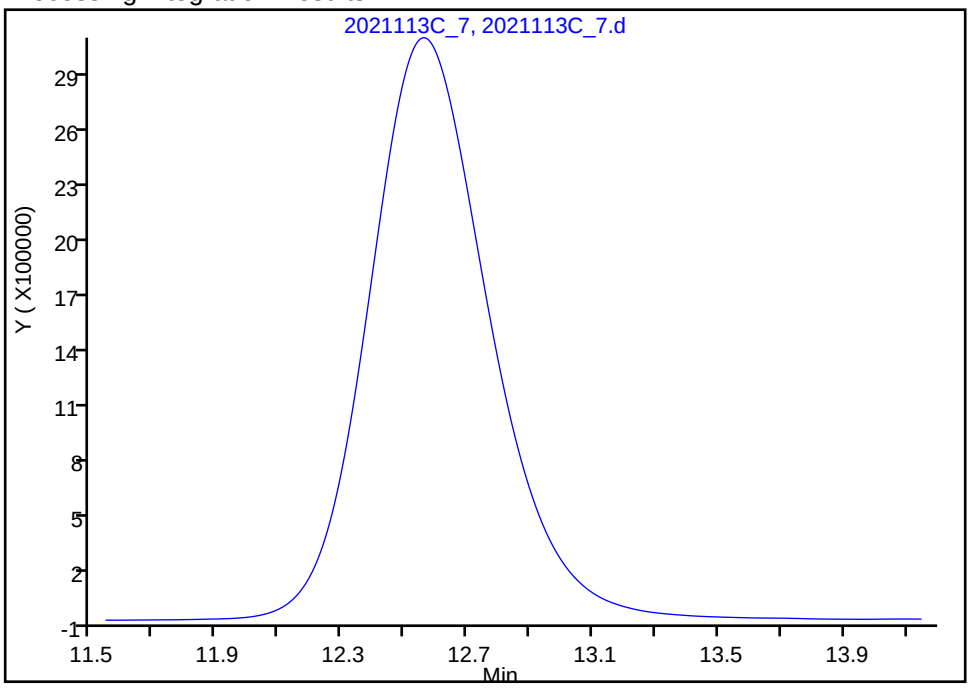
Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_7.d
Injection Date: 29-Jul-2020 14:14:00 Instrument ID: 19052
Lims ID: ICV
Client ID:
Operator ID: ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: Anions_19052 Limit Group: IC - 300 28D
Column: Detector det0

6 Sulfate, CAS: 14808-79-8

Signal: 1

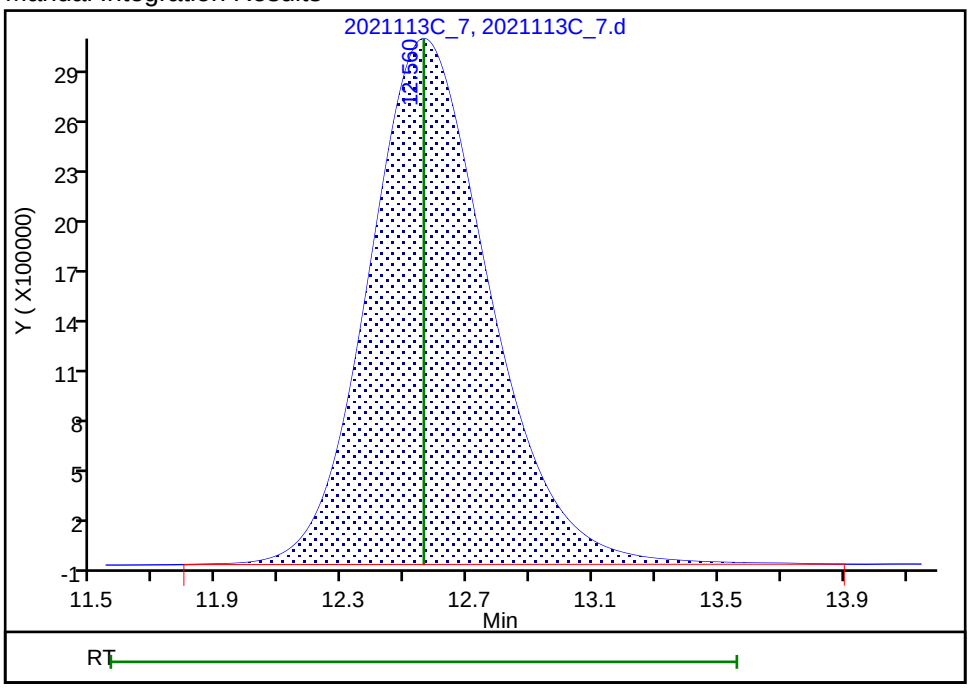
Not Detected
Expected RT: 12.56

Processing Integration Results



Manual Integration Results

RT: 12.56
Area: 82977695
Amount: 7.922582
Amount Units: ug/ml



Reviewer: litwak, 30-Jul-2020 11:39:08
Audit Action: Assigned Compound ID Audit Reason:

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVRT 410-33689/1 Calibration Date: 08/16/2020 11:08

Instrument ID: 19052 Calib Start Date: 07/29/2020 12:31

GC Column: IC06-AS14 ID: 4.00(mm) Calib End Date: 07/29/2020 13:57

Lab File ID: 2022913_1.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		18978773		0.800	0.750	6.6	10.0
Chloride	Lin		15634942		3.19	3.00	6.2	10.0
Bromide	Lin		6536981		7.85	7.50	4.7	10.0
Sulfate	Lin		11228928		8.04	7.50	7.2	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVRT 410-33689/1 Calibration Date: 08/16/2020 11:08

Instrument ID: 19052 Calib Start Date: 07/29/2020 12:31

GC Column: IC06-AS14 ID: 4.00(mm) Calib End Date: 07/29/2020 13:57

Lab File ID: 2022913_1.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	3.10	2.85	3.35
Chloride	4.45	4.15	4.75
Bromide	6.84	6.34	7.34
Sulfate	12.20	11.20	13.20

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_1.d
Lims ID: CCVRT
Client ID:
Sample Type: CCVRT
Inject. Date: 16-Aug-2020 11:08:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVRT
Operator ID: Instrument ID: 19052
Sublist: chrom-Anions_19052*sub1

Method: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\Anions_19052.m
Limit Group: IC - 300 28D
Last Update: 24-Aug-2020 18:57:31 Calib Date: 29-Jul-2020 13:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

Column 1 : Det: det0
Process Host: CTX1068

First Level Reviewer: litwak Date: 17-Aug-2020 06:31:03

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.103	3.103	0.000	14234080	0.7500	0.7997	
2 Chloride	4.450	4.450	0.000	46904827	3.00	3.19	
3 Nitrite as N	5.333	5.333	0.000	24648119	NC	NC	
4 Bromide	6.843	6.843	0.000	49027357	7.50	7.85	
5 Nitrate as N	7.967	7.967	0.000	27530574	NC	NC	
6 Sulfate	12.203	12.203	0.000	84216963	7.50	8.04	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

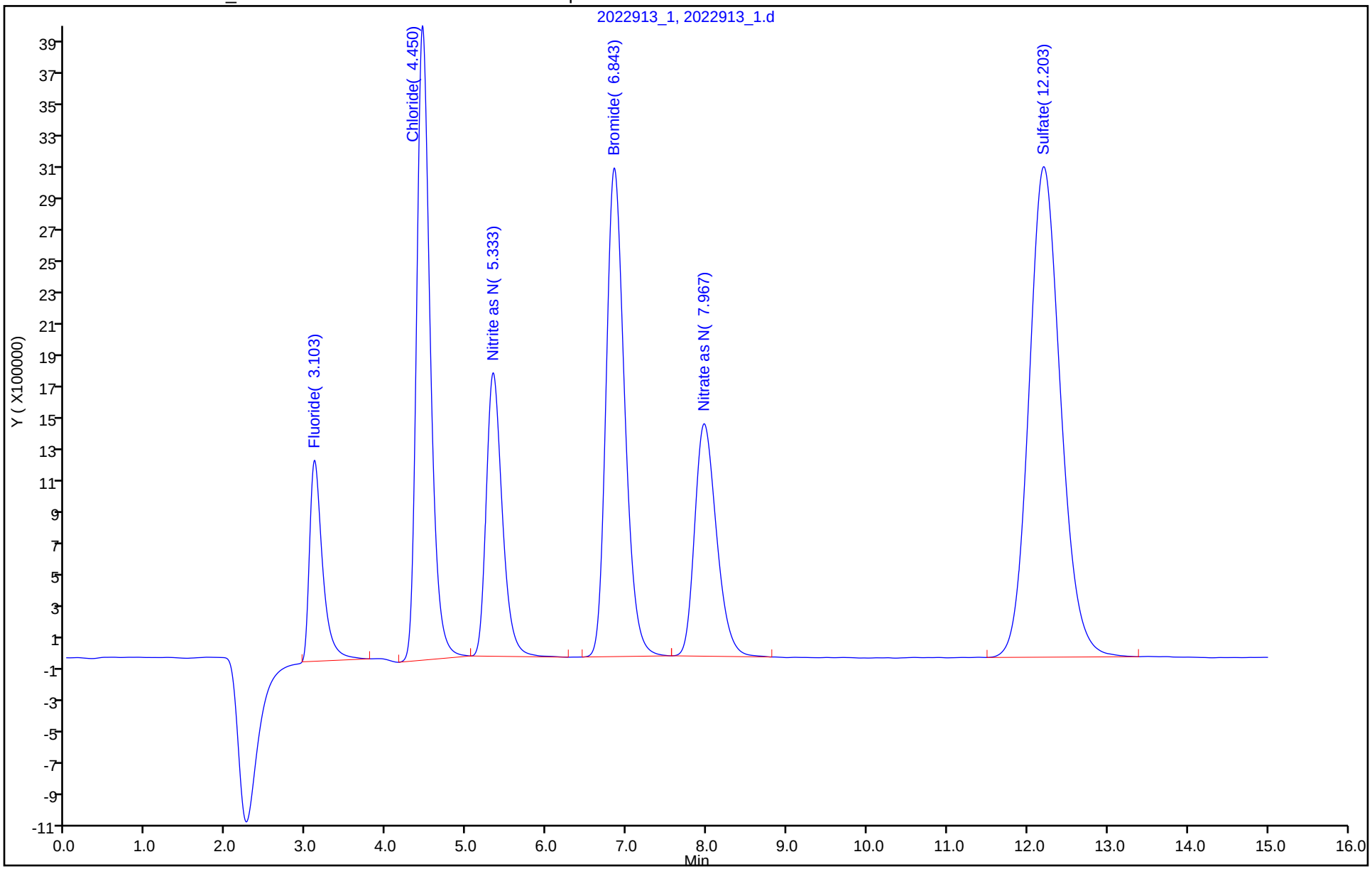
WC_IC_QC2_00123 Amount Added: 7.50 Units: mL

Report Date: 24-Aug-2020 18:57:31 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_1.d

Injection Date:	16-Aug-2020 11:08:00	Instrument ID:	19052	Operator ID:	
Lims ID:	CCVRT			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_19052	Limit Group:	IC - 300 28D		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCV 410-33689/35 Calibration Date: 08/16/2020 15:22

Instrument ID: 19052 Calib Start Date: 07/29/2020 12:31

GC Column: IC06-AS14 ID: 4.00(mm) Calib End Date: 07/29/2020 13:57

Lab File ID: 2022913_12.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		20587805		0.863	0.750	15.1*	10.0
Chloride	Lin		15526626		3.16	3.00	5.5	10.0
Bromide	Lin		6471448		7.77	7.50	3.6	10.0
Sulfate	Lin		11333141		8.11	7.50	8.2	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCV 410-33689/35 Calibration Date: 08/16/2020 15:22

Instrument ID: 19052 Calib Start Date: 07/29/2020 12:31

GC Column: IC06-AS14 ID: 4.00(mm) Calib End Date: 07/29/2020 13:57

Lab File ID: 2022913_12.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	3.10	2.85	3.35
Chloride	4.45	4.15	4.75
Bromide	6.84	6.34	7.34
Sulfate	12.19	11.20	13.20

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_12.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 16-Aug-2020 15:22:00 ALS Bottle#: 0 Worklist Smp#: 35
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: Instrument ID: 19052
Sublist: chrom-Anions_19052*sub1

Method: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\Anions_19052.m
Limit Group: IC - 300 28D
Last Update: 17-Aug-2020 06:36:57 Calib Date: 29-Jul-2020 13:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

Column 1 : Det: det0
Process Host: CTX1046

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.100	3.103	-0.003	15440854	0.7500	0.8633	
2	Chloride	4.447	4.450	-0.003	46579878	3.00	3.16	
3	Nitrite as N	5.327	5.333	-0.006	24686987	NC	NC	
4	Bromide	6.837	6.843	-0.006	48535862	7.50	7.77	
5	Nitrate as N	7.957	7.967	-0.010	27660504	NC	NC	
6	Sulfate	12.190	12.203	-0.013	84998555	7.50	8.11	
S 7	Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

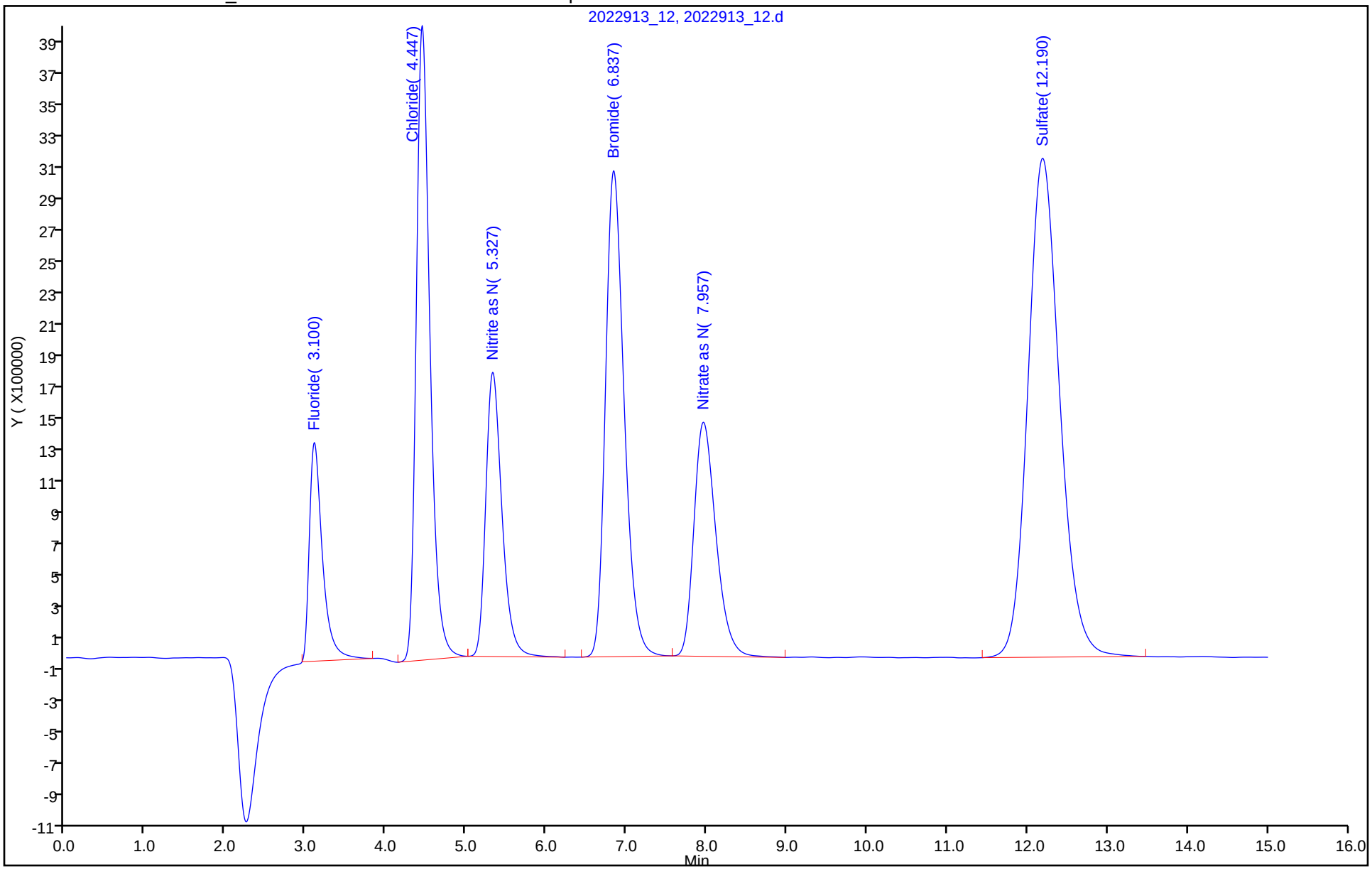
WC_IC_QC2_00123 Amount Added: 7.50 Units: mL

Report Date: 17-Aug-2020 06:36:57 Chrom Revision: 2.3 10-Aug-2020 14:39:50

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_12.d

Injection Date:	16-Aug-2020 15:22:00	Instrument ID:	19052	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	35
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_19052	Limit Group:	IC - 300 28D		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVRT 410-39135/1 Calibration Date: 08/31/2020 06:10

Instrument ID: 19052 Calib Start Date: 07/29/2020 12:31

GC Column: IC06-AS14 ID: 4.00(mm) Calib End Date: 07/29/2020 13:57

Lab File ID: 2024413_1.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		19258179		0.811	0.750	8.1	10.0
Chloride	Lin		15161255		3.09	3.00	3.0	10.0
Bromide	Lin		6545334		7.86	7.50	4.8	10.0
Sulfate	Lin		10775832		7.72	7.50	2.9	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVRT 410-39135/1 Calibration Date: 08/31/2020 06:10

Instrument ID: 19052 Calib Start Date: 07/29/2020 12:31

GC Column: IC06-AS14 ID: 4.00(mm) Calib End Date: 07/29/2020 13:57

Lab File ID: 2024413_1.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	3.20	2.95	3.45
Chloride	4.62	4.32	4.92
Bromide	7.17	6.67	7.67
Sulfate	13.96	12.96	14.96

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19052\20200831-9383.b\2024413_1.d
Lims ID: CCVRT
Client ID:
Sample Type: CCVRT
Inject. Date: 31-Aug-2020 06:10:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVRT
Operator ID: Instrument ID: 19052
Sublist: chrom-Anions_19052*sub1

Method: \\chromfs\Lancaster\ChromData\19052\20200831-9383.b\Anions_19052.m
Limit Group: IC - 300 28D
Last Update: 01-Sep-2020 07:44:17 Calib Date: 29-Jul-2020 13:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

Column 1 : Det: det0
Process Host: CTX1065

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.197	3.197	0.000	14443634	0.7500	0.8108	
2 Chloride	4.620	4.620	0.000	45483766	3.00	3.09	
3 Nitrite as N	5.560	5.560	0.000	23920622	NC	NC	
4 Bromide	7.173	7.173	0.000	49090006	7.50	7.86	
5 Nitrate as N	8.367	8.367	0.000	26526965	NC	NC	
6 Sulfate	13.957	13.957	0.000	80818743	7.50	7.72	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

WC_IC_QC2_00140 Amount Added: 7.50 Units: mL

Report Date: 01-Sep-2020 07:44:17 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200831-9383.b\2024413_1.d

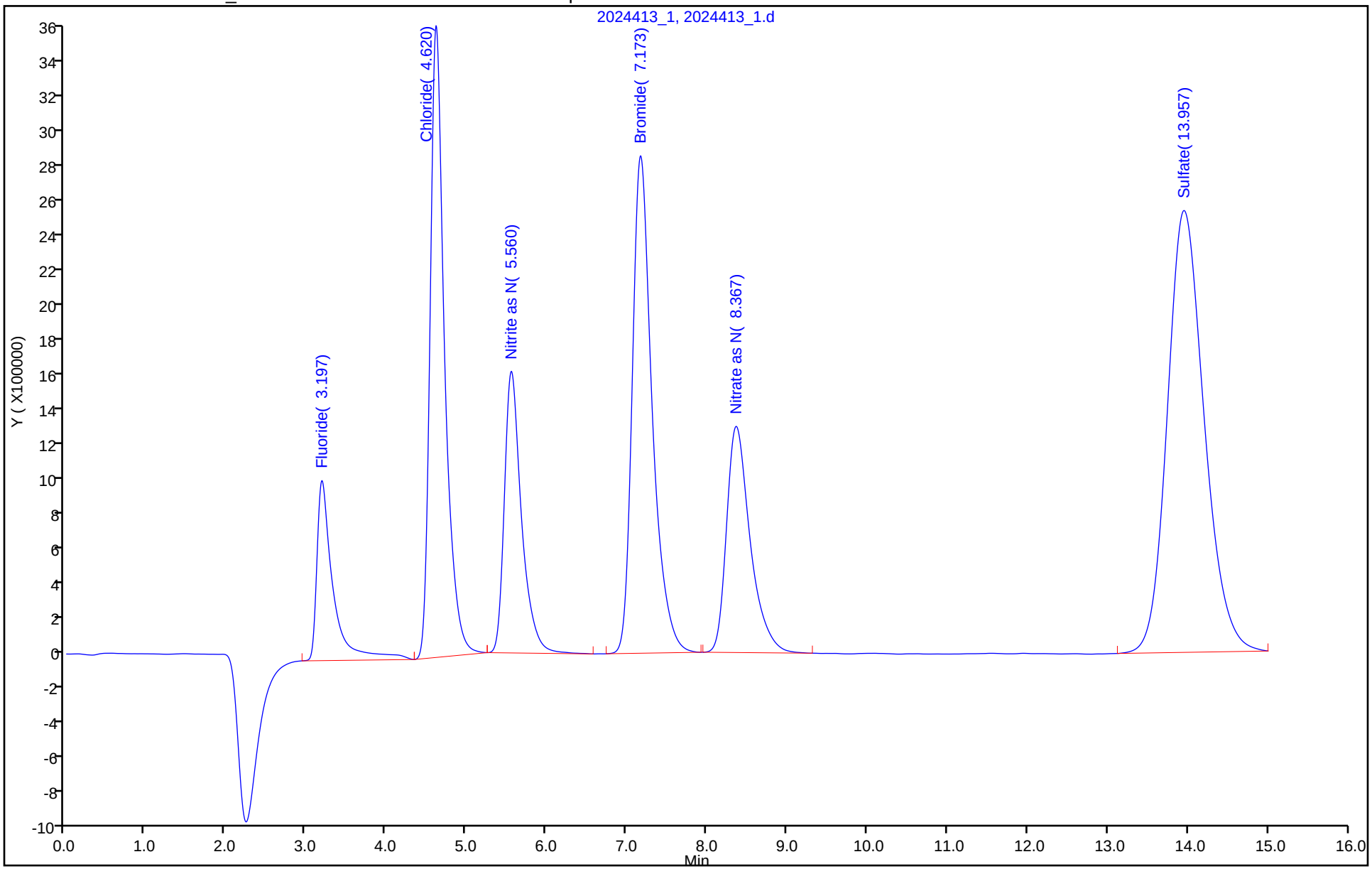
Injection Date: 31-Aug-2020 06:10:00 Instrument ID: 19052 Operator ID:

Lims ID: CCVRT Worklist Smp#: 1

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Anions_19052 Limit Group: IC - 300 28D



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVRT 410-41366/1 Calibration Date: 09/04/2020 14:56

Instrument ID: 19052 Calib Start Date: 07/29/2020 12:31

GC Column: IC06-AS14 ID: 4.00(mm) Calib End Date: 07/29/2020 13:57

Lab File ID: 2024813A_1.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		16474057		0.701	0.750	-6.6	10.0
Chloride	Lin		14703890		3.00	3.00	-0.1	10.0
Bromide	Lin		6271689		7.54	7.50	0.5	10.0
Sulfate	Lin		10563365		7.57	7.50	1.0	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVRT 410-41366/1 Calibration Date: 09/04/2020 14:56

Instrument ID: 19052 Calib Start Date: 07/29/2020 12:31

GC Column: IC06-AS14 ID: 4.00(mm) Calib End Date: 07/29/2020 13:57

Lab File ID: 2024813A_1.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	3.08	2.83	3.33
Chloride	4.40	4.10	4.70
Bromide	6.75	6.25	7.25
Sulfate	12.23	11.23	13.23

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19052\20200905-9877.b\2024813A_1.d
Lims ID: CCVRT
Client ID:
Sample Type: CCVRT
Inject. Date: 04-Sep-2020 14:56:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: Instrument ID: 19052
Sublist: chrom-Anions_19052*sub1

Method: \\chromfs\Lancaster\ChromData\19052\20200905-9877.b\Anions_19052.m
Limit Group: IC - 300 28D
Last Update: 05-Sep-2020 10:14:39 Calib Date: 29-Jul-2020 13:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

Column 1 : Det: det0
Process Host: CTX1023

First Level Reviewer: wilsonc Date: 05-Sep-2020 10:14:35

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.083	3.083	0.000	12355543	0.7500	0.7008	
2 Chloride	4.400	4.400	0.000	44111669	3.00	3.00	
3 Nitrite as N	5.267	5.267	0.000	23494536	NC	NC	
4 Bromide	6.753	6.753	0.000	47037670	7.50	7.54	
5 Nitrate as N	7.843	7.843	0.000	26111832	NC	NC	
6 Sulfate	12.230	12.230	0.000	79225238	7.50	7.57	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

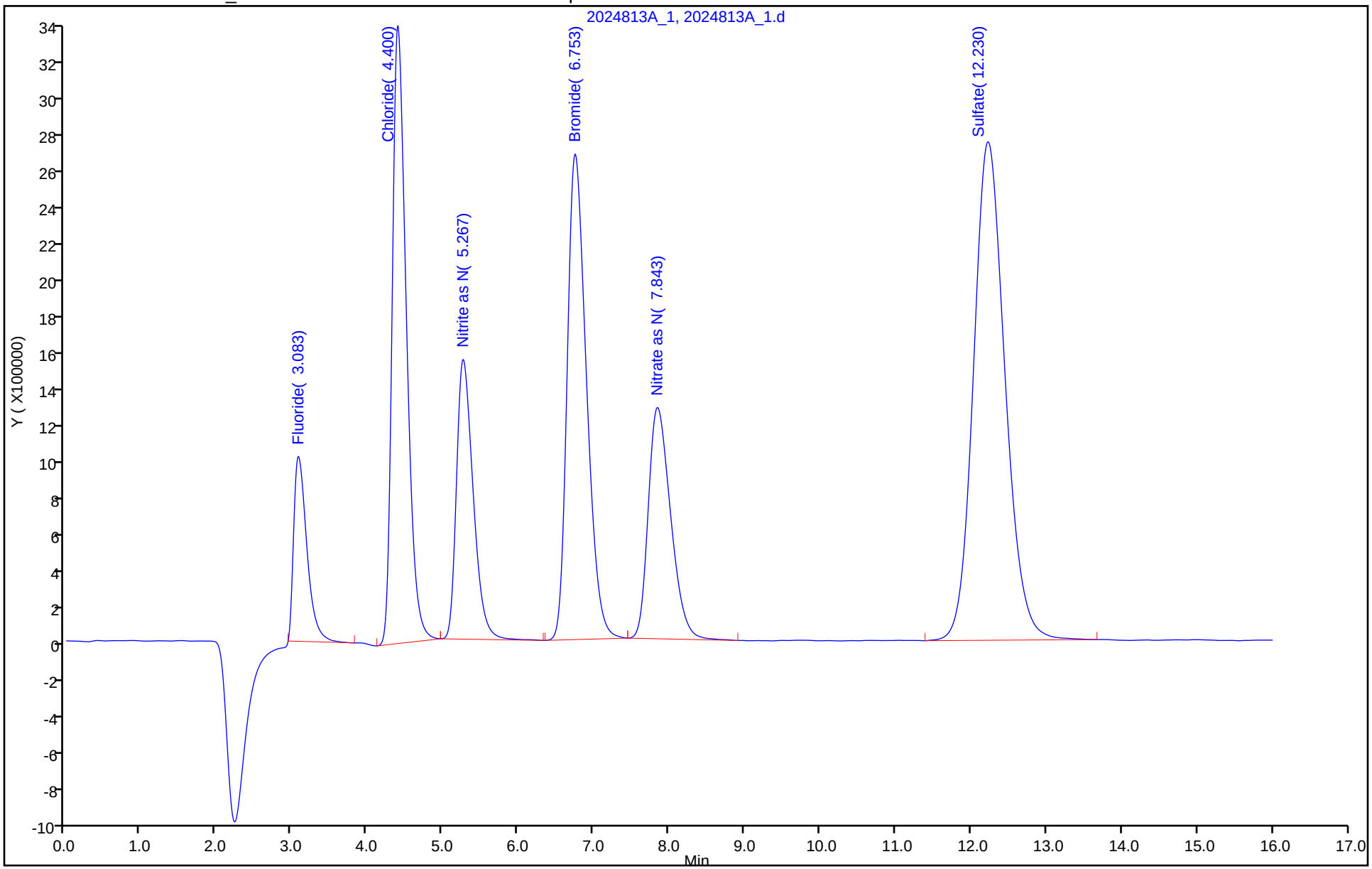
wc_ic_qc2_00146 Amount Added: 7.50 Units: mL

Report Date: 05-Sep-2020 10:14:39 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200905-9877.b\2024813A_1.d

Injection Date:	04-Sep-2020 14:56:00	Instrument ID:	19052	Operator ID:	
Lims ID:	CCVRT			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_19052	Limit Group:	IC - 300 28D		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVRT 410-42015/1 Calibration Date: 09/09/2020 07:22

Instrument ID: 19052 Calib Start Date: 07/29/2020 12:31

GC Column: IC06-AS14 ID: 4.00(mm) Calib End Date: 07/29/2020 13:57

Lab File ID: 2025313_2.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Fluoride	Lin		18323377		0.774	0.750	3.2	10.0
Chloride	Lin		15150992		3.09	3.00	2.9	10.0
Bromide	Lin		6418173		7.71	7.50	2.8	10.0
Sulfate	Lin		10775466		7.72	7.50	2.9	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVRT 410-42015/1 Calibration Date: 09/09/2020 07:22

Instrument ID: 19052 Calib Start Date: 07/29/2020 12:31

GC Column: IC06-AS14 ID: 4.00(mm) Calib End Date: 07/29/2020 13:57

Lab File ID: 2025313_2.d

Analyte	RT	RT WINDOW	
		FROM	TO
Fluoride	3.10	2.85	3.35
Chloride	4.40	4.10	4.70
Bromide	6.73	6.23	7.23
Sulfate	12.09	11.09	13.09

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19052\20200909-10007.b\2025313_2.d
Lims ID: CCVRT
Client ID:
Sample Type: CCVRT
Inject. Date: 09-Sep-2020 07:22:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVRT
Operator ID: Instrument ID: 19052
Sublist: chrom-Anions_19052*sub1

Method: \\chromfs\Lancaster\ChromData\19052\20200909-10007.b\Anions_19052.m
Limit Group: IC - 300 28D
Last Update: 11-Sep-2020 09:59:32 Calib Date: 29-Jul-2020 13:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

Column 1 : Det: det0
Process Host: CTX1033

First Level Reviewer: faverios Date: 10-Sep-2020 11:08:42

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.103	3.103	0.000	13742533	0.7500	0.7739	
2 Chloride	4.403	4.403	0.000	45452977	3.00	3.09	
3 Nitrite as N	5.263	5.263	0.000	23952594	NC	NC	
4 Bromide	6.730	6.730	0.000	48136300	7.50	7.71	
5 Nitrate as N	7.813	7.813	0.000	26610065	NC	NC	
6 Sulfate	12.087	12.087	0.000	80815997	7.50	7.72	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

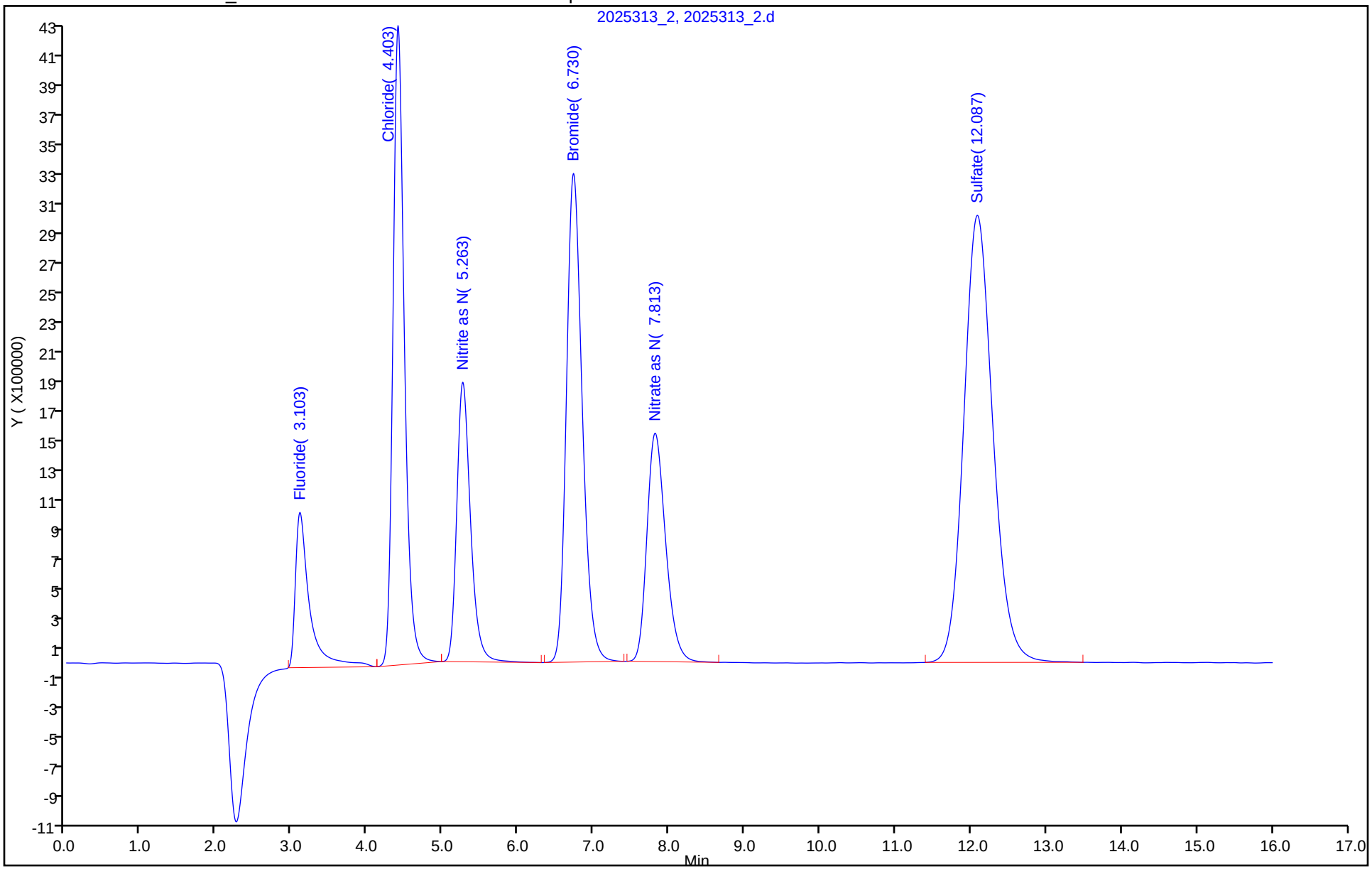
WC_IC_QC2_00148 Amount Added: 7.50 Units: mL

Report Date: 11-Sep-2020 09:59:33 Chrom Revision: 2.3 09-Sep-2020 15:12:58

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200909-10007.b\2025313_2.d

Injection Date:	09-Sep-2020 07:22:00	Instrument ID:	19052	Operator ID:	
Lims ID:	CCVRT			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_19052	Limit Group:	IC - 300 28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 410-33689/4

Matrix: Water Lab File ID: 2022913_4.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/16/2020 11:59

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: IC06-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 33689 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14808-79-8	Sulfate	ND		1.0	0.30

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_4.d				
Lims ID:	MB				
Client ID:					
Sample Type:	MB				
Inject. Date:	16-Aug-2020 11:59:00	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	MB				
Misc. Info.:	20229135113				
Operator ID:		Instrument ID:	19052		
Method:	\\chromfs\Lancaster\ChromData\19052\20200816-8175.b\Anions_19052.m				
Limit Group:	IC - 300 28D				
Last Update:	17-Aug-2020 06:46:50	Calib Date:	29-Jul-2020 13:57:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d				
Column 1 :			Det: det0		
Process Host:	CTX1046				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride		3.103				ND	
	2 Chloride		4.450				ND	
	3 Nitrite as N		5.333				ND	
	4 Bromide		6.843				ND	
	5 Nitrate as N		7.967				ND	
	6 Sulfate	12.283	12.203	0.080	423961		0.2088	
S	7 Nitrate Nitrite as N		0.000				ND	

Report Date: 17-Aug-2020 06:46:50 Chrom Revision: 2.3 10-Aug-2020 14:39:50

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_4.d

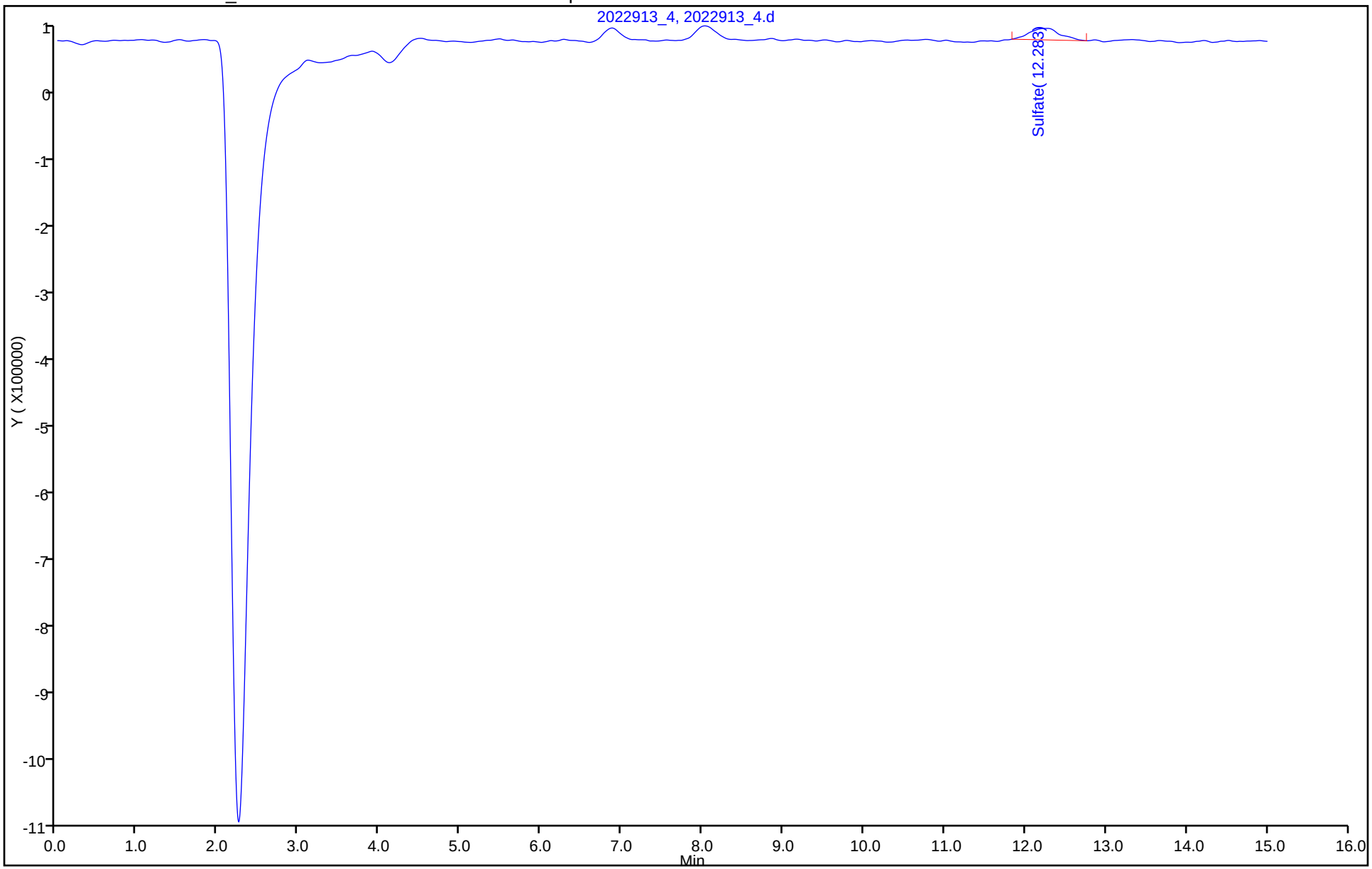
Injection Date: 16-Aug-2020 11:59:00 Instrument ID: 19052 Operator ID:

Lims ID: MB Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Anions_19052 Limit Group: IC - 300 28D



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 410-34575/4

Matrix: Water Lab File ID: 2023115B_4.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/19/2020 00:57

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: IC15-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34575 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14808-79-8	Sulfate	ND		1.0	0.30

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_4.d				
Lims ID:	MB				
Client ID:					
Sample Type:	MB				
Inject. Date:	19-Aug-2020 00:57:00	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	MB				
Misc. Info.:	32076				
Operator ID:		Instrument ID:	12115		
Method:	\\chromfs\Lancaster\ChromData\12115\20200818-8369.b\Anions_12115.m				
Limit Group:	IC - 300 28D				
Last Update:	19-Aug-2020 12:31:46	Calib Date:	08-Jul-2020 12:31:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d				
Column 1 :			Det: det0		
Process Host:	CTX1050				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride		3.173				ND	
2	Chloride		4.590				ND	
3	Nitrite as N		5.540				ND	
4	Bromide		7.150				ND	
5	Nitrate as N		8.377				ND	
6	Sulfate		13.000				ND	
S 7	Nitrate Nitrite as N		0.000				ND	

Reagents:

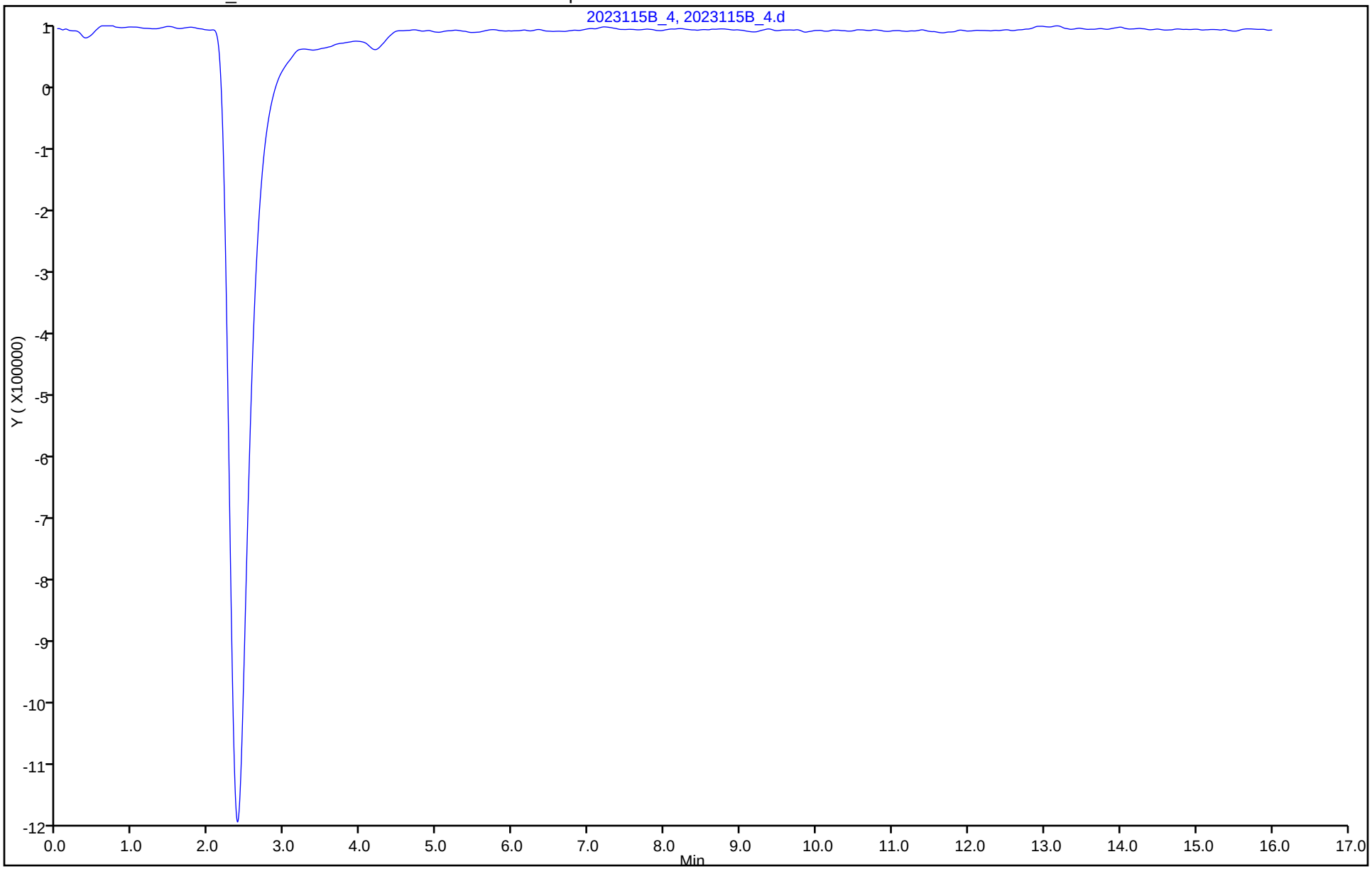
WC_IC_QC2_00125 Amount Added: 0.00 Units: mL

Report Date: 19-Aug-2020 12:31:57 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_4.d

Injection Date:	19-Aug-2020 00:57:00	Instrument ID:	12115	Operator ID:	
Lims ID:	MB			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 410-33689/2

Matrix: Water Lab File ID: 2022913_2.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/16/2020 11:25

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: IC06-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 33689 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14808-79-8	Sulfate	ND		1.0	0.30

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_2.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	16-Aug-2020 11:25:00	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	CCB				
Operator ID:		Instrument ID:	19052		
Method:	\\chromfs\Lancaster\ChromData\19052\20200816-8175.b\Anions_19052.m				
Limit Group:	IC - 300 28D				
Last Update:	17-Aug-2020 06:44:08	Calib Date:	29-Jul-2020 13:57:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d				
Column 1 :			Det: det0		
Process Host:	CTX1046				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride		3.103				ND	
	2 Chloride		4.450				ND	
	3 Nitrite as N		5.333				ND	
	4 Bromide		6.843				ND	
	5 Nitrate as N		7.967				ND	
	6 Sulfate		12.203				ND	
S	7 Nitrate Nitrite as N		0.000				ND	

Report Date: 17-Aug-2020 06:44:13 Chrom Revision: 2.3 10-Aug-2020 14:39:50

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_2.d

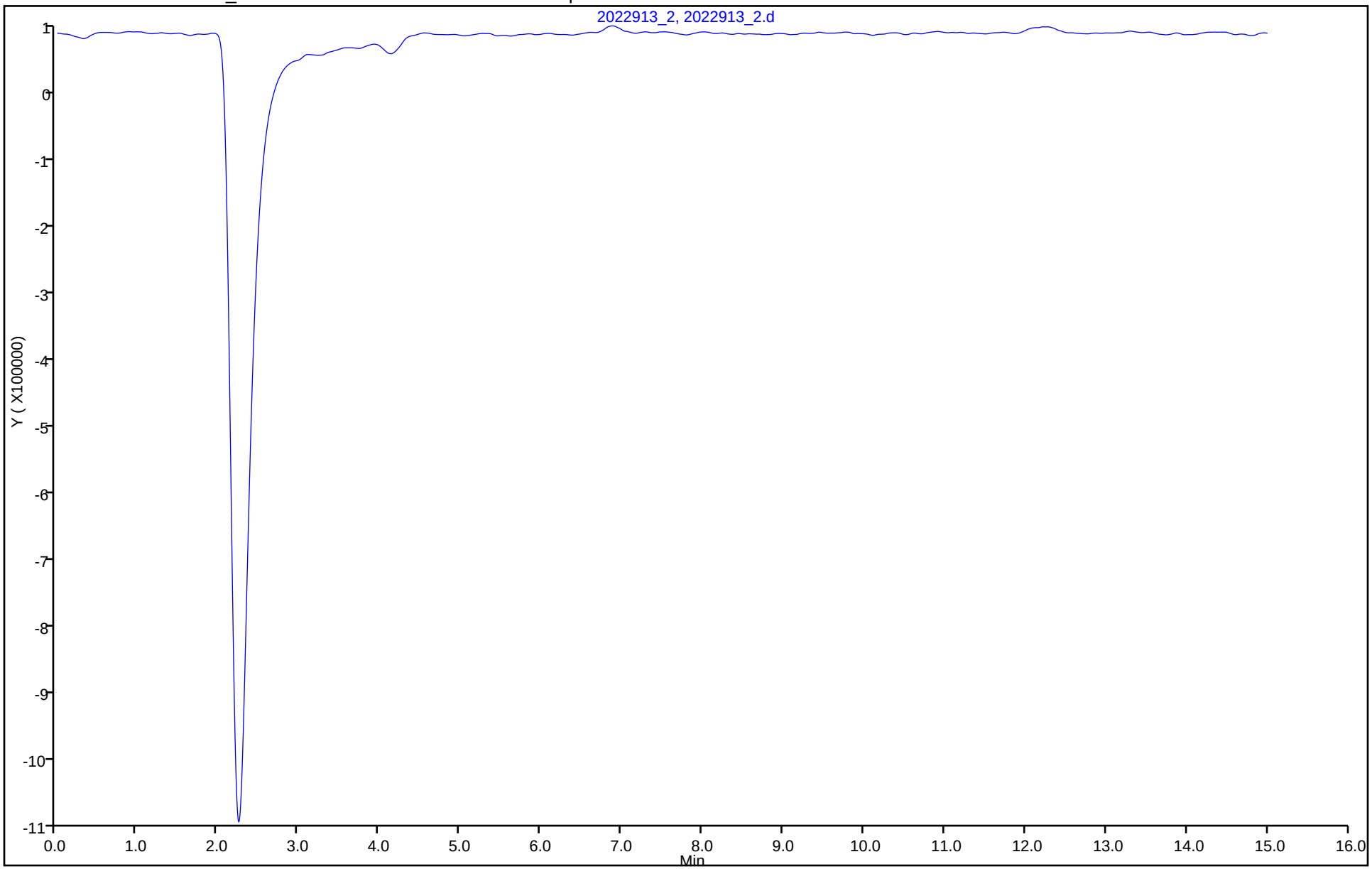
Injection Date: 16-Aug-2020 11:25:00 Instrument ID: 19052 Operator ID:

Lims ID: CCB Worklist Smp#: 2

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Anions_19052 Limit Group: IC - 300 28D



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 410-33689/36

Matrix: Water Lab File ID: 2022913_13.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/16/2020 15:39

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: IC06-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 33689 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14808-79-8	Sulfate	ND		1.0	0.30

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_13.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	16-Aug-2020 15:39:00	ALS Bottle#:	0	Worklist Smp#:	36
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	CCB				
Operator ID:		Instrument ID:	19052		
Method:	\\chromfs\Lancaster\ChromData\19052\20200816-8175.b\Anions_19052.m				
Limit Group:	IC - 300 28D				
Last Update:	17-Aug-2020 06:36:57	Calib Date:	29-Jul-2020 13:57:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d				
Column 1 :			Det: det0		
Process Host:	CTX1046				

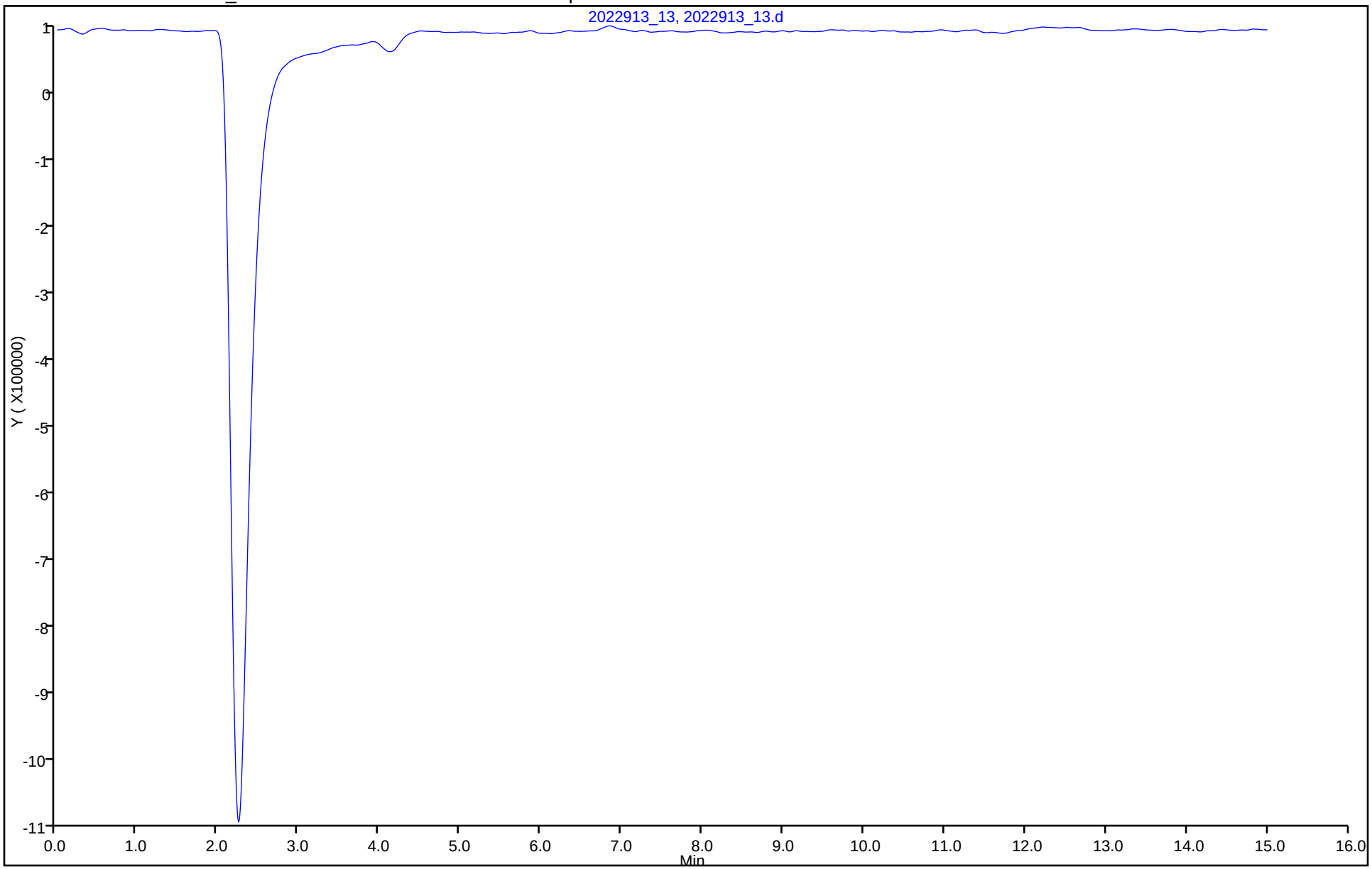
	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride		3.103				ND	
2	Chloride		4.450				ND	
3	Nitrite as N		5.333				ND	
4	Bromide		6.843				ND	
5	Nitrate as N		7.967				ND	
6	Sulfate		12.203				ND	
S 7	Nitrate Nitrite as N		0.000				ND	

Report Date: 17-Aug-2020 06:36:58 Chrom Revision: 2.3 10-Aug-2020 14:39:50

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_13.d

Injection Date:	16-Aug-2020 15:39:00	Instrument ID:	19052	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	36
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_19052	Limit Group:	IC - 300 28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 410-34575/2

Matrix: Water Lab File ID: 2023115B_2.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/19/2020 00:23

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: IC15-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34575 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14808-79-8	Sulfate	ND		1.0	0.30

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_2.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	19-Aug-2020 00:23:00	ALS Bottle#:	0	Worklist Smp#:	2
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	CCB				
Operator ID:		Instrument ID:	12115		
Method:	\\chromfs\Lancaster\ChromData\12115\20200818-8369.b\Anions_12115.m				
Limit Group:	IC - 300 28D				
Last Update:	19-Aug-2020 12:31:46	Calib Date:	08-Jul-2020 12:31:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d				
Column 1 :			Det: det0		
Process Host:	CTX1050				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride		3.173				ND	
2	Chloride		4.590				ND	
3	Nitrite as N		5.540				ND	
4	Bromide		7.150				ND	
5	Nitrate as N		8.377				ND	
6	Sulfate		13.000				ND	
S 7	Nitrate Nitrite as N		0.000				ND	

Reagents:

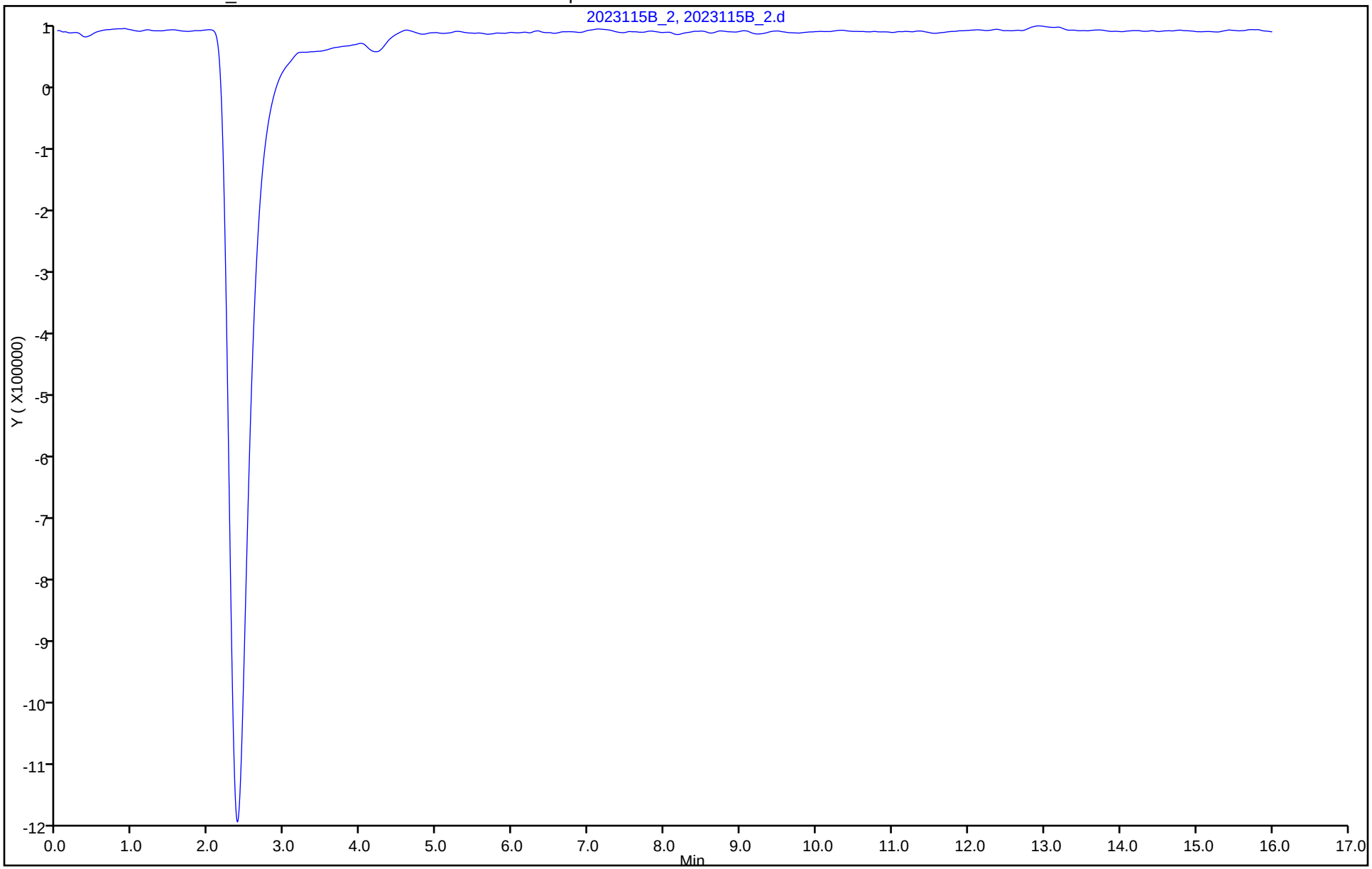
WC_IC_QC2_00125 Amount Added: 0.00 Units: mL

Report Date: 19-Aug-2020 12:31:56 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_2.d

Injection Date:	19-Aug-2020 00:23:00	Instrument ID:	12115	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 410-34575/14

Matrix: Water Lab File ID: 2023115B_14.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/19/2020 03:48

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: IC15-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34575 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14808-79-8	Sulfate	ND		1.0	0.30

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_14.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	19-Aug-2020 03:48:00	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	CCB				
Operator ID:		Instrument ID:	12115		
Method:	\\chromfs\Lancaster\ChromData\12115\20200818-8369.b\Anions_12115.m				
Limit Group:	IC - 300 28D				
Last Update:	19-Aug-2020 12:32:02	Calib Date:	08-Jul-2020 12:31:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d				
Column 1 :			Det: det0		
Process Host:	CTX1050				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride		3.173				ND	
2	Chloride		4.590				ND	
3	Nitrite as N		5.540				ND	
4	Bromide		7.150				ND	
5	Nitrate as N		8.377				ND	
6	Sulfate		13.000				ND	
S 7	Nitrate Nitrite as N		0.000				ND	

Reagents:

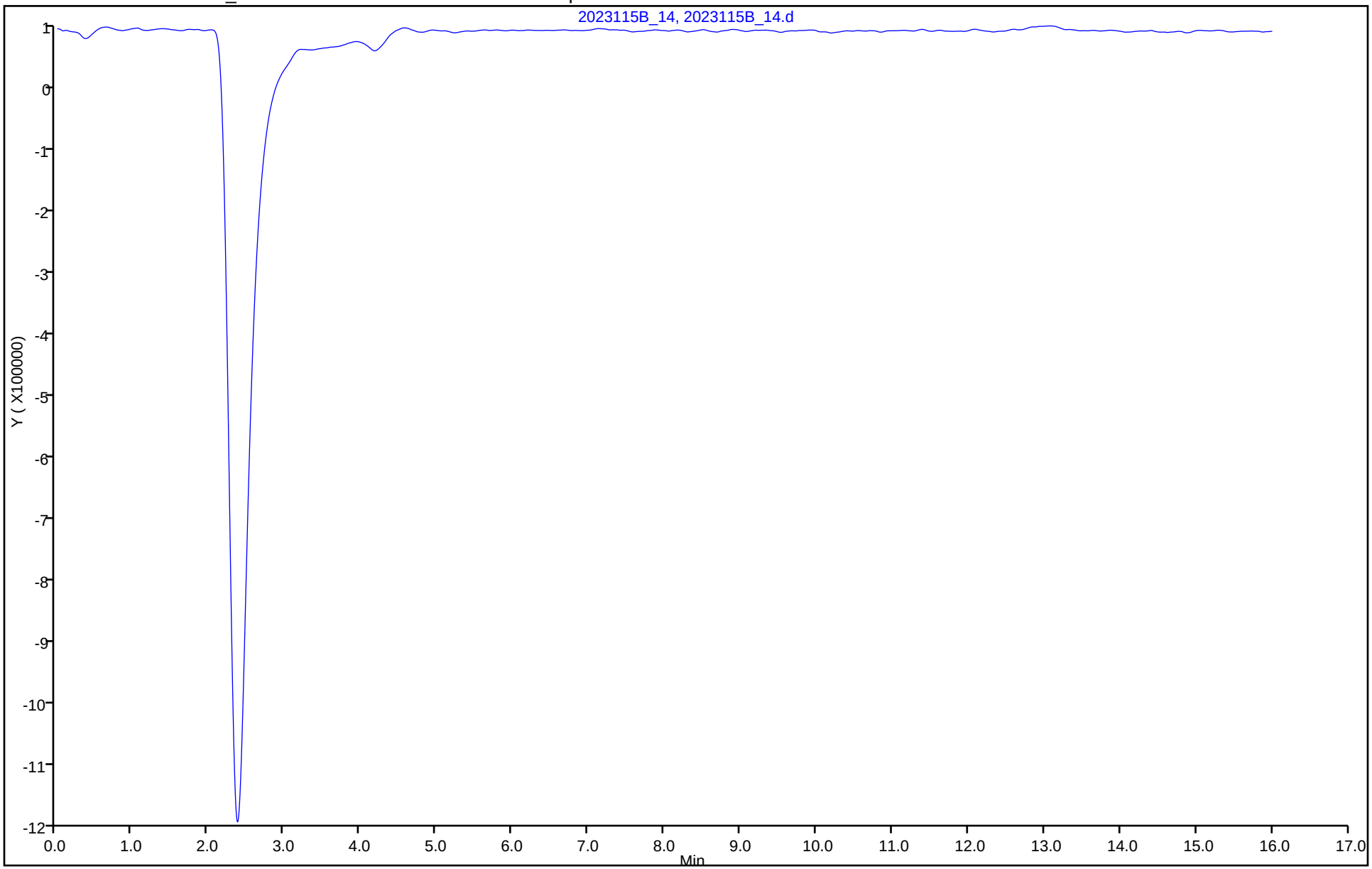
WC_IC_QC2_00125 Amount Added: 0.00 Units: mL

Report Date: 19-Aug-2020 12:32:03 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_14.d

Injection Date:	19-Aug-2020 03:48:00	Instrument ID:	12115	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 410-34575/26

Matrix: Water Lab File ID: 2023115B_26.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/19/2020 07:14

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: IC15-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34575 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14808-79-8	Sulfate	ND		1.0	0.30

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_26.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	19-Aug-2020 07:14:00	ALS Bottle#:	0	Worklist Smp#:	26
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	CCB				
Operator ID:		Instrument ID:	12115		
Method:	\\chromfs\Lancaster\ChromData\12115\20200818-8369.b\Anions_12115.m				
Limit Group:	IC - 300 28D				
Last Update:	19-Aug-2020 12:32:43	Calib Date:	08-Jul-2020 12:31:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d				
Column 1 :			Det: det0		
Process Host:	CTX1050				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride		3.173				ND	
2	Chloride		4.590				ND	
3	Nitrite as N		5.540				ND	
4	Bromide		7.150				ND	
5	Nitrate as N		8.377				ND	
6	Sulfate		13.000				ND	
S 7	Nitrate Nitrite as N		0.000				ND	

Reagents:

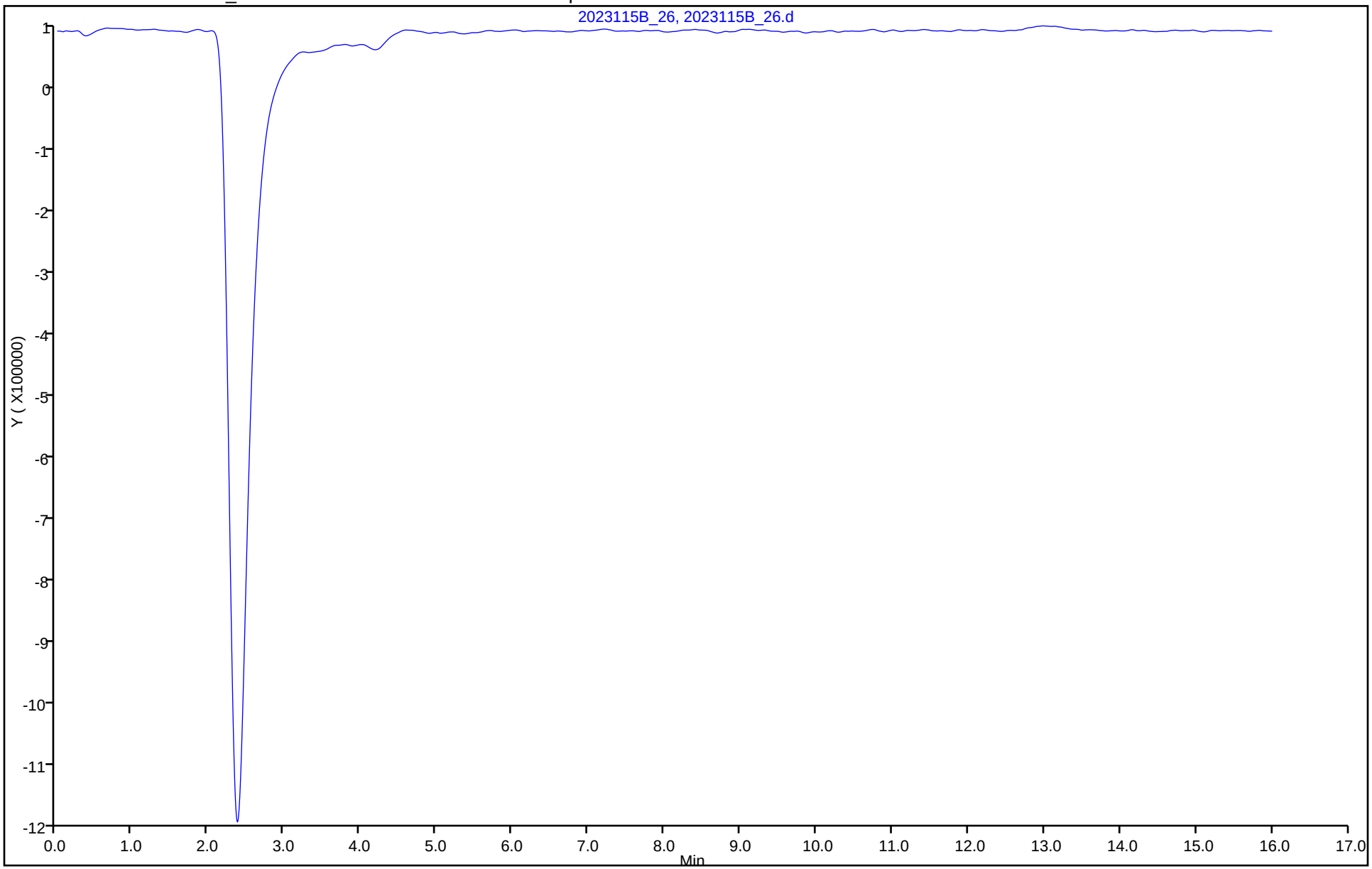
WC_IC_QC2_00125 Amount Added: 0.00 Units: mL

Report Date: 19-Aug-2020 12:32:44 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_26.d

Injection Date:	19-Aug-2020 07:14:00	Instrument ID:	12115	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	26
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 410-34575/38

Matrix: Water Lab File ID: 2023115B_38.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/19/2020 10:40

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: IC15-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34575 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14808-79-8	Sulfate	ND		1.0	0.30

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_38.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 19-Aug-2020 10:40:00 ALS Bottle#: 0 Worklist Smp#: 38
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCB
Operator ID: Instrument ID: 12115

Method: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\Anions_12115.m
Limit Group: IC - 300 28D
Last Update: 19-Aug-2020 12:32:49 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1050

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride		3.173				ND	
2	Chloride		4.590				ND	
3	Nitrite as N		5.540				ND	
4	Bromide		7.150				ND	
5	Nitrate as N		8.377				ND	
6	Sulfate		13.000				ND	
S 7	Nitrate Nitrite as N		0.000				ND	

Reagents:

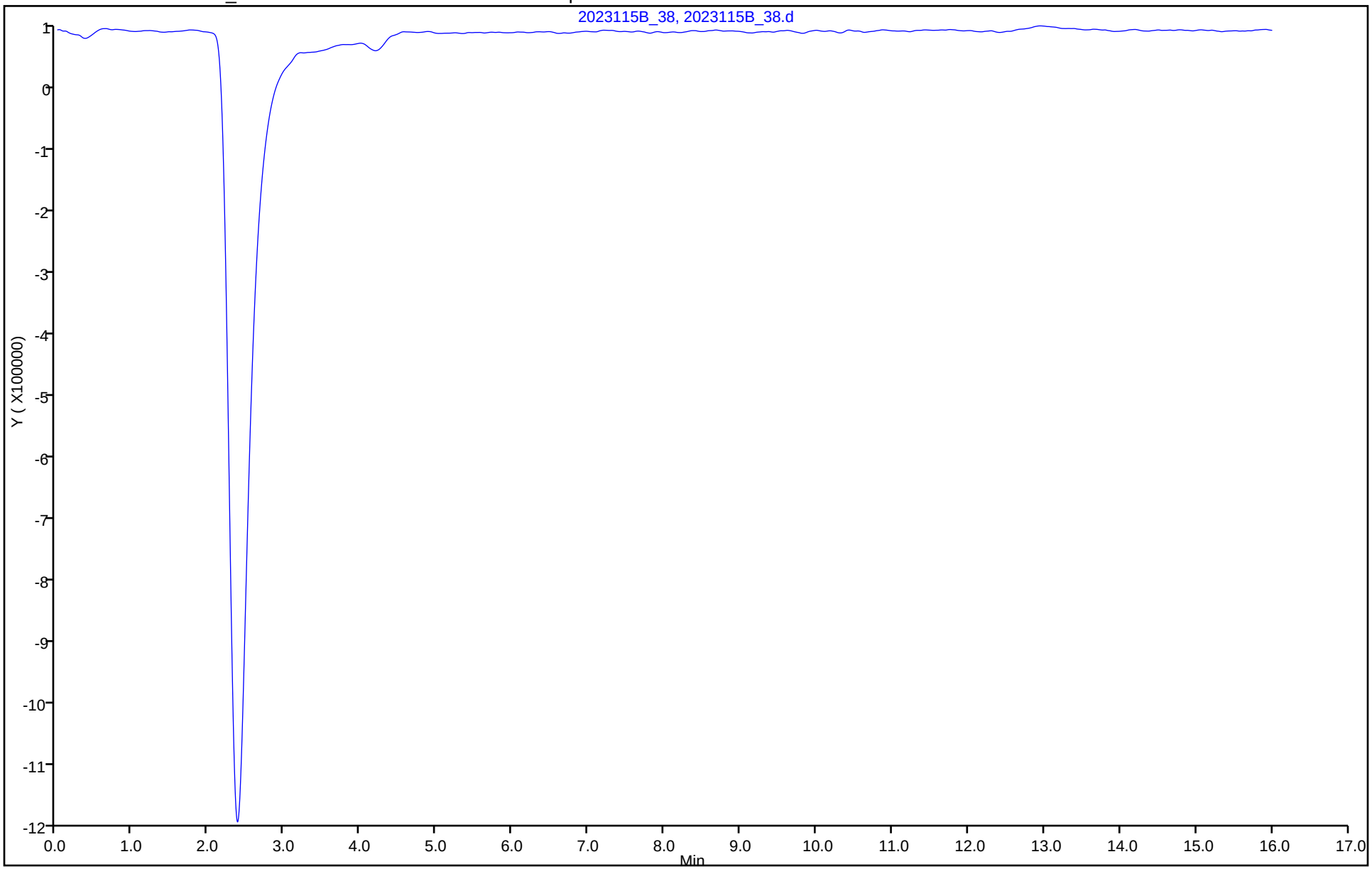
WC_IC_QC2_00125 Amount Added: 0.00 Units: mL

Report Date: 19-Aug-2020 12:32:50 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_38.d

Injection Date:	19-Aug-2020 10:40:00	Instrument ID:	12115	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	38
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: ICB 410-22225/8

Matrix: Water Lab File ID: 2019015C_8.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 07/08/2020 13:05

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: IC15-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 22225 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14808-79-8	Sulfate	ND		1.0	0.30

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_8.d
Lims ID: ICB
Client ID:
Sample Type: ICB
Inject. Date: 08-Jul-2020 13:05:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICB
Operator ID: Instrument ID: 12115

Method: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\Anions_12115.m
Limit Group: IC - 300 28D
Last Update: 14-Jul-2020 10:40:18 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1031

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride		3.190				ND	
	2 Chloride		4.660				ND	
	3 Nitrite as N		5.667				ND	
	4 Bromide		7.363				ND	
	5 Nitrate as N		8.683				ND	
	6 Sulfate		13.537				ND	
S	7 Nitrate Nitrite as N		0.000				ND	

Reagents:

WC_IC_QC2_00079 Amount Added: 0.00 Units: mL

Report Date: 14-Jul-2020 10:40:19 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_8.d

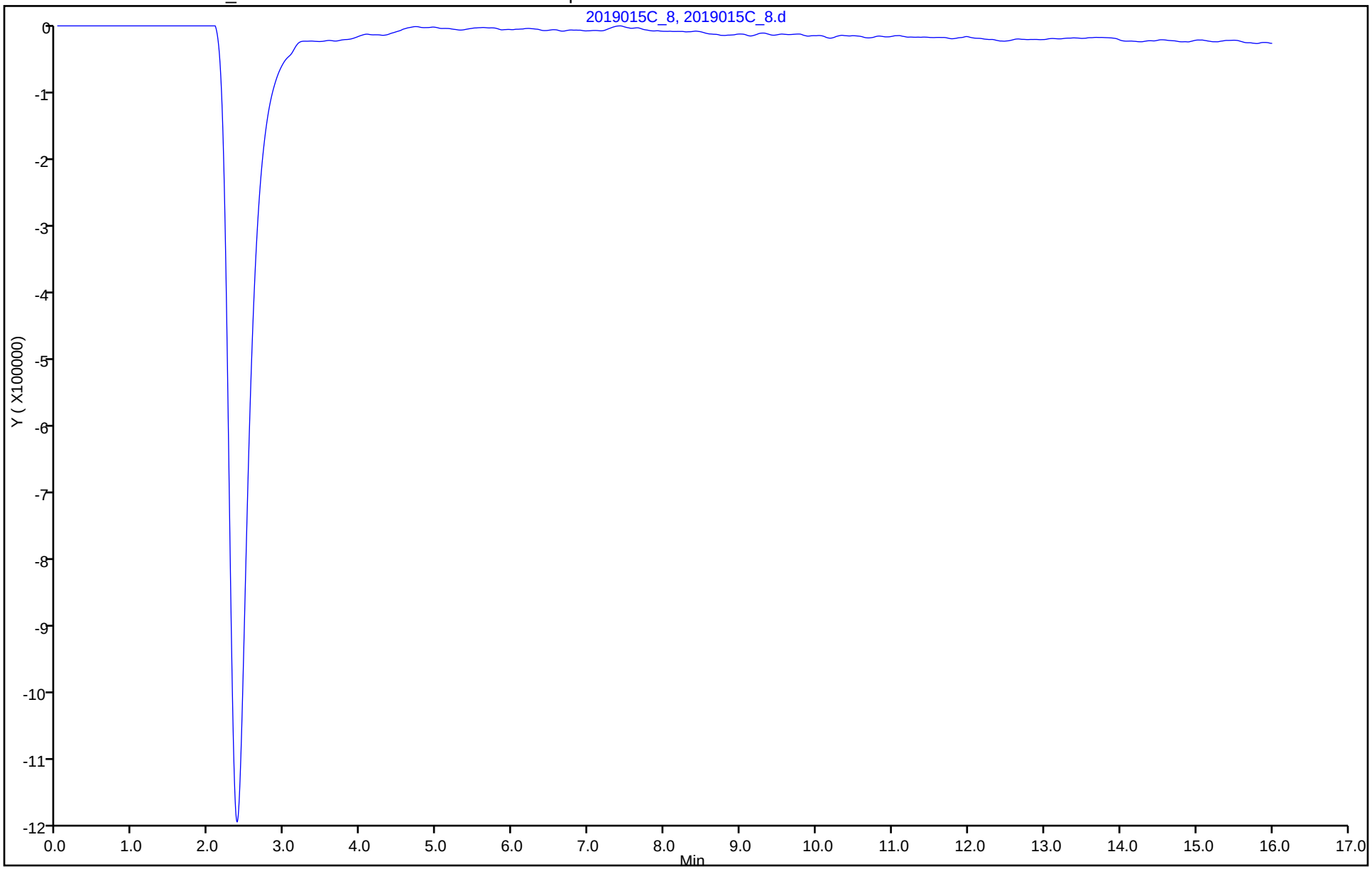
Injection Date: 08-Jul-2020 13:05:00 Instrument ID: 12115 Operator ID:

Lims ID: ICB Worklist Smp#: 8

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Anions_12115 Limit Group: IC - 300 28D



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: ICB 410-27551/8

Matrix: Water Lab File ID: 2021113C_8.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 07/29/2020 14:31

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: IC06-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 27551 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14808-79-8	Sulfate	ND		1.0	0.30

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_8.d
Lims ID: ICB
Client ID:
Sample Type: ICB
Inject. Date: 29-Jul-2020 14:31:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICB
Operator ID: Instrument ID: 19052

Method: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\Anions_19052.m
Limit Group: IC - 300 28D
Last Update: 30-Jul-2020 11:42:36 Calib Date: 29-Jul-2020 13:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

Column 1 : Det: det0
Process Host: CTX1035

First Level Reviewer: litwak Date: 30-Jul-2020 11:39:34

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride		3.123				ND	
2	Chloride		4.510				ND	
3	Nitrite as N		5.433				ND	
4	Bromide		7.013				ND	
5	Nitrate as N		8.203				ND	
6	Sulfate		12.560				ND	
S 7	Nitrate Nitrite as N		0.000				ND	

Reagents:

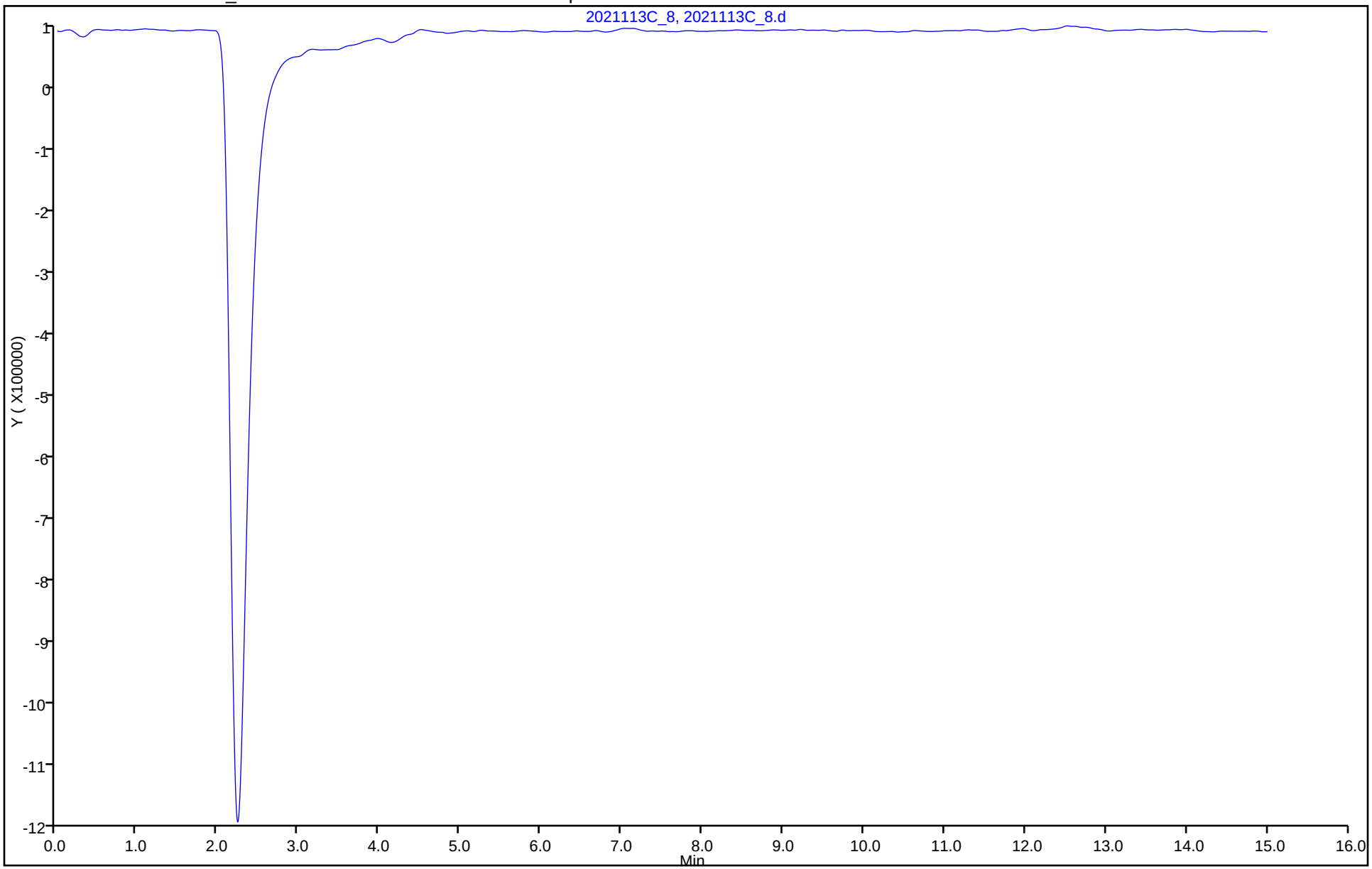
WC_IC_QC2_00105 Amount Added: 0.00 Units: mL

Report Date: 30-Jul-2020 11:42:37 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_8.d

Injection Date:	29-Jul-2020 14:31:00	Instrument ID:	19052	Operator ID:	
Lims ID:	ICB			Worklist Smp#:	8
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_19052	Limit Group:	IC - 300 28D		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 410-33689/3

Matrix: Water Lab File ID: 2022913_3.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/16/2020 11:42

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: IC06-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 33689 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14808-79-8	Sulfate	7.97		1.0	0.30

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_3.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 16-Aug-2020 11:42:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCS
Misc. Info.: 20229135113
Operator ID: Instrument ID: 19052

Method: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\Anions_19052.m
Limit Group: IC - 300 28D
Last Update: 17-Aug-2020 06:44:08 Calib Date: 29-Jul-2020 13:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

Column 1 : Det: det0
Process Host: CTX1046

First Level Reviewer: litwak Date: 17-Aug-2020 06:44:15

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.100	3.103	-0.003	13463989	0.7500	0.7592	
2 Chloride	4.450	4.450	0.000	45715184	3.00	3.11	
3 Nitrite as N	5.333	5.333	0.000	24095863	NC	NC	
4 Bromide	6.847	6.843	0.004	47709996	7.50	7.64	
5 Nitrate as N	7.970	7.967	0.003	27149395	NC	NC	
6 Sulfate	12.197	12.203	-0.006	83505796	7.50	7.97	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

WC_IC_QC2_00123 Amount Added: 7.50 Units: mL

Report Date: 17-Aug-2020 06:44:16 Chrom Revision: 2.3 10-Aug-2020 14:39:50

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_3.d

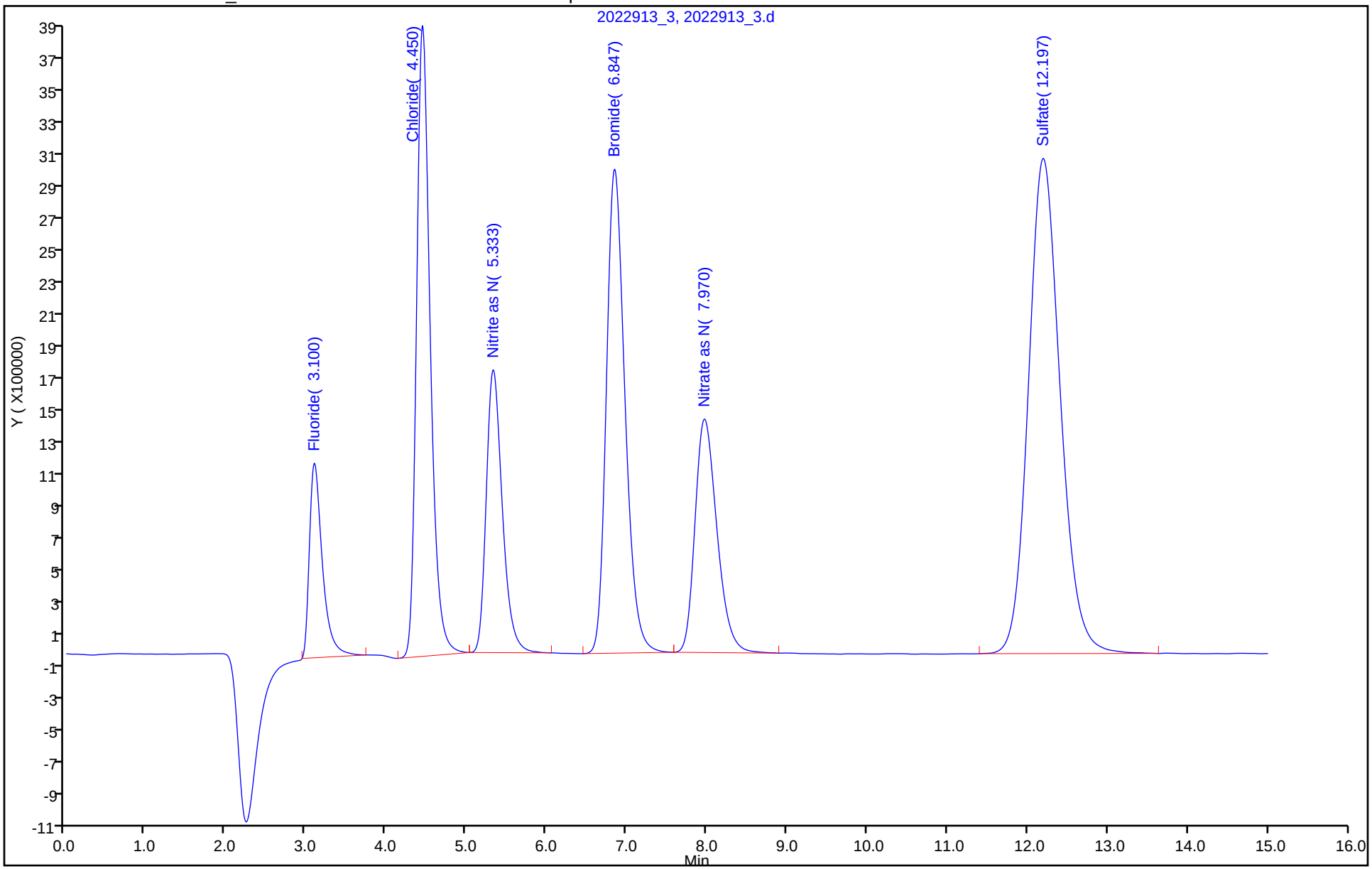
Injection Date: 16-Aug-2020 11:42:00 Instrument ID: 19052 Operator ID:

Lims ID: LCS Worklist Smp#: 3

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Anions_19052 Limit Group: IC - 300 28D



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 410-34575/3

Matrix: Water Lab File ID: 2023115B_3.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/19/2020 00:40

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: IC15-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34575 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14808-79-8	Sulfate	7.66		1.0	0.30

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_3.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 19-Aug-2020 00:40:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCS
Misc. Info.: 32076
Operator ID: Instrument ID: 12115

Method: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\Anions_12115.m
Limit Group: IC - 300 28D
Last Update: 19-Aug-2020 12:31:46 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1050

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.177	3.173	0.004	16580670	0.7500	0.7573	
2 Chloride	4.597	4.590	0.007	46711147	3.00	2.99	
3 Nitrite as N	5.547	5.540	0.007	23210455	NC	NC	
4 Bromide	7.163	7.150	0.013	50291400	7.50	7.60	
5 Nitrate as N	8.390	8.377	0.013	26341729	NC	NC	
6 Sulfate	13.003	13.000	0.003	86913960	7.50	7.66	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

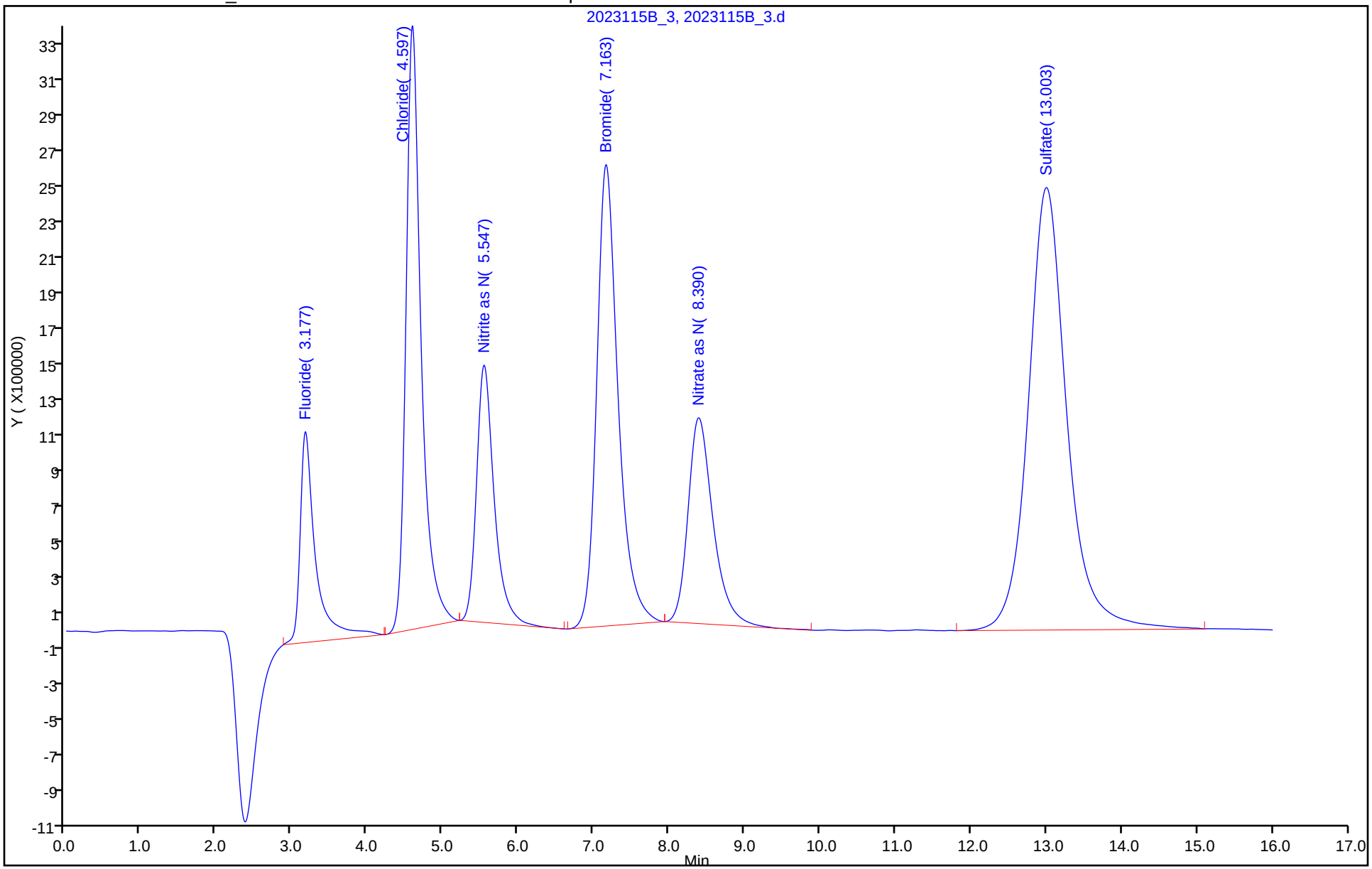
WC_IC_QC2_00125 Amount Added: 7.50 Units: mL

Report Date: 19-Aug-2020 12:31:56 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_3.d

Injection Date:	19-Aug-2020 00:40:00	Instrument ID:	12115	Operator ID:	
Lims ID:	LCS			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 28D		



HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 12115 Start Date: 07/08/2020 11:05

Analysis Batch Number: 22225 End Date: 07/08/2020 13:40

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 410-22225/1		07/08/2020 11:05	1	2019015C_1.d	IC15-AS14 4(mm)
IC 410-22225/2		07/08/2020 11:22	1	2019015C_2.d	IC15-AS14 4(mm)
IC 410-22225/3		07/08/2020 11:40	1	2019015C_3.d	IC15-AS14 4(mm)
IC 410-22225/4		07/08/2020 11:57	1	2019015C_4.d	IC15-AS14 4(mm)
IC 410-22225/5		07/08/2020 12:14	1	2019015C_5.d	IC15-AS14 4(mm)
IC 410-22225/6		07/08/2020 12:31	1	2019015C_6.d	IC15-AS14 4(mm)
ICV 410-22225/7		07/08/2020 12:48	1	2019015C_7.d	IC15-AS14 4(mm)
ICB 410-22225/8		07/08/2020 13:05	1	2019015C_8.d	IC15-AS14 4(mm)
ZZZZZ		07/08/2020 13:22	1		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 13:40	1		IC15-AS14 4(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 19052 Start Date: 07/29/2020 12:31

Analysis Batch Number: 27551 End Date: 07/29/2020 14:31

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 410-27551/1		07/29/2020 12:31	1	2021113C_1.d	IC06-AS14 4(mm)
IC 410-27551/2		07/29/2020 12:48	1	2021113C_2.d	IC06-AS14 4(mm)
IC 410-27551/3		07/29/2020 13:05	1	2021113C_3.d	IC06-AS14 4(mm)
IC 410-27551/4		07/29/2020 13:23	1	2021113C_4.d	IC06-AS14 4(mm)
IC 410-27551/5		07/29/2020 13:40	1	2021113C_5.d	IC06-AS14 4(mm)
IC 410-27551/6		07/29/2020 13:57	1	2021113C_6.d	IC06-AS14 4(mm)
ICV 410-27551/7		07/29/2020 14:14	1	2021113C_7.d	IC06-AS14 4(mm)
ICB 410-27551/8		07/29/2020 14:31	1	2021113C_8.d	IC06-AS14 4(mm)

EPA 300.0 R2.1

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 19052 Start Date: 08/16/2020 11:08

Analysis Batch Number: 33689 End Date: 08/17/2020 03:01

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 410-33689/1		08/16/2020 11:08	1	2022913_1.d	IC06-AS14 4(mm)
CCB 410-33689/2		08/16/2020 11:25	1	2022913_2.d	IC06-AS14 4(mm)
LCS 410-33689/3		08/16/2020 11:42	1	2022913_3.d	IC06-AS14 4(mm)
MB 410-33689/4		08/16/2020 11:59	1	2022913_4.d	IC06-AS14 4(mm)
ZZZZZ		08/16/2020 13:22	5		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 13:40	5		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 13:57	5		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 14:14	5		IC06-AS14 4(mm)
410-10696-3	MW-04	08/16/2020 14:31	5	2022913_9.d	IC06-AS14 4(mm)
ZZZZZ		08/16/2020 14:48	5		IC06-AS14 4(mm)
410-10696-1	MW-01	08/16/2020 15:05	5	2022913_11.d	IC06-AS14 4(mm)
CCV 410-33689/35		08/16/2020 15:22	1	2022913_12.d	IC06-AS14 4(mm)
CCB 410-33689/36		08/16/2020 15:39	1	2022913_13.d	IC06-AS14 4(mm)
ZZZZZ		08/16/2020 15:56	5		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 16:30	5		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 17:04	5		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 17:38	5		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 18:13	5		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 18:30	500		IC06-AS14 4(mm)
CCV 410-33689/43		08/16/2020 18:47	1		IC06-AS14 4(mm)
CCB 410-33689/44		08/16/2020 19:04	1		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 19:21	5		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 19:38	5		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 19:55	5		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 20:12	500		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 20:29	500		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 20:46	500		IC06-AS14 4(mm)
CCV 410-33689/51		08/16/2020 21:03	1		IC06-AS14 4(mm)
CCB 410-33689/52		08/16/2020 21:20	1		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 21:37	5		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 22:11	5		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 22:45	5		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 23:20	5		IC06-AS14 4(mm)
CCV 410-33689/57		08/16/2020 23:37	1		IC06-AS14 4(mm)
CCB 410-33689/58		08/16/2020 23:54	1		IC06-AS14 4(mm)
ZZZZZ		08/17/2020 00:11	50		IC06-AS14 4(mm)
ZZZZZ		08/17/2020 00:28	5		IC06-AS14 4(mm)
ZZZZZ		08/17/2020 00:45	50		IC06-AS14 4(mm)
ZZZZZ		08/17/2020 01:02	5		IC06-AS14 4(mm)
ZZZZZ		08/17/2020 01:19	5		IC06-AS14 4(mm)
ZZZZZ		08/17/2020 01:36	5		IC06-AS14 4(mm)
CCV 410-33689/65		08/17/2020 01:53	1		IC06-AS14 4(mm)
CCB 410-33689/66		08/17/2020 02:10	1		IC06-AS14 4(mm)
ZZZZZ		08/17/2020 02:27	5		IC06-AS14 4(mm)
CCV 410-33689/69		08/17/2020 02:44	1		IC06-AS14 4(mm)

EPA 300.0 R2.1

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 19052 Start Date: 08/16/2020 11:08

Analysis Batch Number: 33689 End Date: 08/17/2020 03:01

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCB 410-33689/70		08/17/2020 03:01	1		IC06-AS14 4(mm)

EPA 300.0 R2.1

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 12115 Start Date: 08/19/2020 00:06

Analysis Batch Number: 34575 End Date: 08/19/2020 11:48

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 410-34575/1		08/19/2020 00:06	1	2023115B_1.d	IC15-AS14 4(mm)
CCB 410-34575/2		08/19/2020 00:23	1	2023115B_2.d	IC15-AS14 4(mm)
LCS 410-34575/3		08/19/2020 00:40	1	2023115B_3.d	IC15-AS14 4(mm)
MB 410-34575/4		08/19/2020 00:57	1	2023115B_4.d	IC15-AS14 4(mm)
ZZZZZ		08/19/2020 01:14	5		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 01:32	5		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 01:49	5		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 02:06	5		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 02:23	500		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 02:40	5		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 02:57	500		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 03:14	5		IC15-AS14 4(mm)
CCV 410-34575/13		08/19/2020 03:31	1	2023115B_13.d	IC15-AS14 4(mm)
CCB 410-34575/14		08/19/2020 03:48	1	2023115B_14.d	IC15-AS14 4(mm)
ZZZZZ		08/19/2020 04:06	500		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 04:23	5		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 04:40	500		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 04:57	5		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 05:15	500		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 05:32	5		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 05:49	5		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 06:06	5		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 06:23	5		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 06:40	500		IC15-AS14 4(mm)
CCV 410-34575/25		08/19/2020 06:57	1	2023115B_25.d	IC15-AS14 4(mm)
CCB 410-34575/26		08/19/2020 07:14	1	2023115B_26.d	IC15-AS14 4(mm)
ZZZZZ		08/19/2020 07:31	10		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 07:49	10		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 08:06	10		IC15-AS14 4(mm)
410-10696-6	WPA-GW-02	08/19/2020 08:23	5	2023115B_30.d	IC15-AS14 4(mm)
ZZZZZ		08/19/2020 08:40	500		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 08:57	500		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 09:14	500		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 09:31	500		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 09:48	500		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 10:05	5		IC15-AS14 4(mm)
CCV 410-34575/37		08/19/2020 10:23	1	2023115B_37.d	IC15-AS14 4(mm)
CCB 410-34575/38		08/19/2020 10:40	1	2023115B_38.d	IC15-AS14 4(mm)
ZZZZZ		08/19/2020 10:57	500		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 11:14	500		IC15-AS14 4(mm)
CCV 410-34575/41		08/19/2020 11:31	1		IC15-AS14 4(mm)
CCB 410-34575/42		08/19/2020 11:48	1		IC15-AS14 4(mm)

EPA 300.0 R2.1

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 19052 Start Date: 08/31/2020 06:10

Analysis Batch Number: 39135 End Date: 08/31/2020 17:14

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 410-39135/1		08/31/2020 06:10	1	2024413_1.d	IC06-AS14 4(mm)
CCB 410-39135/2		08/31/2020 06:27	1		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 06:45	1		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 07:02	1		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 07:19	5		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 07:37	5		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 07:55	5		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 08:13	10		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 08:31	100		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 08:49	5		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 09:07	10		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 09:25	5		IC06-AS14 4(mm)
CCV 410-39135/13		08/31/2020 09:43	1		IC06-AS14 4(mm)
CCB 410-39135/14		08/31/2020 10:01	1		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 10:19	5		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 10:37	5		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 10:55	5		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 11:13	10		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 11:31	10		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 11:49	10		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 12:07	10		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 12:25	5		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 12:43	100		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 13:02	5		IC06-AS14 4(mm)
CCV 410-39135/25		08/31/2020 13:20	1		IC06-AS14 4(mm)
CCB 410-39135/26		08/31/2020 13:38	1		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 13:56	5		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 14:14	5		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 14:32	5		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 14:50	500		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 15:08	5		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 15:26	500		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 15:44	5		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 16:02	500		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 16:20	5		IC06-AS14 4(mm)
ZZZZZ		08/31/2020 16:38	500		IC06-AS14 4(mm)
CCV 410-39135/37		08/31/2020 16:56	1		IC06-AS14 4(mm)
CCB 410-39135/38		08/31/2020 17:14	1		IC06-AS14 4(mm)

EPA 300.0 R2.1

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 12115 Start Date: 09/01/2020 05:54

Analysis Batch Number: 39350 End Date: 09/01/2020 21:54

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 410-39350/1		09/01/2020 05:54	1	2024415B_1.d	IC15-AS14 4(mm)
CCB 410-39350/2		09/01/2020 06:12	1		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 06:30	1		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 06:48	1		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 07:06	5		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 07:24	5		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 07:42	5		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 08:00	5		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 08:19	5		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 08:37	5		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 08:55	500		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 09:13	500		IC15-AS14 4(mm)
CCV 410-39350/13		09/01/2020 09:31	1		IC15-AS14 4(mm)
CCB 410-39350/14		09/01/2020 09:49	1		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 10:07	500		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 10:25	5		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 10:43	10		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 11:02	5		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 11:20	5		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 11:38	20		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 11:56	5		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 12:14	500		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 12:32	5		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 12:50	500		IC15-AS14 4(mm)
CCV 410-39350/25		09/01/2020 13:08	1		IC15-AS14 4(mm)
CCB 410-39350/26		09/01/2020 13:27	1		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 13:45	5		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 14:03	500		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 14:21	5		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 14:39	500		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 14:57	5		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 15:15	10		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 15:33	5		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 15:51	5		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 16:10	5		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 16:28	50		IC15-AS14 4(mm)
CCV 410-39350/37		09/01/2020 16:46	1		IC15-AS14 4(mm)
CCB 410-39350/38		09/01/2020 17:04	1		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 17:22	5		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 17:40	5		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 17:58	5		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 18:16	500		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 18:34	1		IC15-AS14 4(mm)
CCV 410-39350/44		09/01/2020 18:53	1		IC15-AS14 4(mm)
CCB 410-39350/45		09/01/2020 19:11	1		IC15-AS14 4(mm)

EPA 300.0 R2.1

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 12115 Start Date: 09/01/2020 05:54

Analysis Batch Number: 39350 End Date: 09/01/2020 21:54

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		09/01/2020 19:29	1		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 19:47	1		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 20:05	500		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 20:23	500		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 20:41	500		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 20:59	500		IC15-AS14 4(mm)
ZZZZZ		09/01/2020 21:18	5		IC15-AS14 4(mm)
CCV 410-39350/52		09/01/2020 21:36	1		IC15-AS14 4(mm)
CCB 410-39350/53		09/01/2020 21:54	1		IC15-AS14 4(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 19052 Start Date: 09/04/2020 14:56

Analysis Batch Number: 41366 End Date: 09/05/2020 00:52

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 410-41366/1		09/04/2020 14:56	1	2024813A_1.d	IC06-AS14 4(mm)
CCB 410-41366/2		09/04/2020 15:14	1		IC06-AS14 4(mm)
ZZZZZ		09/04/2020 15:32	1		IC06-AS14 4(mm)
ZZZZZ		09/04/2020 15:50	1		IC06-AS14 4(mm)
ZZZZZ		09/04/2020 16:08	5		IC06-AS14 4(mm)
ZZZZZ		09/04/2020 16:26	5		IC06-AS14 4(mm)
ZZZZZ		09/04/2020 16:44	5		IC06-AS14 4(mm)
ZZZZZ		09/04/2020 17:02	5		IC06-AS14 4(mm)
ZZZZZ		09/04/2020 17:20	5		IC06-AS14 4(mm)
ZZZZZ		09/04/2020 17:38	5		IC06-AS14 4(mm)
ZZZZZ		09/04/2020 17:56	10		IC06-AS14 4(mm)
ZZZZZ		09/04/2020 18:14	5		IC06-AS14 4(mm)
CCV 410-41366/13		09/04/2020 18:33	1		IC06-AS14 4(mm)
CCB 410-41366/14		09/04/2020 18:51	1		IC06-AS14 4(mm)
ZZZZZ		09/04/2020 19:09	1		IC06-AS14 4(mm)
ZZZZZ		09/04/2020 19:27	500		IC06-AS14 4(mm)
ZZZZZ		09/04/2020 19:45	5		IC06-AS14 4(mm)
ZZZZZ		09/04/2020 20:03	5		IC06-AS14 4(mm)
ZZZZZ		09/04/2020 20:21	5		IC06-AS14 4(mm)
ZZZZZ		09/04/2020 20:39	5		IC06-AS14 4(mm)
ZZZZZ		09/04/2020 20:57	5		IC06-AS14 4(mm)
ZZZZZ		09/04/2020 21:15	5		IC06-AS14 4(mm)
ZZZZZ		09/04/2020 21:33	20		IC06-AS14 4(mm)
ZZZZZ		09/04/2020 21:51	5		IC06-AS14 4(mm)
CCV 410-41366/25		09/04/2020 22:09	1		IC06-AS14 4(mm)
CCB 410-41366/26		09/04/2020 22:27	1		IC06-AS14 4(mm)
ZZZZZ		09/04/2020 22:45	5		IC06-AS14 4(mm)
ZZZZZ		09/04/2020 23:03	5		IC06-AS14 4(mm)
ZZZZZ		09/04/2020 23:21	5		IC06-AS14 4(mm)
ZZZZZ		09/04/2020 23:39	5		IC06-AS14 4(mm)
ZZZZZ		09/04/2020 23:57	5		IC06-AS14 4(mm)
ZZZZZ		09/05/2020 00:15	20		IC06-AS14 4(mm)
CCV 410-41366/33		09/05/2020 00:34	1		IC06-AS14 4(mm)
CCB 410-41366/34		09/05/2020 00:52	1		IC06-AS14 4(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 19052 Start Date: 09/09/2020 07:22

Analysis Batch Number: 42015 End Date: 09/10/2020 06:36

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 410-42015/1		09/09/2020 07:22	1	2025313_2.d	IC06-AS14 4(mm)
CCB 410-42015/2		09/09/2020 07:40	1		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 07:58	1		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 08:16	1		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 08:56	5		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 09:14	5		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 09:32	5		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 09:50	5		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 10:08	5		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 10:26	5		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 10:44	5		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 11:02	10		IC06-AS14 4(mm)
CCV 410-42015/13		09/09/2020 11:21	1		IC06-AS14 4(mm)
CCB 410-42015/14		09/09/2020 11:39	1		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 11:57	5		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 12:15	5		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 12:33	5		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 12:51	20		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 13:09	5		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 13:27	200		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 13:45	200		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 14:03	200		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 14:21	10		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 14:39	500		IC06-AS14 4(mm)
CCV 410-42015/25		09/09/2020 14:57	1		IC06-AS14 4(mm)
CCB 410-42015/26		09/09/2020 15:15	1		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 15:33	500		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 15:51	500		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 16:09	5		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 16:27	500		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 16:45	5		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 17:04	500		IC06-AS14 4(mm)
CCV 410-42015/33		09/09/2020 17:22	1		IC06-AS14 4(mm)
CCB 410-42015/34		09/09/2020 17:40	1		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 17:58	1		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 18:16	1		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 18:34	5		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 18:52	50		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 19:10	5		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 19:28	50		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 19:46	5		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 20:04	50		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 20:22	5		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 20:40	50		IC06-AS14 4(mm)
CCV 410-42015/45		09/09/2020 20:58	1		IC06-AS14 4(mm)

EPA 300.0 R2.1

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 19052 Start Date: 09/09/2020 07:22

Analysis Batch Number: 42015 End Date: 09/10/2020 06:36

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCB 410-42015/46		09/09/2020 21:16	1		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 21:34	5		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 21:52	20		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 22:10	1		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 22:28	1		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 22:46	5		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 23:04	50		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 23:22	5		IC06-AS14 4(mm)
ZZZZZ		09/09/2020 23:41	50		IC06-AS14 4(mm)
CCV 410-42015/55		09/09/2020 23:59	1		IC06-AS14 4(mm)
CCB 410-42015/56		09/10/2020 00:17	1		IC06-AS14 4(mm)
ZZZZZ		09/10/2020 00:35	5		IC06-AS14 4(mm)
ZZZZZ		09/10/2020 00:53	5		IC06-AS14 4(mm)
ZZZZZ		09/10/2020 01:11	5		IC06-AS14 4(mm)
ZZZZZ		09/10/2020 01:29	5		IC06-AS14 4(mm)
ZZZZZ		09/10/2020 01:47	5		IC06-AS14 4(mm)
ZZZZZ		09/10/2020 02:05	5		IC06-AS14 4(mm)
ZZZZZ		09/10/2020 02:23	5		IC06-AS14 4(mm)
ZZZZZ		09/10/2020 02:41	200		IC06-AS14 4(mm)
ZZZZZ		09/10/2020 02:59	5		IC06-AS14 4(mm)
ZZZZZ		09/10/2020 03:17	200		IC06-AS14 4(mm)
ZZZZZ		09/10/2020 03:35	5		IC06-AS14 4(mm)
ZZZZZ		09/10/2020 03:53	500		IC06-AS14 4(mm)
CCV 410-42015/69		09/10/2020 04:11	1		IC06-AS14 4(mm)
CCB 410-42015/70		09/10/2020 04:29	1		IC06-AS14 4(mm)
ZZZZZ		09/10/2020 04:47	1		IC06-AS14 4(mm)
ZZZZZ		09/10/2020 05:05	500		IC06-AS14 4(mm)
ZZZZZ		09/10/2020 05:23	500		IC06-AS14 4(mm)
ZZZZZ		09/10/2020 05:41	500		IC06-AS14 4(mm)
ZZZZZ		09/10/2020 06:00	500		IC06-AS14 4(mm)
CCV 410-42015/76		09/10/2020 06:18	1		IC06-AS14 4(mm)
CCB 410-42015/77		09/10/2020 06:36	1		IC06-AS14 4(mm)

EPA 300.0 R2.1

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 33689 Batch Start Date: 08/16/20 11:08 Batch Analyst: Litwa, Kevin L

Batch Method: EPA 300.0 R2.1 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	WC_IC_QC2 00123			
CCVRT 410-33689/1		EPA 300.0 R2.1		1 mL	1.0 mL	7.5 mL			
CCB 410-33689/2		EPA 300.0 R2.1		1 mL					
LCS 410-33689/3		EPA 300.0 R2.1		1 mL		7.5 mL			
MB 410-33689/4		EPA 300.0 R2.1		1 mL					
410-10696-F-3	MW-04	EPA 300.0 R2.1	T	1 mL					
410-10696-F-1	MW-01	EPA 300.0 R2.1	T	1 mL					
CCV 410-33689/35		EPA 300.0 R2.1		1 mL		7.5 mL			
CCB 410-33689/36		EPA 300.0 R2.1		1 mL					

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 34575 Batch Start Date: 08/19/20 00:06 Batch Analyst: Litwa, Kevin L

Batch Method: EPA 300.0 R2.1 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	WC_IC_QC2 00125				
CCVRT 410-34575/1		EPA 300.0 R2.1		1 mL	7.5 mL				
CCB 410-34575/2		EPA 300.0 R2.1		1 mL					
LCS 410-34575/3		EPA 300.0 R2.1		1 mL	7.5 mL				
MB 410-34575/4		EPA 300.0 R2.1		1 mL					
CCV 410-34575/13		EPA 300.0 R2.1		1 mL	7.5 mL				
CCB 410-34575/14		EPA 300.0 R2.1		1 mL					
CCV 410-34575/25		EPA 300.0 R2.1		1 mL	7.5 mL				
CCB 410-34575/26		EPA 300.0 R2.1		1 mL					
410-10696-F-6	WPA-GW-02	EPA 300.0 R2.1	T	1 mL					
CCV 410-34575/37		EPA 300.0 R2.1		1 mL	7.5 mL				
CCB 410-34575/38		EPA 300.0 R2.1		1 mL					

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

300_ORGFMS

Anions, Ion Chromatography

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2022913_3.d

Lab ID: LCS 410-33690/3 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Nitrogen, Nitrate	0.750	0.799	107	90-110	

Column to be used to flag recovery and RPD values

FORM III EPA 300.0 R2.1

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 2023115B_3.d

Lab ID: LCS 410-34574/3 Client ID:

COMPOUND	SPIKE ADDED (mg/L)	LCS CONCENTRATION (mg/L)	LCS % REC	QC LIMITS REC	#
Nitrogen, Nitrate	0.750	0.718	96	90-110	

Column to be used to flag recovery and RPD values

FORM III EPA 300.0 R2.1

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab File ID: 2023115B_4.d Lab Sample ID: MB 410-34574/4

Matrix: Water Date Extracted:

Instrument ID: 12115 Date Analyzed: 08/19/2020 00:57

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	CCB 410-34574/2	2023115B_2.d	08/19/2020 00:23
	LCS 410-34574/3	2023115B_3.d	08/19/2020 00:40
	CCB 410-34574/14	2023115B_14.d	08/19/2020 03:48
	CCB 410-34574/26	2023115B_26.d	08/19/2020 07:14
WPA-GW-02	410-10696-6	2023115B_30.d	08/19/2020 08:23
	CCB 410-34574/38	2023115B_38.d	08/19/2020 10:40

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab File ID: 2022913_4.d Lab Sample ID: MB 410-33690/4

Matrix: Water Date Extracted:

Instrument ID: 19052 Date Analyzed: 08/16/2020 11:59

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	CCB 410-33690/2	2022913_2.d	08/16/2020 11:25
	LCS 410-33690/3	2022913_3.d	08/16/2020 11:42
MW-04	410-10696-3	2022913_9.d	08/16/2020 14:31
MW-01	410-10696-1	2022913_11.d	08/16/2020 15:05
	CCB 410-33690/36	2022913_13.d	08/16/2020 15:39

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-01 Lab Sample ID: 410-10696-1

Matrix: Water Lab File ID: 2022913_11.d

Analysis Method: EPA 300.0 R2.1 Date Collected: 08/11/2020 15:45

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/16/2020 15:05

Con. Extract Vol.: Dilution Factor: 5

Injection Volume: 1(uL) GC Column: IC06-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 33690 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrogen, Nitrate	ND	H H3	0.50	0.25

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_11.d				
Lims ID:	410-10696-F-1				
Client ID:	MW-01				
Sample Type:	Client				
Inject. Date:	16-Aug-2020 15:05:00	ALS Bottle#:	0	Worklist Smp#:	11
Injection Vol:	1.0 ul	Dil. Factor:	5.0000		
Sample Info:	410-10696-F-1				
Misc. Info.:	20229135113				
Operator ID:		Instrument ID:	19052		
Method:	\\chromfs\Lancaster\ChromData\19052\20200816-8175.b\Anions_19052.m				
Limit Group:	IC - 300 48Hr				
Last Update:	17-Aug-2020 06:32:18	Calib Date:	29-Jul-2020 13:57:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d				
Column 1 :			Det: det0		
Process Host:	CTX1046				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
5 Nitrate as N		7.967			ND	
6 Sulfate	12.197	12.203	-0.006	671079	NC	

QC Flag Legend

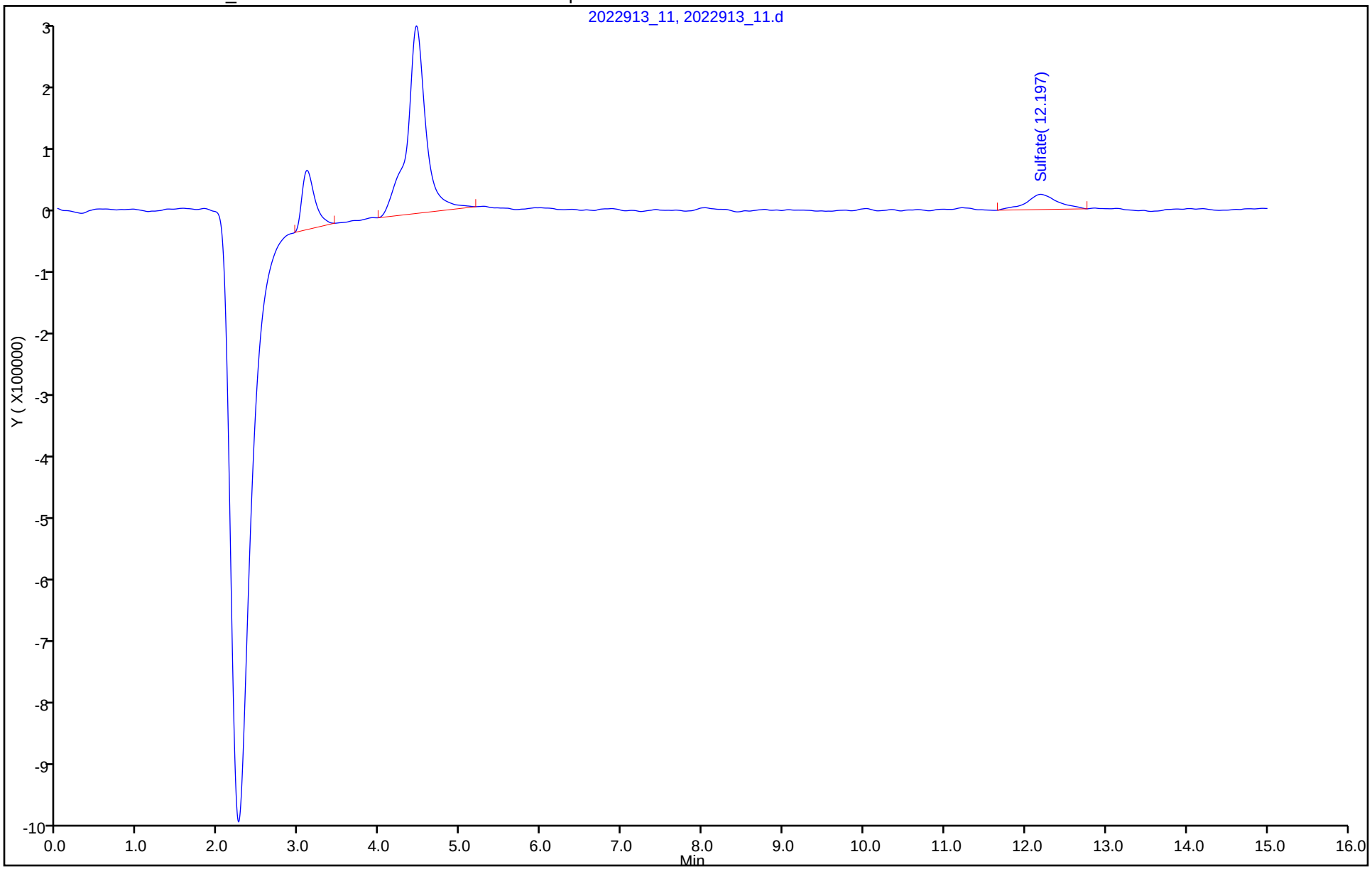
Processing Flags

NC - Not Calibrated

Report Date: 17-Aug-2020 06:36:56 Chrom Revision: 2.3 10-Aug-2020 14:39:50

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_11.d				
Injection Date:	16-Aug-2020 15:05:00	Instrument ID:	19052	Operator ID:	
Lims ID:	410-10696-F-1	Lab Sample ID:	410-10696-1	Worklist Smp#:	11
Client ID:	MW-01				
Injection Vol:	1.0 ul	Dil. Factor:	5.0000	ALS Bottle#:	0
Method:	Anions_19052	Limit Group:	IC - 300 48Hr		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: MW-04 Lab Sample ID: 410-10696-3

Matrix: Water Lab File ID: 2022913_9.d

Analysis Method: EPA 300.0 R2.1 Date Collected: 08/11/2020 13:40

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/16/2020 14:31

Con. Extract Vol.: Dilution Factor: 5

Injection Volume: 1(uL) GC Column: IC06-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 33690 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrogen, Nitrate	ND	H H3	0.50	0.25

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_9.d				
Lims ID:	410-10696-F-3				
Client ID:	MW-04				
Sample Type:	Client				
Inject. Date:	16-Aug-2020 14:31:00	ALS Bottle#:	0	Worklist Smp#:	9
Injection Vol:	1.0 ul	Dil. Factor:	5.0000		
Sample Info:	410-10696-F-3				
Misc. Info.:	20229135113				
Operator ID:		Instrument ID:	19052		
Method:	\\chromfs\Lancaster\ChromData\19052\20200816-8175.b\Anions_19052.m				
Limit Group:	IC - 300 48Hr				
Last Update:	17-Aug-2020 06:32:18	Calib Date:	29-Jul-2020 13:57:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d				
Column 1 :			Det: det0		
Process Host:	CTX1046				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
5 Nitrate as N		7.967			ND	
6 Sulfate	12.210	12.203	0.007	1341138	NC	

QC Flag Legend

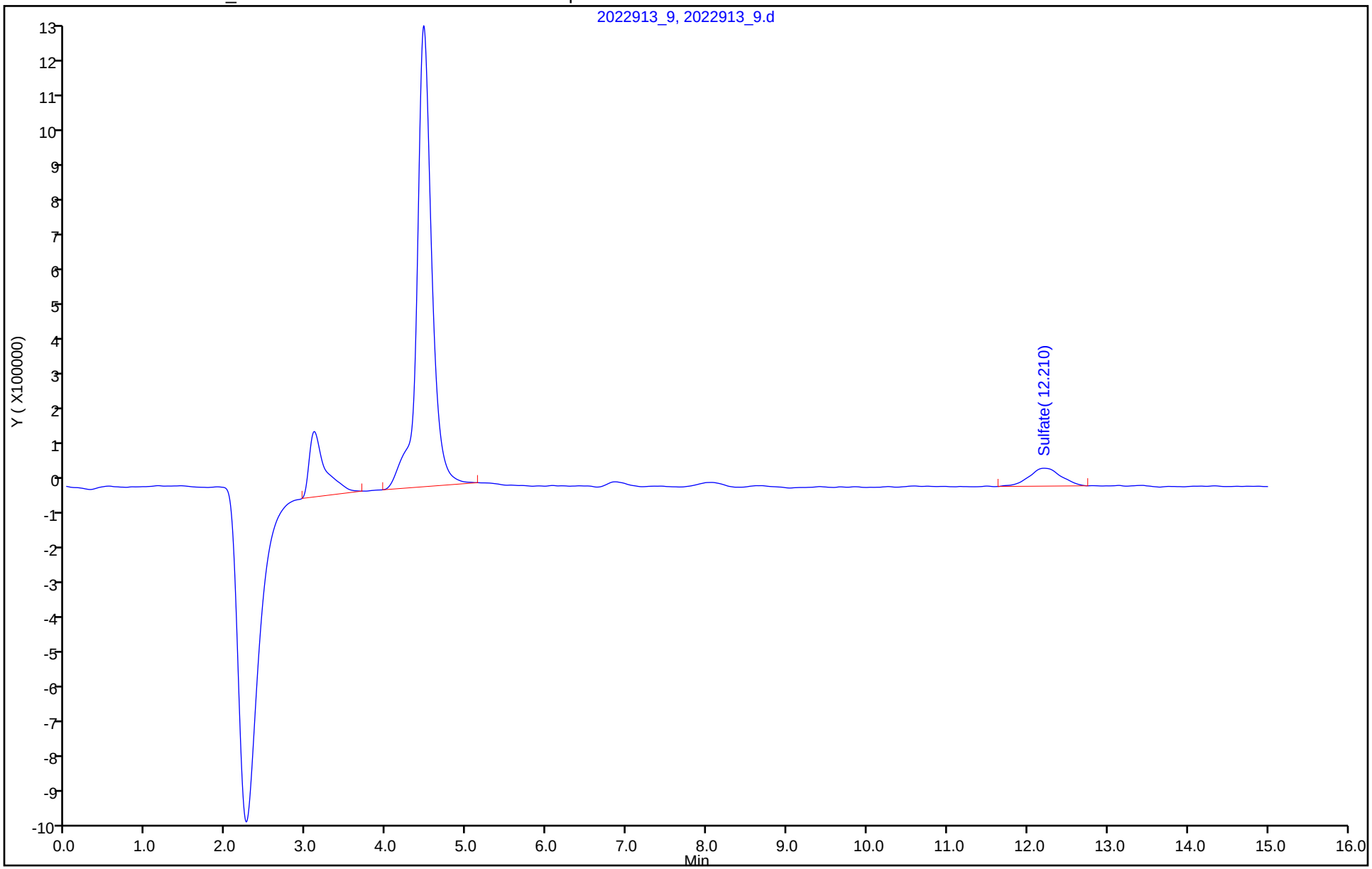
Processing Flags

NC - Not Calibrated

Report Date: 17-Aug-2020 06:36:55 Chrom Revision: 2.3 10-Aug-2020 14:39:50

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_9.d				
Injection Date:	16-Aug-2020 14:31:00	Instrument ID:	19052	Operator ID:	
Lims ID:	410-10696-F-3	Lab Sample ID:	410-10696-3	Worklist Smp#:	9
Client ID:	MW-04				
Injection Vol:	1.0 ul	Dil. Factor:	5.0000	ALS Bottle#:	0
Method:	Anions_19052	Limit Group:	IC - 300 48Hr		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: WPA-GW-02 Lab Sample ID: 410-10696-6

Matrix: Water Lab File ID: 2023115B_30.d

Analysis Method: EPA 300.0 R2.1 Date Collected: 08/11/2020 14:15

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/19/2020 08:23

Con. Extract Vol.: Dilution Factor: 5

Injection Volume: 1(uL) GC Column: IC15-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34574 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrogen, Nitrate	ND	H H3	0.50	0.25

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_30.d				
Lims ID:	410-10696-F-6				
Client ID:	WPA-GW-02				
Sample Type:	Client				
Inject. Date:	19-Aug-2020 08:23:00	ALS Bottle#:	0	Worklist Smp#:	30
Injection Vol:	1.0 ul	Dil. Factor:	5.0000		
Sample Info:	410-10696-F-6				
Misc. Info.:	32076				
Operator ID:		Instrument ID:	12115		
Method:	\\chromfs\Lancaster\ChromData\12115\20200818-8369.b\Anions_12115.m				
Limit Group:	IC - 300 48Hr				
Last Update:	19-Aug-2020 12:32:43	Calib Date:	08-Jul-2020 12:31:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d				
Column 1 :			Det: det0		
Process Host:	CTX1050				

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
5 Nitrate as N		8.377			ND	
6 Sulfate	13.027	13.000	0.027	2375489	NC	

QC Flag Legend

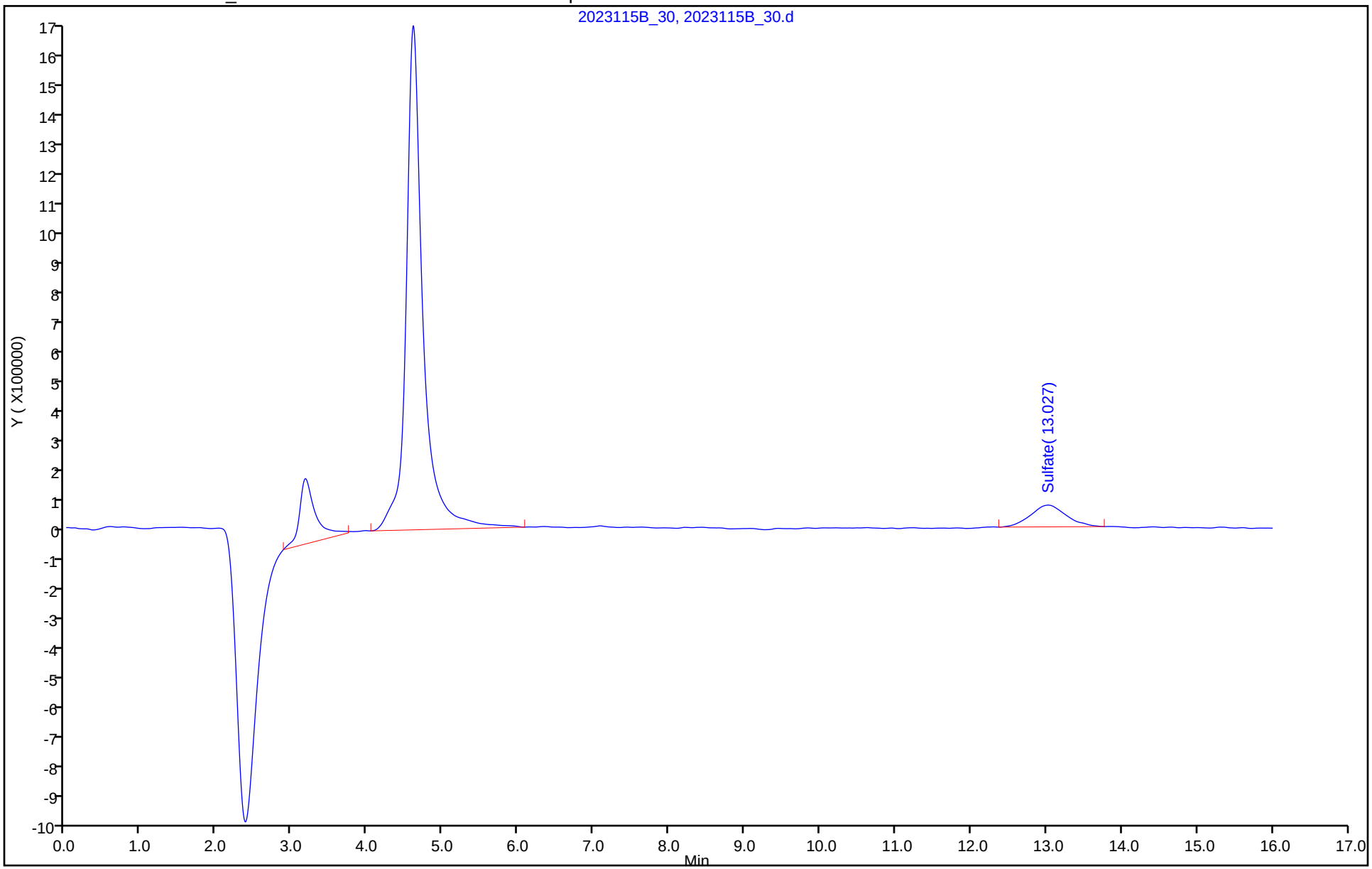
Processing Flags

NC - Not Calibrated

Report Date: 19-Aug-2020 12:32:46 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_30.d				
Injection Date:	19-Aug-2020 08:23:00	Instrument ID:	12115	Operator ID:	
Lims ID:	410-10696-F-6	Lab Sample ID:	410-10696-6	Worklist Smp#:	30
Client ID:	WPA-GW-02				
Injection Vol:	1.0 ul	Dil. Factor:	5.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 48Hr		



FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 13073

SDG No.:

Instrument ID: 12115 GC Column: IC15-AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/01/2020 13:02 Calibration End Date: 06/01/2020 14:27 Calibration ID: 5659

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-13073/1	2015315C_1.d
Level 2	IC 410-13073/2	2015315C_2.d
Level 3	IC 410-13073/3	2015315C_3.d
Level 4	IC 410-13073/4	2015315C_4.d
Level 5	IC 410-13073/5	2015315C_5.d
Level 6	IC 410-13073/6	2015315C_6.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6					RT WINDOW	AVG RT
Nitrogen, Nitrite		5.570	5.560	5.560	5.557	5.553					0.000 - 0.000	5.560
Nitrogen, Nitrate		8.577	8.530	8.503	8.467	8.430					0.000 - 0.000	8.501

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 13073

SDG No.:

Instrument ID: 12115 GC Column: IC15-AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/01/2020 13:02 Calibration End Date: 06/01/2020 14:27 Calibration ID: 5659

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-13073/1	2015315C_1.d
Level 2	IC 410-13073/2	2015315C_2.d
Level 3	IC 410-13073/3	2015315C_3.d
Level 4	IC 410-13073/4	2015315C_4.d
Level 5	IC 410-13073/5	2015315C_5.d
Level 6	IC 410-13073/6	2015315C_6.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3	LVL 4		B	M1	M2								
Nitrogen, Nitrite	30141465	26936220 33058819	30882053	27753213	Lin	-1540155.0	32538457.1				19.0			0.9950		0.9900
Nitrogen, Nitrate	33485738	28936860 36961421	34659178	30918941	Lin	-1776546.8	36337125.5				18.4			0.9950		0.9900

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 13073

SDG No.:

Instrument ID: 12115 GC Column: IC15-AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 06/01/2020 13:02 Calibration End Date: 06/01/2020 14:27 Calibration ID: 5659

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-13073/1	2015315C_1.d
Level 2	IC 410-13073/2	2015315C_2.d
Level 3	IC 410-13073/3	2015315C_3.d
Level 4	IC 410-13073/4	2015315C_4.d
Level 5	IC 410-13073/5	2015315C_5.d
Level 6	IC 410-13073/6	2015315C_6.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Nitrogen, Nitrite	Lin	99176456	2693622	12352821	27753213	60282929	0.000000 3.00	0.100	0.400	1.00	2.00
Nitrogen, Nitrate	Lin	110884262	2893686	13863671	30918941	66971475	0.000000 3.00	0.100	0.400	1.00	2.00

Curve Type Legend:
Lin = Linear

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\12115\20200615-3361.b\2015315C_1.d				
Lims ID:	IC CAL0				
Client ID:					
Sample Type:	IC	Calib Level:	0		
Inject. Date:	01-Jun-2020 13:02:00	ALS Bottle#:	0	Worklist Smp#:	1
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	CAL 0				
Operator ID:		Instrument ID:	12115		
Sublist:	chrom-Anions_12115*sub1				
Method:	\\chromfs\Lancaster\ChromData\12115\20200615-3361.b\Anions_12115.m				
Limit Group:	IC - 300 48Hr				
Last Update:	15-Jun-2020 09:37:01	Calib Date:	01-Jun-2020 14:27:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\12115\20200615-3361.b\2015315C_6.d				
Column 1 :			Det: det0		
Process Host:	CTX1061				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride		3.153				ND	
2	Chloride		4.570				ND	
3	Nitrite as N		5.550				ND	
4	Bromide		7.193				ND	
5	Nitrate as N		8.490				ND	
6	Sulfate		13.187				ND	
S 7	Nitrate Nitrite as N		0.000				ND	

Reagents:

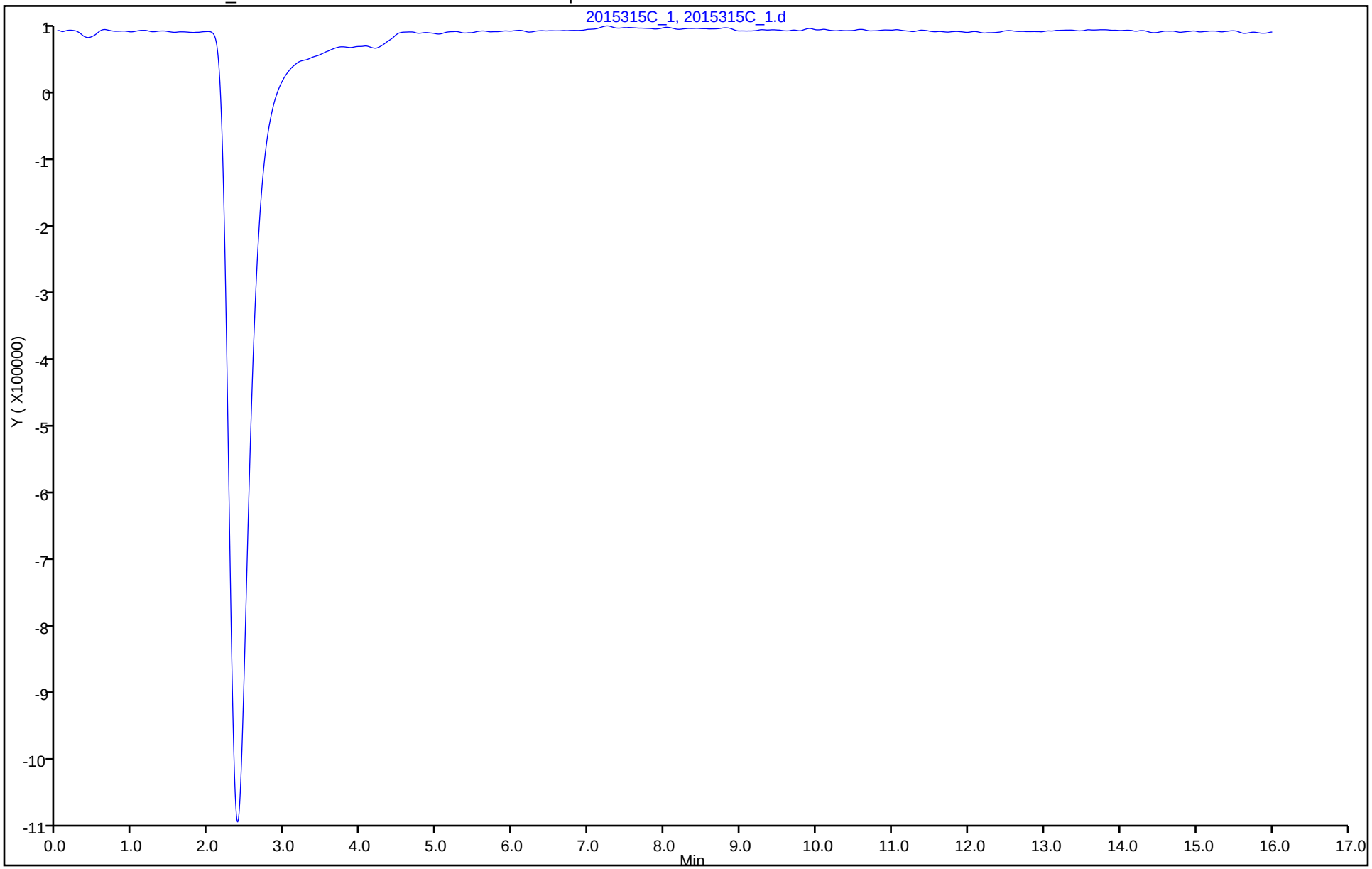
WC_IC_C_Det_00006 Amount Added: 0.00 Units: mL

Report Date: 15-Jun-2020 09:37:01 Chrom Revision: 2.3 13-Jun-2020 09:53:24

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200615-3361.b\2015315C_1.d

Injection Date:	01-Jun-2020 13:02:00	Instrument ID:	12115	Operator ID:	
Lims ID:	IC CAL0			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 48Hr		



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200615-3361.b\2015315C_2.d
Lims ID: IC CAL1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 01-Jun-2020 13:19:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 1
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200615-3361.b\Anions_12115.m
Limit Group: IC - 300 48Hr
Last Update: 15-Jun-2020 09:38:23 Calib Date: 01-Jun-2020 14:27:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200615-3361.b\2015315C_6.d

Column 1 : Det: det0
Process Host: CTX1061

First Level Reviewer: litwak Date: 15-Jun-2020 09:37:10

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.167	3.153	0.014	2876394	NC	NC	Ma
2	Chloride	4.577	4.570	0.007	5645174	NC	NC	a
3	Nitrite as N	5.570	5.550	0.020	2693622	0.1000	0.1301	
4	Bromide	7.247	7.193	0.054	2320340	NC	NC	
5	Nitrate as N	8.577	8.490	0.087	2893686	0.1000	0.1285	
6	Sulfate	13.210	13.187	0.023	9307371	NC	NC	
S 7	Nitrate Nitrite as N						0.2586	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

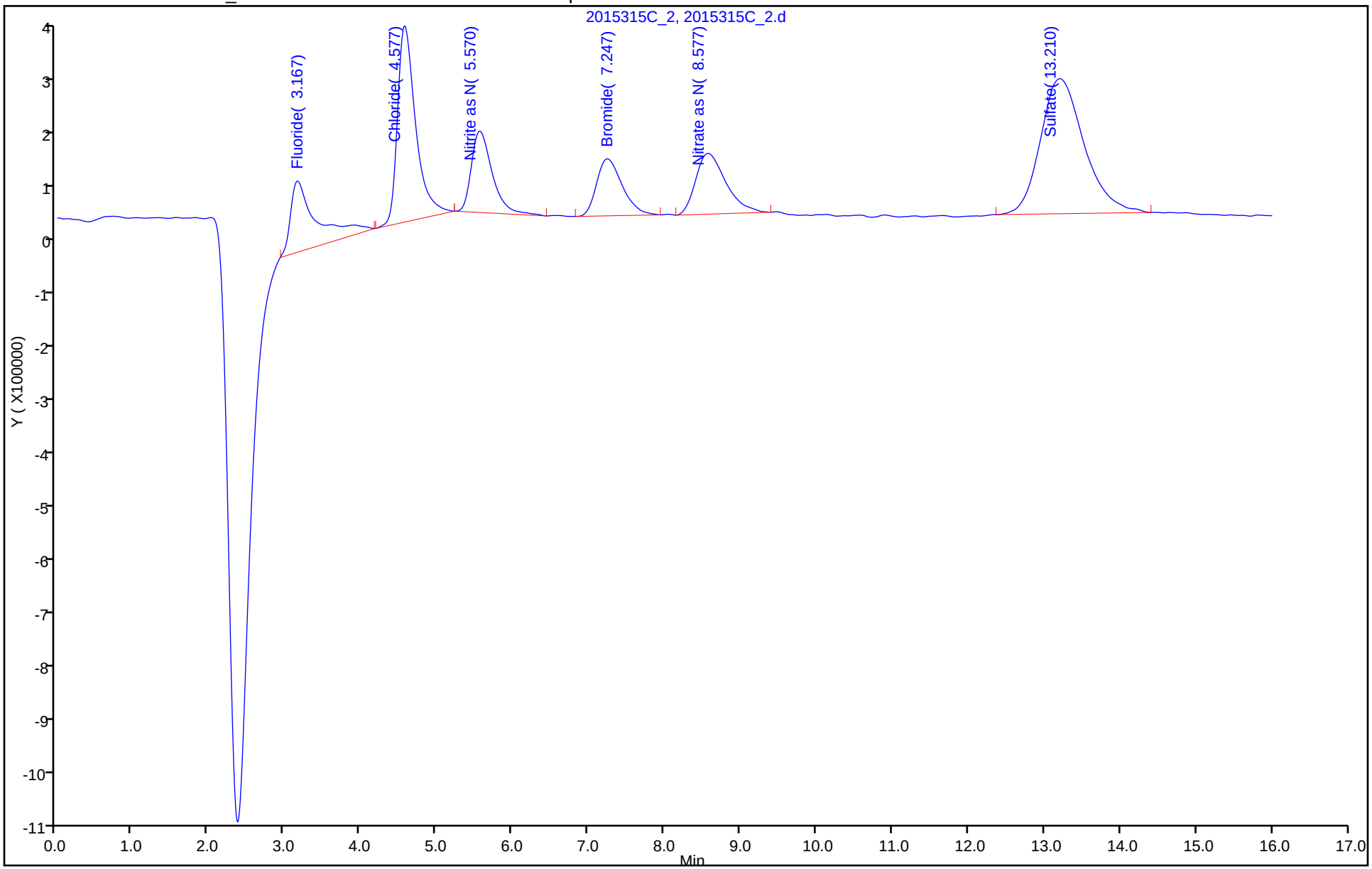
WC_IC_C_Det_00006 Amount Added: 0.10 Units: mL

Report Date: 15-Jun-2020 09:38:23 Chrom Revision: 2.3 13-Jun-2020 09:53:24

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200615-3361.b\2015315C_2.d

Injection Date:	01-Jun-2020 13:19:00	Instrument ID:	12115	Operator ID:	
Lims ID:	IC CAL1			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 48Hr		



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200615-3361.b\2015315C_3.d
Lims ID: IC CAL2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 01-Jun-2020 13:36:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 2
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200615-3361.b\Anions_12115.m
Limit Group: IC - 300 48Hr
Last Update: 15-Jun-2020 09:37:02 Calib Date: 01-Jun-2020 14:27:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200615-3361.b\2015315C_6.d

Column 1 : Det: det0
Process Host: CTX1061

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.160	3.153	0.007	9756806	NC	NC	
2	Chloride	4.573	4.570	0.003	13458519	NC	NC	
3	Nitrite as N	5.560	5.550	0.010	12352821	0.4000	0.4270	
4	Bromide	7.223	7.193	0.030	11458061	NC	NC	
5	Nitrate as N	8.530	8.490	0.040	13863671	0.4000	0.4304	
6	Sulfate	13.203	13.187	0.016	20797517	NC	NC	
S 7	Nitrate Nitrite as N						0.8574	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

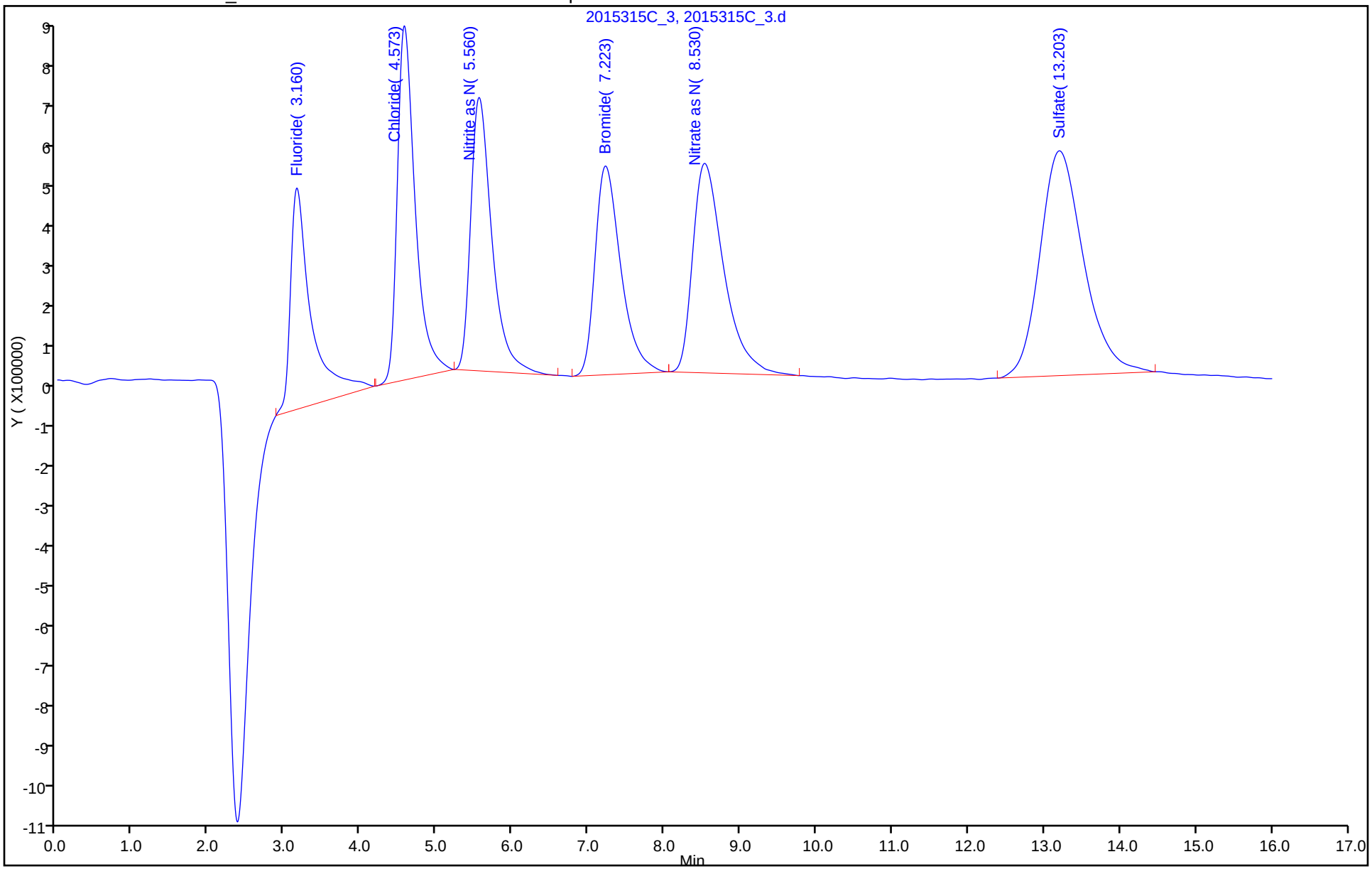
WC_IC_C_Int_00007 Amount Added: 0.40 Units: mL

Report Date: 15-Jun-2020 09:37:02 Chrom Revision: 2.3 13-Jun-2020 09:53:24

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200615-3361.b\2015315C_3.d

Injection Date:	01-Jun-2020 13:36:00	Instrument ID:	12115	Operator ID:	
Lims ID:	IC CAL2			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 48Hr		



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200615-3361.b\2015315C_4.d
Lims ID: IC CAL3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 01-Jun-2020 13:53:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 3
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200615-3361.b\Anions_12115.m
Limit Group: IC - 300 48Hr
Last Update: 15-Jun-2020 09:37:02 Calib Date: 01-Jun-2020 14:27:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200615-3361.b\2015315C_6.d

Column 1 : Det: det0
Process Host: CTX1061

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	3.160	3.153	0.007	19646983	NC	NC	
	2 Chloride	4.577	4.570	0.007	26002593	NC	NC	
	3 Nitrite as N	5.560	5.550	0.010	27753213	1.00	0.9003	
	4 Bromide	7.217	7.193	0.024	26312425	NC	NC	
	5 Nitrate as N	8.503	8.490	0.013	30918941	1.00	0.8998	
	6 Sulfate	13.193	13.187	0.006	47507120	NC	NC	
S	7 Nitrate Nitrite as N						1.80	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

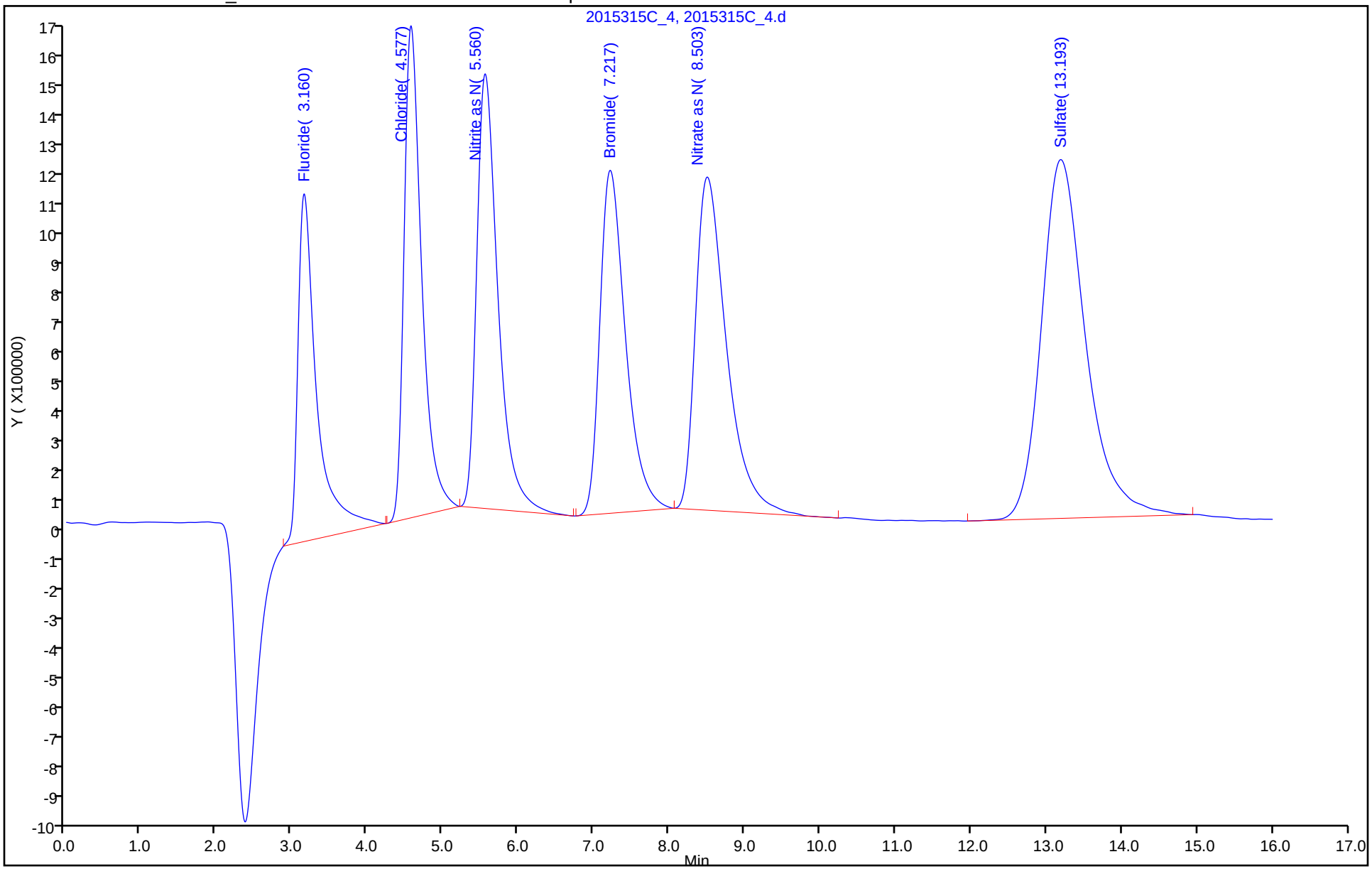
WC_IC_C_Int_00007 Amount Added: 1.00 Units: mL

Report Date: 15-Jun-2020 09:37:02 Chrom Revision: 2.3 13-Jun-2020 09:53:24

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200615-3361.b\2015315C_4.d

Injection Date:	01-Jun-2020 13:53:00	Instrument ID:	12115	Operator ID:	
Lims ID:	IC CAL3			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 48Hr		



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200615-3361.b\2015315C_5.d
Lims ID: IC CAL4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 01-Jun-2020 14:10:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 4
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200615-3361.b\Anions_12115.m
Limit Group: IC - 300 48Hr
Last Update: 15-Jun-2020 09:37:03 Calib Date: 01-Jun-2020 14:27:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200615-3361.b\2015315C_6.d

Column 1 : Det: det0
Process Host: CTX1061

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.160	3.160	0.000	41143870	NC	NC	
2 Chloride	4.577	4.577	0.000	56005588	NC	NC	
3 Nitrite as N	5.557	5.557	0.000	60282929	2.00	1.90	
4 Bromide	7.200	7.200	0.000	57986173	NC	NC	
5 Nitrate as N	8.467	8.467	0.000	66971475	2.00	1.89	
6 Sulfate	13.193	13.193	0.000	107440856	NC	NC	
S 7 Nitrate Nitrite as N						3.79	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

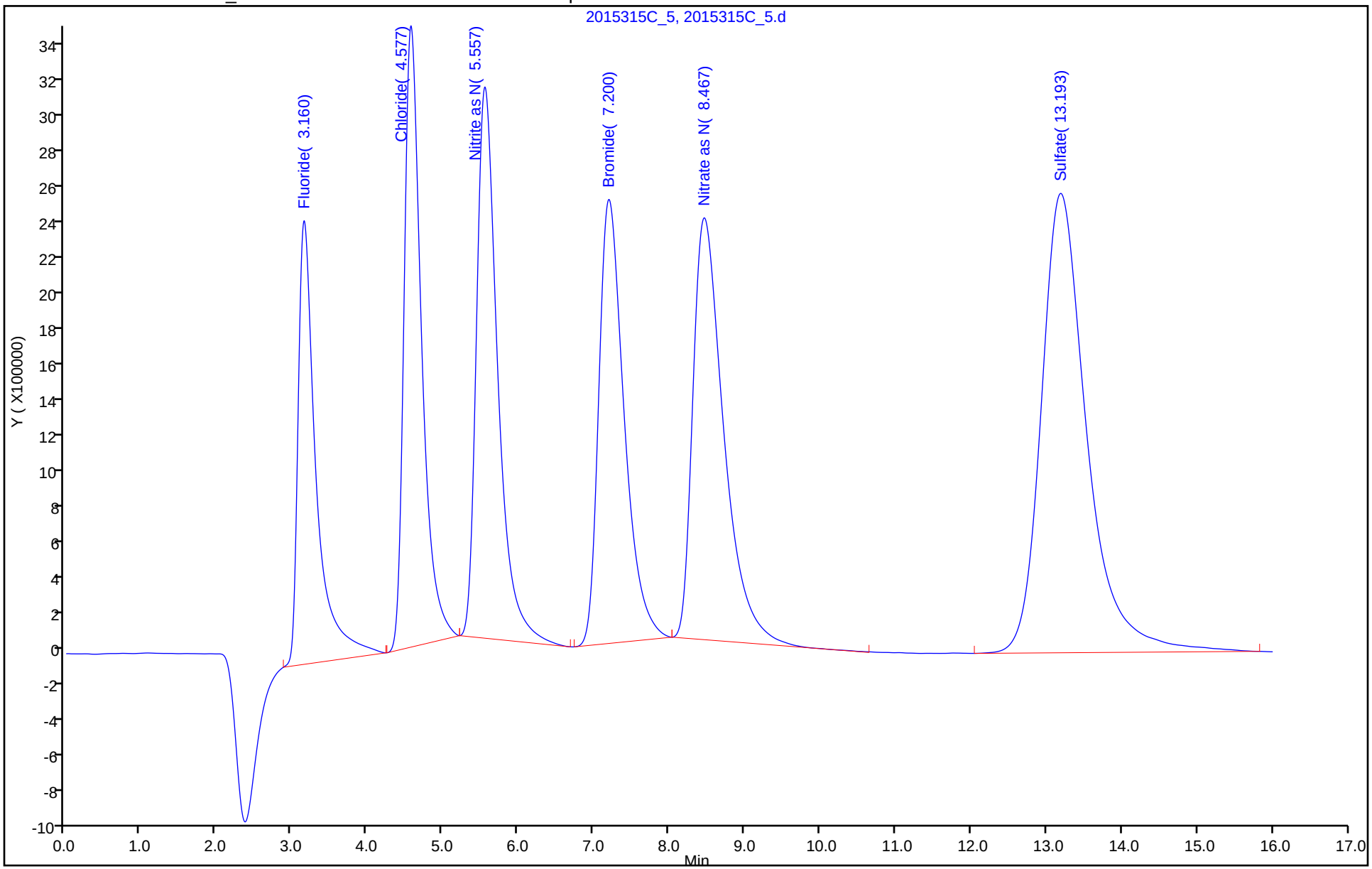
WC_IC_C_Int_00007 Amount Added: 2.00 Units: mL

Report Date: 15-Jun-2020 09:37:03 Chrom Revision: 2.3 13-Jun-2020 09:53:24

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200615-3361.b\2015315C_5.d

Injection Date:	01-Jun-2020 14:10:00	Instrument ID:	12115	Operator ID:	
Lims ID:	IC CAL4			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 48Hr		



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200615-3361.b\2015315C_6.d
Lims ID: IC CAL5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 01-Jun-2020 14:27:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 5
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200615-3361.b\Anions_12115.m
Limit Group: IC - 300 48Hr
Last Update: 15-Jun-2020 09:37:58 Calib Date: 01-Jun-2020 14:27:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200615-3361.b\2015315C_6.d

Column 1 : Det: det0
Process Host: CTX1061

First Level Reviewer: litwak Date: 15-Jun-2020 09:37:58

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.160	3.153	0.007	67534717	NC	NC	
2	Chloride	4.573	4.570	0.003	92074359	NC	NC	
3	Nitrite as N	5.553	5.550	0.003	99176456	3.00	3.10	
4	Bromide	7.183	7.193	-0.010	96836495	NC	NC	
5	Nitrate as N	8.430	8.490	-0.060	110884262	3.00	3.10	
6	Sulfate	13.183	13.187	-0.004	178085780	NC	NC	
S 7	Nitrate Nitrite as N						6.20	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

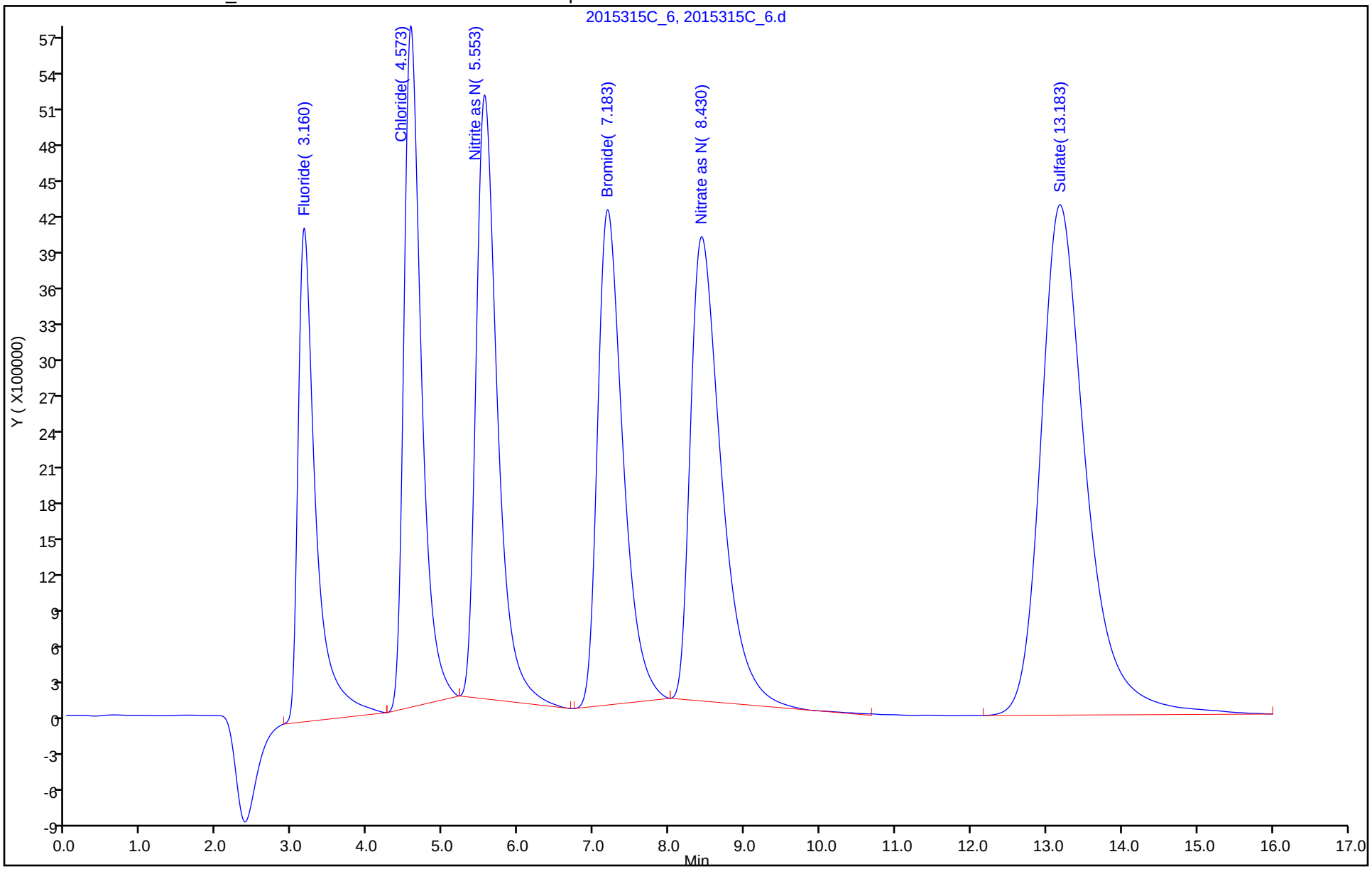
WC_IC_C_Int_00007 Amount Added: 3.00 Units: mL

Report Date: 15-Jun-2020 09:37:58 Chrom Revision: 2.3 13-Jun-2020 09:53:24

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200615-3361.b\2015315C_6.d

Injection Date:	01-Jun-2020 14:27:00	Instrument ID:	12115	Operator ID:	
Lims ID:	IC CAL5			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 48Hr		



FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 22226

SDG No.:

Instrument ID: 12115 GC Column: IC15-AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/08/2020 11:05 Calibration End Date: 07/08/2020 12:31 Calibration ID: 6775

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-22226/1	2019015C_1.d
Level 2	IC 410-22226/2	2019015C_2.d
Level 3	IC 410-22226/3	2019015C_3.d
Level 4	IC 410-22226/4	2019015C_4.d
Level 5	IC 410-22226/5	2019015C_5.d
Level 6	IC 410-22226/6	2019015C_6.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6					RT WINDOW	AVG RT
Nitrogen, Nitrite		5.673	5.663	5.660	5.667	5.670					0.000 - 0.000	5.667
Nitrogen, Nitrate		8.757	8.693	8.663	8.637	8.617					0.000 - 0.000	8.673

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 22226

SDG No.:

Instrument ID: 12115 GC Column: IC15-AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/08/2020 11:05 Calibration End Date: 07/08/2020 12:31 Calibration ID: 6775

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-22226/1	2019015C_1.d
Level 2	IC 410-22226/2	2019015C_2.d
Level 3	IC 410-22226/3	2019015C_3.d
Level 4	IC 410-22226/4	2019015C_4.d
Level 5	IC 410-22226/5	2019015C_5.d
Level 6	IC 410-22226/6	2019015C_6.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3	LVL 4		B	M1	M2								
Nitrogen, Nitrite	33404984	24018880 33449610	31885080	30766849	Lin	-950951.45	33659580.9				3.5			0.9990		0.9900
Nitrogen, Nitrate	37896189	24985020 37943375	35558193	35575189	Lin	-1094990.0	38229140.0				4.2			1.0000		0.9900

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 22226

SDG No.:

Instrument ID: 12115 GC Column: IC15-AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/08/2020 11:05 Calibration End Date: 07/08/2020 12:31 Calibration ID: 6775

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-22226/1	2019015C_1.d
Level 2	IC 410-22226/2	2019015C_2.d
Level 3	IC 410-22226/3	2019015C_3.d
Level 4	IC 410-22226/4	2019015C_4.d
Level 5	IC 410-22226/5	2019015C_5.d
Level 6	IC 410-22226/6	2019015C_6.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Nitrogen, Nitrite	Lin	100348830	2401888	12754032	30766849	66809968	0.000000 3.00	0.100	0.400	1.00	2.00
Nitrogen, Nitrate	Lin	113830125	2498502	14223277	35575189	75792377	0.000000 3.00	0.100	0.400	1.00	2.00

Curve Type Legend:
Lin = Linear

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_1.d
Lims ID: IC CAL0
Client ID:
Sample Type: IC Calib Level: 0
Inject. Date: 08-Jul-2020 11:05:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 0
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\Anions_12115.m
Limit Group: IC - 300 48Hr
Last Update: 14-Jul-2020 10:38:33 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1031

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride		3.190				ND	
2	Chloride		4.660				ND	
3	Nitrite as N		5.667				ND	
4	Bromide		7.363				ND	
5	Nitrate as N		8.683				ND	
6	Sulfate		13.537				ND	
S 7	Nitrate Nitrite as N		0.000				ND	

Reagents:

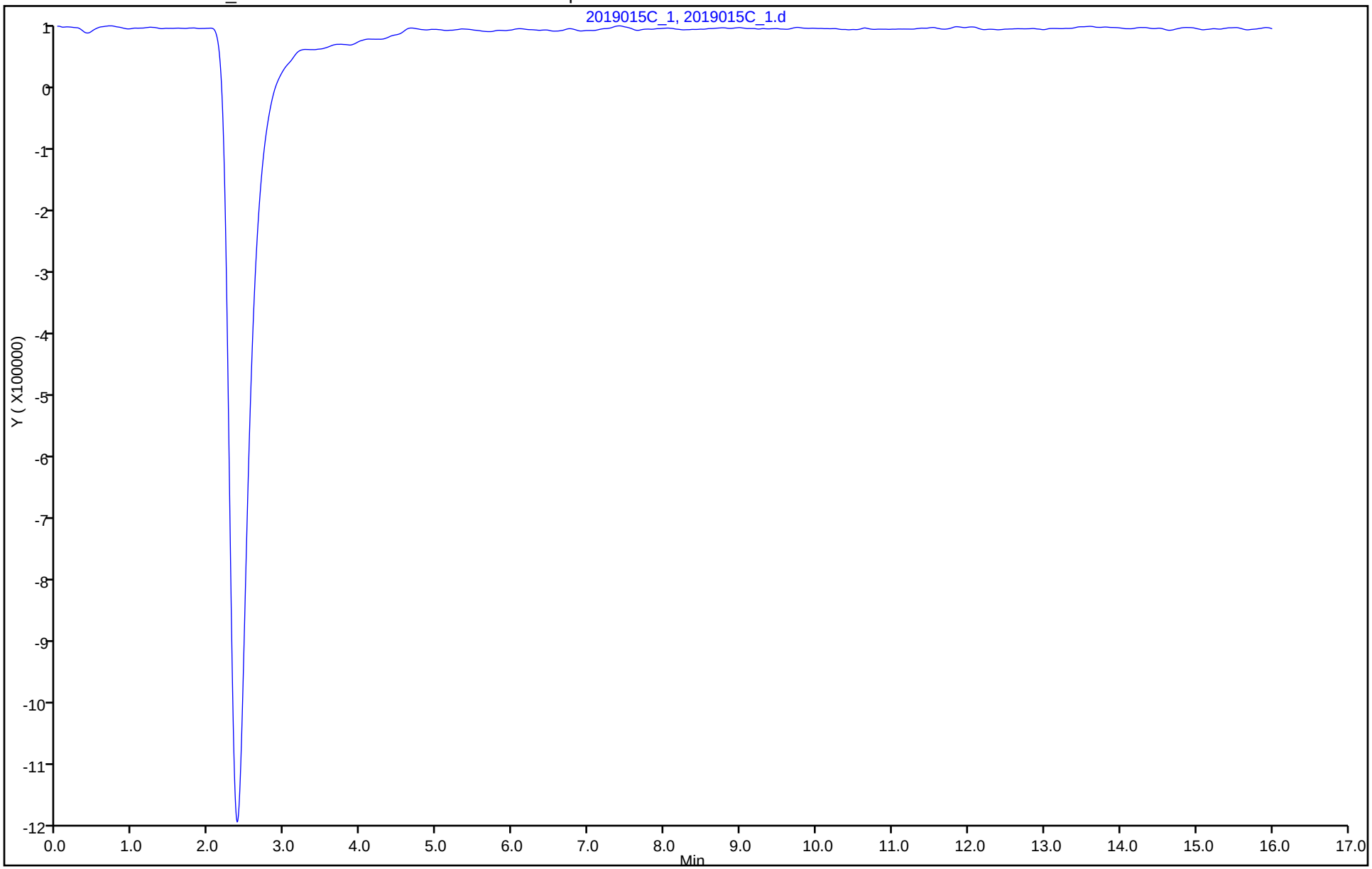
WC_IC_C_Det_00011 Amount Added: 0.00 Units: mL

Report Date: 14-Jul-2020 10:38:33 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_1.d

Injection Date:	08-Jul-2020 11:05:00	Instrument ID:	12115	Operator ID:	
Lims ID:	IC CAL0			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 48Hr		



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_2.d
Lims ID: IC CAL1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 08-Jul-2020 11:22:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 1
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\Anions_12115.m
Limit Group: IC - 300 48Hr
Last Update: 14-Jul-2020 10:40:14 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1031

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.197	3.190	0.007	2194549	NC	NC	
2	Chloride	4.660	4.660	0.000	5242593	NC	NC	
3	Nitrite as N	5.673	5.667	0.006	2401888	0.1000	0.0996	
4	Bromide	7.400	7.363	0.037	2166579	NC	NC	
5	Nitrate as N	8.757	8.683	0.074	2498502	0.1000	0.0940	
6	Sulfate	13.553	13.537	0.016	7941249	NC	NC	
S 7	Nitrate Nitrite as N						0.1936	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

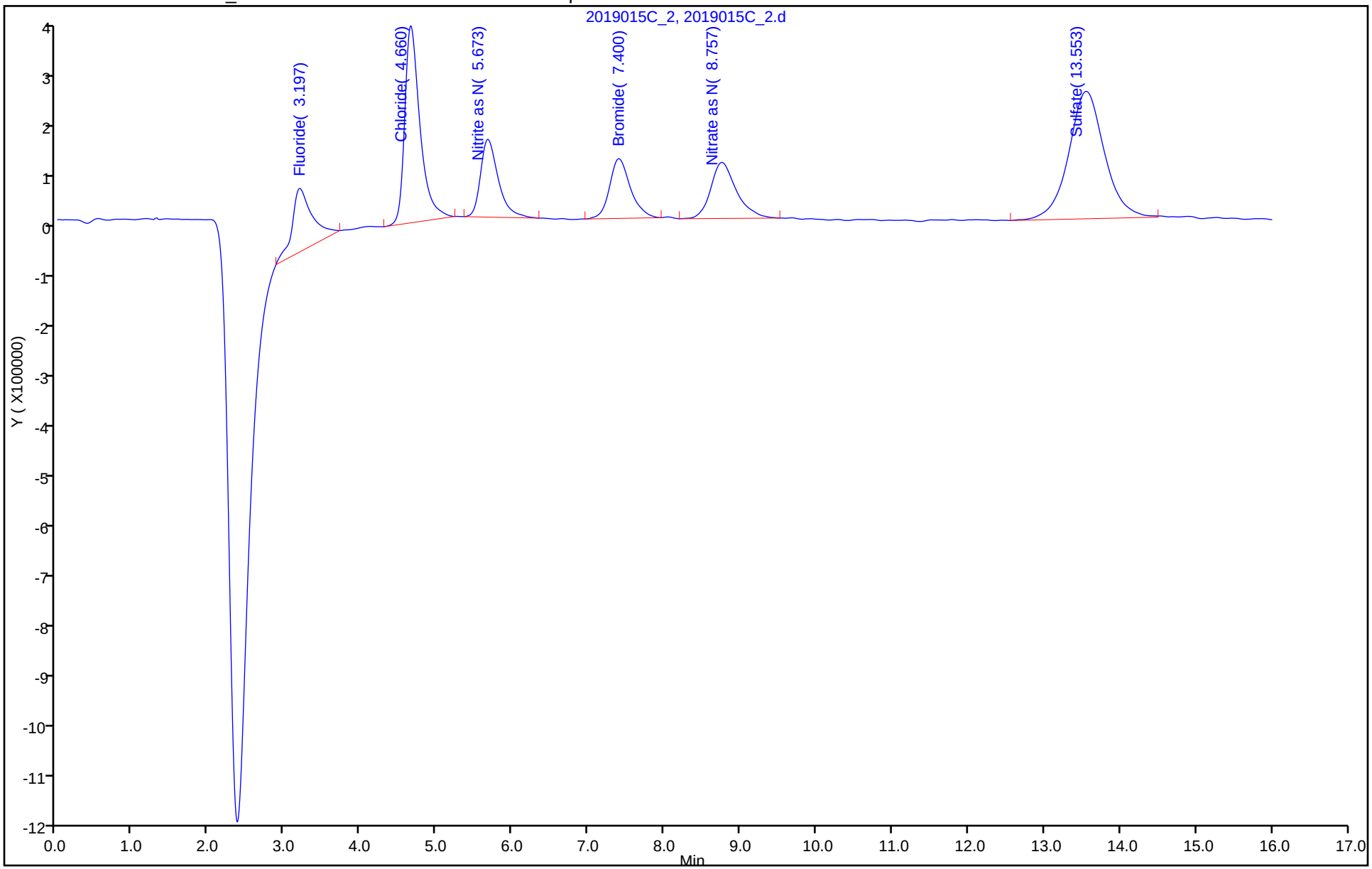
WC_IC_C_Det_00011 Amount Added: 0.10 Units: mL

Report Date: 14-Jul-2020 10:40:15 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_2.d

Injection Date:	08-Jul-2020 11:22:00	Instrument ID:	12115	Operator ID:	
Lims ID:	IC CAL1			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 48Hr		



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_3.d
Lims ID: IC CAL2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 08-Jul-2020 11:40:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 2
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\Anions_12115.m
Limit Group: IC - 300 48Hr
Last Update: 14-Jul-2020 10:40:15 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1031

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.193	3.190	0.003	8461385	NC	NC	
2 Chloride	4.657	4.660	-0.003	12464957	NC	NC	
3 Nitrite as N	5.663	5.667	-0.004	12754032	0.4000	0.4072	
4 Bromide	7.373	7.363	0.010	12354791	NC	NC	
5 Nitrate as N	8.693	8.683	0.010	14223277	0.4000	0.4007	
6 Sulfate	13.547	13.537	0.010	20436987	NC	NC	
S 7 Nitrate Nitrite as N						0.8079	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

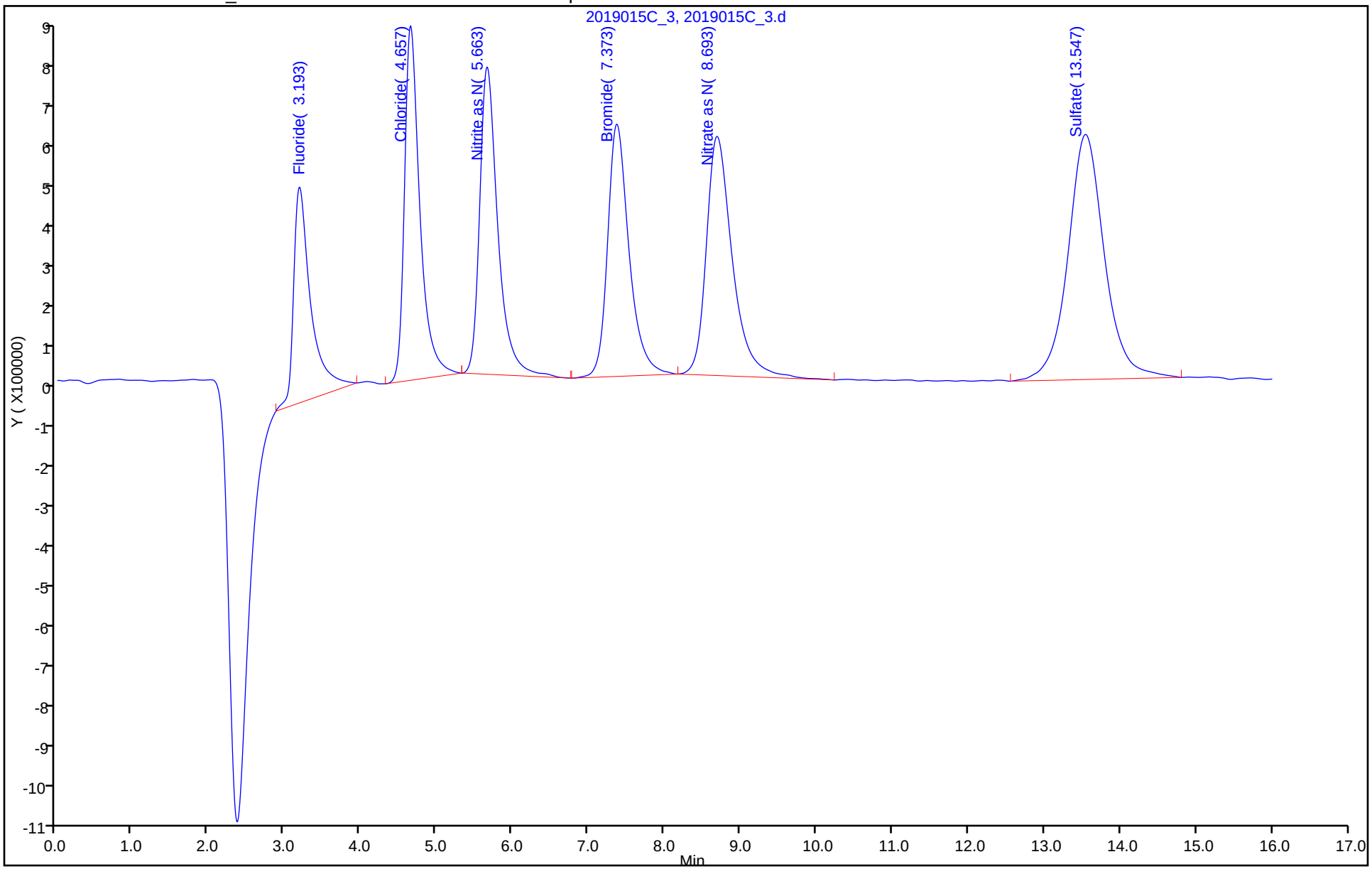
WC_IC_C_Int_00011 Amount Added: 0.40 Units: mL

Report Date: 14-Jul-2020 10:40:15 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_3.d

Injection Date:	08-Jul-2020 11:40:00	Instrument ID:	12115	Operator ID:	
Lims ID:	IC CAL2			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 48Hr		



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_4.d
Lims ID: IC CAL3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 08-Jul-2020 11:57:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 3
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\Anions_12115.m
Limit Group: IC - 300 48Hr
Last Update: 14-Jul-2020 10:40:16 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1031

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.190	3.190	0.000	21184779	NC	NC	
2 Chloride	4.653	4.660	-0.007	30095601	NC	NC	
3 Nitrite as N	5.660	5.667	-0.007	30766849	1.00	0.9423	
4 Bromide	7.360	7.363	-0.003	30450763	NC	NC	
5 Nitrate as N	8.663	8.683	-0.020	35575189	1.00	0.9592	
6 Sulfate	13.533	13.537	-0.004	51083457	NC	NC	
S 7 Nitrate Nitrite as N						1.90	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

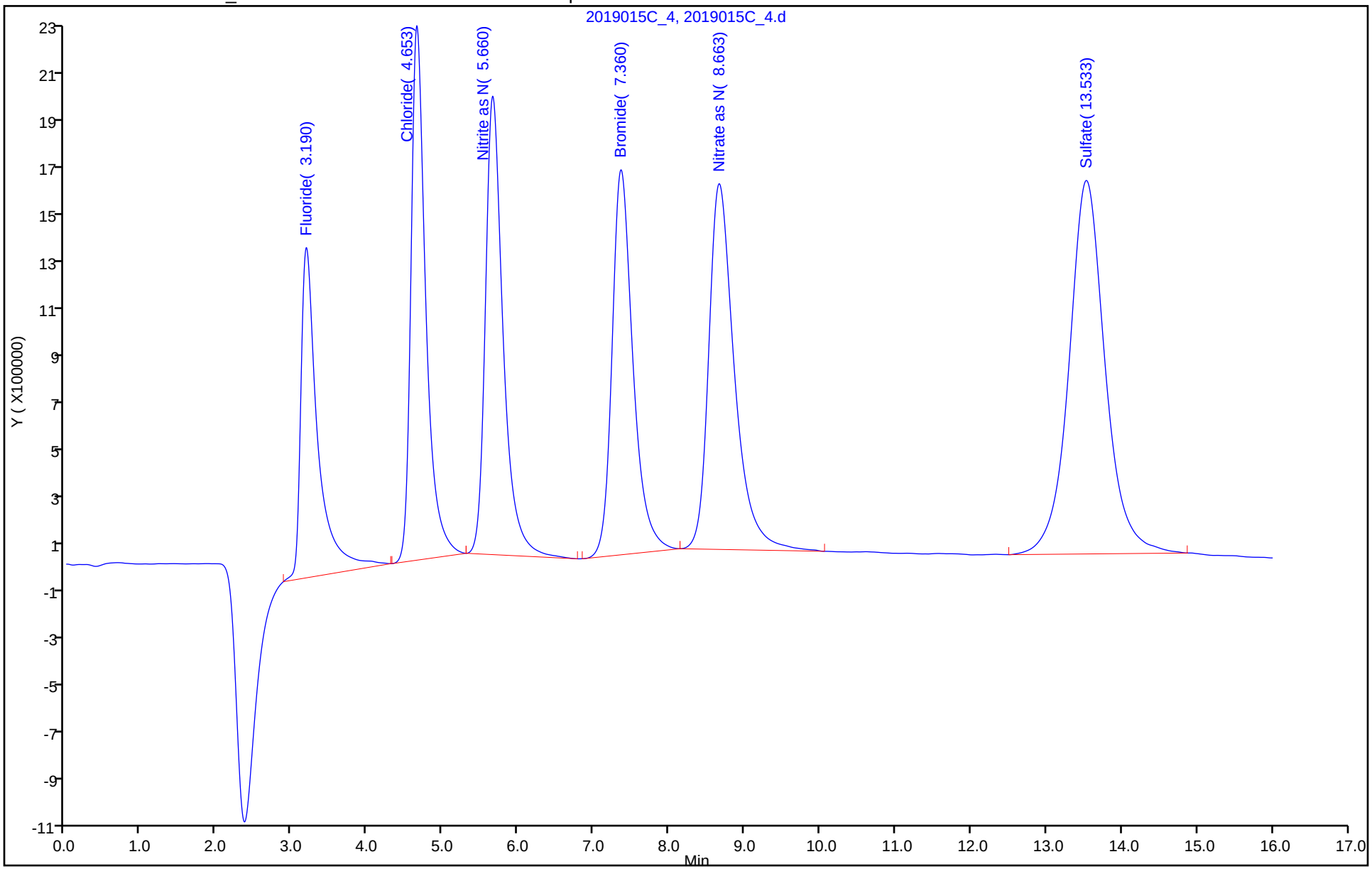
WC_IC_C_Int_00011 Amount Added: 1.00 Units: mL

Report Date: 14-Jul-2020 10:40:16 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_4.d

Injection Date:	08-Jul-2020 11:57:00	Instrument ID:	12115	Operator ID:	
Lims ID:	IC CAL3			Worklist Smp#:	4
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 48Hr		



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_5.d
Lims ID: IC CAL4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 08-Jul-2020 12:14:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 4
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\Anions_12115.m
Limit Group: IC - 300 48Hr
Last Update: 14-Jul-2020 10:40:17 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1031

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	3.197	3.197	0.000	44383497	NC	NC	
	2 Chloride	4.663	4.663	0.000	63171037	NC	NC	
	3 Nitrite as N	5.667	5.667	0.000	66809968	2.00	2.01	
	4 Bromide	7.357	7.357	0.000	66897171	NC	NC	
	5 Nitrate as N	8.637	8.637	0.000	75792377	2.00	2.01	
	6 Sulfate	13.537	13.537	0.000	114770824	NC	NC	
S	7 Nitrate Nitrite as N						4.02	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

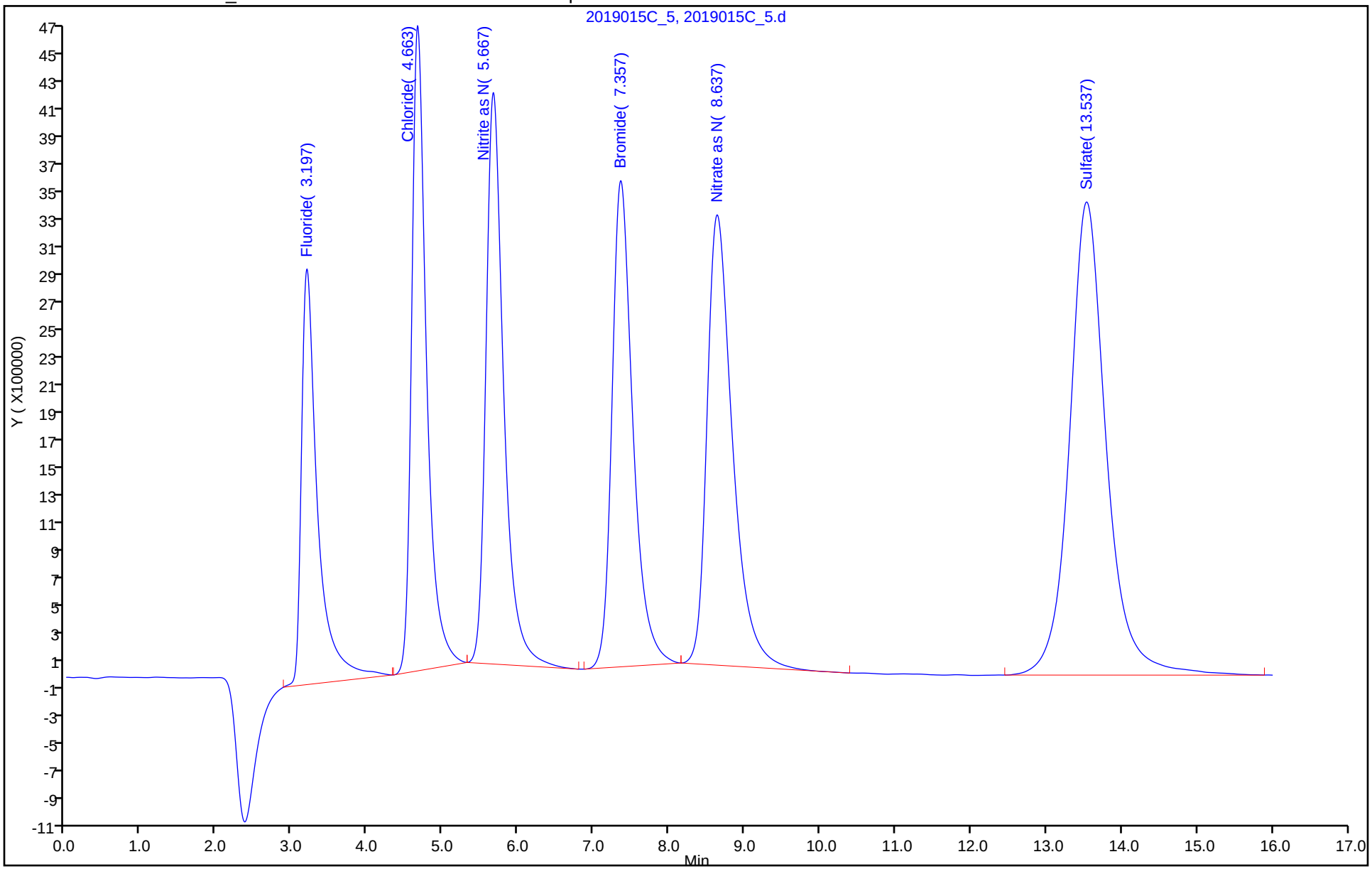
WC_IC_C_Int_00011 Amount Added: 2.00 Units: mL

Report Date: 14-Jul-2020 10:40:17 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_5.d

Injection Date:	08-Jul-2020 12:14:00	Instrument ID:	12115	Operator ID:	
Lims ID:	IC CAL4			Worklist Smp#:	5
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 48Hr		



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d
Lims ID: IC CAL5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 08-Jul-2020 12:31:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 5
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\Anions_12115.m
Limit Group: IC - 300 48Hr
Last Update: 14-Jul-2020 10:40:17 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1031

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.197	3.197	0.000	66994740	NC	NC	
2	Chloride	4.667	4.663	0.004	94405314	NC	NC	
3	Nitrite as N	5.670	5.667	0.003	100348830	3.00	3.01	
4	Bromide	7.353	7.357	-0.004	101116937	NC	NC	
5	Nitrate as N	8.617	8.637	-0.020	113830125	3.00	3.01	
6	Sulfate	13.530	13.537	-0.007	174476133	NC	NC	
S 7	Nitrate Nitrite as N						6.02	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

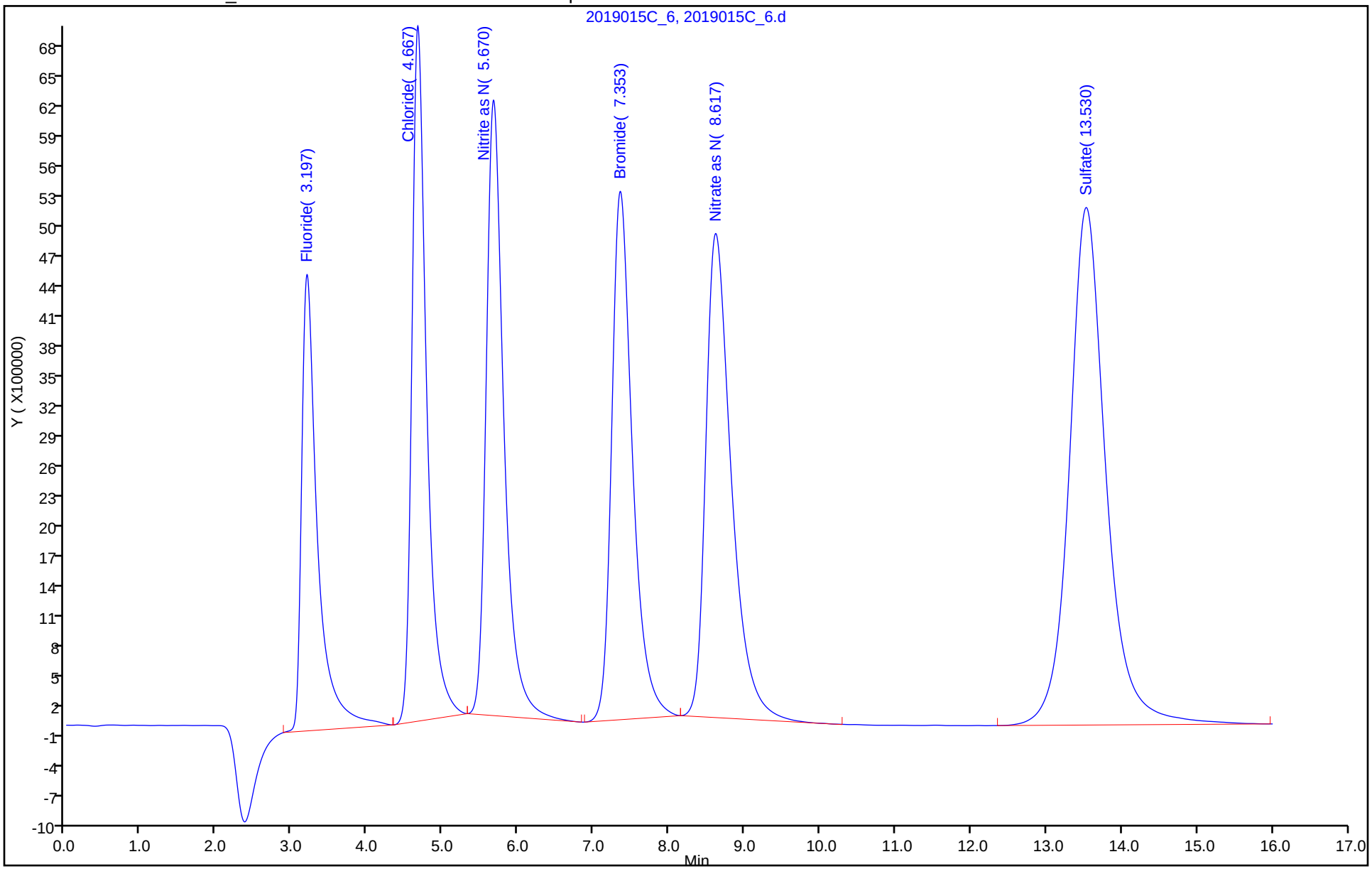
WC_IC_C_Int_00011 Amount Added: 3.00 Units: mL

Report Date: 14-Jul-2020 10:40:17 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Injection Date:	08-Jul-2020 12:31:00	Instrument ID:	12115	Operator ID:	
Lims ID:	IC CAL5			Worklist Smp#:	6
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 48Hr		



FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 27552

SDG No.:

Instrument ID: 19052 GC Column: IC06-AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2020 12:31 Calibration End Date: 07/29/2020 13:57 Calibration ID: 7961

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-27552/1	2021113C_1.d
Level 2	IC 410-27552/2	2021113C_2.d
Level 3	IC 410-27552/3	2021113C_3.d
Level 4	IC 410-27552/4	2021113C_4.d
Level 5	IC 410-27552/5	2021113C_5.d
Level 6	IC 410-27552/6	2021113C_6.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6					RT WINDOW	AVG RT
Nitrogen, Nitrite		5.427	5.427	5.437	5.423	5.423					0.000 - 0.000	5.427
Nitrogen, Nitrate		8.230	8.213	8.210	8.143	8.117					0.000 - 0.000	8.183

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 27552

SDG No.:

Instrument ID: 19052 GC Column: IC06-AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2020 12:31 Calibration End Date: 07/29/2020 13:57 Calibration ID: 7961

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-27552/1	2021113C_1.d
Level 2	IC 410-27552/2	2021113C_2.d
Level 3	IC 410-27552/3	2021113C_3.d
Level 4	IC 410-27552/4	2021113C_4.d
Level 5	IC 410-27552/5	2021113C_5.d
Level 6	IC 410-27552/6	2021113C_6.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3	LVL 4		B	M1	M2								
Nitrogen, Nitrite	29249290	26846590 32381350	31075740	28755860	Lin	-1137757.6	31744614.0				13.5			0.9960		0.9900
Nitrogen, Nitrate	32607402	30817770 36073594	34723625	32687253	Lin	-1109133.8	35345979.5				12.2			0.9960		0.9900

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1 Analy Batch No.: 27552

SDG No.:

Instrument ID: 19052 GC Column: IC06-AS14 ID: 4(mm) Heated Purge: (Y/N) N

Calibration Start Date: 07/29/2020 12:31 Calibration End Date: 07/29/2020 13:57 Calibration ID: 7961

Calibration Files:

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 410-27552/1	2021113C_1.d
Level 2	IC 410-27552/2	2021113C_2.d
Level 3	IC 410-27552/3	2021113C_3.d
Level 4	IC 410-27552/4	2021113C_4.d
Level 5	IC 410-27552/5	2021113C_5.d
Level 6	IC 410-27552/6	2021113C_6.d

ANALYTE	CURVE TYPE	RESPONSE					CONCENTRATION (UG/ML)				
		LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2	LVL 3	LVL 4	LVL 5
Nitrogen, Nitrite	Lin	97144051	2684659	12430296	28755860	58498579	0.000000 3.00	0.100	0.400	1.00	2.00
Nitrogen, Nitrate	Lin	108220781	3081777	13889450	32687253	65214803	0.000000 3.00	0.100	0.400	1.00	2.00

Curve Type Legend:
Lin = Linear

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_1.d
Lims ID: IC CAL0
Client ID:
Sample Type: IC Calib Level: 0
Inject. Date: 29-Jul-2020 12:31:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 0
Operator ID: Instrument ID: 19052
Sublist: chrom-Anions_19052*sub1

Method: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\Anions_19052.m
Limit Group: IC - 300 48Hr
Last Update: 30-Jul-2020 11:42:33 Calib Date: 29-Jul-2020 13:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

Column 1 : Det: det0
Process Host: CTX1035

First Level Reviewer: litwak Date: 30-Jul-2020 11:42:31

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride		3.123				ND	
2	Chloride		4.510				ND	
3	Nitrite as N		5.433				ND	
4	Bromide		7.013				ND	
5	Nitrate as N		8.203				ND	
6	Sulfate		12.560				ND	
S 7	Nitrate Nitrite as N		0.000				ND	

Reagents:

WC_IC_C_Det_00015 Amount Added: 0.00 Units: mL

Report Date: 30-Jul-2020 11:42:34 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_1.d

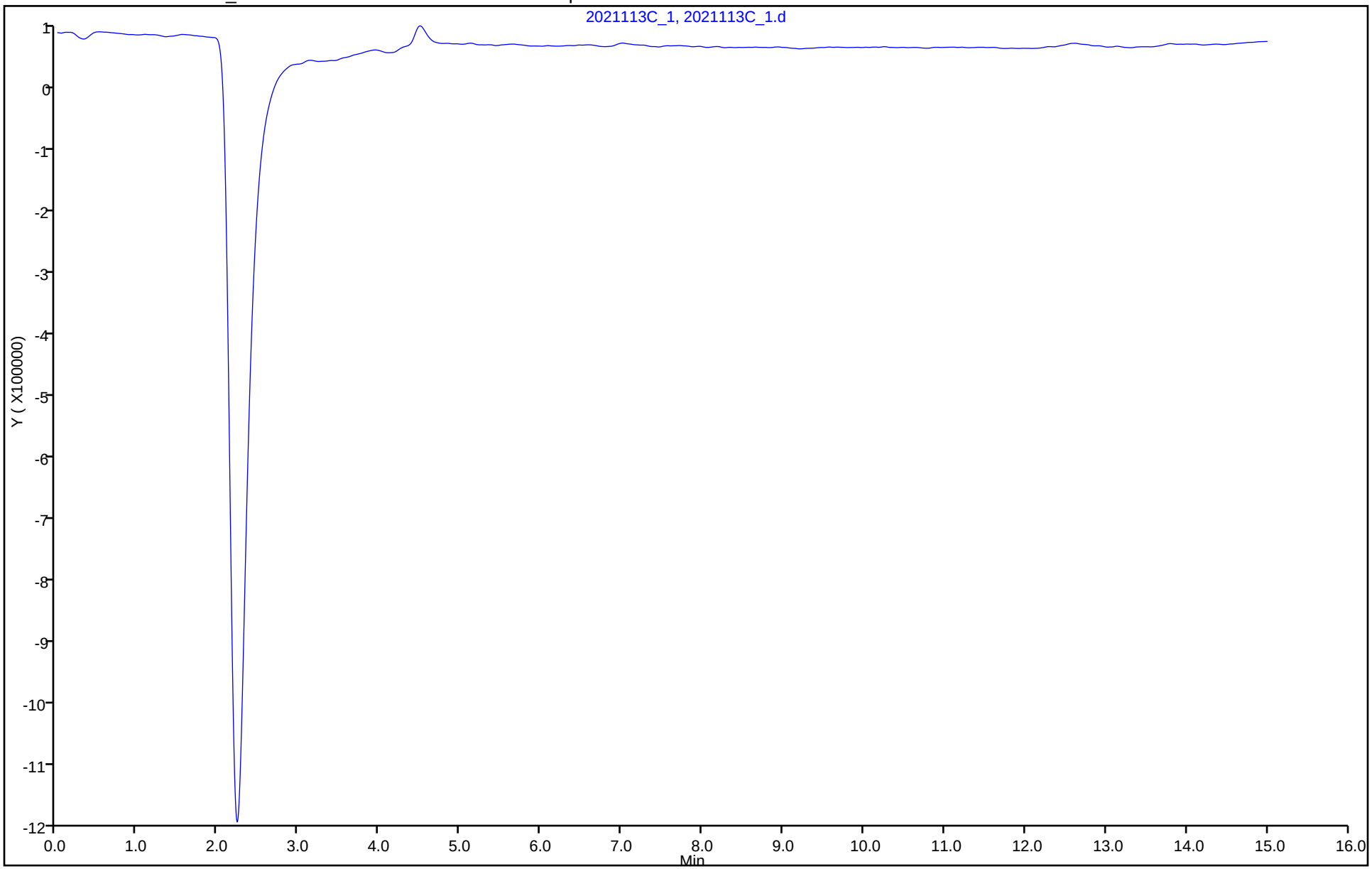
Injection Date: 29-Jul-2020 12:31:00 Instrument ID: 19052 Operator ID:

Lims ID: IC CAL0 Worklist Smp#: 1

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Anions_19052 Limit Group: IC - 300 48Hr



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_2.d
Lims ID: IC CAL1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 29-Jul-2020 12:48:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 1
Operator ID: Instrument ID: 19052
Sublist: chrom-Anions_19052*sub1

Method: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\Anions_19052.m
Limit Group: IC - 300 48Hr
Last Update: 30-Jul-2020 11:42:34 Calib Date: 29-Jul-2020 13:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

Column 1 : Det: det0
Process Host: CTX1035

First Level Reviewer: litwak Date: 30-Jul-2020 11:36:33

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.123	3.123	0.000	1373535	NC	NC	
2	Chloride	4.500	4.510	-0.010	6738719	NC	NC	
3	Nitrite as N	5.427	5.433	-0.006	2684659	0.1000	0.1204	
4	Bromide	7.023	7.013	0.010	2495175	NC	NC	
5	Nitrate as N	8.230	8.203	0.027	3081777	0.1000	0.1186	
6	Sulfate	12.577	12.560	0.017	9678983	NC	NC	
S 7	Nitrate Nitrite as N						0.2390	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

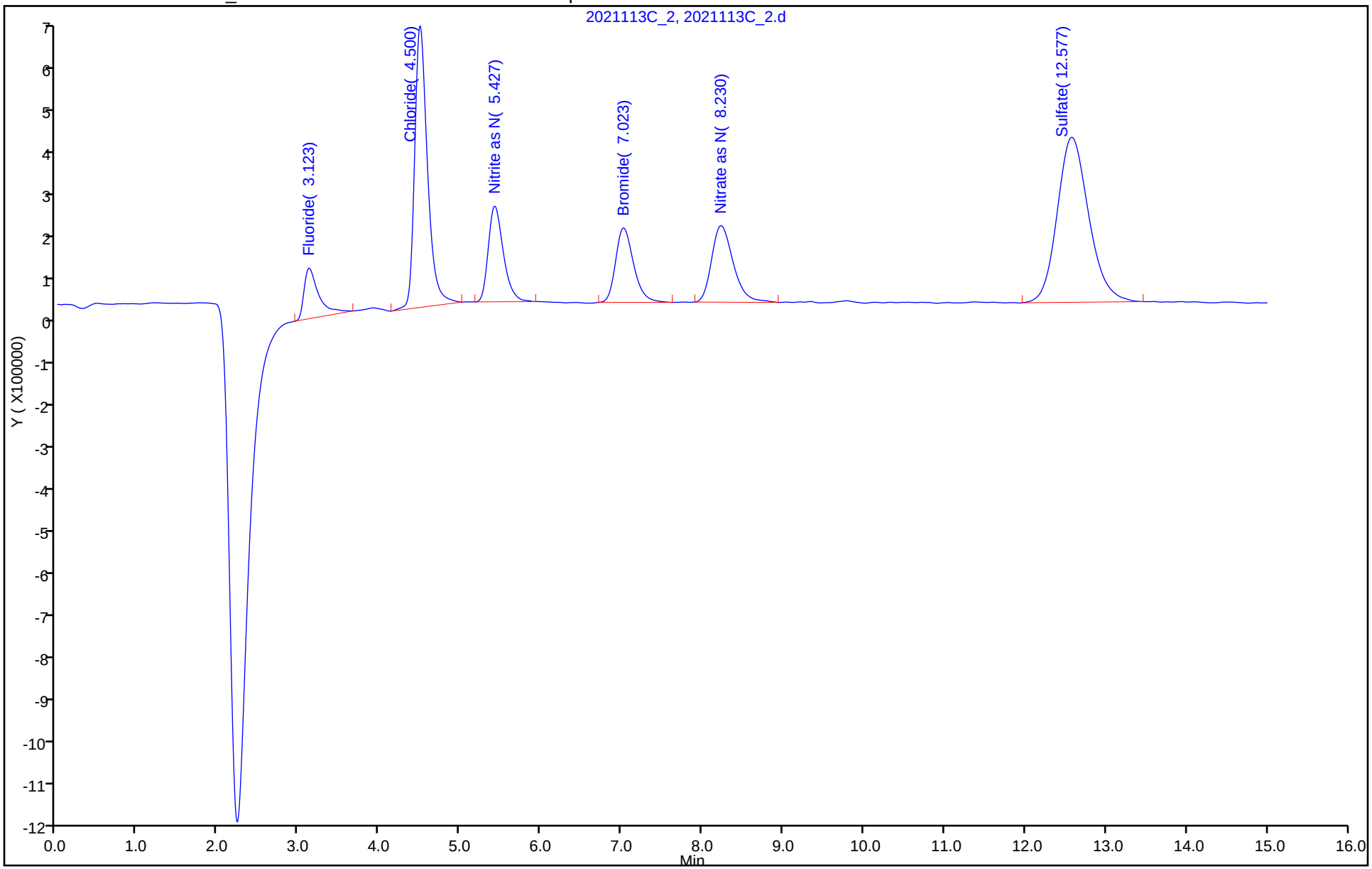
WC_IC_C_Det_00015 Amount Added: 0.10 Units: mL

Report Date: 30-Jul-2020 11:42:34 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_2.d

Injection Date:	29-Jul-2020 12:48:00	Instrument ID:	19052	Operator ID:	
Lims ID:	IC CAL1			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_19052	Limit Group:	IC - 300 48Hr		



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_3.d
Lims ID: IC CAL2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 29-Jul-2020 13:05:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 2
Operator ID: Instrument ID: 19052
Sublist: chrom-Anions_19052*sub1

Method: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\Anions_19052.m
Limit Group: IC - 300 48Hr
Last Update: 30-Jul-2020 11:42:25 Calib Date: 29-Jul-2020 13:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

Column 1 : Det: det0
Process Host: CTX1035

First Level Reviewer: litwak Date: 30-Jul-2020 11:36:58

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.123	3.123	0.000	6596630	NC	NC	
2	Chloride	4.503	4.510	-0.007	12586774	NC	NC	
3	Nitrite as N	5.427	5.433	-0.006	12430296	0.4000	0.4274	
4	Bromide	7.020	7.013	0.007	12094220	NC	NC	
5	Nitrate as N	8.213	8.203	0.010	13889450	0.4000	0.4243	
6	Sulfate	12.570	12.560	0.010	20922896	NC	NC	
S 7	Nitrate Nitrite as N						0.8517	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

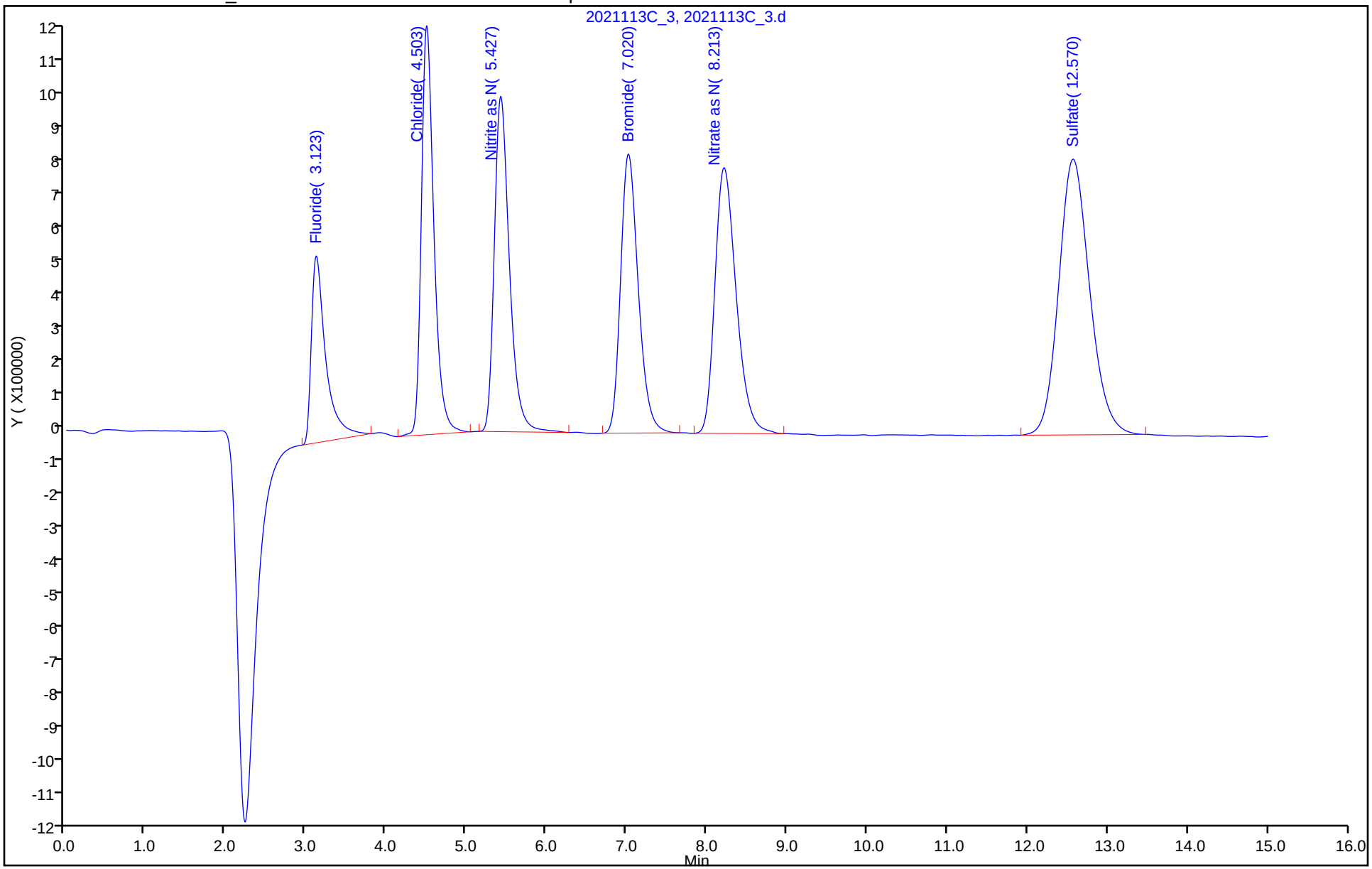
WC_IC_C_Int_00016 Amount Added: 0.40 Units: mL

Report Date: 30-Jul-2020 11:42:25 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_3.d

Injection Date:	29-Jul-2020 13:05:00	Instrument ID:	19052	Operator ID:	
Lims ID:	IC CAL2			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_19052	Limit Group:	IC - 300 48Hr		



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_4.d
Lims ID: IC CAL3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 29-Jul-2020 13:23:00 ALS Bottle#: 0 Worklist Smp#: 4
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 3
Operator ID: Instrument ID: 19052
Sublist: chrom-Anions_19052*sub1

Method: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\Anions_19052.m
Limit Group: IC - 300 48Hr
Last Update: 30-Jul-2020 11:42:35 Calib Date: 29-Jul-2020 13:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

Column 1 : Det: det0
Process Host: CTX1035

First Level Reviewer: litwak Date: 30-Jul-2020 11:41:49

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.123	3.123	0.000	17318306	NC	NC	
2	Chloride	4.510	4.510	0.000	29240834	NC	NC	
3	Nitrite as N	5.437	5.433	0.004	28755860	1.00	0.9417	
4	Bromide	7.030	7.013	0.017	29062927	NC	NC	
5	Nitrate as N	8.210	8.203	0.007	32687253	1.00	0.9562	
6	Sulfate	12.567	12.560	0.007	49484818	NC	NC	
S 7	Nitrate Nitrite as N						1.90	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

WC_IC_C_Int_00016 Amount Added: 1.00 Units: mL

Report Date: 30-Jul-2020 11:42:35 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_4.d

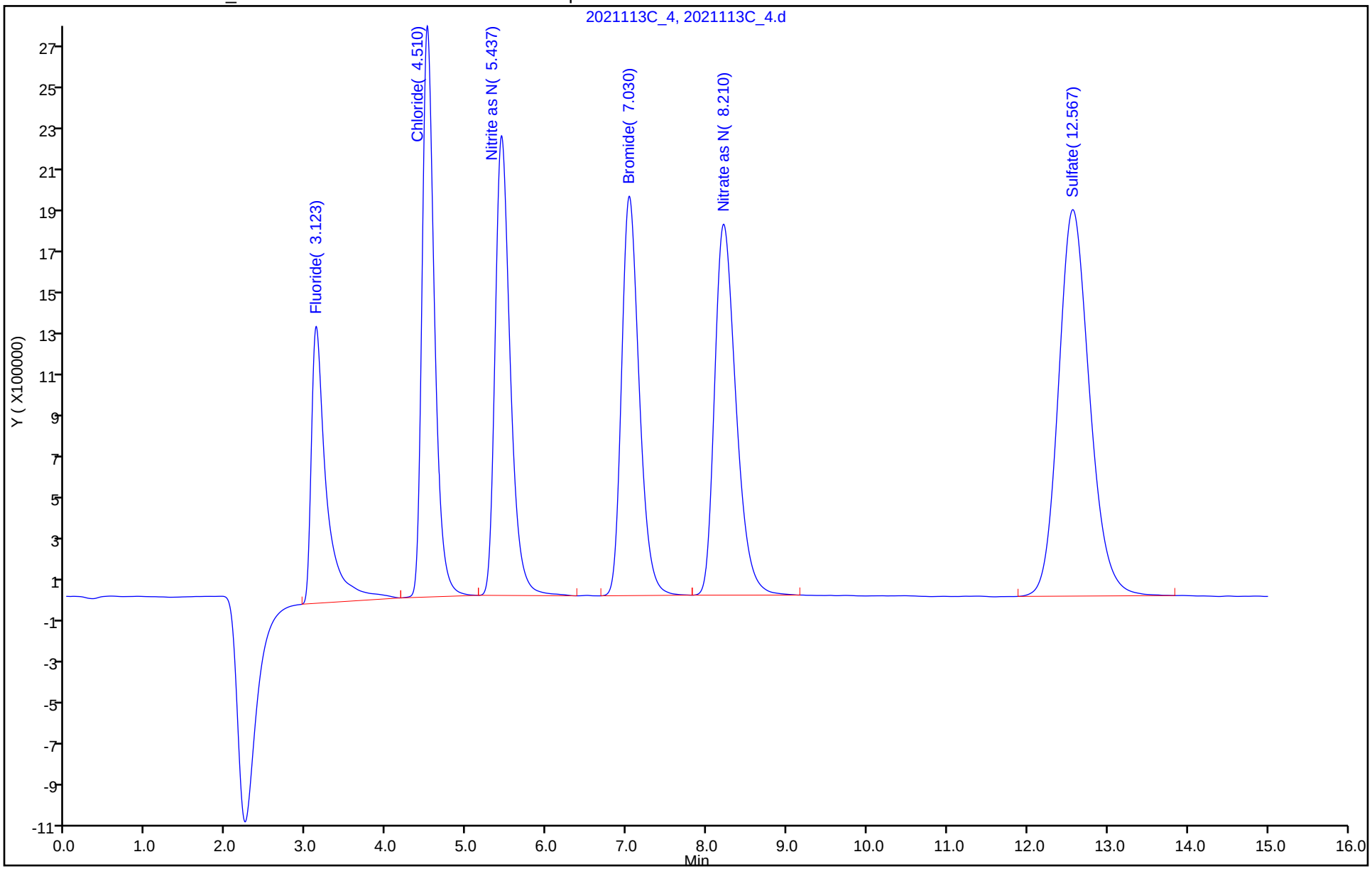
Injection Date: 29-Jul-2020 13:23:00 Instrument ID: 19052 Operator ID:

Lims ID: IC CAL3 Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Anions_19052 Limit Group: IC - 300 48Hr



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_5.d
Lims ID: IC CAL4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 29-Jul-2020 13:40:00 ALS Bottle#: 0 Worklist Smp#: 5
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 4
Operator ID: Instrument ID: 19052
Sublist: chrom-Anions_19052*sub1

Method: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\Anions_19052.m
Limit Group: IC - 300 48Hr
Last Update: 30-Jul-2020 11:42:35 Calib Date: 29-Jul-2020 13:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

Column 1 : Det: det0
Process Host: CTX1035

First Level Reviewer: litwak Date: 30-Jul-2020 11:41:53

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.123	3.123	0.000	34508470	NC	NC	
2	Chloride	4.507	4.507	0.000	54541987	NC	NC	
3	Nitrite as N	5.423	5.423	0.000	58498579	2.00	1.88	
4	Bromide	6.990	6.990	0.000	58791863	NC	NC	
5	Nitrate as N	8.143	8.143	0.000	65214803	2.00	1.88	
6	Sulfate	12.567	12.567	0.000	98549901	NC	NC	
S 7	Nitrate Nitrite as N						3.76	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

WC_IC_C_Int_00016 Amount Added: 2.00 Units: mL

Report Date: 30-Jul-2020 11:42:35 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_5.d

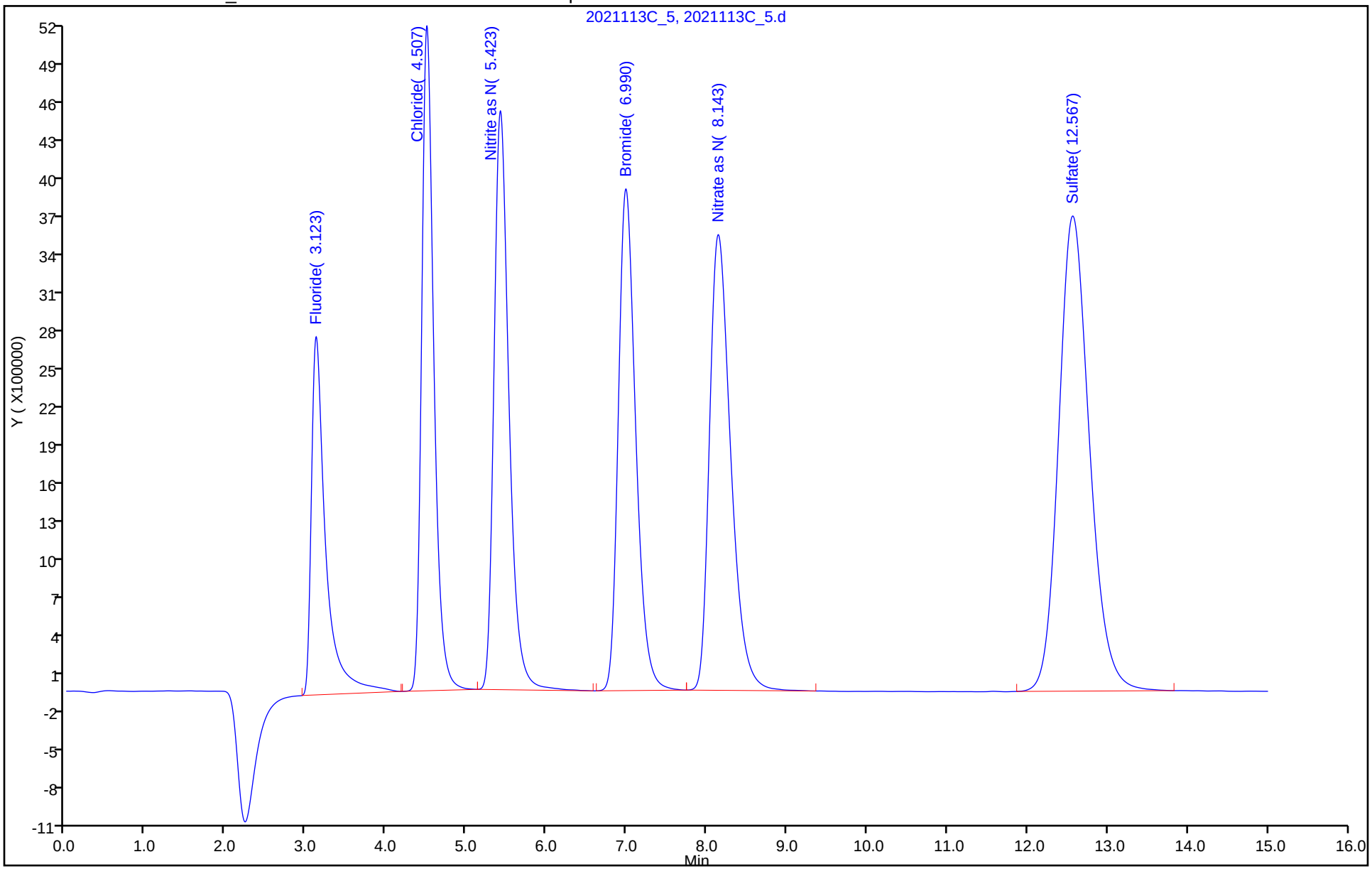
Injection Date: 29-Jul-2020 13:40:00 Instrument ID: 19052 Operator ID:

Lims ID: IC CAL4 Worklist Smp#: 5

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Anions_19052 Limit Group: IC - 300 48Hr



Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d
Lims ID: IC CAL5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 29-Jul-2020 13:57:00 ALS Bottle#: 0 Worklist Smp#: 6
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CAL 5
Operator ID: Instrument ID: 19052
Sublist: chrom-Anions_19052*sub1

Method: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\Anions_19052.m
Limit Group: IC - 300 48Hr
Last Update: 30-Jul-2020 11:42:36 Calib Date: 29-Jul-2020 13:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

Column 1 : Det: det0
Process Host: CTX1035

First Level Reviewer: litwak Date: 30-Jul-2020 11:41:58

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.127	3.123	0.004	57909808	NC	NC	
2	Chloride	4.507	4.507	0.000	91141469	NC	NC	
3	Nitrite as N	5.423	5.423	0.000	97144051	3.00	3.10	
4	Bromide	6.980	6.990	-0.010	98040702	NC	NC	
5	Nitrate as N	8.117	8.143	-0.026	108220781	3.00	3.09	
6	Sulfate	12.553	12.567	-0.014	163669717	NC	NC	
S 7	Nitrate Nitrite as N						6.19	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

WC_IC_C_Int_00016 Amount Added: 3.00 Units: mL

Report Date: 30-Jul-2020 11:42:36 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

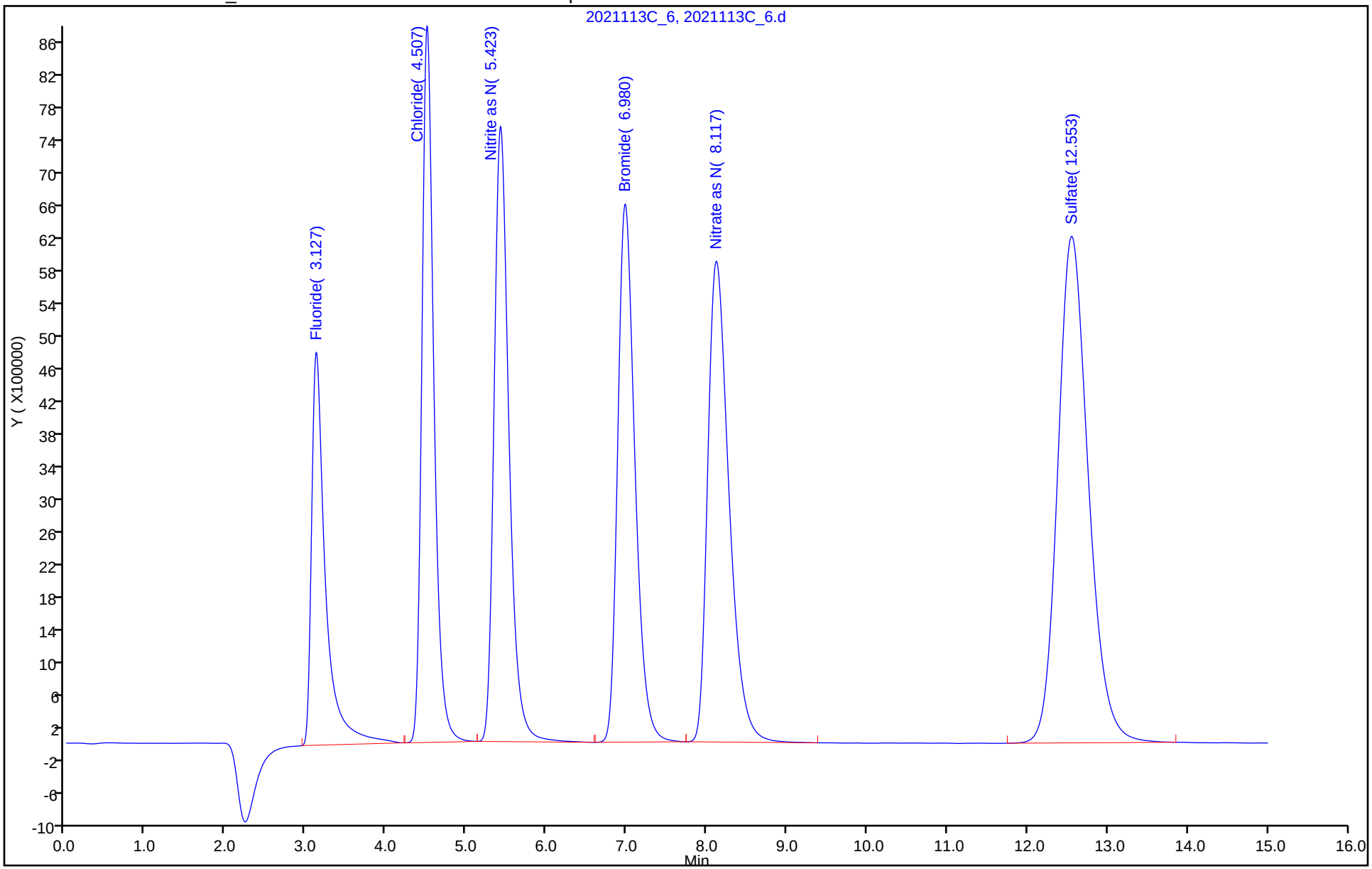
Injection Date: 29-Jul-2020 13:57:00 Instrument ID: 19052 Operator ID:

Lims ID: IC CAL5 Worklist Smp#: 6

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Anions_19052 Limit Group: IC - 300 48Hr



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICV 410-22226/7 Calibration Date: 07/08/2020 12:48

Instrument ID: 12115 Calib Start Date: 07/08/2020 11:05

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 07/08/2020 12:31

Lab File ID: 2019015C_7.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrogen, Nitrite	Lin		30453659		0.707	0.750	-5.8	10.0
Nitrogen, Nitrate	Lin		34028447		0.696	0.750	-7.2	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICV 410-22226/7 Calibration Date: 07/08/2020 12:48

Instrument ID: 12115 Calib Start Date: 07/08/2020 11:05

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 07/08/2020 12:31

Lab File ID: 2019015C_7.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrogen, Nitrite	5.67	5.37	5.97
Nitrogen, Nitrate	8.68	8.18	9.18

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_7.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 08-Jul-2020 12:48:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Operator ID: Instrument ID: 12115
Sublist:

Method: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\Anions_12115.m
Limit Group: IC - 300 48Hr
Last Update: 14-Jul-2020 10:40:18 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1031

First Level Reviewer: litwak Date: 14-Jul-2020 10:40:09

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.190	3.190	0.000	15499139	NC	NC	
2	Chloride	4.660	4.660	0.000	45943772	NC	NC	
3	Nitrite as N	5.667	5.667	0.000	22840244	0.7500	0.7068	
4	Bromide	7.363	7.363	0.000	50150405	NC	NC	
5	Nitrate as N	8.683	8.683	0.000	25521335	0.7500	0.6962	
6	Sulfate	13.537	13.537	0.000	84939661	NC	NC	
S 7	Nitrate Nitrite as N						1.40	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

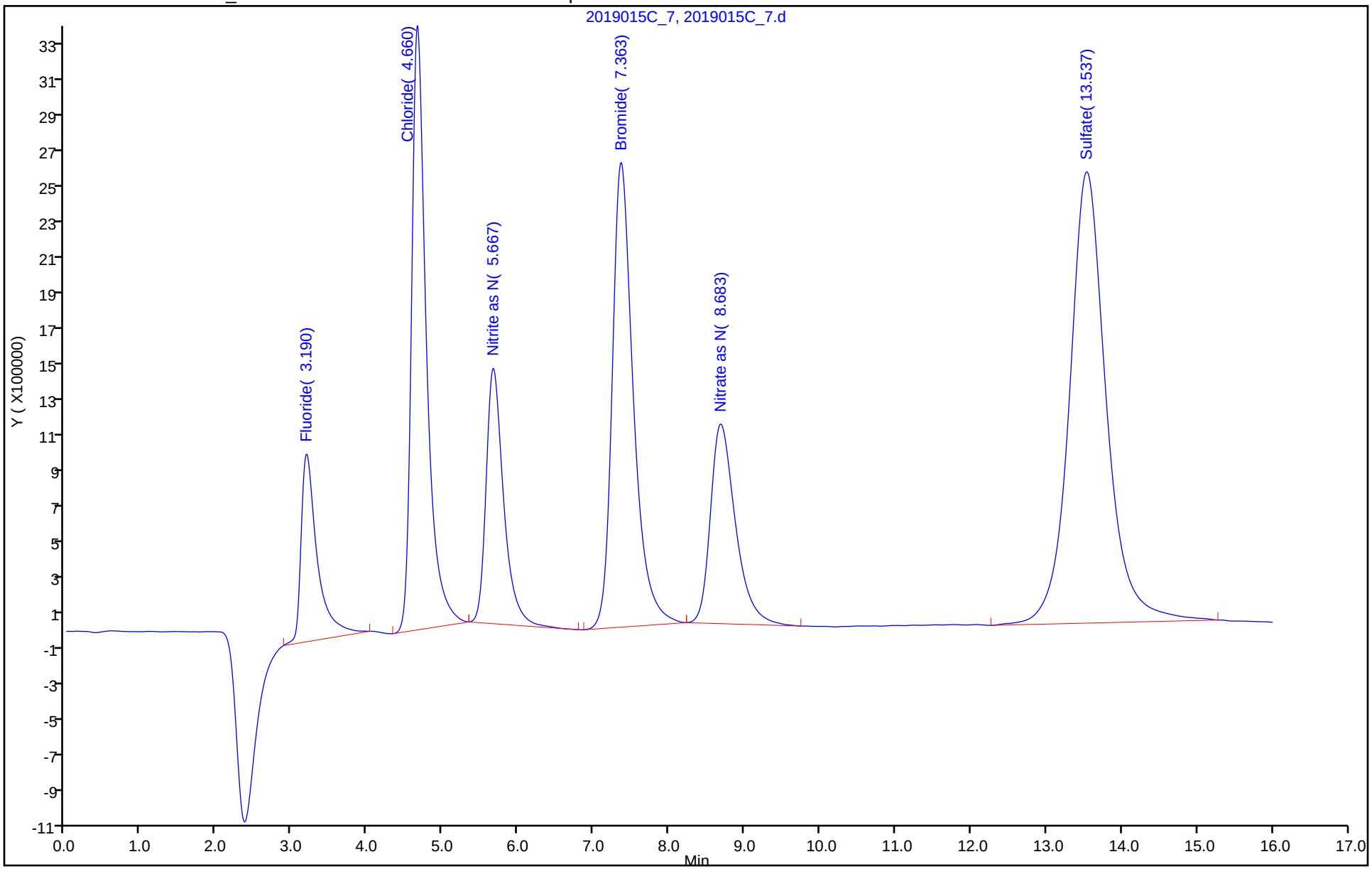
WC_IC_QC2_00079 Amount Added: 7.50 Units: mL

Report Date: 14-Jul-2020 10:40:18 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_7.d

Injection Date:	08-Jul-2020 12:48:00	Instrument ID:	12115	Operator ID:	
Lims ID:	ICV			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 48Hr		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVRT 410-20491/1 Calibration Date: 07/08/2020 14:37

Instrument ID: 12115 Calib Start Date: 06/01/2020 13:02

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 06/01/2020 14:27

Lab File ID: 2019015S_1.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrogen, Nitrite	Lin		29858391		0.736	0.750	-1.9	10.0
Nitrogen, Nitrate	Lin		33655348		0.744	0.750	-0.9	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVRT 410-20491/1 Calibration Date: 07/08/2020 14:37

Instrument ID: 12115 Calib Start Date: 06/01/2020 13:02

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 06/01/2020 14:27

Lab File ID: 2019015S_1.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrogen, Nitrite	5.66	5.36	5.96
Nitrogen, Nitrate	8.68	8.18	9.18

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200708-5084.b\2019015S_1.d
Lims ID: CCVRT
Client ID:
Sample Type: CCVRT
Inject. Date: 08-Jul-2020 14:37:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub2

Method: \\chromfs\Lancaster\ChromData\12115\20200708-5084.b\Anions_12115.m
Limit Group: IC - 300 48Hr
Last Update: 09-Jul-2020 15:14:21 Calib Date: 01-Jun-2020 14:27:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200615-3361.b\2015315C_6.d

Column 1 : Det: det0
Process Host: CTX1048

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.180	3.180	0.000	16033525	NC	NC	
2 Chloride	4.653	4.653	0.000	45110816	NC	NC	
3 Nitrite as N	5.660	5.660	0.000	22393793	0.7500	0.7356	
4 Bromide	7.360	7.360	0.000	49365784	NC	NC	
5 Nitrate as N	8.683	8.683	0.000	25241511	0.7500	0.7435	
6 Sulfate	13.510	13.510	0.000	83638999	NC	NC	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

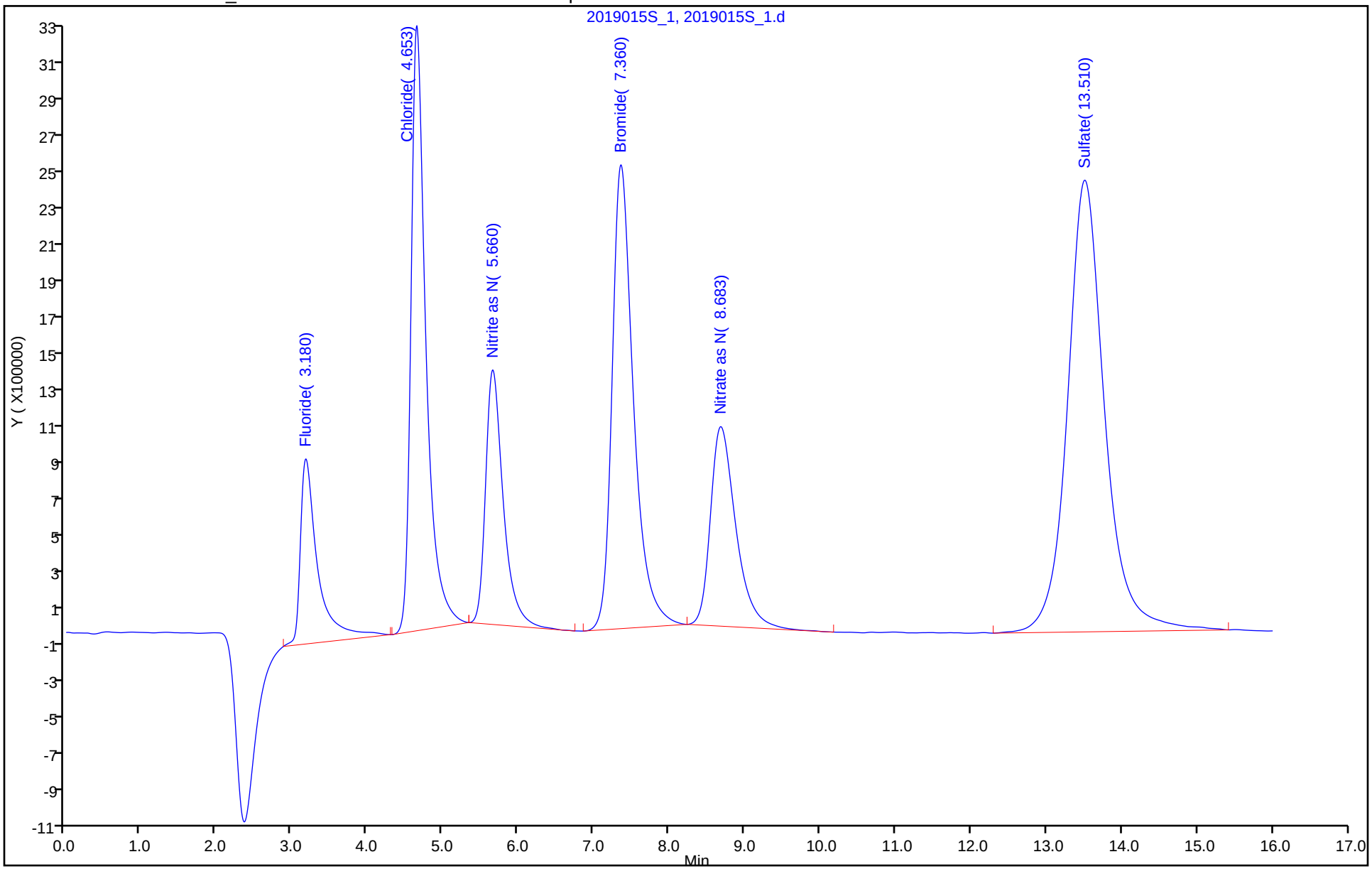
WC_IC_QC2_00079 Amount Added: 7.50 Units: mL

Report Date: 09-Jul-2020 15:14:22 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200708-5084.b\2019015S_1.d

Injection Date:	08-Jul-2020 14:37:00	Instrument ID:	12115	Operator ID:	
Lims ID:	CCVRT			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 48Hr		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVRT 410-20849/1 Calibration Date: 07/09/2020 09:28

Instrument ID: 12115 Calib Start Date: 07/08/2020 11:05

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 07/08/2020 12:31

Lab File ID: 2019115_1.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrogen, Nitrite	Lin		30579777		0.710	0.750	-5.4	10.0
Nitrogen, Nitrate	Lin		35021668		0.716	0.750	-4.6	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVRT 410-20849/1 Calibration Date: 07/09/2020 09:28

Instrument ID: 12115 Calib Start Date: 07/08/2020 11:05

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 07/08/2020 12:31

Lab File ID: 2019115_1.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrogen, Nitrite	5.62	5.32	5.92
Nitrogen, Nitrate	8.60	8.10	9.10

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200709-5174.b\2019115_1.d
Lims ID: CCVRT
Client ID:
Sample Type: CCVRT
Inject. Date: 09-Jul-2020 09:28:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub2

Method: \\chromfs\Lancaster\ChromData\12115\20200709-5174.b\Anions_12115.m
Limit Group: IC - 300 48Hr
Last Update: 21-Jul-2020 10:48:50 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1053

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.163	3.163	0.000	17569637	NC	NC	
2 Chloride	4.627	4.627	0.000	46000632	NC	NC	
3 Nitrite as N	5.620	5.620	0.000	22934833	0.7500	0.7096	
4 Bromide	7.293	7.293	0.000	51202218	NC	NC	
5 Nitrate as N	8.600	8.600	0.000	26266251	0.7500	0.7157	
6 Sulfate	13.473	13.473	0.000	88635320	NC	NC	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

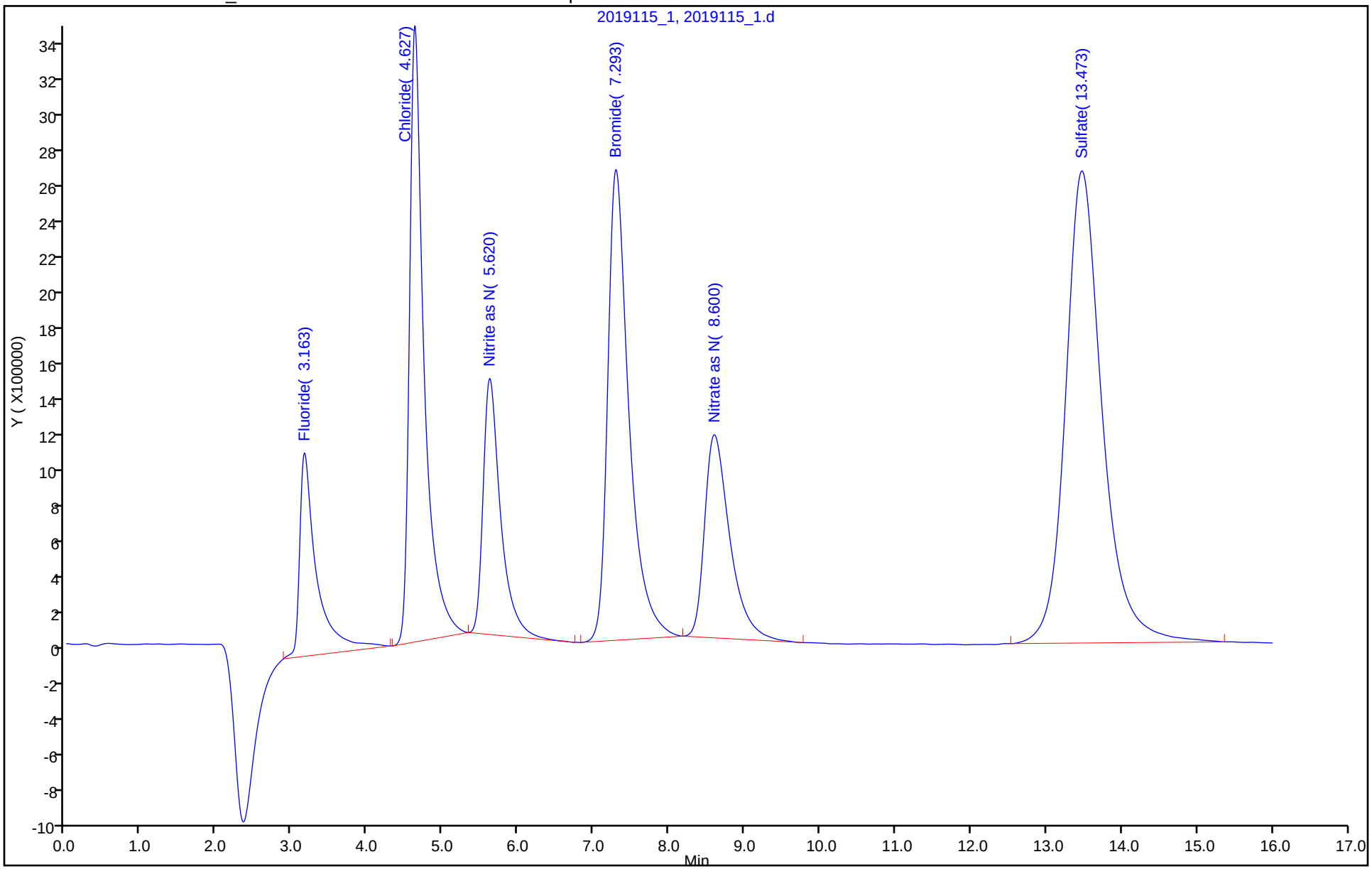
WC_IC_QC2_00081 Amount Added: 7.50 Units: mL

Report Date: 21-Jul-2020 10:48:51 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200709-5174.b\2019115_1.d

Injection Date:	09-Jul-2020 09:28:00	Instrument ID:	12115	Operator ID:	
Lims ID:	CCVRT			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 48Hr		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVRT 410-34574/1 Calibration Date: 08/19/2020 00:06

Instrument ID: 12115 Calib Start Date: 07/08/2020 11:05

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 07/08/2020 12:31

Lab File ID: 2023115B_1.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrogen, Nitrite	Lin		31444349		0.729	0.750	-2.8	10.0
Nitrogen, Nitrate	Lin		34990295		0.715	0.750	-4.7	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVRT 410-34574/1 Calibration Date: 08/19/2020 00:06

Instrument ID: 12115 Calib Start Date: 07/08/2020 11:05

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 07/08/2020 12:31

Lab File ID: 2023115B_1.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrogen, Nitrite	5.54	5.24	5.84
Nitrogen, Nitrate	8.38	7.88	8.88

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_1.d
Lims ID: CCVRT
Client ID:
Sample Type: CCVRT
Inject. Date: 19-Aug-2020 00:06:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVRT
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\Anions_12115.m
Limit Group: IC - 300 48Hr
Last Update: 19-Aug-2020 12:32:35 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1050

First Level Reviewer: litwak Date: 19-Aug-2020 12:32:35

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.173	3.173	0.000	16703112	NC	NC	
2 Chloride	4.590	4.590	0.000	46106928	NC	NC	
3 Nitrite as N	5.540	5.540	0.000	23583262	0.7500	0.7289	
4 Bromide	7.150	7.150	0.000	49877575	NC	NC	
5 Nitrate as N	8.377	8.377	0.000	26242721	0.7500	0.7151	
6 Sulfate	13.000	13.000	0.000	86863533	NC	NC	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

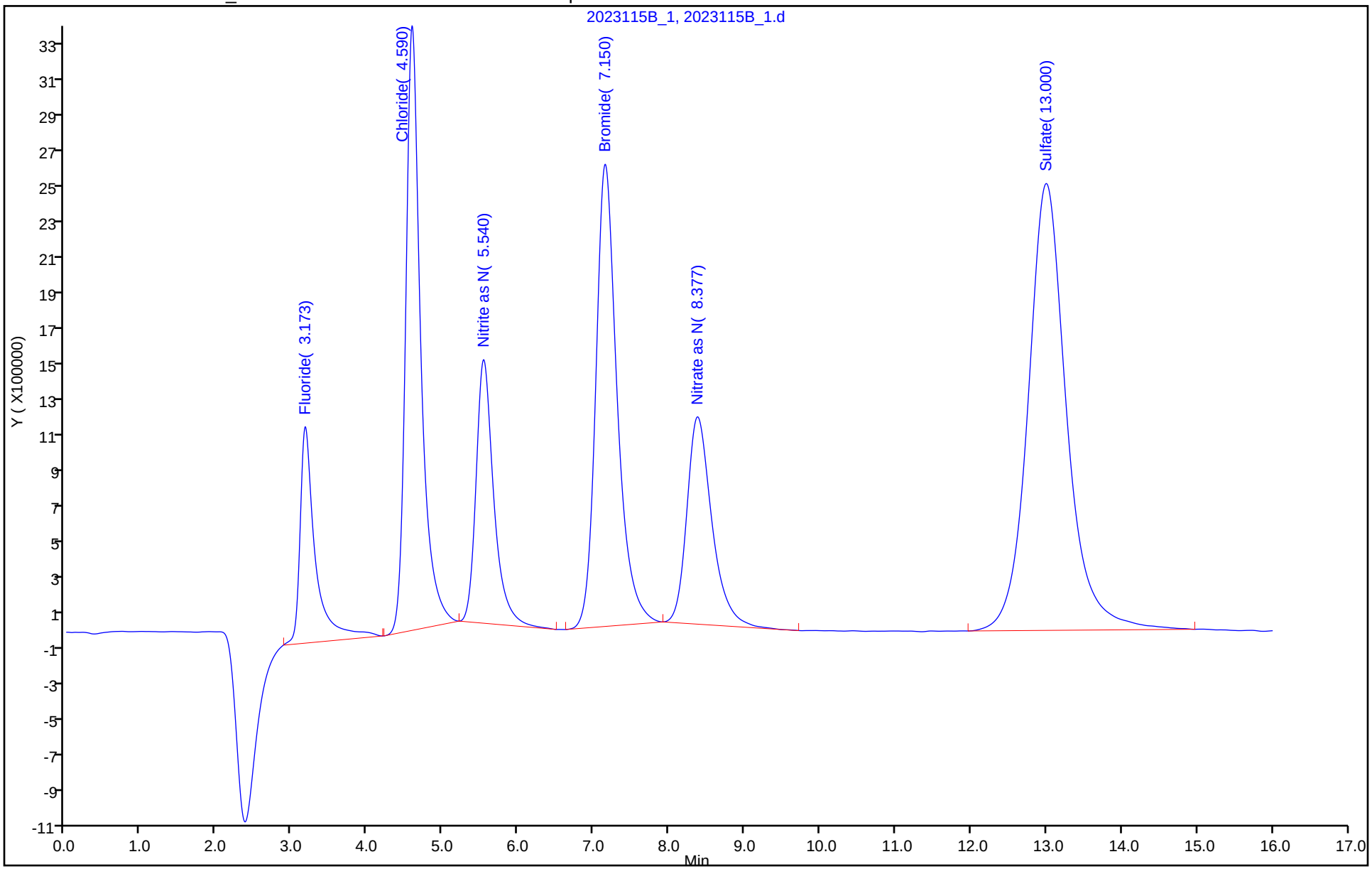
WC_IC_QC2_00125 Amount Added: 7.50 Units: mL

Report Date: 19-Aug-2020 12:32:35 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_1.d

Injection Date:	19-Aug-2020 00:06:00	Instrument ID:	12115	Operator ID:	
Lims ID:	CCVRT			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 48Hr		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCV 410-34574/13 Calibration Date: 08/19/2020 03:31

Instrument ID: 12115 Calib Start Date: 07/08/2020 11:05

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 07/08/2020 12:31

Lab File ID: 2023115B_13.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrogen, Nitrite	Lin		31071960		0.721	0.750	-3.9	10.0
Nitrogen, Nitrate	Lin		34504765		0.706	0.750	-5.9	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCV 410-34574/13 Calibration Date: 08/19/2020 03:31

Instrument ID: 12115 Calib Start Date: 07/08/2020 11:05

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 07/08/2020 12:31

Lab File ID: 2023115B_13.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrogen, Nitrite	5.55	5.24	5.84
Nitrogen, Nitrate	8.40	7.88	8.88

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_13.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 19-Aug-2020 03:31:00 ALS Bottle#: 0 Worklist Smp#: 13
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\Anions_12115.m
Limit Group: IC - 300 48Hr
Last Update: 19-Aug-2020 12:32:02 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1050

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.180	3.173	0.007	16566111	NC	NC	
2	Chloride	4.600	4.590	0.010	45425798	NC	NC	
3	Nitrite as N	5.550	5.540	0.010	23303970	0.7500	0.7206	
4	Bromide	7.170	7.150	0.020	49367868	NC	NC	
5	Nitrate as N	8.397	8.377	0.020	25878574	0.7500	0.7056	
6	Sulfate	13.007	13.000	0.007	86076908	NC	NC	
S 7	Nitrate Nitrite as N						1.43	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

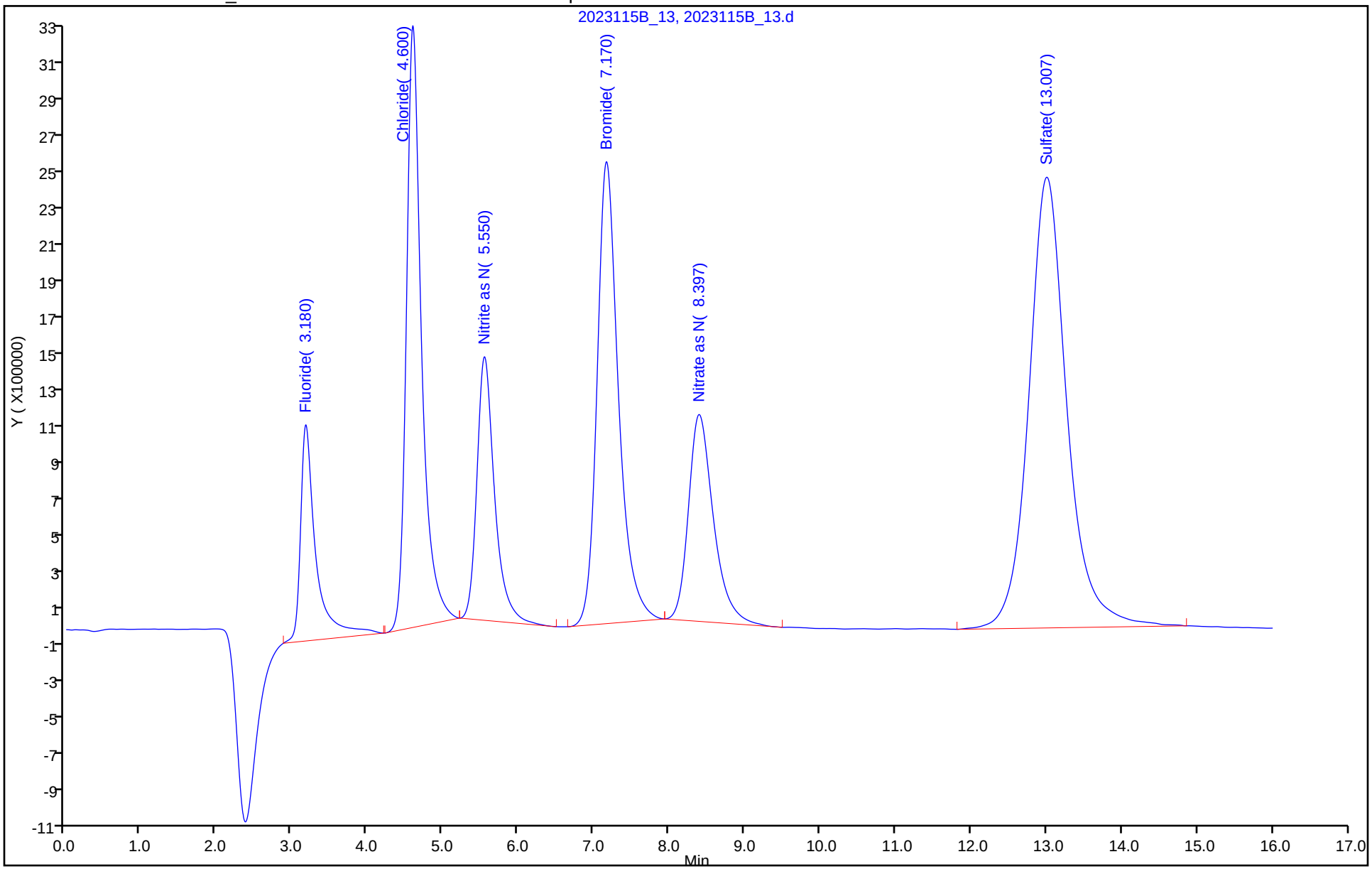
WC_IC_QC2_00125 Amount Added: 7.50 Units: mL

Report Date: 19-Aug-2020 12:32:02 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_13.d

Injection Date:	19-Aug-2020 03:31:00	Instrument ID:	12115	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	13
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 48Hr		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCV 410-34574/25 Calibration Date: 08/19/2020 06:57

Instrument ID: 12115 Calib Start Date: 07/08/2020 11:05

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 07/08/2020 12:31

Lab File ID: 2023115B_25.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrogen, Nitrite	Lin		32031503		0.742	0.750	-1.1	10.0
Nitrogen, Nitrate	Lin		35360917		0.722	0.750	-3.7	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCV 410-34574/25 Calibration Date: 08/19/2020 06:57

Instrument ID: 12115 Calib Start Date: 07/08/2020 11:05

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 07/08/2020 12:31

Lab File ID: 2023115B_25.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrogen, Nitrite	5.53	5.24	5.84
Nitrogen, Nitrate	8.35	7.88	8.88

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_25.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 19-Aug-2020 06:57:00 ALS Bottle#: 0 Worklist Smp#: 25
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\Anions_12115.m
Limit Group: IC - 300 48Hr
Last Update: 19-Aug-2020 12:32:43 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1050

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.173	3.173	0.000	17536656	NC	NC	
2	Chloride	4.587	4.590	-0.003	46709757	NC	NC	
3	Nitrite as N	5.530	5.540	-0.010	24023627	0.7500	0.7420	
4	Bromide	7.133	7.150	-0.017	50967894	NC	NC	
5	Nitrate as N	8.350	8.377	-0.027	26520688	0.7500	0.7224	
6	Sulfate	12.993	13.000	-0.007	88681030	NC	NC	
S 7	Nitrate Nitrite as N						1.46	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

WC_IC_QC2_00125 Amount Added: 7.50 Units: mL

Report Date: 19-Aug-2020 12:32:44 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_25.d

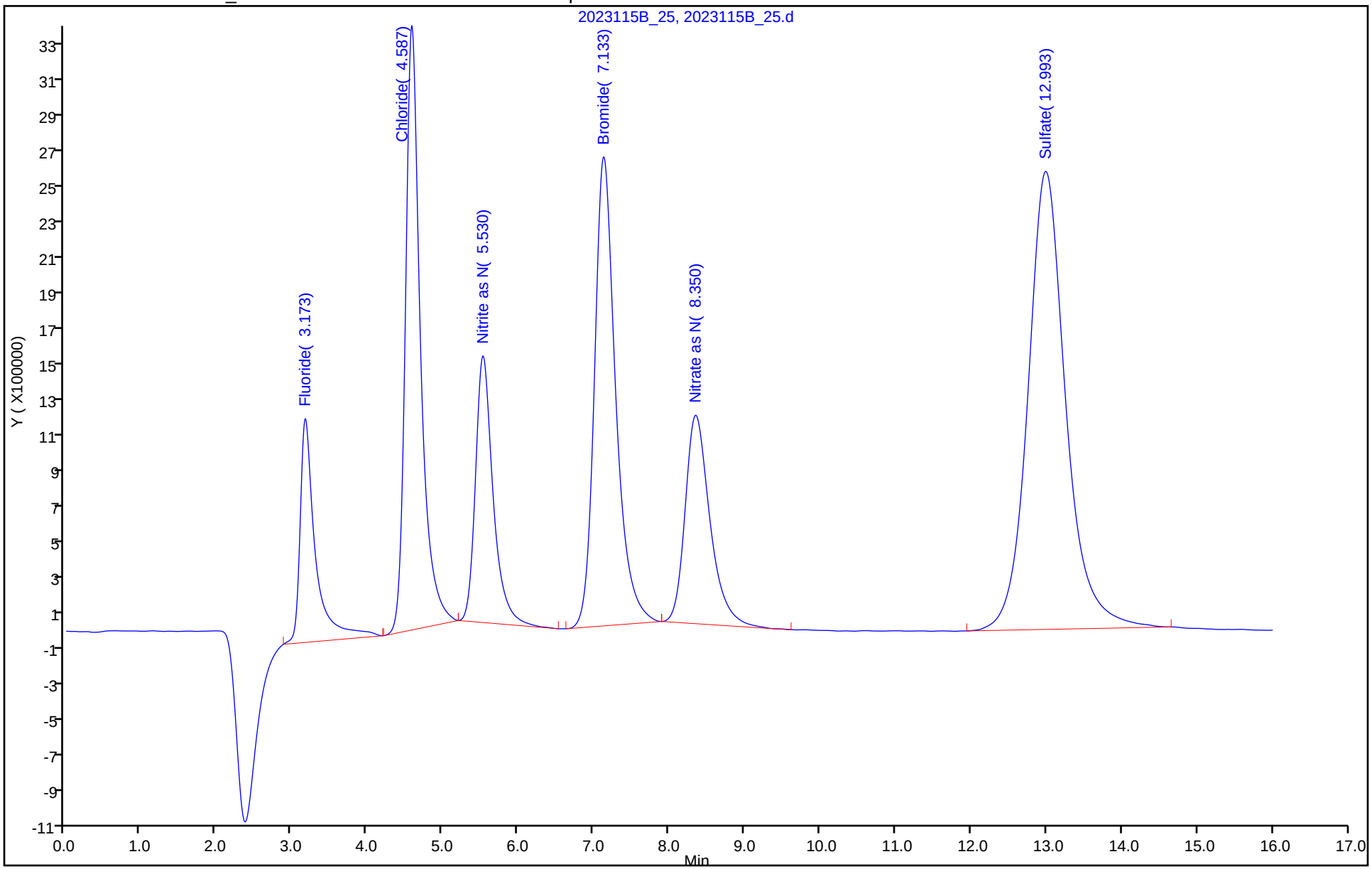
Injection Date: 19-Aug-2020 06:57:00 Instrument ID: 12115 Operator ID:

Lims ID: CCV Worklist Smp#: 25

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Anions_12115 Limit Group: IC - 300 48Hr



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCV 410-34574/37 Calibration Date: 08/19/2020 10:23

Instrument ID: 12115 Calib Start Date: 07/08/2020 11:05

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 07/08/2020 12:31

Lab File ID: 2023115B_37.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrogen, Nitrite	Lin		30959253		0.718	0.750	-4.3	10.0
Nitrogen, Nitrate	Lin		34357836		0.703	0.750	-6.3	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCV 410-34574/37 Calibration Date: 08/19/2020 10:23

Instrument ID: 12115 Calib Start Date: 07/08/2020 11:05

GC Column: IC15-AS14 ID: 4.00(mm) Calib End Date: 07/08/2020 12:31

Lab File ID: 2023115B_37.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrogen, Nitrite	5.53	5.24	5.84
Nitrogen, Nitrate	8.35	7.88	8.88

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_37.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 19-Aug-2020 10:23:00 ALS Bottle#: 0 Worklist Smp#: 37
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: Instrument ID: 12115
Sublist: chrom-Anions_12115*sub1

Method: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\Anions_12115.m
Limit Group: IC - 300 48Hr
Last Update: 19-Aug-2020 12:32:49 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1050

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.177	3.173	0.004	16252431	NC	NC	
2	Chloride	4.587	4.590	-0.003	45540261	NC	NC	
3	Nitrite as N	5.530	5.540	-0.010	23219440	0.7500	0.7181	
4	Bromide	7.130	7.150	-0.020	49571217	NC	NC	
5	Nitrate as N	8.347	8.377	-0.030	25768377	0.7500	0.7027	
6	Sulfate	13.003	13.000	0.003	86676248	NC	NC	
S 7	Nitrate Nitrite as N						1.42	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

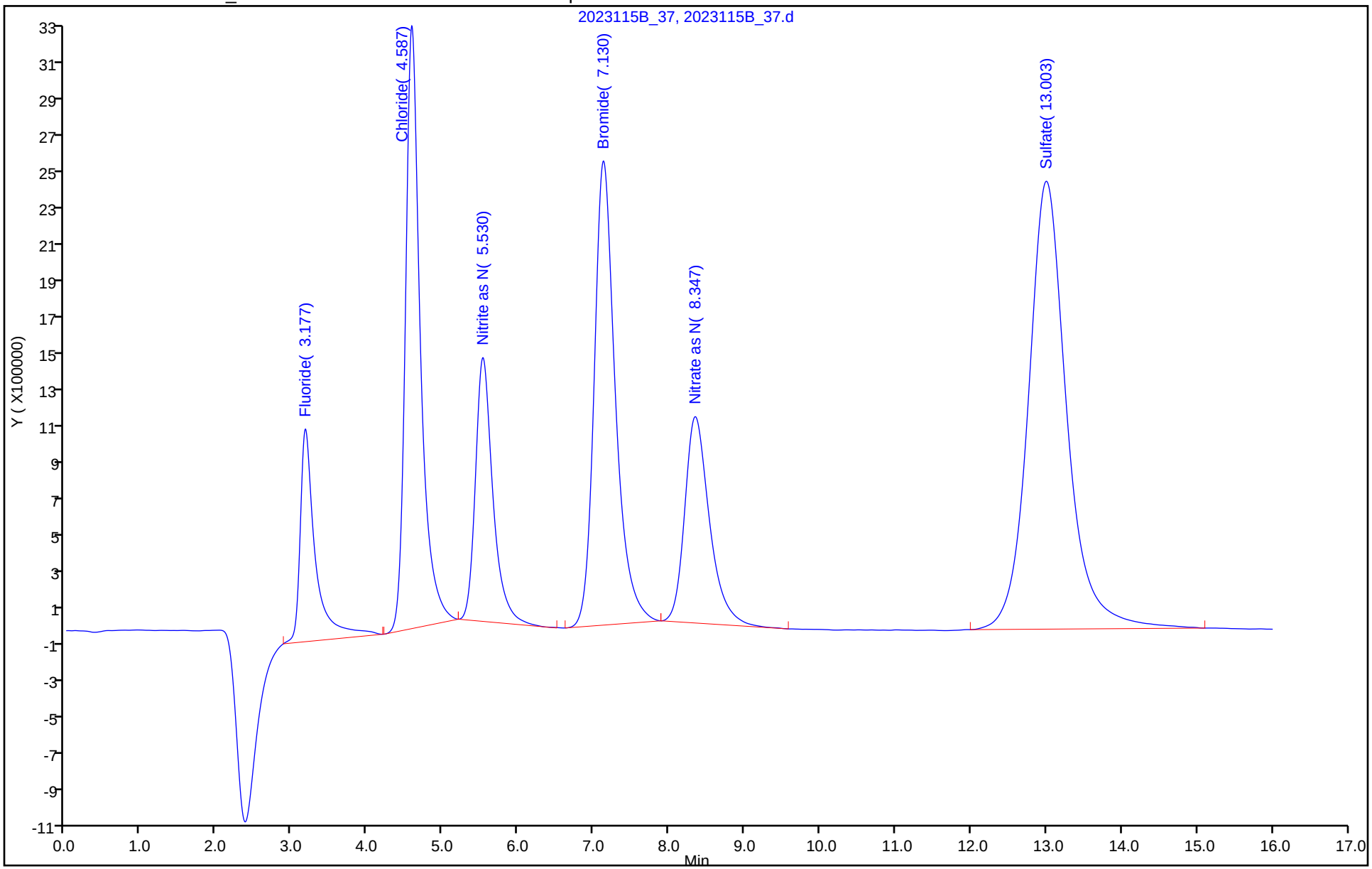
WC_IC_QC2_00125 Amount Added: 7.50 Units: mL

Report Date: 19-Aug-2020 12:32:49 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_37.d

Injection Date:	19-Aug-2020 10:23:00	Instrument ID:	12115	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	37
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 48Hr		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICV 410-27552/7 Calibration Date: 07/29/2020 14:14

Instrument ID: 19052 Calib Start Date: 07/29/2020 12:31

GC Column: IC06-AS14 ID: 4.00(mm) Calib End Date: 07/29/2020 13:57

Lab File ID: 2021113C_7.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrogen, Nitrite	Lin		31438796		0.779	0.750	3.8	10.0
Nitrogen, Nitrate	Lin		35487772		0.784	0.750	4.6	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICV 410-27552/7 Calibration Date: 07/29/2020 14:14

Instrument ID: 19052 Calib Start Date: 07/29/2020 12:31

GC Column: IC06-AS14 ID: 4.00(mm) Calib End Date: 07/29/2020 13:57

Lab File ID: 2021113C_7.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrogen, Nitrite	5.43	5.03	5.83
Nitrogen, Nitrate	8.20	7.60	8.80

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_7.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 29-Jul-2020 14:14:00 ALS Bottle#: 0 Worklist Smp#: 7
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Operator ID: Instrument ID: 19052
Sublist:

Method: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\Anions_19052.m
Limit Group: IC - 300 48Hr
Last Update: 30-Jul-2020 11:42:36 Calib Date: 29-Jul-2020 13:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

Column 1 : Det: det0
Process Host: CTX1035

First Level Reviewer: litwak Date: 30-Jul-2020 11:39:21

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride	3.123	3.123	0.000	14154117	NC	NC	
2	Chloride	4.510	4.510	0.000	45463429	NC	NC	
3	Nitrite as N	5.433	5.433	0.000	23579097	0.7500	0.7786	
4	Bromide	7.013	7.013	0.000	49521317	NC	NC	
5	Nitrate as N	8.203	8.203	0.000	26615829	0.7500	0.7844	
6	Sulfate	12.560	12.560	0.000	82977695	NC	NC	a
S 7	Nitrate Nitrite as N						1.56	

QC Flag Legend

Processing Flags
NC - Not Calibrated
Review Flags
a - User Assigned ID

Reagents:

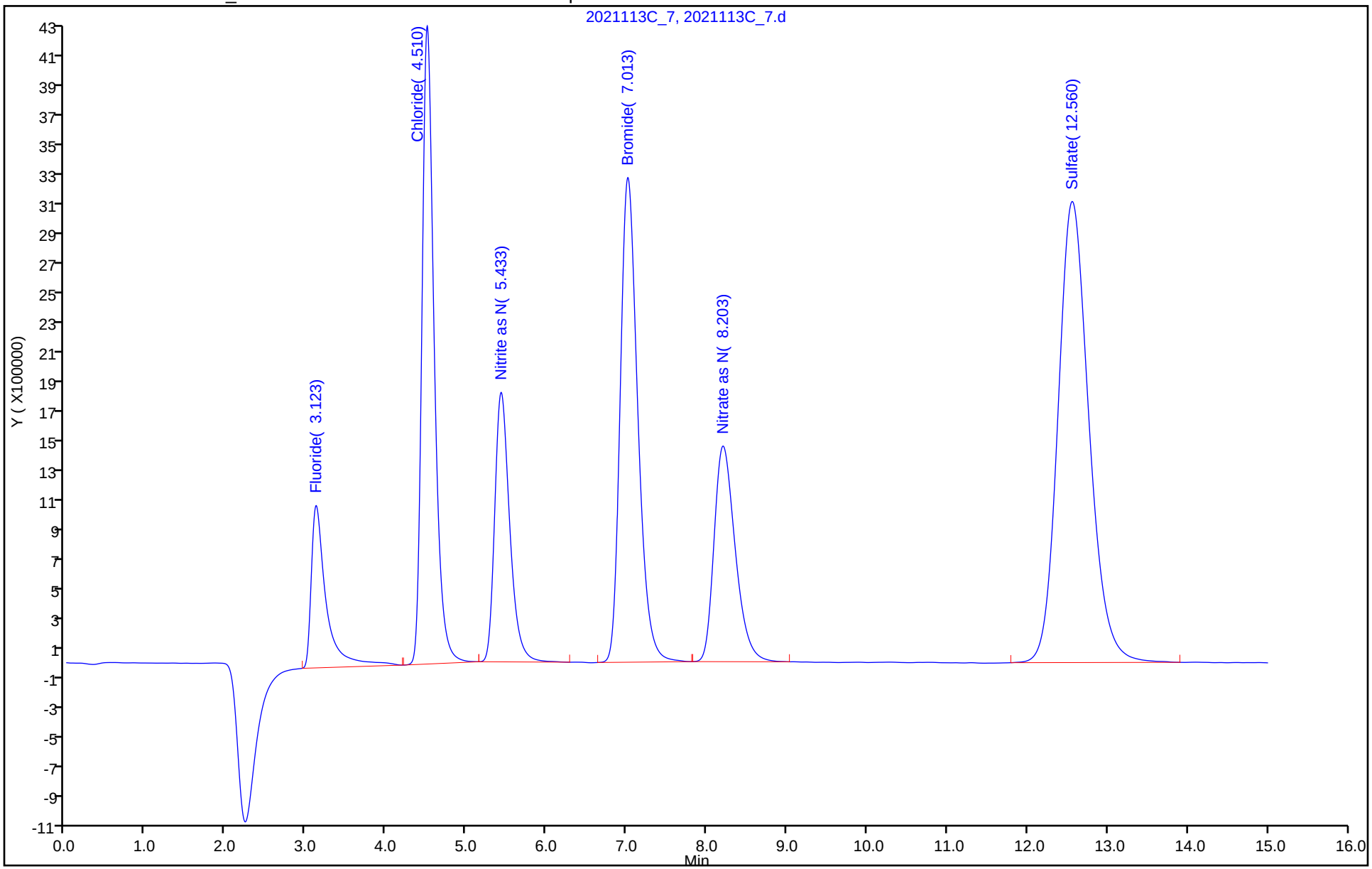
WC_IC_QC2_00105 Amount Added: 7.50 Units: mL

Report Date: 30-Jul-2020 11:42:36 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_7.d

Injection Date:	29-Jul-2020 14:14:00	Instrument ID:	19052	Operator ID:	
Lims ID:	ICV			Worklist Smp#:	7
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_19052	Limit Group:	IC - 300 48Hr		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVRT 410-33690/1 Calibration Date: 08/16/2020 11:08

Instrument ID: 19052 Calib Start Date: 07/29/2020 12:31

GC Column: IC06-AS14 ID: 4.00(mm) Calib End Date: 07/29/2020 13:57

Lab File ID: 2022913_1.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrogen, Nitrite	Lin		32864159		0.812	0.750	8.3	10.0
Nitrogen, Nitrate	Lin		36707432		0.810	0.750	8.0	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCVRT 410-33690/1 Calibration Date: 08/16/2020 11:08

Instrument ID: 19052 Calib Start Date: 07/29/2020 12:31

GC Column: IC06-AS14 ID: 4.00(mm) Calib End Date: 07/29/2020 13:57

Lab File ID: 2022913_1.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrogen, Nitrite	5.33	4.93	5.73
Nitrogen, Nitrate	7.97	7.37	8.57

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_1.d
Lims ID: CCVRT
Client ID:
Sample Type: CCVRT
Inject. Date: 16-Aug-2020 11:08:00 ALS Bottle#: 0 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCVRT
Operator ID: Instrument ID: 19052
Sublist: chrom-Anions_19052*sub1

Method: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\Anions_19052.m
Limit Group: IC - 300 48Hr
Last Update: 24-Aug-2020 18:57:31 Calib Date: 29-Jul-2020 13:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

Column 1 : Det: det0
Process Host: CTX1068

First Level Reviewer: litwak Date: 17-Aug-2020 06:31:03

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.103	3.103	0.000	14234080	NC	NC	
2 Chloride	4.450	4.450	0.000	46904827	NC	NC	
3 Nitrite as N	5.333	5.333	0.000	24648119	0.7500	0.8123	
4 Bromide	6.843	6.843	0.000	49027357	NC	NC	
5 Nitrate as N	7.967	7.967	0.000	27530574	0.7500	0.8103	
6 Sulfate	12.203	12.203	0.000	84216963	NC	NC	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

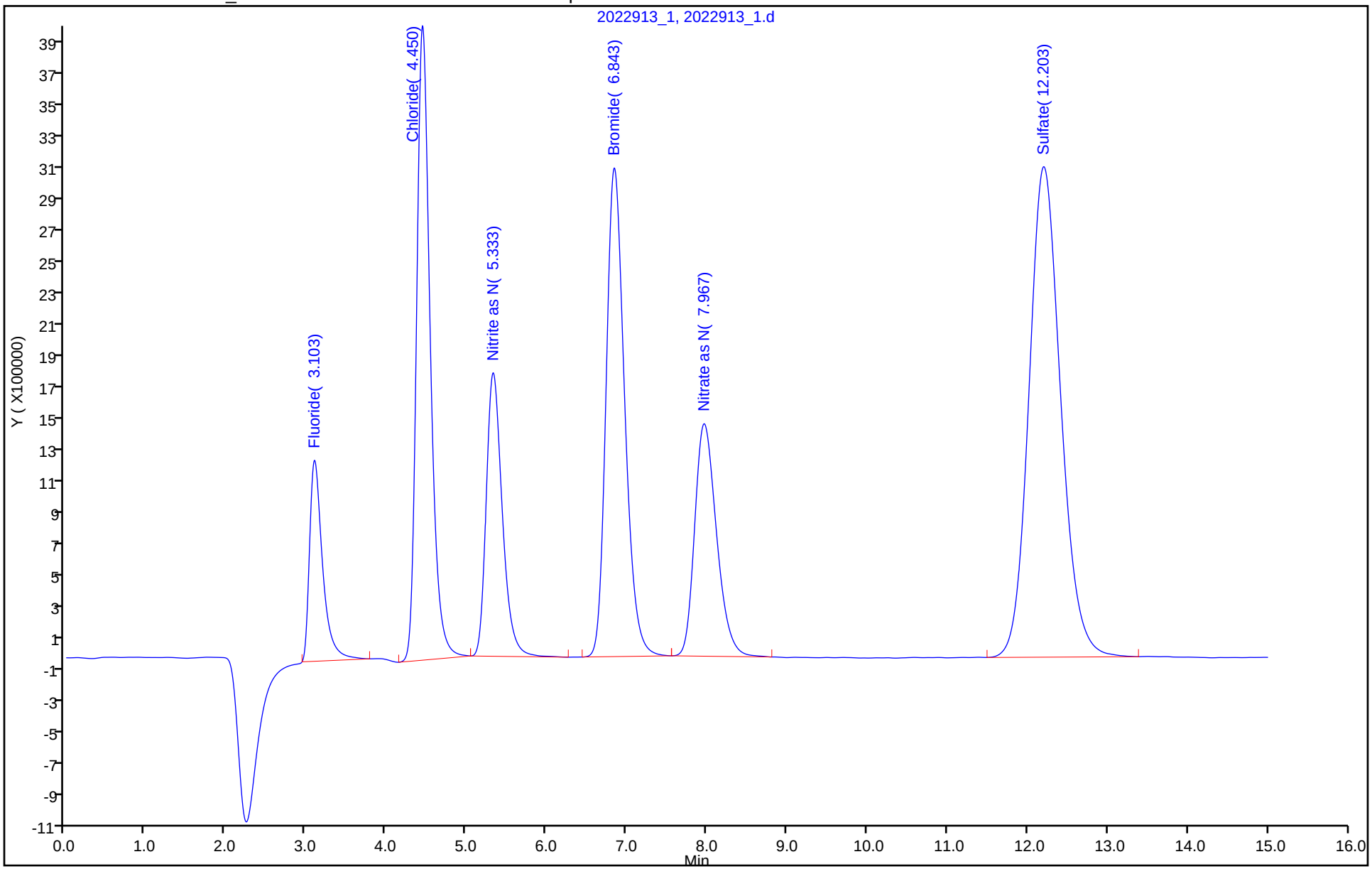
WC_IC_QC2_00123 Amount Added: 7.50 Units: mL

Report Date: 24-Aug-2020 18:57:31 Chrom Revision: 2.3 20-Aug-2020 13:57:12

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_1.d

Injection Date:	16-Aug-2020 11:08:00	Instrument ID:	19052	Operator ID:	
Lims ID:	CCVRT			Worklist Smp#:	1
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_19052	Limit Group:	IC - 300 48Hr		



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCV 410-33690/35 Calibration Date: 08/16/2020 15:22

Instrument ID: 19052 Calib Start Date: 07/29/2020 12:31

GC Column: IC06-AS14 ID: 4.00(mm) Calib End Date: 07/29/2020 13:57

Lab File ID: 2022913_12.d Conc. Units: mg/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrogen, Nitrite	Lin		32915983		0.814	0.750	8.5	10.0
Nitrogen, Nitrate	Lin		36880672		0.814	0.750	8.5	10.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Lab Sample ID: CCV 410-33690/35 Calibration Date: 08/16/2020 15:22

Instrument ID: 19052 Calib Start Date: 07/29/2020 12:31

GC Column: IC06-AS14 ID: 4.00(mm) Calib End Date: 07/29/2020 13:57

Lab File ID: 2022913_12.d

Analyte	RT	RT WINDOW	
		FROM	TO
Nitrogen, Nitrite	5.33	4.93	5.73
Nitrogen, Nitrate	7.96	7.37	8.57

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_12.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 16-Aug-2020 15:22:00 ALS Bottle#: 0 Worklist Smp#: 35
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: Instrument ID: 19052
Sublist: chrom-Anions_19052*sub1

Method: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\Anions_19052.m
Limit Group: IC - 300 48Hr
Last Update: 17-Aug-2020 06:36:57 Calib Date: 29-Jul-2020 13:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

Column 1 : Det: det0
Process Host: CTX1046

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride	3.100	3.103	-0.003	15440854	NC	NC	
	2 Chloride	4.447	4.450	-0.003	46579878	NC	NC	
	3 Nitrite as N	5.327	5.333	-0.006	24686987	0.7500	0.8135	
	4 Bromide	6.837	6.843	-0.006	48535862	NC	NC	
	5 Nitrate as N	7.957	7.967	-0.010	27660504	0.7500	0.8139	
	6 Sulfate	12.190	12.203	-0.013	84998555	NC	NC	
S	7 Nitrate Nitrite as N						1.63	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

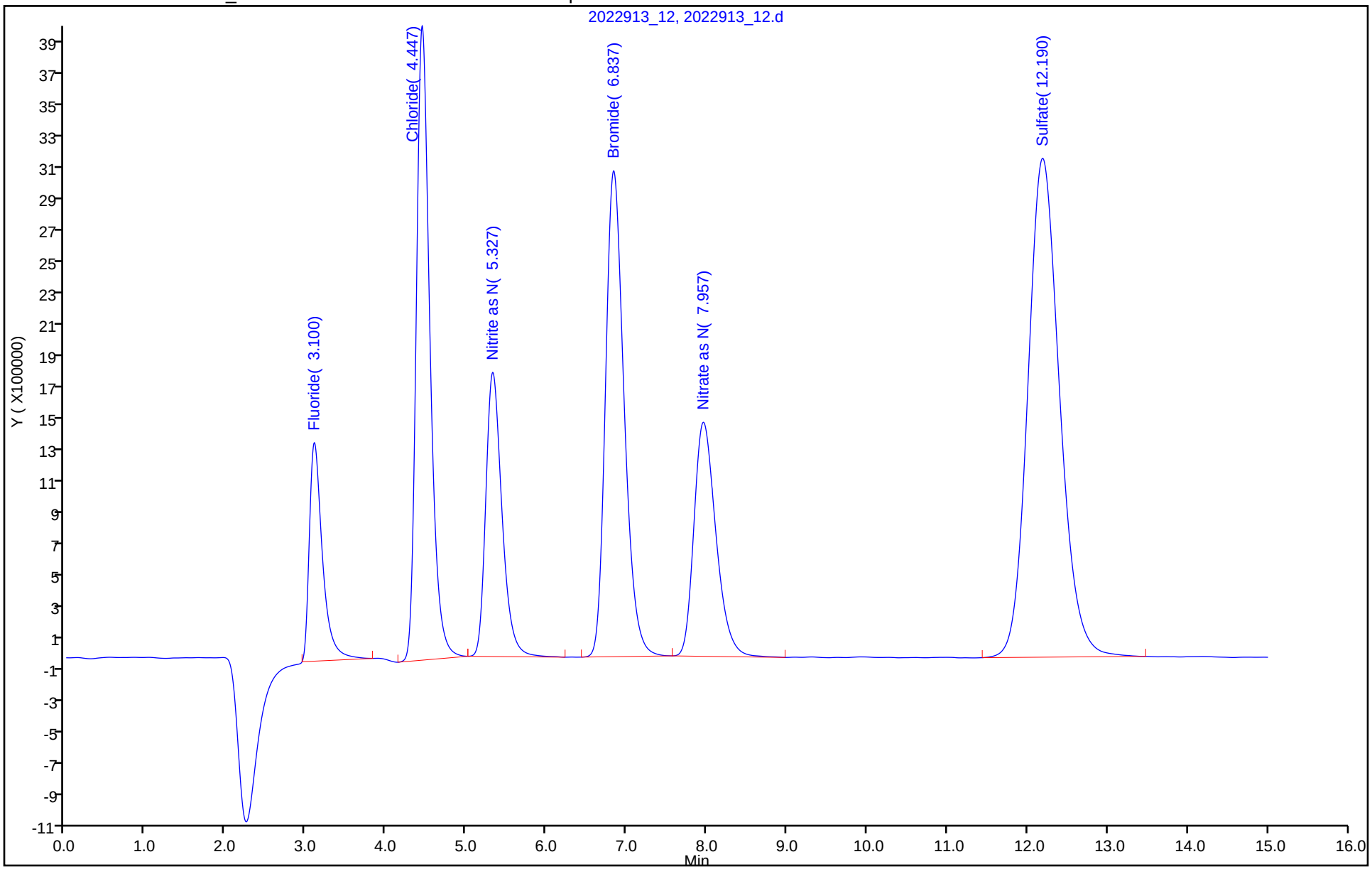
WC_IC_QC2_00123 Amount Added: 7.50 Units: mL

Report Date: 17-Aug-2020 06:36:57 Chrom Revision: 2.3 10-Aug-2020 14:39:50

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_12.d

Injection Date:	16-Aug-2020 15:22:00	Instrument ID:	19052	Operator ID:	
Lims ID:	CCV			Worklist Smp#:	35
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_19052	Limit Group:	IC - 300 48Hr		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 410-33690/4

Matrix: Water Lab File ID: 2022913_4.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/16/2020 11:59

Con. Extract Vol.: 1.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: IC06-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 33690 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrogen, Nitrate	ND		0.10	0.050

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_4.d				
Lims ID:	MB				
Client ID:					
Sample Type:	MB				
Inject. Date:	16-Aug-2020 11:59:00	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	MB				
Misc. Info.:	20229135113				
Operator ID:		Instrument ID:	19052		
Method:	\\chromfs\Lancaster\ChromData\19052\20200816-8175.b\Anions_19052.m				
Limit Group:	IC - 300 48Hr				
Last Update:	17-Aug-2020 06:46:50	Calib Date:	29-Jul-2020 13:57:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d				
Column 1 :			Det: det0		
Process Host:	CTX1046				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride		3.103				ND	
2	Chloride		4.450				ND	
3	Nitrite as N		5.333				ND	
4	Bromide		6.843				ND	
5	Nitrate as N		7.967				ND	
6	Sulfate	12.283	12.203	0.080	423961			NC
S 7	Nitrate Nitrite as N		0.000				ND	

QC Flag Legend

Processing Flags

NC - Not Calibrated

Report Date: 17-Aug-2020 06:46:50 Chrom Revision: 2.3 10-Aug-2020 14:39:50

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_4.d

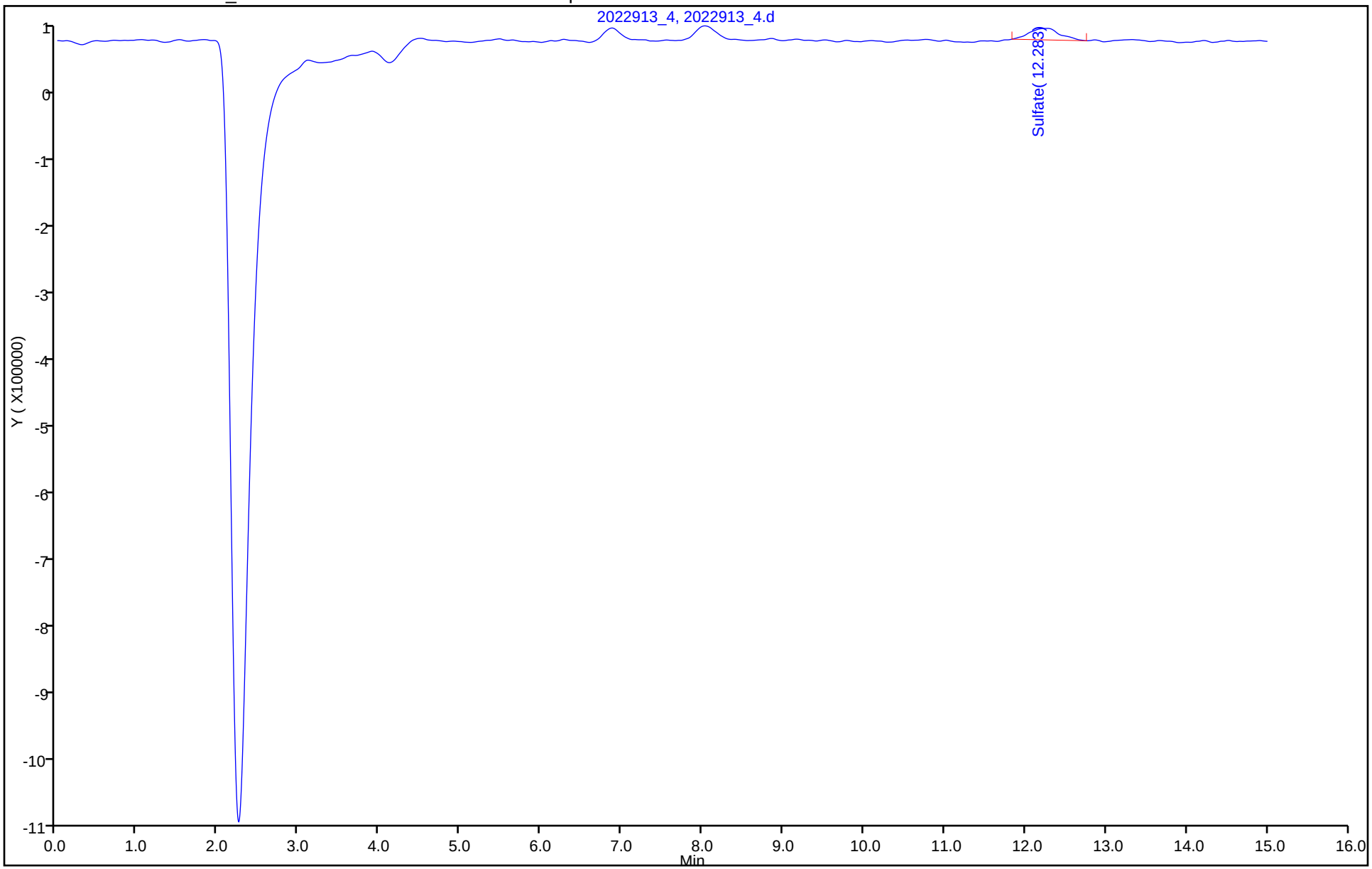
Injection Date: 16-Aug-2020 11:59:00 Instrument ID: 19052 Operator ID:

Lims ID: MB Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Anions_19052 Limit Group: IC - 300 48Hr



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: MB 410-34574/4

Matrix: Water Lab File ID: 2023115B_4.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/19/2020 00:57

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: IC15-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34574 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrogen, Nitrate	ND		0.10	0.050

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_4.d				
Lims ID:	MB				
Client ID:					
Sample Type:	MB				
Inject. Date:	19-Aug-2020 00:57:00	ALS Bottle#:	0	Worklist Smp#:	4
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	MB				
Misc. Info.:	32076				
Operator ID:		Instrument ID:	12115		
Method:	\\chromfs\Lancaster\ChromData\12115\20200818-8369.b\Anions_12115.m				
Limit Group:	IC - 300 48Hr				
Last Update:	19-Aug-2020 12:31:46	Calib Date:	08-Jul-2020 12:31:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d				
Column 1 :			Det: det0		
Process Host:	CTX1050				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride		3.173				ND	
2	Chloride		4.590				ND	
3	Nitrite as N		5.540				ND	
4	Bromide		7.150				ND	
5	Nitrate as N		8.377				ND	
6	Sulfate		13.000				ND	
S 7	Nitrate Nitrite as N		0.000				ND	

Reagents:

WC_IC_QC2_00125 Amount Added: 0.00 Units: mL

Report Date: 19-Aug-2020 12:31:57 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_4.d

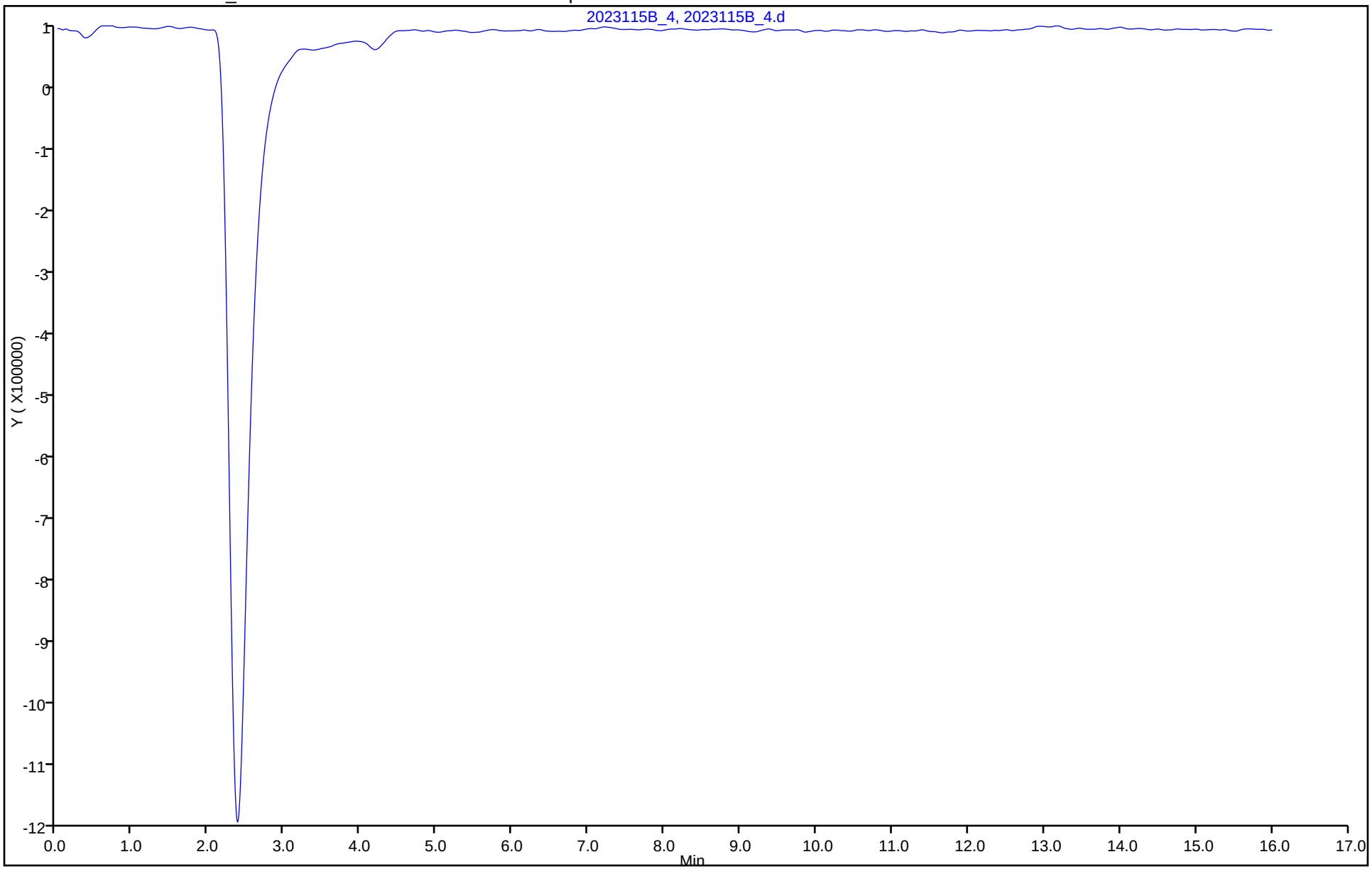
Injection Date: 19-Aug-2020 00:57:00 Instrument ID: 12115 Operator ID:

Lims ID: MB Worklist Smp#: 4

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Anions_12115 Limit Group: IC - 300 48Hr



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 410-33690/2

Matrix: Water Lab File ID: 2022913_2.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/16/2020 11:25

Con. Extract Vol.: 1.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: IC06-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 33690 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrogen, Nitrate	ND		0.10	0.050

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_2.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 16-Aug-2020 11:25:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCB
Operator ID: Instrument ID: 19052

Method: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\Anions_19052.m
Limit Group: IC - 300 48Hr
Last Update: 17-Aug-2020 06:44:08 Calib Date: 29-Jul-2020 13:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

Column 1 : Det: det0
Process Host: CTX1046

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride		3.103				ND	
	2 Chloride		4.450				ND	
	3 Nitrite as N		5.333				ND	
	4 Bromide		6.843				ND	
	5 Nitrate as N		7.967				ND	
	6 Sulfate		12.203				ND	
S	7 Nitrate Nitrite as N		0.000				ND	

Report Date: 17-Aug-2020 06:44:13 Chrom Revision: 2.3 10-Aug-2020 14:39:50

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_2.d

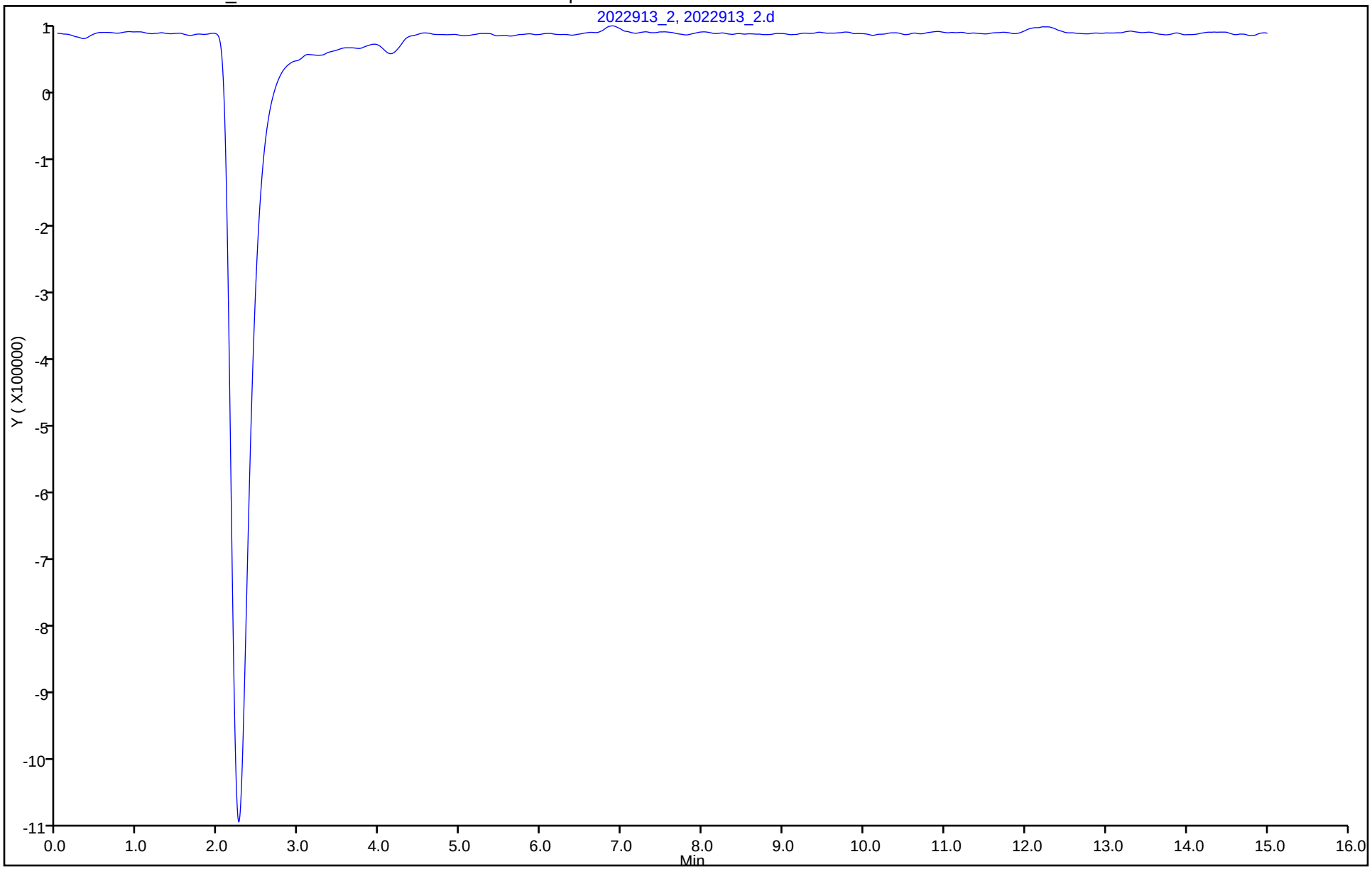
Injection Date: 16-Aug-2020 11:25:00 Instrument ID: 19052 Operator ID:

Lims ID: CCB Worklist Smp#: 2

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Anions_19052 Limit Group: IC - 300 48Hr



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 410-33690/36

Matrix: Water Lab File ID: 2022913_13.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/16/2020 15:39

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: IC06-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 33690 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrogen, Nitrate	ND		0.10	0.050

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_13.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	16-Aug-2020 15:39:00	ALS Bottle#:	0	Worklist Smp#:	36
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	CCB				
Operator ID:		Instrument ID:	19052		
Method:	\\chromfs\Lancaster\ChromData\19052\20200816-8175.b\Anions_19052.m				
Limit Group:	IC - 300 48Hr				
Last Update:	17-Aug-2020 06:36:57	Calib Date:	29-Jul-2020 13:57:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d				
Column 1 :			Det: det0		
Process Host:	CTX1046				

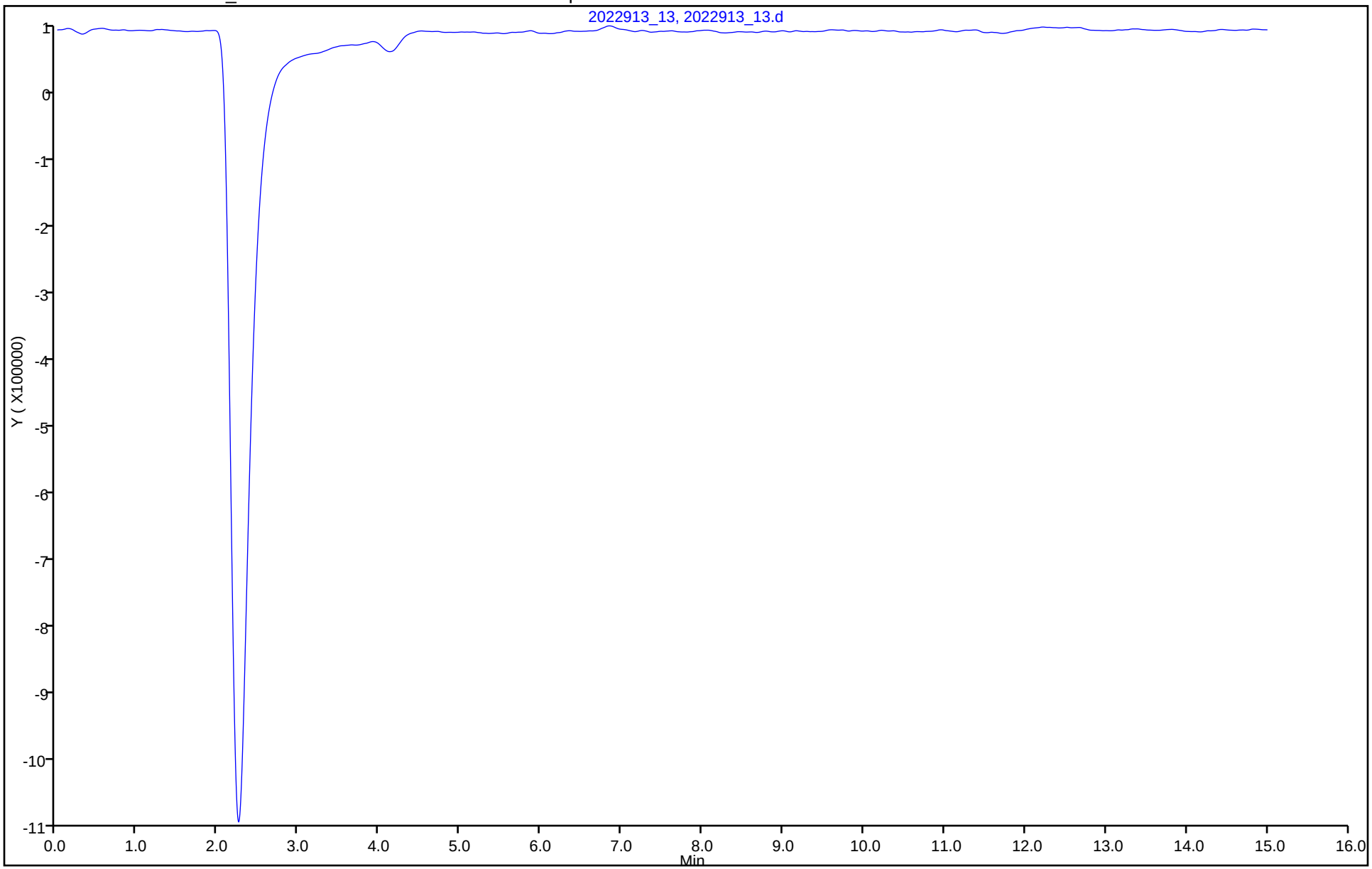
	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride		3.103				ND	
2	Chloride		4.450				ND	
3	Nitrite as N		5.333				ND	
4	Bromide		6.843				ND	
5	Nitrate as N		7.967				ND	
6	Sulfate		12.203				ND	
S 7	Nitrate Nitrite as N		0.000				ND	

Report Date: 17-Aug-2020 06:36:58 Chrom Revision: 2.3 10-Aug-2020 14:39:50

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_13.d

Injection Date:	16-Aug-2020 15:39:00	Instrument ID:	19052	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	36
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_19052	Limit Group:	IC - 300 48Hr		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 410-34574/2

Matrix: Water Lab File ID: 2023115B_2.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/19/2020 00:23

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: IC15-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34574 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrogen, Nitrate	ND		0.10	0.050

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_2.d
Lims ID: CCB
Client ID:
Sample Type: CCB
Inject. Date: 19-Aug-2020 00:23:00 ALS Bottle#: 0 Worklist Smp#: 2
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: CCB
Operator ID: Instrument ID: 12115

Method: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\Anions_12115.m
Limit Group: IC - 300 48Hr
Last Update: 19-Aug-2020 12:31:46 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1050

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride		3.173				ND	
2	Chloride		4.590				ND	
3	Nitrite as N		5.540				ND	
4	Bromide		7.150				ND	
5	Nitrate as N		8.377				ND	
6	Sulfate		13.000				ND	
S 7	Nitrate Nitrite as N		0.000				ND	

Reagents:

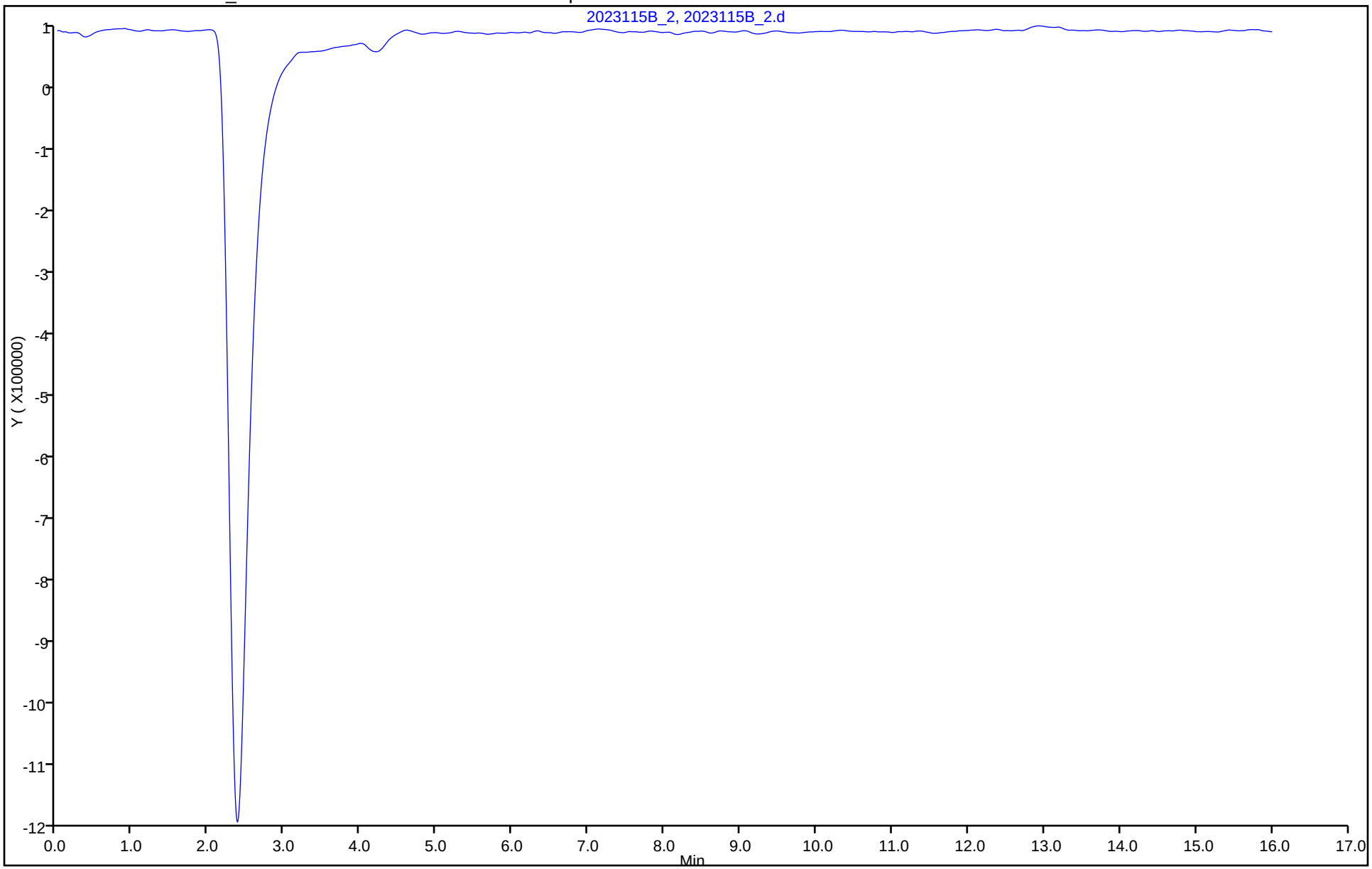
WC_IC_QC2_00125 Amount Added: 0.00 Units: mL

Report Date: 19-Aug-2020 12:31:56 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_2.d

Injection Date:	19-Aug-2020 00:23:00	Instrument ID:	12115	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	2
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 48Hr		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 410-34574/14

Matrix: Water Lab File ID: 2023115B_14.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/19/2020 03:48

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: IC15-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34574 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrogen, Nitrate	ND		0.10	0.050

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_14.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	19-Aug-2020 03:48:00	ALS Bottle#:	0	Worklist Smp#:	14
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	CCB				
Operator ID:		Instrument ID:	12115		
Method:	\\chromfs\Lancaster\ChromData\12115\20200818-8369.b\Anions_12115.m				
Limit Group:	IC - 300 48Hr				
Last Update:	19-Aug-2020 12:32:02	Calib Date:	08-Jul-2020 12:31:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d				
Column 1 :			Det: det0		
Process Host:	CTX1050				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride		3.173				ND	
2	Chloride		4.590				ND	
3	Nitrite as N		5.540				ND	
4	Bromide		7.150				ND	
5	Nitrate as N		8.377				ND	
6	Sulfate		13.000				ND	
S 7	Nitrate Nitrite as N		0.000				ND	

Reagents:

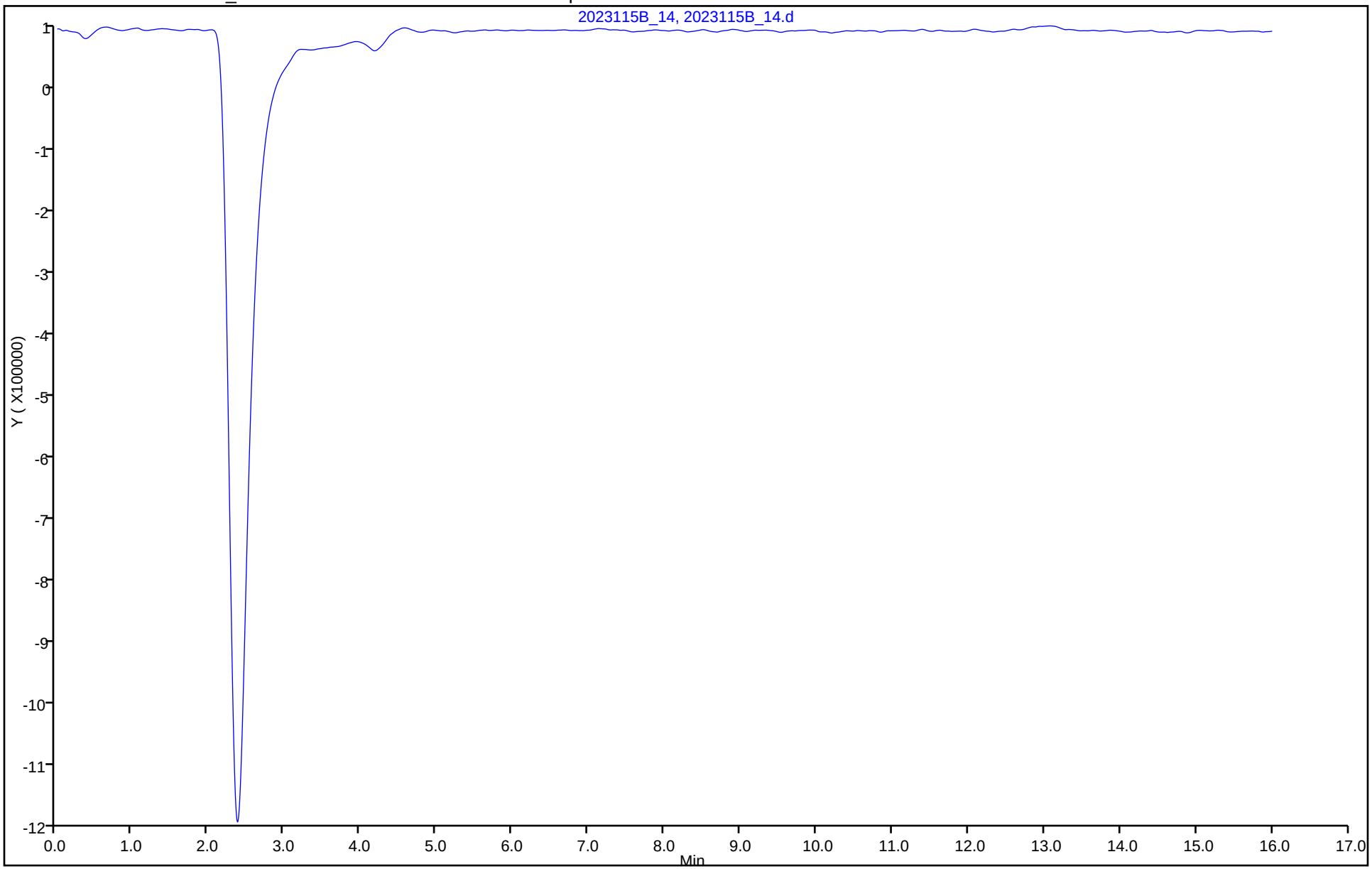
WC_IC_QC2_00125 Amount Added: 0.00 Units: mL

Report Date: 19-Aug-2020 12:32:03 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_14.d

Injection Date:	19-Aug-2020 03:48:00	Instrument ID:	12115	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	14
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 48Hr		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 410-34574/26

Matrix: Water Lab File ID: 2023115B_26.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/19/2020 07:14

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: IC15-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34574 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrogen, Nitrate	ND		0.10	0.050

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_26.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	19-Aug-2020 07:14:00	ALS Bottle#:	0	Worklist Smp#:	26
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	CCB				
Operator ID:		Instrument ID:	12115		
Method:	\\chromfs\Lancaster\ChromData\12115\20200818-8369.b\Anions_12115.m				
Limit Group:	IC - 300 48Hr				
Last Update:	19-Aug-2020 12:32:43	Calib Date:	08-Jul-2020 12:31:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d				
Column 1 :			Det: det0		
Process Host:	CTX1050				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride		3.173				ND	
2	Chloride		4.590				ND	
3	Nitrite as N		5.540				ND	
4	Bromide		7.150				ND	
5	Nitrate as N		8.377				ND	
6	Sulfate		13.000				ND	
S 7	Nitrate Nitrite as N		0.000				ND	

Reagents:

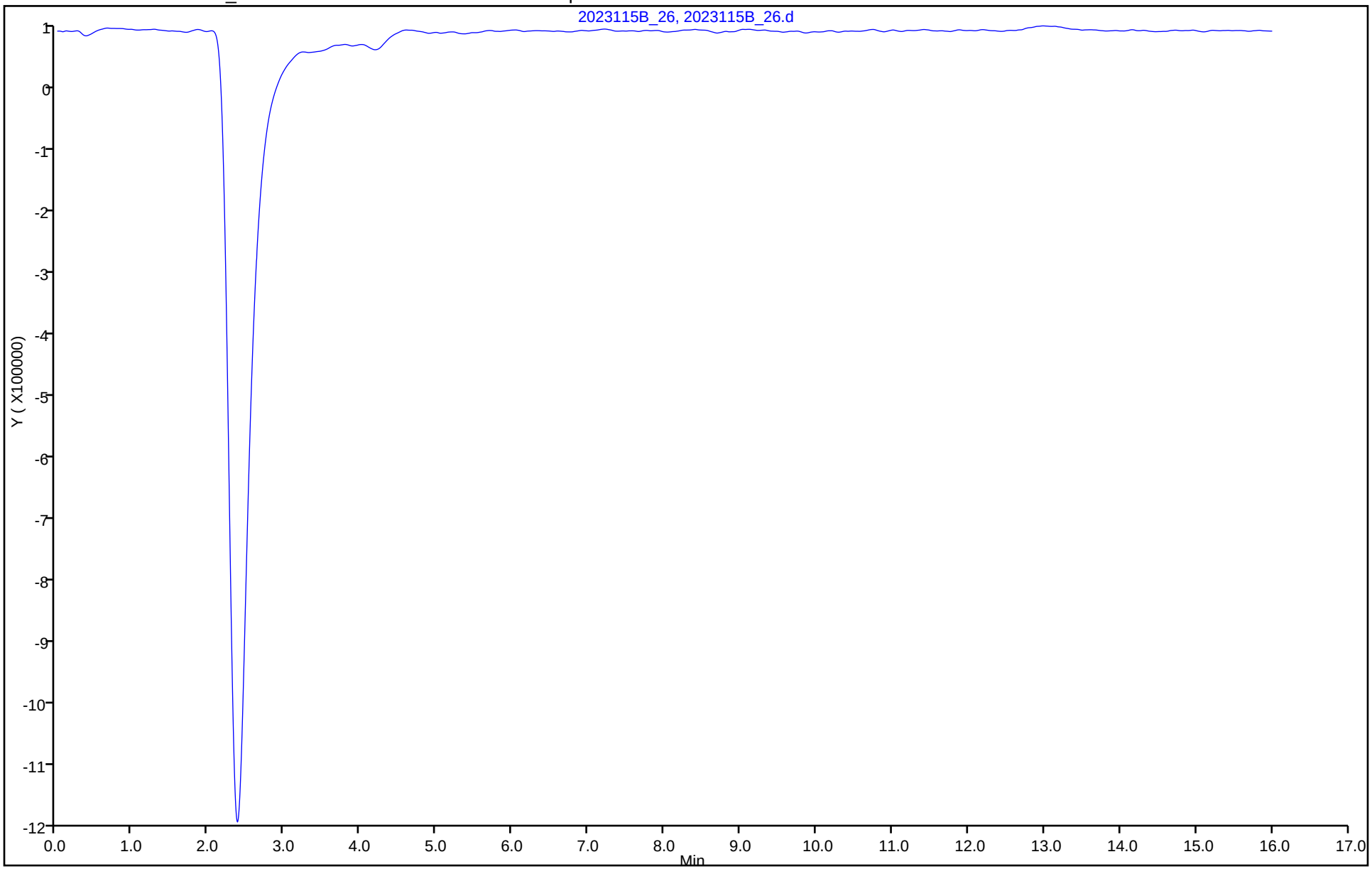
WC_IC_QC2_00125 Amount Added: 0.00 Units: mL

Report Date: 19-Aug-2020 12:32:44 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_26.d

Injection Date:	19-Aug-2020 07:14:00	Instrument ID:	12115	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	26
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 48Hr		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: CCB 410-34574/38

Matrix: Water Lab File ID: 2023115B_38.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/19/2020 10:40

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: IC15-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34574 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrogen, Nitrate	ND		0.10	0.050

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File:	\\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_38.d				
Lims ID:	CCB				
Client ID:					
Sample Type:	CCB				
Inject. Date:	19-Aug-2020 10:40:00	ALS Bottle#:	0	Worklist Smp#:	38
Injection Vol:	1.0 ul	Dil. Factor:	1.0000		
Sample Info:	CCB				
Operator ID:		Instrument ID:	12115		
Method:	\\chromfs\Lancaster\ChromData\12115\20200818-8369.b\Anions_12115.m				
Limit Group:	IC - 300 48Hr				
Last Update:	19-Aug-2020 12:32:49	Calib Date:	08-Jul-2020 12:31:00		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d				
Column 1 :			Det: det0		
Process Host:	CTX1050				

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride		3.173				ND	
2	Chloride		4.590				ND	
3	Nitrite as N		5.540				ND	
4	Bromide		7.150				ND	
5	Nitrate as N		8.377				ND	
6	Sulfate		13.000				ND	
S 7	Nitrate Nitrite as N		0.000				ND	

Reagents:

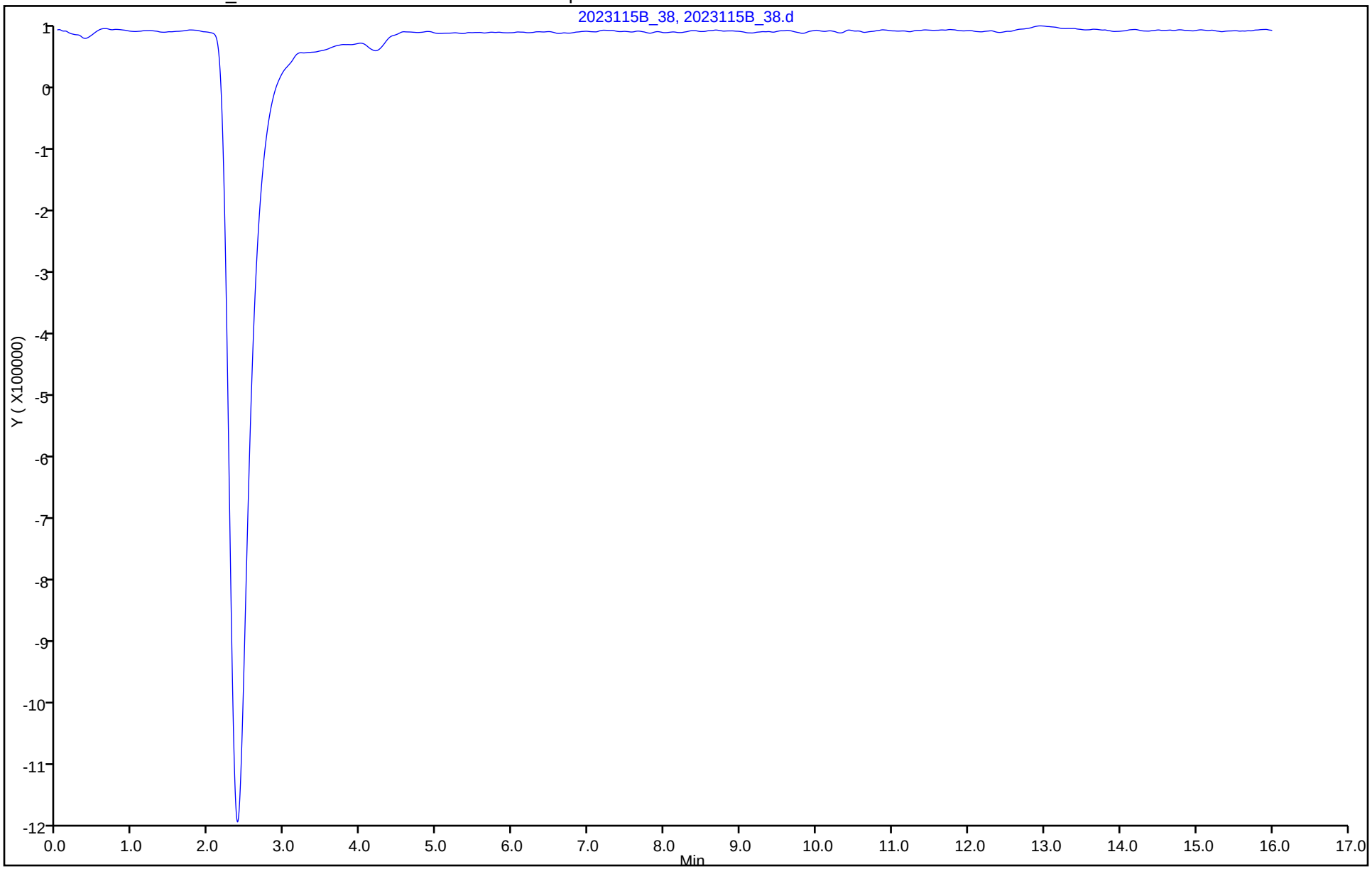
WC_IC_QC2_00125 Amount Added: 0.00 Units: mL

Report Date: 19-Aug-2020 12:32:50 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_38.d

Injection Date:	19-Aug-2020 10:40:00	Instrument ID:	12115	Operator ID:	
Lims ID:	CCB			Worklist Smp#:	38
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 48Hr		



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: ICB 410-22226/8

Matrix: Water Lab File ID: 2019015C_8.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 07/08/2020 13:05

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: IC15-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 22226 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrogen, Nitrate	ND		0.10	0.050

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_8.d
Lims ID: ICB
Client ID:
Sample Type: ICB
Inject. Date: 08-Jul-2020 13:05:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICB
Operator ID: Instrument ID: 12115

Method: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\Anions_12115.m
Limit Group: IC - 300 48Hr
Last Update: 14-Jul-2020 10:40:18 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1031

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 Fluoride		3.190				ND	
	2 Chloride		4.660				ND	
	3 Nitrite as N		5.667				ND	
	4 Bromide		7.363				ND	
	5 Nitrate as N		8.683				ND	
	6 Sulfate		13.537				ND	
S	7 Nitrate Nitrite as N		0.000				ND	

Reagents:

WC_IC_QC2_00079 Amount Added: 0.00 Units: mL

Report Date: 14-Jul-2020 10:40:19 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_8.d

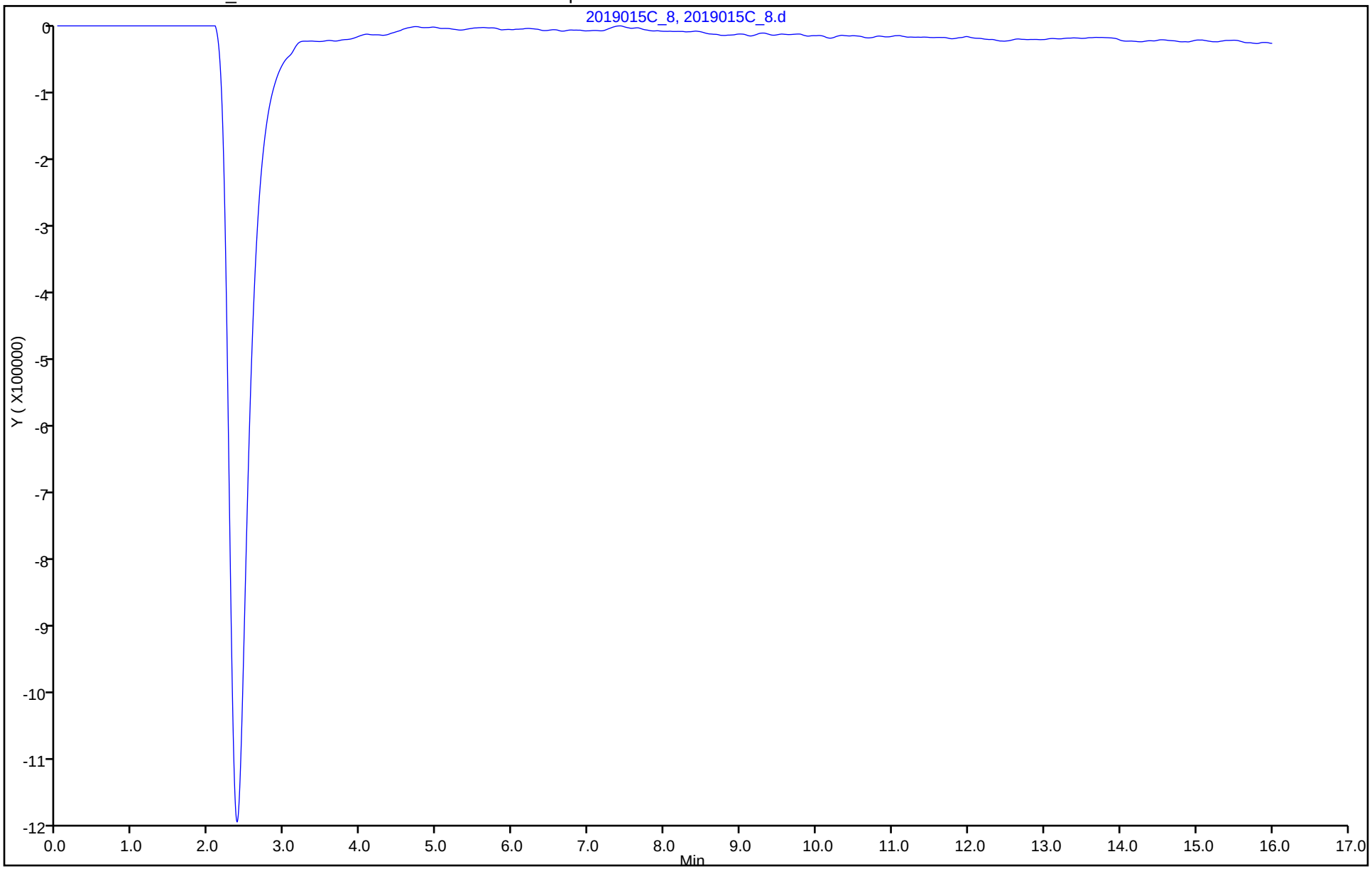
Injection Date: 08-Jul-2020 13:05:00 Instrument ID: 12115 Operator ID:

Lims ID: ICB Worklist Smp#: 8

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Anions_12115 Limit Group: IC - 300 48Hr



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: ICB 410-27552/8

Matrix: Water Lab File ID: 2021113C_8.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 07/29/2020 14:31

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: IC06-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 27552 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrogen, Nitrate	ND		0.10	0.050

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_8.d
Lims ID: ICB
Client ID:
Sample Type: ICB
Inject. Date: 29-Jul-2020 14:31:00 ALS Bottle#: 0 Worklist Smp#: 8
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: ICB
Operator ID: Instrument ID: 19052

Method: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\Anions_19052.m
Limit Group: IC - 300 48Hr
Last Update: 30-Jul-2020 11:42:36 Calib Date: 29-Jul-2020 13:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

Column 1 : Det: det0
Process Host: CTX1035

First Level Reviewer: litwak Date: 30-Jul-2020 11:39:34

	Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	Fluoride		3.123				ND	
2	Chloride		4.510				ND	
3	Nitrite as N		5.433				ND	
4	Bromide		7.013				ND	
5	Nitrate as N		8.203				ND	
6	Sulfate		12.560				ND	
S 7	Nitrate Nitrite as N		0.000				ND	

Reagents:

WC_IC_QC2_00105 Amount Added: 0.00 Units: mL

Report Date: 30-Jul-2020 11:42:37 Chrom Revision: 2.3 30-Jun-2020 12:05:54

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_8.d

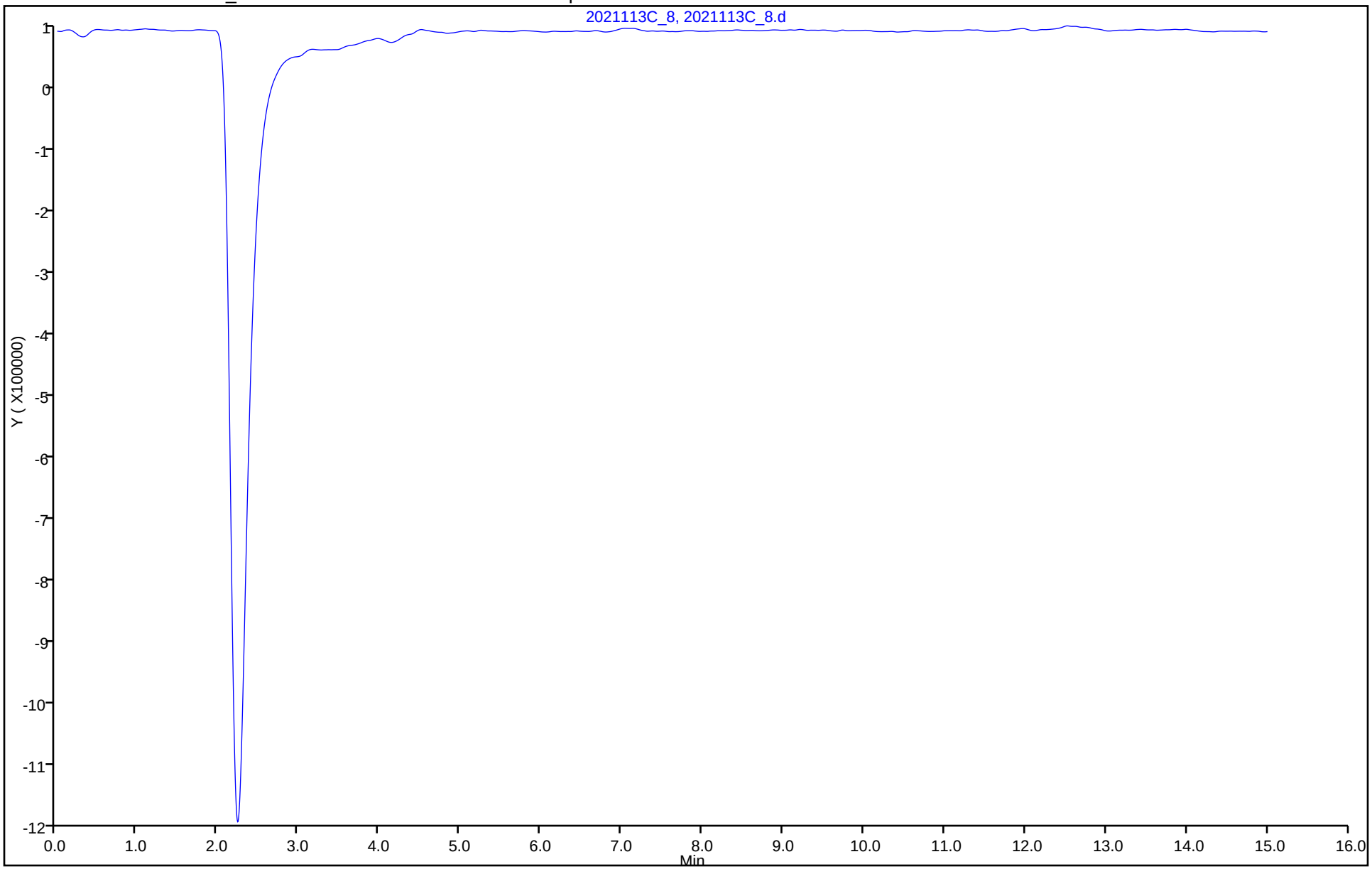
Injection Date: 29-Jul-2020 14:31:00 Instrument ID: 19052 Operator ID:

Lims ID: ICB Worklist Smp#: 8

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Anions_19052 Limit Group: IC - 300 48Hr



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 410-33690/3

Matrix: Water Lab File ID: 2022913_3.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/16/2020 11:42

Con. Extract Vol.: 1.0(mL) Dilution Factor: 1

Injection Volume: 1(uL) GC Column: IC06-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 33690 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrogen, Nitrate	0.799		0.10	0.050

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_3.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 16-Aug-2020 11:42:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCS
Misc. Info.: 20229135113
Operator ID: Instrument ID: 19052

Method: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\Anions_19052.m
Limit Group: IC - 300 48Hr
Last Update: 17-Aug-2020 06:44:08 Calib Date: 29-Jul-2020 13:57:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\19052\20200729-6787.b\2021113C_6.d

Column 1 : Det: det0
Process Host: CTX1046

First Level Reviewer: litwak Date: 17-Aug-2020 06:44:15

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.100	3.103	-0.003	13463989	NC	NC	
2 Chloride	4.450	4.450	0.000	45715184	NC	NC	
3 Nitrite as N	5.333	5.333	0.000	24095863	0.7500	0.7949	
4 Bromide	6.847	6.843	0.004	47709996	NC	NC	
5 Nitrate as N	7.970	7.967	0.003	27149395	0.7500	0.7995	
6 Sulfate	12.197	12.203	-0.006	83505796	NC	NC	

QC Flag Legend

Processing Flags
NC - Not Calibrated

Reagents:

WC_IC_QC2_00123 Amount Added: 7.50 Units: mL

Report Date: 17-Aug-2020 06:44:16 Chrom Revision: 2.3 10-Aug-2020 14:39:50

Eurofins Lancaster Laboratories Env, LLC

Data File: \\chromfs\Lancaster\ChromData\19052\20200816-8175.b\2022913_3.d

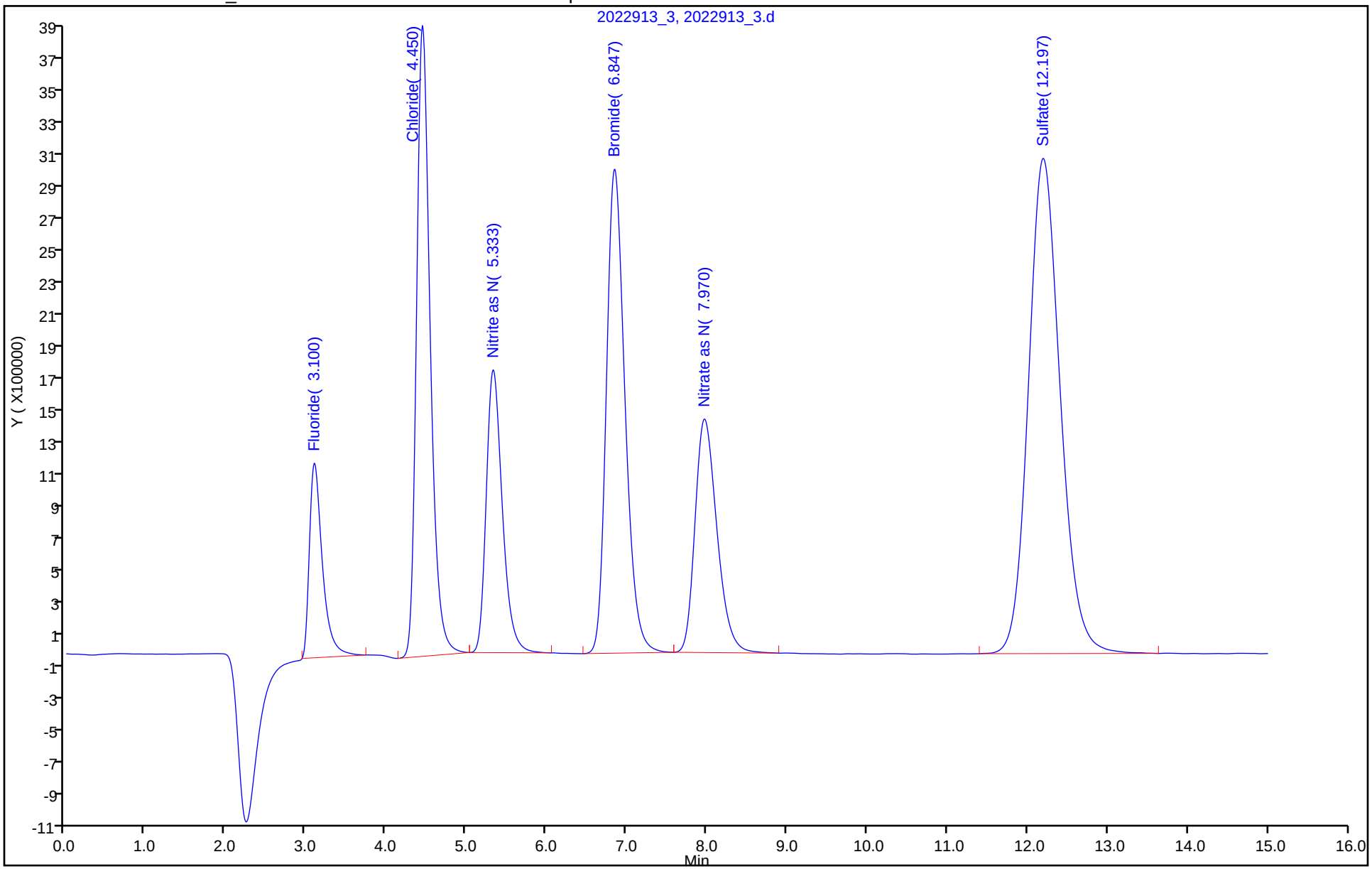
Injection Date: 16-Aug-2020 11:42:00 Instrument ID: 19052 Operator ID:

Lims ID: LCS Worklist Smp#: 3

Client ID:

Injection Vol: 1.0 ul Dil. Factor: 1.0000 ALS Bottle#: 0

Method: Anions_19052 Limit Group: IC - 300 48Hr



FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.:

Client Sample ID: Lab Sample ID: LCS 410-34574/3

Matrix: Water Lab File ID: 2023115B_3.d

Analysis Method: EPA 300.0 R2.1 Date Collected:

Extraction Method: Date Extracted:

Sample wt/vol: 1(mL) Date Analyzed: 08/19/2020 00:40

Con. Extract Vol.: Dilution Factor: 1

Injection Volume: 1(uL) GC Column: IC15-AS14 ID: 4(mm)

% Moisture: GPC Cleanup:(Y/N) N

Analysis Batch No.: 34574 Units: mg/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
14797-55-8	Nitrogen, Nitrate	0.718		0.10	0.050

Eurofins Lancaster Laboratories Env, LLC
Target Compound Quantitation Report

Data File: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_3.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 19-Aug-2020 00:40:00 ALS Bottle#: 0 Worklist Smp#: 3
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCS
Misc. Info.: 32076
Operator ID: Instrument ID: 12115

Method: \\chromfs\Lancaster\ChromData\12115\20200818-8369.b\Anions_12115.m
Limit Group: IC - 300 48Hr
Last Update: 19-Aug-2020 12:31:46 Calib Date: 08-Jul-2020 12:31:00
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Lancaster\ChromData\12115\20200714-5505.b\2019015C_6.d

Column 1 : Det: det0
Process Host: CTX1050

Compound	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 Fluoride	3.177	3.173	0.004	16580670	NC	NC	
2 Chloride	4.597	4.590	0.007	46711147	NC	NC	
3 Nitrite as N	5.547	5.540	0.007	23210455	0.7500	0.7178	
4 Bromide	7.163	7.150	0.013	50291400	NC	NC	
5 Nitrate as N	8.390	8.377	0.013	26341729	0.7500	0.7177	
6 Sulfate	13.003	13.000	0.003	86913960	NC	NC	

QC Flag Legend

Processing Flags
NC - Not Calibrated

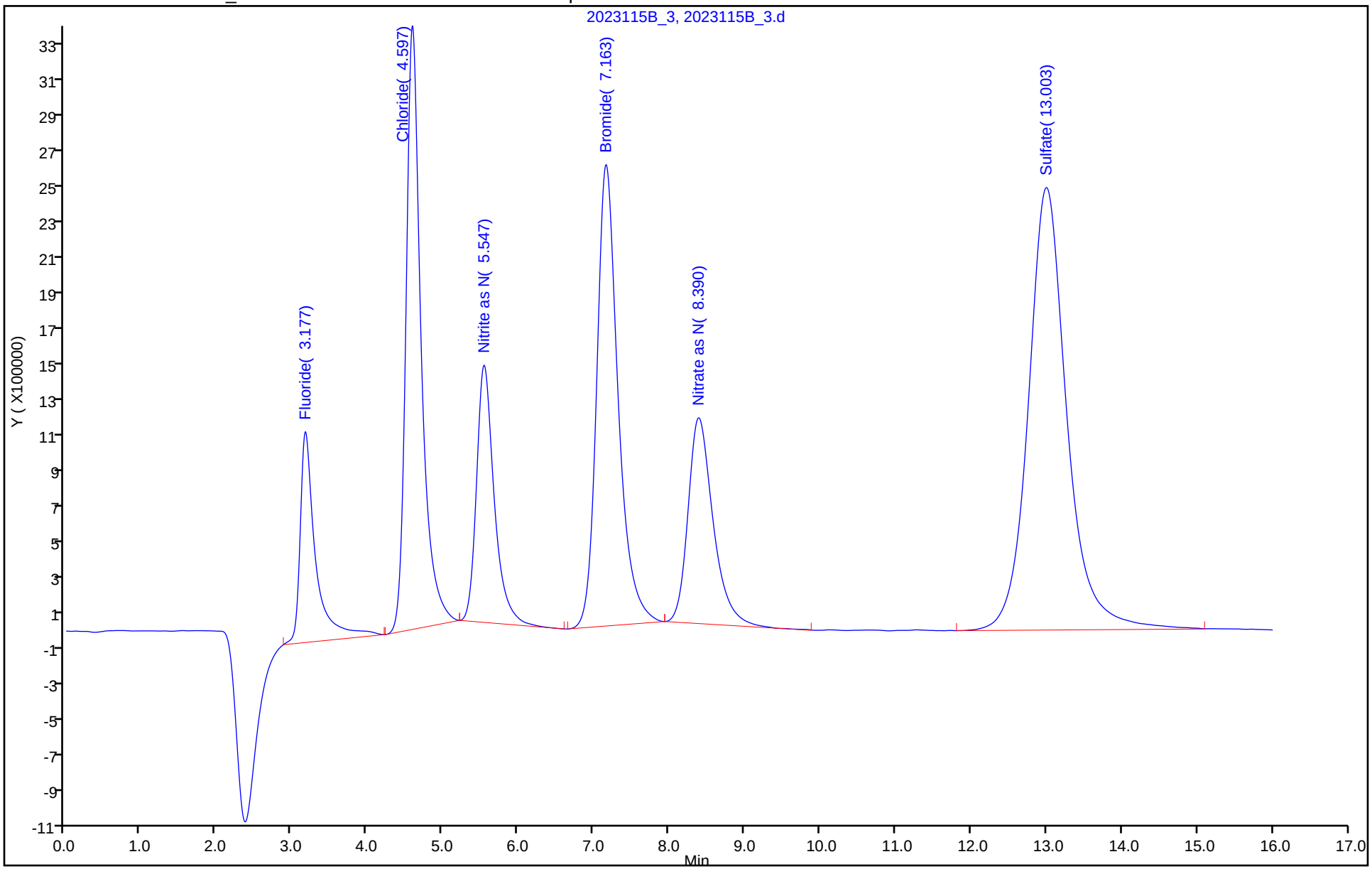
Reagents:

WC_IC_QC2_00125 Amount Added: 7.50 Units: mL

Report Date: 19-Aug-2020 12:31:56 Chrom Revision: 2.3 17-Aug-2020 20:42:08

Eurofins Lancaster Laboratories Env, LLC

Data File:	\\chromfs\Lancaster\ChromData\12115\20200818-8369.b\2023115B_3.d				
Injection Date:	19-Aug-2020 00:40:00	Instrument ID:	12115	Operator ID:	
Lims ID:	LCS			Worklist Smp#:	3
Client ID:					
Injection Vol:	1.0 ul	Dil. Factor:	1.0000	ALS Bottle#:	0
Method:	Anions_12115	Limit Group:	IC - 300 48Hr		



HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 12115 Start Date: 06/01/2020 13:02

Analysis Batch Number: 13073 End Date: 06/01/2020 15:36

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 410-13073/1		06/01/2020 13:02	1	2015315C_1.d	IC15-AS14 4(mm)
IC 410-13073/2		06/01/2020 13:19	1	2015315C_2.d	IC15-AS14 4(mm)
IC 410-13073/3		06/01/2020 13:36	1	2015315C_3.d	IC15-AS14 4(mm)
IC 410-13073/4		06/01/2020 13:53	1	2015315C_4.d	IC15-AS14 4(mm)
IC 410-13073/5		06/01/2020 14:10	1	2015315C_5.d	IC15-AS14 4(mm)
IC 410-13073/6		06/01/2020 14:27	1	2015315C_6.d	IC15-AS14 4(mm)
ICV 410-13073/7		06/01/2020 14:45	1		IC15-AS14 4(mm)
ICB 410-13073/8		06/01/2020 15:02	1		IC15-AS14 4(mm)
ZZZZZ		06/01/2020 15:19	1		IC15-AS14 4(mm)
ZZZZZ		06/01/2020 15:36	1		IC15-AS14 4(mm)

EPA 300.0 R2.1

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 12115 Start Date: 07/08/2020 14:37

Analysis Batch Number: 20491 End Date: 07/09/2020 06:53

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 410-20491/1		07/08/2020 14:37	1	2019015S_1.d	IC15-AS14 4(mm)
CCB 410-20491/2		07/08/2020 14:54	1		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 15:11	5		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 15:28	5		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 15:45	5		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 16:02	5		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 16:20	5		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 16:37	5		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 16:54	5		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 17:11	5		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 17:28	5		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 17:45	5		IC15-AS14 4(mm)
CCV 410-20491/13		07/08/2020 18:02	1		IC15-AS14 4(mm)
CCB 410-20491/14		07/08/2020 18:19	1		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 18:37	5		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 18:54	5		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 19:11	5		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 19:28	5		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 19:45	5		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 20:02	5		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 20:19	5		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 20:36	1		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 20:53	1		IC15-AS14 4(mm)
CCV 410-20491/24		07/08/2020 21:11	1		IC15-AS14 4(mm)
CCB 410-20491/25		07/08/2020 21:28	1		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 21:45	5		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 22:02	5		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 22:19	5		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 22:36	5		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 22:53	5		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 23:10	5		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 23:28	5		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 23:45	1		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 00:02	1		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 00:19	5		IC15-AS14 4(mm)
CCV 410-20491/36		07/09/2020 00:36	1		IC15-AS14 4(mm)
CCB 410-20491/37		07/09/2020 00:53	1		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 01:10	5		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 01:28	5		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 01:45	5		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 02:02	5		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 02:19	5		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 02:36	5		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 02:53	5		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 03:10	5		IC15-AS14 4(mm)

EPA 300.0 R2.1

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 12115 Start Date: 07/08/2020 14:37

Analysis Batch Number: 20491 End Date: 07/09/2020 06:53

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
ZZZZZ		07/09/2020 03:27	5		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 03:44	5		IC15-AS14 4(mm)
CCV 410-20491/48		07/09/2020 04:02	1		IC15-AS14 4(mm)
CCB 410-20491/49		07/09/2020 04:19	1		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 04:36	5		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 04:53	5		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 05:10	5		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 05:27	5		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 05:44	5		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 06:02	1		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 06:19	5		IC15-AS14 4(mm)
CCV 410-20491/57		07/09/2020 06:36	1		IC15-AS14 4(mm)
CCB 410-20491/58		07/09/2020 06:53	1		IC15-AS14 4(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 12115 Start Date: 07/09/2020 09:28

Analysis Batch Number: 20849 End Date: 07/09/2020 20:53

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 410-20849/1		07/09/2020 09:28	1	2019115_1.d	IC15-AS14 4(mm)
CCB 410-20849/2		07/09/2020 09:45	1		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 10:02	1		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 10:19	1		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 10:37	5		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 10:54	5		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 11:11	5		IC15-AS14 4(mm)
CCV 410-20849/13		07/09/2020 12:53	1		IC15-AS14 4(mm)
CCB 410-20849/14		07/09/2020 13:11	1		IC15-AS14 4(mm)
CCV 410-20849/25		07/09/2020 16:19	1		IC15-AS14 4(mm)
CCB 410-20849/26		07/09/2020 16:36	1		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 17:10	5		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 17:28	500		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 18:02	5		IC15-AS14 4(mm)
ZZZZZ		07/09/2020 18:19	5		IC15-AS14 4(mm)
CCV 410-20849/35		07/09/2020 19:44	1		IC15-AS14 4(mm)
CCB 410-20849/36		07/09/2020 20:01	1		IC15-AS14 4(mm)
CCV 410-20849/41		07/09/2020 20:36	1		IC15-AS14 4(mm)
CCB 410-20849/42		07/09/2020 20:53	1		IC15-AS14 4(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 12115 Start Date: 07/08/2020 11:05

Analysis Batch Number: 22226 End Date: 07/08/2020 13:40

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 410-22226/1		07/08/2020 11:05	1	2019015C_1.d	IC15-AS14 4(mm)
IC 410-22226/2		07/08/2020 11:22	1	2019015C_2.d	IC15-AS14 4(mm)
IC 410-22226/3		07/08/2020 11:40	1	2019015C_3.d	IC15-AS14 4(mm)
IC 410-22226/4		07/08/2020 11:57	1	2019015C_4.d	IC15-AS14 4(mm)
IC 410-22226/5		07/08/2020 12:14	1	2019015C_5.d	IC15-AS14 4(mm)
IC 410-22226/6		07/08/2020 12:31	1	2019015C_6.d	IC15-AS14 4(mm)
ICV 410-22226/7		07/08/2020 12:48	1	2019015C_7.d	IC15-AS14 4(mm)
ICB 410-22226/8		07/08/2020 13:05	1	2019015C_8.d	IC15-AS14 4(mm)
ZZZZZ		07/08/2020 13:22	1		IC15-AS14 4(mm)
ZZZZZ		07/08/2020 13:40	1		IC15-AS14 4(mm)

EPA 300.0 R2.1

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 19052 Start Date: 07/29/2020 12:31

Analysis Batch Number: 27552 End Date: 07/29/2020 14:31

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 410-27552/1		07/29/2020 12:31	1	2021113C_1.d	IC06-AS14 4(mm)
IC 410-27552/2		07/29/2020 12:48	1	2021113C_2.d	IC06-AS14 4(mm)
IC 410-27552/3		07/29/2020 13:05	1	2021113C_3.d	IC06-AS14 4(mm)
IC 410-27552/4		07/29/2020 13:23	1	2021113C_4.d	IC06-AS14 4(mm)
IC 410-27552/5		07/29/2020 13:40	1	2021113C_5.d	IC06-AS14 4(mm)
IC 410-27552/6		07/29/2020 13:57	1	2021113C_6.d	IC06-AS14 4(mm)
ICV 410-27552/7		07/29/2020 14:14	1	2021113C_7.d	IC06-AS14 4(mm)
ICB 410-27552/8		07/29/2020 14:31	1	2021113C_8.d	IC06-AS14 4(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 19052 Start Date: 08/16/2020 11:08

Analysis Batch Number: 33690 End Date: 08/17/2020 03:01

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 410-33690/1		08/16/2020 11:08	1	2022913_1.d	IC06-AS14 4(mm)
CCB 410-33690/2		08/16/2020 11:25	1	2022913_2.d	IC06-AS14 4(mm)
LCS 410-33690/3		08/16/2020 11:42	1	2022913_3.d	IC06-AS14 4(mm)
MB 410-33690/4		08/16/2020 11:59	1	2022913_4.d	IC06-AS14 4(mm)
ZZZZZ		08/16/2020 13:22	5		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 13:40	5		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 13:57	5		IC06-AS14 4(mm)
410-10696-3	MW-04	08/16/2020 14:31	5	2022913_9.d	IC06-AS14 4(mm)
ZZZZZ		08/16/2020 14:48	5		IC06-AS14 4(mm)
410-10696-1	MW-01	08/16/2020 15:05	5	2022913_11.d	IC06-AS14 4(mm)
CCV 410-33690/35		08/16/2020 15:22	1	2022913_12.d	IC06-AS14 4(mm)
CCB 410-33690/36		08/16/2020 15:39	1	2022913_13.d	IC06-AS14 4(mm)
CCV 410-33690/43		08/16/2020 18:47	1		IC06-AS14 4(mm)
CCB 410-33690/44		08/16/2020 19:04	1		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 19:21	5		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 19:38	5		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 19:55	5		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 20:12	500		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 20:29	500		IC06-AS14 4(mm)
ZZZZZ		08/16/2020 20:46	500		IC06-AS14 4(mm)
CCV 410-33690/51		08/16/2020 21:03	1		IC06-AS14 4(mm)
CCB 410-33690/52		08/16/2020 21:20	1		IC06-AS14 4(mm)
CCV 410-33690/57		08/16/2020 23:37	1		IC06-AS14 4(mm)
CCB 410-33690/58		08/16/2020 23:54	1		IC06-AS14 4(mm)
CCV 410-33690/65		08/17/2020 01:53	1		IC06-AS14 4(mm)
CCB 410-33690/66		08/17/2020 02:10	1		IC06-AS14 4(mm)
CCV 410-33690/69		08/17/2020 02:44	1		IC06-AS14 4(mm)
CCB 410-33690/70		08/17/2020 03:01	1		IC06-AS14 4(mm)

EPA 300.0 R2.1

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 12115 Start Date: 08/19/2020 00:06

Analysis Batch Number: 34574 End Date: 08/19/2020 11:48

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCVRT 410-34574/1		08/19/2020 00:06	1	2023115B_1.d	IC15-AS14 4(mm)
CCB 410-34574/2		08/19/2020 00:23	1	2023115B_2.d	IC15-AS14 4(mm)
LCS 410-34574/3		08/19/2020 00:40	1	2023115B_3.d	IC15-AS14 4(mm)
MB 410-34574/4		08/19/2020 00:57	1	2023115B_4.d	IC15-AS14 4(mm)
ZZZZZ		08/19/2020 01:14	5		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 01:32	5		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 01:49	5		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 02:06	5		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 02:23	500		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 02:40	5		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 02:57	500		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 03:14	5		IC15-AS14 4(mm)
CCV 410-34574/13		08/19/2020 03:31	1	2023115B_13.d	IC15-AS14 4(mm)
CCB 410-34574/14		08/19/2020 03:48	1	2023115B_14.d	IC15-AS14 4(mm)
ZZZZZ		08/19/2020 04:06	500		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 04:23	5		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 04:40	500		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 04:57	5		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 05:15	500		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 05:32	5		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 05:49	5		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 06:06	5		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 06:23	5		IC15-AS14 4(mm)
ZZZZZ		08/19/2020 06:40	500		IC15-AS14 4(mm)
CCV 410-34574/25		08/19/2020 06:57	1	2023115B_25.d	IC15-AS14 4(mm)
CCB 410-34574/26		08/19/2020 07:14	1	2023115B_26.d	IC15-AS14 4(mm)
410-10696-6	WPA-GW-02	08/19/2020 08:23	5	2023115B_30.d	IC15-AS14 4(mm)
CCV 410-34574/37		08/19/2020 10:23	1	2023115B_37.d	IC15-AS14 4(mm)
CCB 410-34574/38		08/19/2020 10:40	1	2023115B_38.d	IC15-AS14 4(mm)
CCV 410-34574/41		08/19/2020 11:31	1		IC15-AS14 4(mm)
CCB 410-34574/42		08/19/2020 11:48	1		IC15-AS14 4(mm)

EPA 300.0 R2.1

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 33690 Batch Start Date: 08/16/20 11:08 Batch Analyst: Litwa, Kevin L

Batch Method: EPA 300.0 R2.1 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	WC_IC_QC2 00123			
CCVRT 410-33690/1		EPA 300.0 R2.1		1 mL		7.5 mL			
CCB 410-33690/2		EPA 300.0 R2.1		1 mL	1.0 mL				
LCS 410-33690/3		EPA 300.0 R2.1		1 mL	1.0 mL	7.5 mL			
MB 410-33690/4		EPA 300.0 R2.1		1 mL	1.0 mL				
410-10696-F-3	MW-04	EPA 300.0 R2.1	T	1 mL					
410-10696-F-1	MW-01	EPA 300.0 R2.1	T	1 mL					
CCV 410-33690/35		EPA 300.0 R2.1		1 mL		7.5 mL			
CCB 410-33690/36		EPA 300.0 R2.1		1 mL					

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 34574 Batch Start Date: 08/19/20 00:06 Batch Analyst: Litwa, Kevin L

Batch Method: EPA 300.0 R2.1 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	WC_IC_QC2 00125				
CCVRT 410-34574/1		EPA 300.0 R2.1		1 mL	7.5 mL				
CCB 410-34574/2		EPA 300.0 R2.1		1 mL					
LCS 410-34574/3		EPA 300.0 R2.1		1 mL	7.5 mL				
MB 410-34574/4		EPA 300.0 R2.1		1 mL					
CCV 410-34574/13		EPA 300.0 R2.1		1 mL	7.5 mL				
CCB 410-34574/14		EPA 300.0 R2.1		1 mL					
CCV 410-34574/25		EPA 300.0 R2.1		1 mL	7.5 mL				
CCB 410-34574/26		EPA 300.0 R2.1		1 mL					
410-10696-F-6	WPA-GW-02	EPA 300.0 R2.1	T	1 mL					
CCV 410-34574/37		EPA 300.0 R2.1		1 mL	7.5 mL				
CCB 410-34574/38		EPA 300.0 R2.1		1 mL					

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS

COVER PAGE
METALS

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG No.:

Project: EPA 6 Wilcox Oil Co Superfund Site

Client Sample ID	Lab Sample ID
MW-01	410-10696-1
MW-04	410-10696-3
WPA-GW-02	410-10696-6

Comments:

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: MW-01 Lab Sample ID: 410-10696-1

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG ID.:

Matrix: Water Date Sampled: 08/11/2020 15:45

Reporting Basis: WET Date Received: 08/14/2020 11:09

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-70-2	Calcium	30.5	0.200	0.0960	mg/L			1	6010C
7439-89-6	Iron	48.8	0.200	0.0400	mg/L			1	6010C
7439-95-4	Magnesium	14.1	0.100	0.0400	mg/L			1	6010C
7440-09-7	Potassium	1.69	0.500	0.204	mg/L			1	6010C
7440-23-5	Sodium	5.30	1.00	0.239	mg/L			1	6010C
7429-90-5	Aluminum	147	25.0	19.7	ug/L			1	6020A
7440-36-0	Antimony	ND	1.00	0.406	ug/L			1	6020A
7440-38-2	Arsenic	35.3	2.00	0.680	ug/L			1	6020A
7440-39-3	Barium	360	2.00	0.746	ug/L			1	6020A
7440-41-7	Beryllium	ND	0.500	0.119	ug/L			1	6020A
7440-43-9	Cadmium	ND	0.500	0.151	ug/L			1	6020A
7440-47-3	Chromium	3.42	2.00	0.334	ug/L		B	1	6020A
7440-48-4	Cobalt	9.87	0.500	0.156	ug/L			1	6020A
7440-50-8	Copper	0.378	1.00	0.362	ug/L	J		1	6020A
7439-92-1	Lead	0.122	0.500	0.0710	ug/L	J		1	6020A
7439-96-5	Manganese	794	2.00	0.634	ug/L			1	6020A
7440-02-0	Nickel	2.59	1.00	0.604	ug/L			1	6020A
7782-49-2	Selenium	ND	1.00	0.278	ug/L			1	6020A
7440-22-4	Silver	ND	0.500	0.170	ug/L			1	6020A
7440-28-0	Thallium	ND	0.500	0.130	ug/L			1	6020A
7440-62-2	Vanadium	0.409	0.500	0.236	ug/L	J		1	6020A
7440-66-6	Zinc	ND	10.0	6.18	ug/L			1	6020A
7439-97-6	Mercury	ND	0.200	0.0790	ug/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MW-01 | Lab Sample ID: 410-10696-1

Lab Name: Eurofins Lancaster Laboratories Env | Job No.: 410-10696-1

SDG ID.:

Matrix: Water | Date Sampled: 08/11/2020 15:45

Reporting Basis: WET | Date Received: 08/14/2020 11:09

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-70-2	Calcium	33.5	0.206	0.0989	mg/L			1	6010C
7439-89-6	Iron	54.7	0.206	0.0412	mg/L			1	6010C
7439-95-4	Magnesium	15.0	0.103	0.0412	mg/L		B	1	6010C
7440-09-7	Potassium	1.44	0.515	0.210	mg/L			1	6010C
7440-23-5	Sodium	6.50	1.03	0.246	mg/L			1	6010C
7429-90-5	Aluminum	ND	25.8	20.3	ug/L			1	6020A
7440-36-0	Antimony	ND	1.03	0.418	ug/L			1	6020A
7440-38-2	Arsenic	36.4	2.06	0.700	ug/L			1	6020A
7440-39-3	Barium	357	2.06	0.768	ug/L			1	6020A
7440-41-7	Beryllium	ND	0.515	0.123	ug/L			1	6020A
7440-43-9	Cadmium	ND	0.515	0.156	ug/L			1	6020A
7440-47-3	Chromium	2.98	2.06	0.344	ug/L			1	6020A
7440-48-4	Cobalt	10.7	0.515	0.161	ug/L			1	6020A
7440-50-8	Copper	ND	1.03	0.373	ug/L			1	6020A
7439-92-1	Lead	ND	0.515	0.0731	ug/L			1	6020A
7439-96-5	Manganese	849	2.06	0.653	ug/L			1	6020A
7440-02-0	Nickel	2.71	1.03	0.622	ug/L			1	6020A
7782-49-2	Selenium	0.298	1.03	0.286	ug/L	J		1	6020A
7440-22-4	Silver	ND	0.515	0.175	ug/L			1	6020A
7440-28-0	Thallium	ND	0.515	0.134	ug/L			1	6020A
7440-62-2	Vanadium	ND	0.515	0.243	ug/L			1	6020A
7440-66-6	Zinc	ND	10.3	6.36	ug/L			1	6020A
7439-97-6	Mercury	ND	0.200	0.0790	ug/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: MW-04 | Lab Sample ID: 410-10696-3

Lab Name: Eurofins Lancaster Laboratories Env | Job No.: 410-10696-1

SDG ID.:

Matrix: Water | Date Sampled: 08/11/2020 13:40

Reporting Basis: WET | Date Received: 08/14/2020 11:09

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-70-2	Calcium	51.4	0.200	0.0960	mg/L			1	6010C
7439-89-6	Iron	27.1	0.200	0.0400	mg/L			1	6010C
7439-95-4	Magnesium	27.1	0.100	0.0400	mg/L			1	6010C
7440-09-7	Potassium	0.846	0.500	0.204	mg/L			1	6010C
7440-23-5	Sodium	55.9	1.00	0.239	mg/L			1	6010C
7429-90-5	Aluminum	1810	25.0	19.7	ug/L			1	6020A
7440-36-0	Antimony	ND	1.00	0.406	ug/L			1	6020A
7440-38-2	Arsenic	16.7	2.00	0.680	ug/L			1	6020A
7440-39-3	Barium	212	2.00	0.746	ug/L			1	6020A
7440-41-7	Beryllium	0.122	0.500	0.119	ug/L	J		1	6020A
7440-43-9	Cadmium	ND	0.500	0.151	ug/L			1	6020A
7440-47-3	Chromium	4.91	2.00	0.334	ug/L		B	1	6020A
7440-48-4	Cobalt	5.63	0.500	0.156	ug/L			1	6020A
7440-50-8	Copper	1.56	1.00	0.362	ug/L			1	6020A
7439-92-1	Lead	3.42	0.500	0.0710	ug/L			1	6020A
7439-96-5	Manganese	2870	2.00	0.634	ug/L			1	6020A
7440-02-0	Nickel	4.03	1.00	0.604	ug/L			1	6020A
7782-49-2	Selenium	0.661	1.00	0.278	ug/L	J		1	6020A
7440-22-4	Silver	ND	0.500	0.170	ug/L			1	6020A
7440-28-0	Thallium	ND	0.500	0.130	ug/L			1	6020A
7440-62-2	Vanadium	3.71	0.500	0.236	ug/L			1	6020A
7440-66-6	Zinc	ND	10.0	6.18	ug/L			1	6020A
7439-97-6	Mercury	ND	0.200	0.0790	ug/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: MW-04 | Lab Sample ID: 410-10696-3

Lab Name: Eurofins Lancaster Laboratories Env | Job No.: 410-10696-1

SDG ID.:

Matrix: Water | Date Sampled: 08/11/2020 13:40

Reporting Basis: WET | Date Received: 08/14/2020 11:09

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-70-2	Calcium	56.2	0.206	0.0989	mg/L			1	6010C
7439-89-6	Iron	27.6	0.206	0.0412	mg/L			1	6010C
7439-95-4	Magnesium	28.3	0.103	0.0412	mg/L		B	1	6010C
7440-09-7	Potassium	ND	0.515	0.210	mg/L			1	6010C
7440-23-5	Sodium	58.7	1.03	0.246	mg/L			1	6010C
7429-90-5	Aluminum	191	25.8	20.3	ug/L			1	6020A
7440-36-0	Antimony	ND	1.03	0.418	ug/L			1	6020A
7440-38-2	Arsenic	20.4	2.06	0.700	ug/L			1	6020A
7440-39-3	Barium	272	2.06	0.768	ug/L			1	6020A
7440-41-7	Beryllium	ND	0.515	0.123	ug/L			1	6020A
7440-43-9	Cadmium	ND	0.515	0.156	ug/L			1	6020A
7440-47-3	Chromium	3.18	2.06	0.344	ug/L			1	6020A
7440-48-4	Cobalt	6.81	0.515	0.161	ug/L			1	6020A
7440-50-8	Copper	0.572	1.03	0.373	ug/L	J		1	6020A
7439-92-1	Lead	2.50	0.515	0.0731	ug/L			1	6020A
7439-96-5	Manganese	3640	2.06	0.653	ug/L			1	6020A
7440-02-0	Nickel	3.42	1.03	0.622	ug/L			1	6020A
7782-49-2	Selenium	0.940	1.03	0.286	ug/L	J		1	6020A
7440-22-4	Silver	ND	0.515	0.175	ug/L			1	6020A
7440-28-0	Thallium	ND	0.515	0.134	ug/L			1	6020A
7440-62-2	Vanadium	0.357	0.515	0.243	ug/L	J		1	6020A
7440-66-6	Zinc	ND	10.3	6.36	ug/L			1	6020A
7439-97-6	Mercury	ND	0.200	0.0790	ug/L			1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS

Client Sample ID: WPA-GW-02 Lab Sample ID: 410-10696-6

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG ID.:

Matrix: Water Date Sampled: 08/11/2020 14:15

Reporting Basis: WET Date Received: 08/14/2020 11:09

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-70-2	Calcium	64.7	0.200	0.0960	mg/L			1	6010C
7439-89-6	Iron	35.0	0.200	0.0400	mg/L			1	6010C
7439-95-4	Magnesium	35.6	0.100	0.0400	mg/L			1	6010C
7440-09-7	Potassium	5.05	0.500	0.204	mg/L			1	6010C
7440-23-5	Sodium	27.3	1.00	0.239	mg/L			1	6010C
7429-90-5	Aluminum	18000	125	98.5	ug/L			5	6020A
7440-36-0	Antimony	ND	5.00	2.03	ug/L			5	6020A
7440-38-2	Arsenic	8.45	2.00	0.680	ug/L			1	6020A
7440-39-3	Barium	578	2.00	0.746	ug/L			1	6020A
7440-41-7	Beryllium	1.02	0.500	0.119	ug/L			1	6020A
7440-43-9	Cadmium	ND	0.500	0.151	ug/L			1	6020A
7440-47-3	Chromium	41.8	2.00	0.334	ug/L		B	1	6020A
7440-48-4	Cobalt	21.8	0.500	0.156	ug/L			1	6020A
7440-50-8	Copper	33.0	1.00	0.362	ug/L			1	6020A
7439-92-1	Lead	38.5	0.500	0.0710	ug/L			1	6020A
7439-96-5	Manganese	6340	2.00	0.634	ug/L			1	6020A
7440-02-0	Nickel	30.6	1.00	0.604	ug/L			1	6020A
7782-49-2	Selenium	0.726	1.00	0.278	ug/L	J		1	6020A
7440-22-4	Silver	ND	0.500	0.170	ug/L			1	6020A
7440-28-0	Thallium	0.228	0.500	0.130	ug/L	J		1	6020A
7440-62-2	Vanadium	43.2	0.500	0.236	ug/L			1	6020A
7440-66-6	Zinc	225	10.0	6.18	ug/L			1	6020A
7439-97-6	Mercury	0.0957	0.200	0.0790	ug/L	J		1	7470A

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: WPA-GW-02 | Lab Sample ID: 410-10696-6

Lab Name: Eurofins Lancaster Laboratories Env | Job No.: 410-10696-1

SDG ID.:

Matrix: Water | Date Sampled: 08/11/2020 14:15

Reporting Basis: WET | Date Received: 08/14/2020 11:09

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-70-2	Calcium	65.8	0.206	0.0989	mg/L			1	6010C
7439-89-6	Iron	1.66	0.206	0.0412	mg/L			1	6010C
7439-95-4	Magnesium	35.0	0.103	0.0412	mg/L		B	1	6010C
7440-09-7	Potassium	0.525	0.515	0.210	mg/L			1	6010C
7440-23-5	Sodium	26.8	1.03	0.246	mg/L			1	6010C
7429-90-5	Aluminum	ND	25.8	20.3	ug/L			1	6020A
7440-36-0	Antimony	ND	1.03	0.418	ug/L			1	6020A
7440-38-2	Arsenic	2.76	2.06	0.700	ug/L			1	6020A
7440-39-3	Barium	371	2.06	0.768	ug/L			1	6020A
7440-41-7	Beryllium	ND	0.515	0.123	ug/L			1	6020A
7440-43-9	Cadmium	ND	0.515	0.156	ug/L			1	6020A
7440-47-3	Chromium	3.29	2.06	0.344	ug/L			1	6020A
7440-48-4	Cobalt	7.52	0.515	0.161	ug/L			1	6020A
7440-50-8	Copper	0.511	1.03	0.373	ug/L	J		1	6020A
7439-92-1	Lead	0.215	0.515	0.0731	ug/L	J		1	6020A
7439-96-5	Manganese	5630	2.06	0.653	ug/L			1	6020A
7440-02-0	Nickel	9.18	1.03	0.622	ug/L			1	6020A
7782-49-2	Selenium	0.732	1.03	0.286	ug/L	J		1	6020A
7440-22-4	Silver	ND	0.515	0.175	ug/L			1	6020A
7440-28-0	Thallium	ND	0.515	0.134	ug/L			1	6020A
7440-62-2	Vanadium	ND	0.515	0.243	ug/L			1	6020A
7440-66-6	Zinc	16.4	10.3	6.36	ug/L			1	6020A
7439-97-6	Mercury	0.0800	0.200	0.0790	ug/L	J		1	7470A

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Lancaster Laboratories En Job No.: 410-10696-1

SDG No.:

ICV Source: MT_IA_ICV_00043 Concentration Units: mg/L

CCV Source: MT_IA_CCV_00079

Analyte	ICV 410-42585/6 09/10/2020 09:17				ICV 410-42585/7 09/10/2020 09:20				CCV 410-42585/17 09/10/2020 09:53			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Calcium	31.38		30.4	103	32.26		30.4	106	26.54		25.0	106
Iron	29.78		30.0	99	30.69		30.0	102	25.49		25.0	102
Magnesium	29.42		29.8	99	30.24		29.8	102	24.61		25.0	98
Potassium	29.53		30.1	98	30.25		30.1	100	24.67		25.0	99
Sodium	29.42		30.0	98	30.12		30.0	100	25.24		25.0	101

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Lancaster Laboratories En Job No.: 410-10696-1

SDG No.:

ICV Source: MT_IA_ICV_00043 Concentration Units: mg/L

CCV Source: MT_IA_CCV_00079

Analyte	CCV 410-42585/29 09/10/2020 10:40				CCV 410-42585/41 09/10/2020 11:20				CCV 410-42585/49 09/10/2020 11:46			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Calcium					26.36		25.0	105	25.65		25.0	103
Iron	26.94		25.0	108	25.43		25.0	102	24.71		25.0	99
Magnesium	25.54		25.0	102	23.87		25.0	95	23.29		25.0	93
Potassium	25.02		25.0	100	23.14		25.0	93	22.44		25.0	90
Sodium	26.78		25.0	107	26.87		25.0	107	25.62		25.0	102

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Lancaster Laboratories En Job No.: 410-10696-1

SDG No.:

ICV Source: MT_IA_ICV_00043 Concentration Units: mg/L

CCV Source: MT_IA_CCV_00079

Analyte	CCV 410-42585/54 09/10/2020 12:47											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Calcium	26.36		25.0	105								
Iron	25.61		25.0	102								
Magnesium	23.70		25.0	95								
Potassium	22.72		25.0	91								
Sodium	25.77		25.0	103								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Lancaster Laboratories En Job No.: 410-10696-1

SDG No.:

ICV Source: MT_IA_ICV_00043 Concentration Units: mg/L

CCV Source: MT_IA_CCV_00077

Analyte	ICV 410-42633/6 09/10/2020 14:42				ICV 410-42633/7 09/10/2020 14:46				CCV 410-42633/17 09/10/2020 15:18			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Potassium	29.53		30.1	98	29.32		30.1	97	24.92		25.0	100
Calcium	30.28		30.4	100	29.97		30.4	99	24.57		25.0	98
Iron	30.00		30.0	100	29.63		30.0	99	24.75		25.0	99
Magnesium	30.06		29.8	101	29.75		29.8	100	24.84		25.0	99
Sodium	29.03		30.0	97	28.66		30.0	95	24.68		25.0	99

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Lancaster Laboratories En Job No.: 410-10696-1

SDG No.:

ICV Source: MT_IA_ICV_00043 Concentration Units: mg/L

CCV Source: MT_IA_CCV_00078

Analyte	ICV 410-42633/6 09/10/2020 14:42				ICV 410-42633/7 09/10/2020 14:46				CCV 410-42633/27 09/10/2020 16:02			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Potassium	29.53		30.1	98	29.32		30.1	97	25.15		25.0	101
Calcium	30.28		30.4	100	29.97		30.4	99	25.10		25.0	100
Iron	30.00		30.0	100	29.63		30.0	99	25.07		25.0	100
Magnesium	30.06		29.8	101	29.75		29.8	100	25.31		25.0	101
Sodium	29.03		30.0	97	28.66		30.0	95	25.22		25.0	101

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Lancaster Laboratories En Job No.: 410-10696-1

SDG No.:

ICV Source: MT_IC_ICV_00012 Concentration Units: mg/L

CCV Source: MT_IC_CCV_00020

Analyte	ICV 410-39416/6 08/31/2020 06:03				CCV 410-39416/12 08/31/2020 06:22				CCV 410-39416/19 08/31/2020 06:45			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Calcium	29.79		30.0	99	24.77		25.0	99	24.78		25.0	99
Iron	29.66		30.0	99	25.07		25.0	100	24.86		25.0	99
Magnesium	30.00		30.0	100	24.72		25.0	99	24.72		25.0	99
Potassium	29.64		30.0	99	25.12		25.0	100	24.93		25.0	100
Sodium	29.42		30.0	98	24.72		25.0	99	24.55		25.0	98

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Lancaster Laboratories En Job No.: 410-10696-1

SDG No.:

ICV Source: MT_IC_ICV_00012 Concentration Units: mg/L

CCV Source: MT_IC_CCV_00020

Analyte	CCV 410-39416/26 08/31/2020 16:31				CCV 410-39416/38 08/31/2020 17:09				CCV 410-39416/50 08/31/2020 17:48			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Calcium	25.07		25.0	100	24.78		25.0	99	24.63		25.0	99
Iron	23.93		25.0	96	23.88		25.0	95	23.83		25.0	95
Magnesium	24.60		25.0	98	24.22		25.0	97	24.22		25.0	97
Potassium	25.35		25.0	101	25.47		25.0	102	25.46		25.0	102
Sodium	25.06		25.0	100	24.84		25.0	99	24.97		25.0	100

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Lancaster Laboratories En Job No.: 410-10696-1

SDG No.:

ICV Source: MT_IC_ICV_00012 Concentration Units: mg/L

CCV Source: MT_IC_CCV_00020

Analyte	CCV 410-39416/59 08/31/2020 18:16											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Calcium	24.80		25.0	99								
Iron	23.80		25.0	95								
Magnesium	24.57		25.0	98								
Potassium	25.64		25.0	103								
Sodium	25.37		25.0	101								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Lancaster Laboratories En Job No.: 410-10696-1

SDG No.:

ICV Source: MT_MD_ICV_00018 Concentration Units: ug/L

CCV Source: MT_MD_CCV_00034

Analyte	ICV 410-34834/5 08/18/2020 14:56				CCV 410-34834/13 08/18/2020 15:11				CCV 410-34834/15 08/18/2020 15:24			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	30.29		30.3	100	29.69		30.1	99	29.99		30.1	100
Arsenic	301.5		300	100	295.4		298	99	296.0		298	99
Barium	300.7		301	100	302.9		300	101	300.5		300	100
Beryllium	29.82		30.2	99	28.02		29.9	94	28.48		29.9	95
Cadmium	30.27		30.0	101	30.29		29.7	102	30.20		29.7	102
Chromium	300.6		300	100	299.2		300	100	297.6		300	99
Cobalt	278.4		300	93	278.9		299	93	285.0		299	95
Copper	302.6		300	101	292.1		300	97	296.4		300	99
Lead	30.06		30.1	100	30.16		30.0	101	30.15		30.0	101
Manganese	304.2		302	101	299.9		300	100	299.2		300	100
Nickel	299.1		301	99	292.0		299	98	297.6		299	100
Selenium	29.83		30.1	99	29.51		29.9	99	30.05		29.9	100
Silver	30.28		30.1	101	29.96		30.1	100	30.22		30.1	101
Thallium	29.97		30.1	99	29.67		29.8	100	29.75		29.8	100
Vanadium	302.7		301	100	298.6		300	99	297.1		300	99
Zinc	306.8		304	101	292.6		300	98	293.3		300	98
Aluminum	4991		5000	100	4831		5000	97	4858		5000	97

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Lancaster Laboratories En Job No.: 410-10696-1

SDG No.:

ICV Source: MT_MD_ICV_00018 Concentration Units: ug/L

CCV Source: MT_MD_CCV_00034

Analyte	CCV 410-34834/27 08/18/2020 15:47				CCV 410-34834/39 08/18/2020 16:09							
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Antimony	29.58		30.1	98	30.47		30.1	101				
Arsenic	300.7		298	101	297.2		298	100				
Barium	306.5		300	102	301.4		300	101				
Beryllium	28.35		29.9	95	28.15		29.9	94				
Cadmium	30.57		29.7	103	30.09		29.7	101				
Chromium	301.2		300	100	305.2		300	102				
Cobalt	278.8		299	93	282.3		299	94				
Copper	298.5		300	99	293.8		300	98				
Lead	30.07		30.0	100	30.20		30.0	101				
Manganese	299.4		300	100	306.0		300	102				
Nickel	295.3		299	99	289.6		299	97				
Selenium	29.30		29.9	98	29.63		29.9	99				
Silver	29.98		30.1	100	29.92		30.1	100				
Thallium	29.91		29.8	100	29.93		29.8	100				
Vanadium	299.4		300	100	301.9		300	101				
Zinc	296.1		300	99	300.5		300	100				
Aluminum	4799		5000	96	4853		5000	97				

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Lancaster Laboratories En Job No.: 410-10696-1

SDG No.:

ICV Source: MT_MJ_ICV_00002 Concentration Units: ug/L

CCV Source: MT_MJ_CCV_00003

Analyte	ICV 410-37661/3 08/26/2020 09:49				CCV 410-37661/11 08/26/2020 10:04				CCV 410-37661/56 08/26/2020 16:17			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Beryllium	29.96		30.2	99	29.32		29.9	98	30.95		29.9	103
Manganese	309.0		302	102	304.6		300	101	308.3		300	103
Silver	29.83		30.1	99	31.29		30.1	104	30.86		30.1	103
Vanadium	303.1		301	101	302.6		300	101	305.5		300	102
Aluminum	5055		5000	101	5004		5000	100	5165		5000	103
Antimony	30.95		30.3	102	31.19		30.1	104	30.97		30.1	103
Arsenic	304.5		300	102	305.1		298	102	301.9		298	101
Barium	302.9		301	101	306.7		300	102	304.8		300	102
Cadmium	30.00		30.0	100	30.17		29.7	101	30.10		29.7	101
Chromium	293.0		300	98	292.1		300	97	291.7		300	97
Cobalt	287.8		300	96	285.7		299	96	286.9		299	96
Copper	305.1		300	102	305.2		300	102	304.3		300	101
Lead	30.13		30.1	100	30.44		30.0	102	29.86		30.0	100
Nickel	307.8		301	102	307.5		299	103	305.9		299	102
Selenium	30.07		30.1	100	29.68		29.9	99	29.98		29.9	100
Thallium	31.05		30.1	103	30.79		29.8	103	30.65		29.8	103
Zinc	303.9		304	100	306.3		300	102	300.8		300	100

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Lancaster Laboratories En Job No.: 410-10696-1

SDG No.:

ICV Source: MT_MJ_ICV_00002 Concentration Units: ug/L

CCV Source: MT_MJ_CCV_00003

Analyte	CCV 410-37661/63 08/26/2020 16:30											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Beryllium	30.65		29.9	102								
Manganese	304.3		300	101								
Silver	30.22		30.1	101								
Vanadium	303.3		300	101								
Aluminum	5099		5000	102								
Antimony	30.16		30.1	100								
Arsenic	302.4		298	101								
Barium	303.7		300	101								
Cadmium	30.03		29.7	101								
Chromium	291.0		300	97								
Cobalt	285.9		299	96								
Copper	302.7		300	101								
Lead	30.52		30.0	102								
Nickel	303.5		299	102								
Selenium	29.66		29.9	99								
Thallium	30.97		29.8	104								
Zinc	303.8		300	101								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Lancaster Laboratories En Job No.: 410-10696-1

SDG No.:

ICV Source: MT_MJ_ICV_00002 Concentration Units: ug/L

CCV Source: MT_MJ_CCV_00003

Analyte	ICV 410-37732/3 08/26/2020 09:49				CCV 410-37732/11 08/26/2020 10:04				CCV 410-37732/13 08/26/2020 19:11			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	5055		5000	101	5004		5000	100	5114		5000	102
Antimony	30.95		30.3	102	31.19		30.1	104	30.31		30.1	101
Arsenic	304.5		300	102	305.1		298	102	300.3		298	101
Barium	302.9		301	101	306.7		300	102	300.5		300	100
Beryllium	29.96		30.2	99	29.32		29.9	98	30.42		29.9	102
Cadmium	30.00		30.0	100	30.17		29.7	101	30.24		29.7	102
Chromium	293.0		300	98	292.1		300	97	290.5		300	97
Cobalt	287.8		300	96	285.7		299	96	284.4		299	95
Copper	305.1		300	102	305.2		300	102	304.7		300	101
Lead	30.13		30.1	100	30.44		30.0	102	29.80		30.0	99
Manganese	309.0		302	102	304.6		300	101	304.1		300	101
Nickel	307.8		301	102	307.5		299	103	307.6		299	103
Selenium	30.07		30.1	100	29.68		29.9	99	29.23		29.9	98
Silver	29.83		30.1	99	31.29		30.1	104	30.64		30.1	102
Thallium	31.05		30.1	103	30.79		29.8	103	30.52		29.8	102
Vanadium	303.1		301	101	302.6		300	101	299.9		300	100
Zinc	303.9		304	100	306.3		300	102	299.1		300	100

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Lancaster Laboratories En Job No.: 410-10696-1

SDG No.:

ICV Source: MT_MJ_ICV_00002 Concentration Units: ug/L

CCV Source: MT_MJ_CCV_00003

Analyte	CCV 410-37732/25 08/26/2020 19:33				CCV 410-37732/37 08/26/2020 19:56				CCV 410-37732/49 08/26/2020 20:18			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	4994		5000	100	4962		5000	99	4969		5000	99
Antimony	31.07		30.1	103	30.67		30.1	102	30.78		30.1	102
Arsenic	296.7		298	99	299.9		298	101	299.8		298	100
Barium	303.6		300	101	307.3		300	102	306.2		300	102
Beryllium	28.95		29.9	97	28.02		29.9	94	28.14		29.9	94
Cadmium	29.63		29.7	100	29.86		29.7	100	29.78		29.7	100
Chromium	291.9		300	97	289.0		300	96	294.0		300	98
Cobalt	279.7		299	94	285.4		299	95	285.1		299	95
Copper	300.7		300	100	305.2		300	102	303.3		300	101
Lead	30.23		30.0	101	29.58		30.0	99	29.91		30.0	100
Manganese	302.0		300	101	296.4		300	99	303.8		300	101
Nickel	300.9		299	101	308.7		299	103	304.8		299	102
Selenium	29.04		29.9	97	29.25		29.9	98	28.77		29.9	96
Silver	29.75		30.1	99	30.69		30.1	102	30.70		30.1	102
Thallium	30.38		29.8	102	29.88		29.8	100	30.12		29.8	101
Vanadium	302.7		300	101	302.0		300	101	304.0		300	101
Zinc	297.3		300	99	302.3		300	101	300.1		300	100

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

Lab Name: Eurofins Lancaster Laboratories En Job No.: 410-10696-1

SDG No.:

ICV Source: MT_MJ_ICV_00002 Concentration Units: ug/L

CCV Source: MT_MJ_CCV_00003

Analyte	CCV 410-37732/61 08/26/2020 20:41											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	4957		5000	99								
Antimony	30.21		30.1	100								
Arsenic	296.6		298	99								
Barium	302.6		300	101								
Beryllium	28.24		29.9	94								
Cadmium	30.09		29.7	101								
Chromium	293.1		300	98								
Cobalt	279.6		299	94								
Copper	298.4		300	99								
Lead	29.99		30.0	100								
Manganese	304.8		300	102								
Nickel	300.8		299	101								
Selenium	29.05		29.9	97								
Silver	30.32		30.1	101								
Thallium	30.05		29.8	101								
Vanadium	301.8		300	101								
Zinc	295.8		300	99								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Lancaster Laboratories En Job No.: 410-10696-1

SDG No.:

ICV Source: MT_MF_ICV_00021 Concentration Units: ug/L

CCV Source: MT_MF_CCV_00023

Analyte	ICV 410-35326/3 08/19/2020 10:10				CCV 410-35326/11 08/19/2020 10:28				CCV 410-35326/13 08/19/2020 20:14			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	5044		5000	101	4903		5000	98	4811		5000	96
Antimony	28.13		30.3	93	30.52		30.1	101	31.40		30.1	104
Arsenic	309.0		300	103	308.7		298	103	320.9		298	108
Barium	309.1		301	103	304.2		300	101	320.3		300	107
Cadmium	31.15		30.0	104	30.52		29.7	103	31.59		29.7	106
Chromium	297.6		300	99	289.8		300	97	309.4		300	103
Cobalt	303.9		300	101	295.4		299	99	307.4		299	103
Copper	304.9		300	101	296.5		300	99	306.3		300	102
Lead	29.63		30.1	98	28.94		30.0	97	29.64		30.0	99
Manganese	308.6		302	102	298.2		300	99	314.0		300	105
Nickel	310.4		301	103	302.4		299	101	312.4		299	105
Selenium	30.77		30.1	102	30.45		29.9	102	30.39		29.9	102
Silver	31.10		30.1	103	29.36		30.1	98	30.53		30.1	102
Thallium	30.65		30.1	102	29.99		29.8	101	31.12		29.8	104
Zinc	318.7		304	105	308.4		300	103	320.9		300	107
Beryllium	31.10		30.2	103	29.32		29.9	98				
Vanadium	290.7		301	97	285.4		300	95	305.6		300	102

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Lancaster Laboratories En Job No.: 410-10696-1

SDG No.:

ICV Source: MT_MF_ICV_00021 Concentration Units: ug/L

CCV Source: MT_MF_CCV_00023

Analyte	CCV 410-35326/25 08/19/2020 20:41				CCV 410-35326/37 08/19/2020 21:08				CCV 410-35326/48 08/19/2020 21:32			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Aluminum	4927		5000	99	4936		5000	99	4975		5000	100
Antimony	31.43		30.1	104	31.64		30.1	105	31.44		30.1	104
Arsenic	325.0		298	109	323.9		298	109	321.5		298	108
Barium	317.3		300	106	318.7		300	106	313.3		300	104
Cadmium	31.23		29.7	105	31.74		29.7	107	31.37		29.7	105
Chromium	309.7		300	103	310.3		300	103	311.4		300	104
Cobalt	305.9		299	102	308.0		299	103	304.3		299	102
Copper	299.1		300	100	305.2		300	102	301.9		300	101
Lead	29.91		30.0	100	29.93		30.0	100	29.95		30.0	100
Manganese	312.2		300	104	316.0		300	105	316.2		300	105
Nickel	307.4		299	103	311.6		299	104	308.2		299	103
Selenium	31.03		29.9	104	31.05		29.9	104	30.58		29.9	102
Silver	29.79		30.1	99	30.63		30.1	102	30.18		30.1	100
Thallium	31.11		29.8	104	30.82		29.8	103	30.83		29.8	103
Zinc	313.3		300	105	317.9		300	106	312.8		300	104
Beryllium	27.29		29.9	91	26.97		29.9	90				
Vanadium	305.6		300	102	311.2		300	104	309.4		300	103

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Lancaster Laboratories En Job No.: 410-10696-1

SDG No.:

ICV Source: Hg_1Cont_IV_00062 Concentration Units: ug/L

CCV Source: Hg_1Cal_CP_00059

Analyte	ICV 410-32359/7-A 08/17/2020 08:38				CCV 410-32359/13-A 08/17/2020 10:10				CCV 410-32359/13-A 08/17/2020 10:35			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	2.480		2.50	99	0.9712		0.999	97	0.9799		0.999	98

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Lancaster Laboratories En Job No.: 410-10696-1

SDG No.:

ICV Source: Hg_1Cont_IV_00062 Concentration Units: ug/L

CCV Source: Hg_1Cal_CP_00059

Analyte	CCV 410-32359/13-A 08/17/2020 10:59											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	0.9486		0.999	95								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Lancaster Laboratories En Job No.: 410-10696-1

SDG No.:

ICV Source: Hg_1Cont_IV_00063 Concentration Units: ug/L

CCV Source: Hg_1Cal_CP_00062

Analyte	ICV 410-32834/7-A 08/18/2020 09:05				CCV 410-32834/13-A 08/18/2020 09:36				CCV 410-32834/14-A 08/18/2020 10:01			
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	2.687		2.50	107	1.021		0.999	102	1.004		0.999	101

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2A-IN
CALIBRATION VERIFICATIONS
METALS

Lab Name: Eurofins Lancaster Laboratories En Job No.: 410-10696-1

SDG No.:

ICV Source: Hg_1Cont_IV_00063 Concentration Units: ug/L

CCV Source: Hg_1Cal_CP_00062

Analyte	CCV 410-32834/13-A 08/18/2020 10:32											
	Found	C	True	%R	Found	C	True	%R	Found	C	True	%R
Mercury	1.042		0.999	104								

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.
Italicized analytes were not requested for this sequence.

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Method: 6010C Instrument ID: T70 - 11016

Lab Sample ID: CRI 410-42585/9 Concentration Units: mg/L

CRQL Check Standard Source: MT_IA_LLC_00026

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Calcium	0.200	0.2134		107	70-130
Iron	0.201	0.2223		110	70-130
Magnesium	0.100	0.1095		110	70-130
Potassium	0.301	0.4056		135	70-130
Sodium	1.00	1.049		105	70-130

Lab Sample ID: CRI 410-42585/56 Concentration Units: mg/L

CRQL Check Standard Source: MT_IA_LLC_00026

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Calcium	0.200	0.2220		111	70-130
Iron	0.201	0.2213		110	70-130
Magnesium	0.100	0.1118		112	70-130
Potassium	0.301	0.3652		121	70-130
Sodium	1.00	1.189		119	70-130

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Method: 6010C Instrument ID: T72 - 16417

Lab Sample ID: CRI 410-42633/9 Concentration Units: mg/L

CRQL Check Standard Source: MT_IA_LLC_00026

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Calcium	0.200	0.2229		111	70-130
Iron	0.201	0.1946	J	97	70-130
Magnesium	0.100	0.1069		107	70-130
Potassium	0.301	0.2606	J	87	70-130
Sodium	1.00	0.9408	J	94	70-130

Lab Sample ID: CRI 410-42633/26 Concentration Units: mg/L

CRQL Check Standard Source: MT_IA_LLC_00026

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Iron	0.201	0.2440		121	70-130
Magnesium	0.100	0.1103		110	70-130
Potassium	0.301	0.2633	J	88	70-130
Sodium	1.00	1.015		102	70-130

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Method: 6010C Instrument ID: T74 - 23745

Lab Sample ID: CRI 410-39416/8 Concentration Units: mg/L

CRQL Check Standard Source: MT_IC_LLC_00013

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Calcium	0.200	0.1821	J	91	70-130
Iron	0.201	0.2125		106	70-130
Magnesium	0.100	0.1044		104	70-130
Potassium	0.301	0.2677	J	89	70-130
Sodium	1.00	1.013		101	70-130

Lab Sample ID: CRI 410-39416/61 Concentration Units: mg/L

CRQL Check Standard Source: MT_IC_LLC_00013

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Calcium	0.200	0.1991	J	99	70-130
Iron	0.201	0.1859	J	92	70-130
Magnesium	0.100	0.1035		104	70-130
Potassium	0.301	0.2821	J	94	70-130
Sodium	1.00	1.087		109	70-130

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Method: 6020A Instrument ID: E07 - 27813

Lab Sample ID: CRI 410-34834/7 Concentration Units: ug/L

CRQL Check Standard Source: MT_MD_LLC_00021

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Aluminum	25.0	24.14	J	97	70-130
Antimony	0.996	1.190		119	70-130
Arsenic	2.01	2.020		100	70-130
Barium	1.99	1.910	J	96	70-130
Beryllium	0.503	0.4620	J	92	70-130
Cadmium	0.500	0.4590	J	92	70-130
Chromium	2.00	1.896	J	95	70-130
Cobalt	0.500	0.5050		101	70-130
Copper	0.999	0.9300	J	93	70-130
Lead	0.497	0.4730	J	95	70-130
Manganese	2.00	2.190		110	70-130
Nickel	1.01	0.9330	J	92	70-130
Selenium	1.01	0.9600	J	95	70-130
Silver	0.499	0.4680	J	94	70-130
Thallium	0.498	0.5350		107	70-130
Vanadium	0.501	0.4150	J	83	70-130
Zinc	10.0	8.610	J	86	70-130

Lab Sample ID: CRI 410-34834/50 Concentration Units: ug/L

CRQL Check Standard Source: MT_MD_LLC_00021

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Aluminum	25.0	26.28		105	70-130
Antimony	0.996	0.9650	J	97	70-130
Arsenic	2.01	1.855	J	92	70-130
Barium	1.99	1.953	J	98	70-130
Beryllium	0.503	0.4430	J	88	70-130
Cadmium	0.500	0.5080		102	70-130
Chromium	2.00	1.691	J	85	70-130
Cobalt	0.500	0.4570	J	91	70-130
Copper	0.999	0.9620	J	96	70-130
Lead	0.497	0.4760	J	96	70-130
Manganese	2.00	2.148		107	70-130
Nickel	1.01	0.7450	J	74	70-130
Selenium	1.01	0.8470	J	84	70-130

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Method: 6020A Instrument ID: E07 - 27813

Lab Sample ID: CRI 410-34834/50 Concentration Units: ug/L

CRQL Check Standard Source: MT_MD_LLC_00021

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Silver	0.499	0.4760	J	95	70-130
Thallium	0.498	0.4770	J	96	70-130
Vanadium	0.501	0.5580		111	70-130
Zinc	10.0	8.258	J	83	70-130

Lab Sample ID: CRI 410-37661/5 Concentration Units: ug/L

CRQL Check Standard Source: MT_MJ_CRI_00002

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Aluminum	25.0	25.71		103	70-130
Antimony	0.996	1.101		111	70-130
Arsenic	2.01	2.079		103	70-130
Barium	1.99	1.983	J	100	70-130
Beryllium	0.503	0.5290		105	70-130
Cadmium	0.500	0.4640	J	93	70-130
Chromium	2.00	2.428		121	70-130
Cobalt	0.500	0.5140		103	70-130
Copper	0.999	1.061		106	70-130
Lead	0.497	0.5120		103	70-130
Manganese	2.00	1.889	J	94	70-130
Nickel	1.01	1.181		117	70-130
Selenium	1.01	0.9220	J	91	70-130
Silver	0.499	0.4820	J	97	70-130
Thallium	0.498	0.6270		126	70-130
Vanadium	0.501	0.5840		117	70-130
Zinc	10.0	9.616	J	96	70-130

Lab Sample ID: CRI 410-37732/5 Concentration Units: ug/L

CRQL Check Standard Source: MT_MJ_CRI_00002

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Aluminum	25.0	25.71		103	70-130

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Method: 6020A Instrument ID: E07 - 27813

Lab Sample ID: CRI 410-37732/5 Concentration Units: ug/L

CRQL Check Standard Source: MT_MJ_CRI_00002

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Antimony	0.996	1.101		111	70-130
Arsenic	2.01	2.079		103	70-130
Barium	1.99	1.983	J	100	70-130
Beryllium	0.503	0.5290		105	70-130
Cadmium	0.500	0.4640	J	93	70-130
Chromium	2.00	2.428		121	70-130
Cobalt	0.500	0.5140		103	70-130
Copper	0.999	1.061		106	70-130
Lead	0.497	0.5120		103	70-130
Manganese	2.00	1.889	J	94	70-130
Nickel	1.01	1.181		117	70-130
Selenium	1.01	0.9220	J	91	70-130
Silver	0.499	0.4820	J	97	70-130
Thallium	0.498	0.6270		126	70-130
Vanadium	0.501	0.5840		117	70-130
Zinc	10.0	9.616	J	96	70-130

Lab Sample ID: CRI 410-37732/63 Concentration Units: ug/L

CRQL Check Standard Source: MT_MJ_CRI_00002

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Aluminum	25.0	26.67		107	70-130
Antimony	0.996	1.012		102	70-130
Arsenic	2.01	1.864	J	93	70-130
Barium	1.99	2.389		120	70-130
Beryllium	0.503	0.4720	J	94	70-130
Cadmium	0.500	0.5560		111	70-130
Chromium	2.00	2.180		109	70-130
Cobalt	0.500	0.4630	J	93	70-130
Copper	0.999	1.014		102	70-130
Lead	0.497	0.5260		106	70-130
Nickel	1.01	1.161		115	70-130
Selenium	1.01	1.003		99	70-130
Silver	0.499	0.5340		107	70-130
Thallium	0.498	0.5640		113	70-130

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Method: 6020A Instrument ID: E07 - 27813

Lab Sample ID: CRI 410-37732/63 Concentration Units: ug/L

CRQL Check Standard Source: MT_MJ_CRI_00002

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Vanadium	0.501	0.6380		127	70-130
Zinc	10.0	9.699	J	97	70-130

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Method: 6020A Instrument ID: E08 - 30647

Lab Sample ID: CRI 410-35326/5 Concentration Units: ug/L

CRQL Check Standard Source: MT_MF_LLC_00016

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Aluminum	25.0	28.75		115	70-130
Antimony	1.00	1.115		112	70-130
Arsenic	2.00	2.064		103	70-130
Barium	2.00	2.075		104	70-130
Beryllium	0.500	0.5120		102	70-130
Cadmium	0.500	0.4990	J	100	70-130
Chromium	2.00	2.244		112	70-130
Cobalt	0.500	0.5700		114	70-130
Copper	1.00	1.119		112	70-130
Lead	0.500	0.5430		109	70-130
Manganese	2.00	2.170		109	70-130
Nickel	1.00	1.071		107	70-130
Selenium	1.00	1.074		107	70-130
Silver	0.500	0.5490		110	70-130
Thallium	0.500	0.5140		103	70-130
Zinc	10.0	12.96		130	70-130

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

2B-IN
CRQL CHECK STANDARD
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Method: 7470A Instrument ID: M09 - 65200

Lab Sample ID: CRA 410-32359/11-A Concentration Units: ug/L

CRQL Check Standard Source: Hg_0.1Cal_CP_00067

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury	0.200	0.2593		130	50-150

Lab Sample ID: CRA 410-32359/11-A Concentration Units: ug/L

CRQL Check Standard Source: Hg_0.1Cal_CP_00067

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury	0.200	0.2464		123	50-150

Lab Sample ID: CRA 410-32834/11-A Concentration Units: ug/L

CRQL Check Standard Source: Hg_0.1Cont_IV_00056

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury	0.200	0.2488		124	50-150

Lab Sample ID: CRA 410-32834/12-A Concentration Units: ug/L

CRQL Check Standard Source: Hg_0.1Cont_IV_00056

Analyte	CRQL Check Standard				
	True	Found	Qualifiers	%R(1)	Limits
Mercury	0.200	0.2353		118	50-150

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IIB-IN

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	ICB 410-42585/8 09/10/2020 09:23		CCB 410-42585/18 09/10/2020 09:56		CCB 410-42585/30 09/10/2020 10:44		CCB 410-42585/42 09/10/2020 11:23	
		Found	C	Found	C	Found	C	Found	C
Calcium	0.200	ND		ND		ND		ND	
Iron	0.200	ND		ND		ND		ND	
Magnesium	0.100	ND		ND		ND		0.04210	J
Potassium	0.300	ND		ND		ND		ND	
Sodium	1.00	ND		ND		0.3893	J		

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	CCB 410-42585/50 09/10/2020 12:34		CCB 410-42585/55 09/10/2020 12:50					
		Found	C	Found	C	Found	C	Found	C
Calcium	0.200	ND		ND					
Iron	0.200	ND		ND					
Magnesium	0.100	ND		ND					
Potassium	0.300	ND		ND					
Sodium	1.00	ND		ND					

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	ICB 410-42633/8 09/10/2020 14:49		CCB 410-42633/18 09/10/2020 15:22		CCB 410-42633/28 09/10/2020 16:06			
		Found	C	Found	C	Found	C	Found	C
Potassium	0.300	ND		ND		ND			
Calcium	0.200	ND		ND		ND			
Iron	0.200	ND		ND		ND			
Magnesium	0.100	ND		ND		ND			
Sodium	1.00	ND		ND		ND			

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	ICB 410-39416/7 08/31/2020 06:06		CCB 410-39416/13 08/31/2020 06:25		CCB 410-39416/20 08/31/2020 06:48		CCB 410-39416/27 08/31/2020 16:34	
		Found	C	Found	C	Found	C	Found	C
Calcium	0.200	ND		ND		ND		ND	
Iron	0.200	ND		ND		ND		ND	
Magnesium	0.100	ND		ND		ND		ND	
Potassium	0.300	ND		ND		ND		ND	
Sodium	1.00	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Concentration Units: mg/L

Analyte	RL	CCB 410-39416/39 08/31/2020 17:12		CCB 410-39416/51 08/31/2020 17:51		CCB 410-39416/60 08/31/2020 18:20			
		Found	C	Found	C	Found	C	Found	C
Calcium	0.200	ND		ND		ND			
Iron	0.200	ND		ND		ND			
Magnesium	0.100	ND		ND		ND			
Potassium	0.300	ND		ND		ND			
Sodium	1.00	ND		ND		ND			

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 410-34834/6 08/18/2020 14:58		CCB 410-34834/14 08/18/2020 15:13		CCB 410-34834/16 08/18/2020 15:26		CCB 410-34834/28 08/18/2020 15:49	
		Found	C	Found	C	Found	C	Found	C
Arsenic	2.00	ND		ND		ND		ND	
Barium	2.00	ND		ND		ND		ND	
Beryllium	0.500	ND		ND		ND		ND	
Cadmium	0.500	ND		ND		ND		ND	
Chromium	2.00	0.3860	J	0.3460	J	ND		0.4750	J
Cobalt	0.500	0.1560	J	ND		ND		ND	
Copper	1.00	ND		ND		ND		ND	
Lead	0.500	ND		ND		ND		ND	
Manganese	2.00	ND		ND		ND		ND	
Nickel	1.00	ND		ND		ND		ND	
Selenium	1.00	ND		ND		ND		ND	
Silver	0.500	ND		ND		ND		ND	
Thallium	0.500	ND		ND		ND		ND	
Vanadium	0.500	ND		ND		ND		ND	
Zinc	10.0	ND		ND		ND		ND	
Aluminum	25.0	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 410-34834/40 08/18/2020 16:11							
		Found	C	Found	C	Found	C	Found	C
Arsenic	2.00	ND							
Barium	2.00	ND							
Beryllium	0.500	ND							
Cadmium	0.500	ND							
Chromium	2.00	ND							
Cobalt	0.500	ND							
Copper	1.00	ND							
Lead	0.500	ND							
Manganese	2.00	ND							
Nickel	1.00	ND							
Selenium	1.00	ND							
Silver	0.500	ND							
Thallium	0.500	ND							
Vanadium	0.500	ND							
Zinc	10.0	ND							
Aluminum	25.0	ND							

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 410-37661/4 08/26/2020 09:50		CCB 410-37661/12 08/26/2020 10:05		CCB 410-37661/57 08/26/2020 16:19		CCB 410-37661/64 08/26/2020 16:32	
		Found	C	Found	C	Found	C	Found	C
Beryllium	0.500	ND		ND		ND		ND	
Manganese	2.00	ND		ND		ND		0.8150	J
Silver	0.500	ND		ND		ND		ND	
Vanadium	0.500	0.2760	J	ND		ND		ND	
Aluminum	25.0	ND		ND		ND		ND	
Antimony	1.00	ND		ND		ND		ND	
Arsenic	2.00	ND		ND		ND		ND	
Barium	2.00	ND		ND		ND		ND	
Cadmium	0.500	ND		ND		ND		ND	
Chromium	2.00	ND		ND				ND	
Cobalt	0.500	ND		ND		ND		ND	
Copper	1.00	ND		ND		ND		ND	
Lead	0.500	ND		ND		ND		ND	
Nickel	1.00	ND		ND		ND		ND	
Selenium	1.00	ND		ND		ND		ND	
Zinc	10.0	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 410-37732/4 08/26/2020 09:50		CCB 410-37732/12 08/26/2020 10:05		CCB 410-37732/14 08/26/2020 19:13		CCB 410-37732/26 08/26/2020 19:35	
		Found	C	Found	C	Found	C	Found	C
Aluminum	25.0	ND		ND		ND		ND	
Antimony	1.00	ND		ND		ND		ND	
Arsenic	2.00	ND		ND		ND		ND	
Barium	2.00	ND		ND		ND		ND	
Beryllium	0.500	ND		ND		ND		ND	
Cadmium	0.500	ND		ND		ND		ND	
Chromium	2.00	ND		ND		ND		0.3660	J
Cobalt	0.500	ND		ND		ND		ND	
Copper	1.00	ND		ND		ND		ND	
Lead	0.500	ND		ND		ND		ND	
Manganese	2.00	ND		ND		ND		ND	
Nickel	1.00	ND		ND		ND		ND	
Selenium	1.00	ND		ND		ND		ND	
Silver	0.500	ND		ND		ND		ND	
Vanadium	0.500	0.2760	J	ND		0.2590	J	0.2570	J
Zinc	10.0	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 410-37732/38 08/26/2020 19:58		CCB 410-37732/50 08/26/2020 20:20		CCB 410-37732/62 08/26/2020 20:43			
		Found	C	Found	C	Found	C	Found	C
Aluminum	25.0	ND		ND		ND			
Antimony	1.00	ND		ND		ND			
Arsenic	2.00	ND		ND		ND			
Barium	2.00	ND		ND		ND			
Beryllium	0.500	ND		ND		ND			
Cadmium	0.500	ND		ND		ND			
Chromium	2.00	ND		0.3430	J	0.3980	J		
Cobalt	0.500	ND		ND		ND			
Copper	1.00	ND		ND		ND			
Lead	0.500	ND		ND		ND			
Manganese	2.00	0.6500	J	0.6640	J				
Nickel	1.00	ND		ND		ND			
Selenium	1.00	ND		ND		ND			
Silver	0.500	ND		ND		ND			
Vanadium	0.500	0.2370	J			ND			
Zinc	10.0	ND		ND		ND			

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 410-35326/4 08/19/2020 10:12		CCB 410-35326/12 08/19/2020 10:30		CCB 410-35326/14 08/19/2020 20:16		CCB 410-35326/26 08/19/2020 20:43	
		Found	C	Found	C	Found	C	Found	C
Aluminum	25.0	ND		ND		ND		ND	
Antimony	1.00	ND		ND		ND		ND	
Arsenic	2.00	ND		ND		ND		ND	
Barium	2.00	ND		ND		ND		ND	
Cadmium	0.500	ND		ND		ND		ND	
Chromium	2.00	ND		ND		ND		ND	
Cobalt	0.500	ND		ND		ND		ND	
Copper	1.00	ND		ND		ND		ND	
Lead	0.500	ND		ND		ND		ND	
Manganese	2.00	ND		ND		ND		ND	
Nickel	1.00	ND		ND		ND		ND	
Selenium	1.00	ND		ND		ND		ND	
Silver	0.500	ND		ND		ND		ND	
Thallium	0.500	ND		ND		ND		ND	
Zinc	10.0	ND		ND		ND		ND	
Beryllium	0.500	ND		ND		ND		ND	
Vanadium	0.500	ND		ND		ND			

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	CCB 410-35326/38 08/19/2020 21:10		CCB 410-35326/49 08/19/2020 21:35					
		Found	C	Found	C	Found	C	Found	C
Aluminum	25.0	ND		ND					
Antimony	1.00	ND		ND					
Arsenic	2.00	ND		ND					
Barium	2.00	ND		ND					
Cadmium	0.500	ND		ND					
Chromium	2.00	ND		ND					
Cobalt	0.500	ND		ND					
Copper	1.00	ND		ND					
Lead	0.500	ND		ND					
Manganese	2.00	ND							
Nickel	1.00	ND		ND					
Selenium	1.00	ND		ND					
Silver	0.500	ND		ND					
Thallium	0.500	ND		ND					
Zinc	10.0	ND		ND					
Beryllium	0.500	ND		ND					
Vanadium	0.500	ND		ND					

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 410-32359/9-A 08/17/2020 08:40		CCB 410-32359/10-A 08/17/2020 10:12		CCB 410-32359/10-A 08/17/2020 10:37		CCB 410-32359/10-A 08/17/2020 11:01	
		Found	C	Found	C	Found	C	Found	C
Mercury	0.200	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
INSTRUMENT BLANKS
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Concentration Units: ug/L

Analyte	RL	ICB 410-32834/9-A 08/18/2020 09:08		CCB 410-32834/10-A 08/18/2020 09:38		CCB 410-32834/10-A 08/18/2020 10:03		CCB 410-32834/10-A 08/18/2020 10:34	
		Found	C	Found	C	Found	C	Found	C
Mercury	0.200	ND		ND		ND		ND	

Italicized analytes were not requested for this sequence.

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 410-37214/1-A

Instrument Code: T74 - 23745 Batch No.: 39416

CAS No.	Analyte	Concentration	C	Q	Method
7440-70-2	Calcium	ND			6010C
7439-89-6	Iron	ND			6010C
7439-95-4	Magnesium	ND			6010C
7440-09-7	Potassium	ND			6010C
7440-23-5	Sodium	ND			6010C

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Concentration Units: mg/L Lab Sample ID: MB 410-42157/1-A

Instrument Code: T70 - 11016 Batch No.: 42585

CAS No.	Analyte	Concentration	C	Q	Method
7440-70-2	Calcium	ND			6010C
7439-89-6	Iron	ND			6010C
7439-95-4	Magnesium	0.04576	J		6010C
7440-09-7	Potassium	ND			6010C
7440-23-5	Sodium	ND			6010C

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 410-33581/1-A

Instrument Code: E07 - 27813 Batch No.: 34834

CAS No.	Analyte	Concentration	C	Q	Method
7440-36-0	Antimony	ND			6020A
7440-38-2	Arsenic	ND			6020A
7440-39-3	Barium	ND			6020A
7440-41-7	Beryllium	ND			6020A
7440-43-9	Cadmium	ND			6020A
7440-47-3	Chromium	0.4390	J		6020A
7440-48-4	Cobalt	ND			6020A
7440-50-8	Copper	ND			6020A
7439-92-1	Lead	ND			6020A
7439-96-5	Manganese	ND			6020A
7440-02-0	Nickel	ND			6020A
7782-49-2	Selenium	ND			6020A
7440-22-4	Silver	ND			6020A
7440-28-0	Thallium	ND			6020A
7440-62-2	Vanadium	ND			6020A
7440-66-6	Zinc	ND			6020A

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 410-33792/1-A

Instrument Code: E08 - 30647 Batch No.: 35326

CAS No.	Analyte	Concentration	C	Q	Method
7429-90-5	Aluminum	ND			6020A
7440-36-0	Antimony	ND			6020A
7440-38-2	Arsenic	ND			6020A
7440-39-3	Barium	ND			6020A
7440-43-9	Cadmium	ND			6020A
7440-47-3	Chromium	ND			6020A
7440-48-4	Cobalt	ND			6020A
7440-50-8	Copper	ND			6020A
7439-92-1	Lead	ND			6020A
7439-96-5	Manganese	ND			6020A
7440-02-0	Nickel	ND			6020A
7782-49-2	Selenium	ND			6020A
7440-22-4	Silver	ND			6020A
7440-28-0	Thallium	ND			6020A
7440-66-6	Zinc	ND			6020A

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 410-33792/1-A

Instrument Code: E07 - 27813 Batch No.: 37661

CAS No.	Analyte	Concentration	C	Q	Method
7440-41-7	Beryllium	ND			6020A
7440-62-2	Vanadium	ND			6020A

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 410-33581/1-A

Instrument Code: E07 - 27813 Batch No.: 37732

CAS No.	Analyte	Concentration	C	Q	Method
7429-90-5	Aluminum	ND			6020A

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 410-33595/1-A

Instrument Code: M09 - 65200 Batch No.: 33995

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	ND			7470A

3-IN
METHOD BLANK
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Concentration Units: ug/L Lab Sample ID: MB 410-33593/1-A

Instrument Code: M09 - 65200 Batch No.: 34494

CAS No.	Analyte	Concentration	C	Q	Method
7439-97-6	Mercury	ND			7470A

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICSA 410-42585/10 Instrument ID: T70 - 11016

Lab File ID: 2025401T70.asc ICS Source: MT_IA_ICSA_00023

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Calcium	**506**	**523**	**103**
Iron	**202**	**202**	**100**
Magnesium	**500**	**538**	**108**
Potassium		**-0.0067**	
Sodium		**0.0473**	
Aluminum	*502*	*498*	*99*
Antimony		*-0.0132*	
Arsenic		*-0.0170*	
Barium		*0.0024*	
Beryllium		*-0.0004*	
Boron		*-0.0288*	
Cadmium		*0.0002*	
Chromium		*0.0025*	
Cobalt		*0.0008*	
Copper		*0.0142*	
Lead		*-0.0195*	
Lithium		*-0.0120*	
Manganese		*0.0009*	
Molybdenum		*-0.0025*	
Nickel		*0.0037*	
Phosphorus		*0.0124*	
Selenium		*0.0089*	
Silicon		*0.0203*	
Silver		*0.0011*	
Strontium		*0.0009*	
Sulfur		*0.0046*	
Thallium		*-0.0253*	
Thorium		*0.0015*	
Tin		*0.0042*	
Titanium		*0.0018*	
Tungsten		*0.0339*	
Vanadium		*0.0018*	
Zinc		*0.0049*	
Zirconium		*0.0065*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICSAB 410-42585/11 Instrument ID: T70 - 11016

Lab File ID: 2025401T70.asc ICS Source: MT_IA_ICSAB_00025

Concentration Units: mg/L

Analyte	True Solution AB	Found Solution AB	Found Percent Recovery
Calcium	**506**	**522**	**103**
Iron	**202**	**204**	**101**
Magnesium	**500**	**531**	**106**
Potassium		**-0.0294**	
Sodium		**0.0523**	
Aluminum	*502*	*505*	*101*
Antimony	*0.599*	*0.592*	*99*
Arsenic	*0.100*	*0.0865*	*87*
Barium	*0.500*	*0.538*	*108*
Beryllium	*0.500*	*0.492*	*98*
Boron		*-0.0295*	
Cadmium	*1.00*	*0.943*	*94*
Chromium	*0.500*	*0.510*	*102*
Cobalt	*0.500*	*0.494*	*99*
Copper	*0.500*	*0.594*	*119*
Lead	*0.550*	*0.532*	*97*
Lithium		*-0.0106*	
Manganese	*0.500*	*0.511*	*102*
Molybdenum		*-0.0033*	
Nickel	*1.00*	*0.951*	*95*
Phosphorus		*0.0183*	
Selenium	*0.549*	*0.514*	*94*
Silicon		*0.0168*	
Silver	*0.200*	*0.223*	*112*
Strontium		*0.0010*	
Sulfur		*-0.0156*	
Thallium	*0.100*	*0.0873*	*87*
Thorium		*-0.0070*	
Tin		*0.0047*	
Titanium		*0.0018*	
Tungsten		*0.0226*	
Vanadium	*0.500*	*0.520*	*104*
Zinc	*1.00*	*1.02*	*102*
Zirconium		*0.0070*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICSA 410-42633/10 Instrument ID: T72 - 16417

Lab File ID: T2025403T72.asc ICS Source: MT_IA_ICSA_00023

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Potassium		**-0.0318**	
Aluminum	*502*	*499*	*100*
Antimony		*0.0324*	
Arsenic		*0.0006*	
Barium		*0.0022*	
Beryllium		*0.0003*	
Boron		*-0.0024*	
Cadmium		*-0.0052*	
Calcium	*506*	*506*	*100*
Chromium		*0.0049*	
Cobalt		*-0.0003*	
Copper		*0.0149*	
Iron	*202*	*199*	*98*
Lead		*0.0068*	
Lithium		*-0.0008*	
Magnesium	*500*	*537*	*107*
Manganese		*0.0005*	
Molybdenum		*-0.0069*	
Nickel		*0.0100*	
Phosphorus		*0.0205*	
Selenium		*-0.0379*	
Silicon		*0.0494*	
Sodium		*0.0948*	
Strontium		*0.0008*	
Sulfur		*-0.0664*	
Thallium		*0.0169*	
Thorium		*-0.159*	
Tin		*0.0067*	
Titanium		*0.0003*	
Tungsten		*0.0013*	
Vanadium		*-0.0026*	
Zinc		*-0.0007*	
Zirconium		*0.0046*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICSAB 410-42633/11 Instrument ID: T72 - 16417

Lab File ID: T2025403T72.asc ICS Source: MT_IA_ICSAB_00025

Concentration Units: mg/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Potassium		**-0.111**	
Aluminum	*502*	*502*	*100*
Antimony	*0.599*	*0.620*	*103*
Arsenic	*0.100*	*0.106*	*106*
Barium	*0.500*	*0.512*	*102*
Beryllium	*0.500*	*0.491*	*98*
Boron		*-0.0027*	
Cadmium	*1.00*	*0.918*	*92*
Calcium	*506*	*503*	*99*
Chromium	*0.500*	*0.474*	*95*
Cobalt	*0.500*	*0.467*	*93*
Copper	*0.500*	*0.556*	*111*
Iron	*202*	*198*	*98*
Lead	*0.550*	*0.515*	*94*
Lithium		*-0.0007*	
Magnesium	*500*	*532*	*106*
Manganese	*0.500*	*0.492*	*99*
Molybdenum		*-0.0069*	
Nickel	*1.00*	*0.918*	*92*
Phosphorus		*0.0261*	
Selenium	*0.549*	*0.471*	*86*
Silicon		*0.0044*	
Silver	*0.200*	*0.176*	*88*
Sodium		*0.137*	
Strontium		*0.0008*	
Sulfur		*-0.0735*	
Thallium	*0.100*	*0.107*	*107*
Thorium		*-0.241*	
Tin		*0.0082*	
Titanium		*0.0007*	
Tungsten		*0.0001*	
Vanadium	*0.500*	*0.494*	*99*
Zinc	*1.00*	*0.978*	*98*
Zirconium		*0.0097*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICSA 410-39416/9 Instrument ID: T74 - 23745

Lab File ID: T2024407T74.asc ICS Source: MT_IC_ICSA_00008

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Calcium	**505**	**475**	**94**
Iron	**201**	**191**	**95**
Magnesium	**501**	**456**	**91**
Potassium		**-0.155**	
Sodium		**0.0617**	
Aluminum	*501*	*479*	*96*
Antimony		*0.0085*	
Arsenic		*-0.0147*	
Barium		*0.0022*	
Beryllium		*0.0002*	
Cadmium		*0.0029*	
Chromium		*-0.0031*	
Cobalt		*0.0007*	
Copper		*0.0017*	
Lead		*-0.0025*	
Lithium		*-0.0049*	
Manganese		*0.0028*	
Molybdenum		*-0.0026*	
Nickel		*0.0061*	
Phosphorus		*0.0213*	
Selenium		*0.0076*	
Silicon		*0.0220*	
Silver		*0.0027*	
Strontium		*-0.0080*	
Sulfur		*-0.166*	
Thallium		*0.0084*	
Thorium		*0.181*	
Tin		*0.0016*	
Titanium		*-0.0019*	
Tungsten		*0.0146*	
Vanadium		*-0.0005*	
Zinc		*0.0094*	
Zirconium		*-0.0015*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICSAB 410-39416/10 Instrument ID: T74 - 23745

Lab File ID: T2024407T74.asc ICS Source: MT_IC_ICSAB_00010

Concentration Units: mg/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Calcium	**506**	**474**	**94**
Iron	**202**	**191**	**95**
Magnesium	**500**	**446**	**89**
Potassium		**-0.210**	
Sodium		**0.0818**	
Aluminum	*502*	*483*	*96*
Antimony	*0.599*	*0.605*	*101*
Barium	*0.500*	*0.509*	*102*
Beryllium	*0.500*	*0.515*	*103*
Boron		*-0.253*	
Cadmium	*1.00*	*0.951*	*95*
Chromium	*0.500*	*0.472*	*95*
Cobalt	*0.500*	*0.472*	*94*
Copper	*0.500*	*0.535*	*107*
Lead	*0.550*	*0.505*	*92*
Lithium		*-0.0077*	
Manganese	*0.500*	*0.499*	*100*
Molybdenum		*-0.0042*	
Nickel	*1.00*	*0.924*	*92*
Phosphorus		*0.0117*	
Selenium	*0.549*	*0.557*	*101*
Silicon		*0.0082*	
Silver	*0.200*	*0.224*	*112*
Strontium		*-0.0079*	
Sulfur		*-0.137*	
Thallium	*0.100*	*0.105*	*105*
Thorium		*0.198*	
Tin		*0.0013*	
Titanium		*-0.0013*	
Tungsten		*0.0078*	
Vanadium	*0.500*	*0.491*	*98*
Zinc	*1.00*	*1.03*	*103*
Zirconium		*-0.0047*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICSA 410-39416/21 Instrument ID: T74 - 23745

Lab File ID: T2024407T74.asc ICS Source: MT_IC_ICSA_00008

Concentration Units: mg/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Calcium	**505**	**484**	**96**
Iron	**201**	**188**	**93**
Magnesium	**501**	**468**	**93**
Potassium		**-0.138**	
Sodium		**0.0921**	
Aluminum	*501*	*470*	*94*
Antimony		*-0.0095*	
Arsenic		*-0.0146*	
Barium		*0.0021*	
Beryllium		*0.0002*	
Cadmium		*0.0036*	
Chromium		*-0.0031*	
Cobalt		*0.0033*	
Copper		*0.0025*	
Lead		*0.0023*	
Lithium		*-0.0029*	
Manganese		*0.0033*	
Molybdenum		*-0.0035*	
Nickel		*0.0028*	
Phosphorus		*0.0057*	
Selenium		*0.0089*	
Silicon		*0.0154*	
Silver		*0.0036*	
Strontium		*-0.0084*	
Sulfur		*-0.116*	
Thallium		*0.0031*	
Thorium		*0.186*	
Tin		*0.0032*	
Titanium		*-0.0016*	
Tungsten		*0.0018*	
Vanadium		*-0.0005*	
Zinc		*0.0112*	
Zirconium		*-0.0065*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICSAB 410-39416/22 Instrument ID: T74 - 23745

Lab File ID: T2024407T74.asc ICS Source: MT_IC_ICSAB_00010

Concentration Units: mg/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Calcium	**506**	**489**	**97**
Iron	**202**	**191**	**94**
Magnesium	**500**	**454**	**91**
Potassium		**-0.224**	
Sodium		**0.108**	
Aluminum	*502*	*479*	*96*
Antimony	*0.599*	*0.575*	*96*
Barium	*0.500*	*0.500*	*100*
Beryllium	*0.500*	*0.507*	*101*
Boron		*-0.251*	
Cadmium	*1.00*	*0.947*	*95*
Chromium	*0.500*	*0.467*	*93*
Cobalt	*0.500*	*0.470*	*94*
Copper	*0.500*	*0.534*	*107*
Lead	*0.550*	*0.508*	*92*
Lithium		*-0.0069*	
Manganese	*0.500*	*0.502*	*100*
Molybdenum		*-0.0025*	
Nickel	*1.00*	*0.933*	*93*
Phosphorus		*0.0156*	
Selenium	*0.549*	*0.555*	*101*
Silicon		*-0.0008*	
Silver	*0.200*	*0.223*	*111*
Strontium		*-0.0085*	
Sulfur		*-0.137*	
Thallium	*0.100*	*0.101*	*101*
Thorium		*0.208*	
Tin		*0.0073*	
Titanium		*-0.0014*	
Tungsten		*-0.0023*	
Vanadium	*0.500*	*0.487*	*97*
Zinc	*1.00*	*1.04*	*104*
Zirconium		*-0.0052*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICSA 410-34834/8 Instrument ID: E07 - 27813

Lab File ID: 013ICSA.d ICS Source: MT_MD_ICSA_00015

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Antimony	**0.400**	**0.388**	
Arsenic	**0.300**	**0.480**	
Barium	**0.800**	**0.463**	
Beryllium		**0.0320**	
Cadmium	**0.291**	**0.252**	
Chromium	**0.700**	**1.49**	
Cobalt	**2.50**	**1.73**	
Copper	**0.600**	**0.881**	
Lead	**0.400**	**0.335**	
Manganese	**2.80**	**2.14**	
Nickel	**0.900**	**1.56**	
Selenium		**0.0440**	
Silver		**0.0190**	
Thallium		**0.0090**	
Vanadium	**0.100**	**0.0560**	
Zinc	**1.10**	**3.13**	
Molybdenum	*2000*	*1690*	*84*
Potassium	*100000*	*79533*	*80*
Strontium	*2.62*	*1.81*	
Tin		*0.0770*	
Uranium		*0.0600*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICSAB 410-34834/9 Instrument ID: E07 - 27813

Lab File ID: 014ICSB.d ICS Source: MT_MD_ICSAB_00015

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Arsenic	**100**	**104**	**104**
Barium	**0.800**	**0.774**	
Beryllium		**0.0060**	
Cadmium	**100**	**101**	**101**
Chromium	**201**	**194**	**96**
Cobalt	**203**	**180**	**89**
Copper	**201**	**198**	**99**
Lead	**0.400**	**0.405**	
Manganese	**203**	**198**	**98**
Nickel	**201**	**194**	**97**
Selenium	**100**	**106**	**106**
Silver	**50.0**	**48.4**	**97**
Thallium		**0.0080**	
Vanadium	**200**	**195**	**97**
Zinc	**101**	**107**	**106**
Aluminum	*100000*	*97460*	*97*
Calcium	*300000*	*275513*	*92*
Iron	*250000*	*243636*	*97*
Magnesium	*100000*	*90093*	*90*
Molybdenum	*2000*	*2100*	*105*
Potassium	*100000*	*97422*	*97*
Sodium	*250000*	*222769*	*89*
Strontium	*2.62*	*2.23*	
Tin		*0.0180*	
Titanium	*2000*	*1883*	*94*
Uranium		*0.0610*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICSA 410-37661/6 Instrument ID: E07 - 27813

Lab File ID: 012ICSA.d ICS Source: MT_MJ_ICSA_00002

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Beryllium		**0.0150**	
Manganese	**2.80**	**2.11**	
Silver		**0.0250**	
Vanadium	**0.100**	**0.0610**	
Aluminum	*100000*	*105183*	*105*
Antimony	*0.400*	*0.438*	
Arsenic	*0.300*	*0.549*	
Barium	*0.800*	*0.929*	
Cadmium	*0.291*	*0.426*	
Calcium	*300000*	*322258*	*107*
Chromium	*0.700*	*1.71*	
Cobalt	*2.50*	*2.25*	
Copper	*0.600*	*0.963*	
Iron	*250000*	*257839*	*103*
Lead	*0.400*	*0.465*	
Magnesium	*100000*	*99557*	*100*
Molybdenum	*2000*	*2258*	*113*
Nickel	*0.900*	*2.59*	
Potassium	*100000*	*104407*	*104*
Selenium		*0.0250*	
Sodium	*250000*	*230310*	*92*
Strontium	*2.62*	*2.48*	
Thallium		*0.0640*	
Tin		*0.428*	
Titanium	*2000*	*2052*	*103*
Uranium		*0.0570*	
Zinc	*1.10*	*2.48*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICSA 410-37732/6 Instrument ID: E07 - 27813

Lab File ID: 012ICSA.d ICS Source: MT_MJ_ICSA_00002

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	**100000**	**105183**	**105**
Antimony	**0.400**	**0.438**	
Arsenic	*0.300*	*0.549*	
Barium	*0.800*	*0.929*	
Beryllium		*0.0150*	
Cadmium	*0.291*	*0.426*	
Calcium	*300000*	*322258*	*107*
Chromium	*0.700*	*1.71*	
Cobalt	*2.50*	*2.25*	
Copper	*0.600*	*0.963*	
Iron	*250000*	*257839*	*103*
Lead	*0.400*	*0.465*	
Magnesium	*100000*	*99557*	*100*
Manganese	*2.80*	*2.11*	
Molybdenum	*2000*	*2258*	*113*
Nickel	*0.900*	*2.59*	
Potassium	*100000*	*104407*	*104*
Selenium		*0.0250*	
Silver		*0.0250*	
Sodium	*250000*	*230310*	*92*
Strontium	*2.62*	*2.48*	
Thallium		*0.0640*	
Tin		*0.428*	
Titanium	*2000*	*2052*	*103*
Uranium		*0.0570*	
Vanadium	*0.100*	*0.0610*	
Zinc	*1.10*	*2.48*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICSAB 410-37661/7 Instrument ID: E07 - 27813

Lab File ID: 013ICSB.d ICS Source: MT_MJ_ICSAB_00003

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Beryllium		**0.0060**	
Manganese	**203**	**203**	**100**
Silver	**50.0**	**50.7**	**101**
Vanadium	**200**	**201**	**101**
Aluminum	*100000*	*102228*	*102*
Antimony	*0.400*	*0.412*	
Arsenic	*100*	*108*	*108*
Barium	*0.800*	*0.826*	
Cadmium	*100*	*102*	*102*
Calcium	*300000*	*313601*	*105*
Chromium	*201*	*191*	*95*
Cobalt	*203*	*192*	*95*
Copper	*201*	*201*	*100*
Iron	*250000*	*251839*	*101*
Lead	*0.400*	*0.435*	
Magnesium	*100000*	*97166*	*97*
Molybdenum	*2000*	*2246*	*112*
Nickel	*201*	*204*	*102*
Potassium	*100000*	*102761*	*103*
Selenium	*100*	*104*	*104*
Sodium	*250000*	*226066*	*90*
Strontium	*2.62*	*2.46*	
Thallium		*0.0360*	
Tin		*0.290*	
Titanium	*2000*	*2042*	*102*
Uranium		*0.0570*	
Zinc	*101*	*104*	*103*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICSAB 410-37732/7 Instrument ID: E07 - 27813

Lab File ID: 013ICSB.d ICS Source: MT_MJ_ICSAB_00003

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Aluminum	**100000**	**102228**	**102**
Antimony	**0.400**	**0.412**	
Arsenic	*100*	*108*	*108*
Barium	*0.800*	*0.826*	
Beryllium		*0.0060*	
Cadmium	*100*	*102*	*102*
Calcium	*300000*	*313601*	*105*
Chromium	*201*	*191*	*95*
Cobalt	*203*	*192*	*95*
Copper	*201*	*201*	*100*
Iron	*250000*	*251839*	*101*
Lead	*0.400*	*0.435*	
Magnesium	*100000*	*97166*	*97*
Manganese	*203*	*203*	*100*
Molybdenum	*2000*	*2246*	*112*
Nickel	*201*	*204*	*102*
Potassium	*100000*	*102761*	*103*
Selenium	*100*	*104*	*104*
Silver	*50.0*	*50.7*	*101*
Sodium	*250000*	*226066*	*90*
Strontium	*2.62*	*2.46*	
Thallium		*0.0360*	
Tin		*0.290*	
Titanium	*2000*	*2042*	*102*
Uranium		*0.0570*	
Vanadium	*200*	*201*	*101*
Zinc	*101*	*104*	*103*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICSA 410-35326/6 Instrument ID: E08 - 30647

Lab File ID: 012ICSA.d ICS Source: MT_MF_ICS2A_00004

Concentration Units: ug/L

Analyte	True Solution A	Found Solution A	Percent Recovery
Aluminum	**100000**	**95384**	**95**
Antimony	**0.400**	**0.391**	
Arsenic	**0.300**	**0.483**	
Barium	**0.800**	**0.843**	
Cadmium	**0.291**	**0.307**	
Chromium	**0.700**	**1.53**	
Cobalt	**2.50**	**2.40**	
Copper	**0.600**	**0.935**	
Lead	**0.400**	**0.407**	
Manganese	**2.80**	**2.55**	
Nickel	**0.900**	**2.57**	
Selenium		**0.0440**	
Silver		**0.0860**	
Thallium		**0.0100**	
Zinc	**1.10**	**3.80**	
Beryllium		*0.0040*	
Calcium	*300000*	*284469*	*95*
Iron	*250000*	*237678*	*95*
Magnesium	*100000*	*91003*	*91*
Molybdenum	*2000*	*2114*	*106*
Potassium	*100000*	*97604*	*98*
Sodium	*250000*	*229844*	*92*
Strontium	*2.62*	*2.50*	
Tin		*0.109*	
Titanium	*2000*	*1929*	*96*
Uranium		*0.0610*	
Vanadium	*0.100*	*-0.475*	

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

4A-IN
INTERFERENCE CHECK STANDARD
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Lab Sample ID: ICSAB 410-35326/7 Instrument ID: E08 - 30647

Lab File ID: 013ICSB.d ICS Source: MT_MF_ICS2B_00004

Concentration Units: ug/L

Analyte	True Solution AB	Found Solution AB	Percent Recovery
Aluminum	**100000**	**92736**	**93**
Antimony	**0.400**	**0.423**	
Arsenic	**100**	**107**	**107**
Barium	**0.800**	**0.775**	
Cadmium	**100**	**99.4**	**99**
Chromium	**201**	**187**	**93**
Cobalt	**203**	**196**	**97**
Copper	**201**	**192**	**95**
Lead	**0.400**	**0.396**	
Manganese	**203**	**196**	**97**
Nickel	**201**	**199**	**99**
Selenium	**100**	**105**	**105**
Silver	**50.0**	**50.1**	**100**
Thallium		**0.0060**	
Zinc	**101**	**106**	**105**
Beryllium		*0.0110*	
Calcium	*300000*	*279977*	*93*
Iron	*250000*	*231710*	*93*
Magnesium	*100000*	*88753*	*89*
Molybdenum	*2000*	*2101*	*105*
Potassium	*100000*	*96626*	*97*
Sodium	*250000*	*224121*	*90*
Strontium	*2.62*	*2.41*	
Tin		*0.0500*	
Titanium	*2000*	*1918*	*96*
Uranium		*0.0490*	
Vanadium	*200*	*187*	*94*

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM IVA-IN

LINEAR RANGE CHECK STANDARD
METALS -

Lab ID: LRC 410-39416/14

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source:

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Iron		ND						6010C
Magnesium		ND						6010C
Potassium		ND						6010C
Sodium		ND						6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

LINEAR RANGE CHECK STANDARD
METALS -

Lab ID: LRC 410-39416/15

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source: MT_IC_LRS4_00015

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Calcium	500	473.2		95				6010C
Iron	300	286.6		96				6010C
Magnesium	500	446.5		89				6010C
Potassium	500	493.4		99				6010C
Sodium	500	468.0		94				6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

LINEAR RANGE CHECK STANDARD
METALS -

Lab ID: LRC 410-39416/16

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source:

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Iron		ND						6010C
Magnesium		ND						6010C
Potassium		0.2486	J					6010C
Sodium		ND						6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

LINEAR RANGE CHECK STANDARD
METALS -

Lab ID: LRC 410-39416/17

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source: MT_IC_LRS5_00014

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Calcium	250	243.9		98				6010C
Iron	150	146.6		98				6010C
Magnesium	250	242.3		97				6010C
Potassium	250	248.9		100				6010C
Sodium	250	243.1		97				6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 410-37214/2-A

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source: MT_ICPSPK_SCP_00002

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Calcium	0.400	0.4153		104	80	120		6010C
Iron	0.402	0.4078		101	80	120		6010C
Magnesium	0.200	0.2077		104	80	120		6010C
Potassium	5.60	5.807		104	80	120		6010C
Sodium	2.00	2.151		108	80	120		6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

LINEAR RANGE CHECK STANDARD
METALS -

Lab ID: LRC 410-42585/12

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source:

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Calcium		0.1571	J					6010C
Iron		ND						6010C
Magnesium		0.06910	J					6010C
Potassium		ND						6010C
Sodium		ND						6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

LINEAR RANGE CHECK STANDARD
METALS -

Lab ID: LRC 410-42585/13

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source: MT_IA_LRS4_00030

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Calcium	500	527.4		105				6010C
Iron	300	317.6		106				6010C
Magnesium	500	523.6		105				6010C
Potassium	500	516.0		103				6010C
Sodium	500	525.4		105				6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

LINEAR RANGE CHECK STANDARD
METALS -

Lab ID: LRC 410-42585/14

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source:

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Calcium		ND						6010C
Iron		ND						6010C
Magnesium		0.09520	J					6010C
Potassium		0.4665						6010C
Sodium		ND						6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

LINEAR RANGE CHECK STANDARD
METALS -

Lab ID: LRC 410-42585/15

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source: MT_IA_LRS5_00030

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Calcium	250	274.3		110				6010C
Iron	150	157.8		105				6010C
Magnesium	250	261.0		104				6010C
Potassium	250	256.7		103				6010C
Sodium	250	264.5		106				6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 410-42157/2-A

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source: MT_ICPSPK_SCP_00002

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Iron	0.402	0.4415		110	80	120		6010C
Magnesium	0.200	0.2108		105	80	120		6010C
Sodium	2.00	2.168		108	80	120		6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 410-42157/2-A

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source: MT_ICPSPK_SCP_00002

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Calcium	0.400	0.3970		99	80	120		6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

LINEAR RANGE CHECK STANDARD
METALS -

Lab ID: LRC 410-42633/12

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source:

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Calcium		ND						6010C
Iron		ND						6010C
Magnesium		ND						6010C
Potassium		ND						6010C
Sodium		ND						6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

LINEAR RANGE CHECK STANDARD
METALS -

Lab ID: LRC 410-42633/13

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source: MT_IA_LRS4_00030

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Calcium	500	496.2		99				6010C
Iron	300	300.2		100				6010C
Magnesium	500	519.9		104				6010C
Potassium	500	533.3		107				6010C
Sodium	500	521.7		104				6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

LINEAR RANGE CHECK STANDARD
METALS -

Lab ID: LRC 410-42633/14

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source:

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Calcium		0.09740	J					6010C
Iron		ND						6010C
Magnesium		0.07610	J					6010C
Potassium		0.3303						6010C
Sodium		0.2956	J					6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

LINEAR RANGE CHECK STANDARD
METALS -

Lab ID: LRC 410-42633/15

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source: MT_IA_LRS5_00029

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Calcium	250	258.1		103				6010C
Iron	150	154.7		103				6010C
Magnesium	250	264.4		106				6010C
Potassium	250	277.2		111				6010C
Sodium	250	273.4		109				6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 410-42157/2-A

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source: MT_KNiZn_IV_00011

Analyte	Water(mg/L)							
	True	Found	C	%R	Limits		Q	Method
Potassium	5.60	5.448		97	80	120		6010C

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

LINEAR RANGE CHECK STANDARD
METALS -

Lab ID: LRC 410-34834/10

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source: MT_MD_LRS3_00011

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Aluminum	50000	46400		93	90	110		6020A
Antimony	500	484.7		97	90	110		6020A
Arsenic	500	463.5		93	90	110		6020A
Barium	500	461.0		92	90	110		6020A
Beryllium	500	470.4		94	90	110		6020A
Cadmium	500	458.4		92	90	110		6020A
Chromium	500	473.8		95	90	110		6020A
Cobalt	500	450.0		90	90	110		6020A
Copper	500	455.9		91	90	110		6020A
Lead	500	492.6		99	90	110		6020A
Manganese	500	476.6		95	90	110		6020A
Nickel	500	474.0		95	90	110		6020A
Selenium	500	464.4		93	90	110		6020A
Silver	500	455.5		91	90	110		6020A
Thallium	500	516.9		103	90	110		6020A
Vanadium	500	478.2		96	90	110		6020A
Zinc	500	458.8		92	90	110		6020A

Calculations are performed before rounding to avoid round-off errors in calculated results.

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 410-33581/2-A

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source: MT_MSSPK_SCP_00008

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Arsenic	9.89	10.50		106	85	120		6020A
Barium	49.6	52.30		105	80	120		6020A
Beryllium	4.02	4.098		102	90	112		6020A
Cadmium	5.00	5.117		102	86	113		6020A
Chromium	50.2	52.12		104	90	115		6020A
Cobalt	250	242.1		97	90	113		6020A
Copper	50.0	52.49		105	80	120		6020A
Lead	4.92	5.342		109	90	115		6020A
Manganese	50.2	53.88		107	89	120		6020A
Nickel	50.2	53.18		106	90	114		6020A
Selenium	10.0	10.19		102	80	120		6020A
Silver	50.3	51.22		102	88	113		6020A
Thallium	2.00	2.089		104	80	120		6020A
Vanadium	50.0	52.77		106	90	115		6020A
Zinc	502	531.8		106	90	115		6020A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

LINEAR RANGE CHECK STANDARD
METALS -

Lab ID: LRC 410-35326/8

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source: MT_MF_LRS3_00003

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Aluminum	50000	48310		97	90	110		6020A
Antimony	500	494.6		99	90	110		6020A
Arsenic	500	486.2		97	90	110		6020A
Barium	500	473.0		95	90	110		6020A
Beryllium	500	472.3		94	90	110		6020A
Cadmium	500	467.2		93	90	110		6020A
Chromium	500	474.7		95	90	110		6020A
Cobalt	500	476.6		95	90	110		6020A
Copper	500	454.6		91	90	110		6020A
Lead	500	494.5		99	90	110		6020A
Manganese	500	490.0		98	90	110		6020A
Nickel	500	464.7		93	90	110		6020A
Selenium	500	476.1		95	90	110		6020A
Thallium	500	521.2		104	90	110		6020A
Vanadium	500	469.0		94	90	110		6020A
Zinc	500	470.7		94	90	110		6020A

Calculations are performed before rounding to avoid round-off errors in calculated results.

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 410-33792/2-A

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source: MT_MSSPK_SCP_00008

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Aluminum	199	199.3		100	87	119		6020A
Antimony	6.02	6.135		102	80	120		6020A
Arsenic	9.89	10.81		109	85	120		6020A
Barium	49.6	54.69		110	80	120		6020A
Cadmium	5.00	5.417		108	86	113		6020A
Chromium	50.2	53.87		107	90	115		6020A
Cobalt	250	264.5		106	90	113		6020A
Copper	50.0	53.19		106	80	120		6020A
Lead	4.92	5.223		106	90	115		6020A
Manganese	50.2	54.07		108	89	120		6020A
Nickel	50.2	53.90		107	90	114		6020A
Selenium	10.0	10.38		104	80	120		6020A
Silver	50.3	53.51		106	88	113		6020A
Thallium	2.00	2.114		106	80	120		6020A
Zinc	502	539.7		108	90	115		6020A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

LINEAR RANGE CHECK STANDARD
METALS -

Lab ID: LRC 410-37661/8

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source: MT_MJ_LRC_00002

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Aluminum	50000	54050		108	90	110		6020A
Antimony	500	515.8		103	90	110		6020A
Arsenic	500	489.6		98	90	110		6020A
Barium	500	486.0		97	90	110		6020A
Beryllium	500	503.0		101	90	110		6020A
Cadmium	500	483.1		97	90	110		6020A
Chromium	500	491.7		98	90	110		6020A
Cobalt	500	455.6		91	90	110		6020A
Copper	500	487.9		98	90	110		6020A
Lead	500	517.4		103	90	110		6020A
Manganese	500	512.5		103	90	110		6020A
Nickel	500	489.7		98	90	110		6020A
Selenium	500	482.3		96	90	110		6020A
Silver	500	487.1		97	90	110		6020A
Thallium	500	541.4		108	90	110		6020A
Vanadium	500	506.0		101	90	110		6020A
Zinc	500	482.3		96	90	110		6020A

Calculations are performed before rounding to avoid round-off errors in calculated results.

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 410-33792/2-A

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source: MT_MSSPK_SCP_00008

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Beryllium	4.02	4.288		107	90	112		6020A
Vanadium	50.0	53.11		106	90	115		6020A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

LINEAR RANGE CHECK STANDARD
METALS -

Lab ID: LRC 410-37732/8

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source: MT_MJ_LRC_00002

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Aluminum	50000	54050		108	90	110		6020A
Antimony	500	515.8		103	90	110		6020A
Arsenic	500	489.6		98	90	110		6020A
Barium	500	486.0		97	90	110		6020A
Beryllium	500	503.0		101	90	110		6020A
Cadmium	500	483.1		97	90	110		6020A
Chromium	500	491.7		98	90	110		6020A
Cobalt	500	455.6		91	90	110		6020A
Copper	500	487.9		98	90	110		6020A
Lead	500	517.4		103	90	110		6020A
Manganese	500	512.5		103	90	110		6020A
Nickel	500	489.7		98	90	110		6020A
Selenium	500	482.3		96	90	110		6020A
Silver	500	487.1		97	90	110		6020A
Thallium	500	541.4		108	90	110		6020A
Vanadium	500	506.0		101	90	110		6020A
Zinc	500	482.3		96	90	110		6020A

Calculations are performed before rounding to avoid round-off errors in calculated results.

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 410-33581/2-A

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source: MT_MSSPK_SCP_00008

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Aluminum	199	215.3		108	87	119		6020A
Antimony	6.02	5.596		93	80	120		6020A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 410-33595/2-A

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source: MP_40Hg_IV_00027

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Mercury	1.00	0.9786		98	80	118		7470A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

7A-IN
LAB CONTROL SAMPLE
METALS

Lab ID: LCS 410-33593/2-A

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

Sample Matrix: Water LCS Source: MP_40Hg_IV_00027

Analyte	Water(ug/L)							
	True	Found	C	%R	Limits		Q	Method
Mercury	1.00	1.074		107	80	118		7470A

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA - IN

9-IN
DETECTION LIMITS
METALS

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG Number:

Matrix: Water Instrument ID: T74 - 23745

Method: 6010C MDL Date: 09/13/2019 10:11

Prep Method: 3010A

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Calcium	317.93	0.2	0.096
Iron	261.19	0.2	0.04
Magnesium	285.21	0.1	0.04
Potassium	766.49	0.5	0.204
Sodium	589.59	1	0.239

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG Number:

Matrix: Water Instrument ID: T74 - 23745

Method: 6010C XMDL Date: 09/13/2019 16:50

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Calcium	317.93	0.2	0.096
Iron	261.19	0.2	0.04
Magnesium	285.21	0.1	0.04
Potassium	766.49	0.3	0.204
Sodium	589.59	1	0.239

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG Number:

Matrix: Water Instrument ID: T70 - 11016

Method: 6010C MDL Date: 09/13/2019 10:11

Prep Method: Non-Digest Prep

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Calcium	317.93	0.2	0.096
Iron	261.19	0.2	0.04
Magnesium	285.21	0.1	0.04
Sodium	589.59	1	0.239

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG Number:

Matrix: Water Instrument ID: T70 - 11016

Method: 6010C XMDL Date: 09/13/2019 16:50

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Calcium	317.93	0.2	0.096
Iron	261.19	0.2	0.04
Magnesium	285.21	0.1	0.04
Sodium	589.59	1	0.239

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG Number:

Matrix: Water Instrument ID: T72 - 16417

Method: 6010C MDL Date: 09/13/2019 10:11

Prep Method: Non-Digest Prep

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Potassium	766.49	0.5	0.204

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG Number:

Matrix: Water Instrument ID: T72 - 16417

Method: 6010C XMDL Date: 09/13/2019 16:50

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Potassium	766.49	0.3	0.204

9-IN
DETECTION LIMITS
METALS

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG Number:

Matrix: Water Instrument ID: E07 - 27813

Method: 6020A MDL Date: 09/17/2019 21:12

Prep Method: 3020A

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Aluminum	27	25	19.7
Antimony	121	1	0.406
Arsenic	75	2	0.68
Barium	137	2	0.746
Beryllium	9	0.5	0.119
Cadmium	111	0.5	0.151
Chromium	52	2	0.334
Cobalt	59	0.5	0.156
Copper	63	1	0.362
Lead	208	0.5	0.071
Manganese	55	2	0.634
Nickel	60	1	0.604
Selenium	78	1	0.278
Silver	107	0.5	0.17
Thallium	203	0.5	0.13
Vanadium	51	0.5	0.236
Zinc	66	10	6.177

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG Number:

Matrix: Water Instrument ID: E07 - 27813

Method: 6020A XMDL Date: 11/08/2018 14:05

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Aluminum	27	25	19.7
Antimony	121	1	0.406
Arsenic	75	2	0.68
Barium	137	2	0.746
Beryllium	9	0.5	0.119
Cadmium	111	0.5	0.151
Chromium	52	2	0.334
Cobalt	59	0.5	0.156
Copper	63	1	0.362
Lead	208	0.5	0.071
Manganese	55	2	0.634
Nickel	60	1	0.604
Selenium	78	1	0.278
Silver	107	0.5	0.17
Thallium	203	0.5	0.13
Vanadium	51	0.5	0.236
Zinc	66	10	6.177

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG Number:

Matrix: Water Instrument ID: E07 - 27813

Method: 6020A MDL Date: 09/17/2019 21:12

Prep Method: Non-Digest Prep

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Beryllium	9	0.5	0.119
Manganese	55	2	0.634
Silver	107	0.5	0.17
Vanadium	51	0.5	0.236

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG Number:

Matrix: Water Instrument ID: E07 - 27813

Method: 6020A XMDL Date: 11/08/2018 14:05

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Beryllium	9	0.5	0.119
Manganese	55	2	0.634
Silver	107	0.5	0.17
Vanadium	51	0.5	0.236

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG Number:

Matrix: Water Instrument ID: E08 - 30647

Method: 6020A MDL Date: 09/17/2019 21:12

Prep Method: Non-Digest Prep

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Aluminum	27	25	19.7
Antimony	121	1	0.406
Arsenic	75	2	0.68
Barium	137	2	0.746
Cadmium	111	0.5	0.151
Chromium	52	2	0.334
Cobalt	59	0.5	0.156
Copper	63	1	0.362
Lead	208	0.5	0.071
Nickel	60	1	0.604
Selenium	78	1	0.278
Thallium	203	0.5	0.13
Zinc	66	10	6.177

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG Number:

Matrix: Water Instrument ID: E08 - 30647

Method: 6020A XMDL Date: 11/08/2018 14:05

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Aluminum	27	25	19.7
Antimony	121	1	0.406
Arsenic	75	2	0.68
Barium	137	2	0.746
Cadmium	111	0.5	0.151
Chromium	52	2	0.334
Cobalt	59	0.5	0.156
Copper	63	1	0.362
Lead	208	0.5	0.071
Nickel	60	1	0.604
Selenium	78	1	0.278
Thallium	203	0.5	0.13
Zinc	66	10	6.177

9-IN
DETECTION LIMITS
METALS

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG Number:

Matrix: Water Instrument ID: M09 - 65200

Method: 7470A MDL Date: 06/27/2018 14:31

Prep Method: 7470A

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Mercury		0.2	0.079

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG Number:

Matrix: Water Instrument ID: M09 - 65200

Method: 7470A XMDL Date: 06/27/2018 12:04

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Mercury		0.2	0.079

9-IN
DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG Number:

Matrix: Water Instrument ID: M09 - 65200

Method: 7470A MDL Date: 06/27/2018 14:31

Prep Method: 7470A

Analyte	Wavelength/ Mass	RL (ug/L)	MDL (ug/L)
Mercury		0.2	0.079

9-IN
CALIBRATION BLANK DETECTION LIMITS
METALS - DISSOLVED

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG Number:

Matrix: Water Instrument ID: M09 - 65200

Method: 7470A XMDL Date: 06/27/2018 12:04

Analyte	Wavelength/ Mass	XRL (ug/L)	XMDL (ug/L)
Mercury		0.2	0.079

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG No.:

ICP-AES Instrument ID: T70 - 11016 Date: 08/19/2020

Analyte	Wave Length	Ag	Al	As	B	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Li
Aluminum	308.215												0.000303		
Antimony	206.833										0.010971				
Arsenic	189.042										0.001244		0.000059		
Barium	455.403														
Beryllium	313.042														
Boron	249.773									-0.000734	0.001244		0.001026		
Cadmium	226.502												0.000111		
Calcium	317.933										-0.006407				
Chromium	267.716												-0.000023		
Cobalt	228.616														
Copper	327.396									0.000287	0.000079		-0.000041		
Iron	261.187														
Lanthanum															
Lead	220.353		-0.000100									0.000718	-0.000607		
Lithium	670.784							0.000029							
Magnesium	285.213														
Manganese	257.610												0.000108		
Molybdenum	202.030														
Nickel	231.604									-0.000744			-0.000060		
Phosphorus	177.495											0.002718			
Potassium	766.490														
Selenium	196.090		0.000039										-0.000211		
Silicon	251.611														
Silver	328.068												-0.00018		
Sodium	589.592														
Strontium	421.552							0.000008							
Sulfur	182.034														
Thallium	190.856		-0.001490							0.004163			0.003530		
Thorium	283.730										-0.021365		0.000956		
Tin	189.989														

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG No.:

ICP-AES Instrument ID: T70 - 11016 Date: 08/19/2020

Analyte	Wave Length	Ag	Al	As	B	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Li
Titanium	334.941	0.005026									0.000270				
Tungsten	207.911														
Vanadium	292.402										-0.002924				
Zinc	213.856											0.000785	0.000212		
Zirconium	339.198														

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG No.:

ICP-AES Instrument ID: T70 - 11016 Date: 08/19/2020

Analyte	Wave Length	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Se	Si	Sn	Sr	Th
Aluminum	308.215			0.022669											0.094426
Antimony	206.833														
Arsenic	189.042			0.002532											
Barium	455.403														
Beryllium	313.042														
Boron	249.773			-0.000484								-0.000116			-0.000642
Cadmium	226.502														
Calcium	317.933														
Chromium	267.716														
Cobalt	228.616			-0.001902		0.000154									
Copper	327.396														0.027348
Iron	261.187														
Lanthanum															
Lead	220.353			-0.000478								0.000208			
Lithium	670.784														
Magnesium	285.213														
Manganese	257.610														-0.000463
Molybdenum	202.030														
Nickel	231.604											-0.000045			
Phosphorus	177.495			0.000705											-0.003036
Potassium	766.490				6										
Selenium	196.090		0.000848												
Silicon	251.611			0.010376											
Silver	328.068														-0.009765
Sodium	589.592														
Strontium	421.552														
Sulfur	182.034														
Thallium	190.856		0.001490												
Thorium	283.730														
Tin	189.989														

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG No.:

ICP-AES Instrument ID: T70 - 11016 Date: 08/19/2020

Analyte	Wave Length	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Se	Si	Sn	Sr	Th
Titanium	334.941														
Tungsten	207.911														
Vanadium	292.402		-0.000689	-0.009038											0.000893
Zinc	213.856					0.005802									
Zirconium	339.198														0.004226

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG No.:

ICP-AES Instrument ID: T70 - 11016 Date: 08/19/2020

Analyte	Wave Length	Ti	Tl	V	W	Zn	Zr								
Aluminum	308.215			0.075866											
Antimony	206.833														
Arsenic	189.042				0.0030										
Barium	455.403						0.000490								
Beryllium	313.042			0.000624											
Boron	249.773														
Cadmium	226.502														
Calcium	317.933														
Chromium	267.716														
Cobalt	228.616	0.002385													
Copper	327.396			-0.000932											
Iron	261.187														
Lanthanum															
Lead	220.353				-0.019226										
Lithium	670.784														
Magnesium	285.213														
Manganese	257.610														
Molybdenum	202.030				-0.000309										
Nickel	231.604		0.000351												
Phosphorus	177.495														
Potassium	766.490														
Selenium	196.090				0.009909										
Silicon	251.611														
Silver	328.068	-0.000836					0.004113								
Sodium	589.592														
Strontium	421.552														
Sulfur	182.034				-0.030873										
Thallium	190.856	-0.001496		-0.028990											
Thorium	283.730														
Tin	189.989														

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG No.:

ICP-AES Instrument ID: T70 - 11016 Date: 08/19/2020

Analyte	Wave Length	Ti	Tl	V	W	Zn	Zr								
Titanium	334.941														
Tungsten	207.911					0.010814									
Vanadium	292.402	0.000788				0									
Zinc	213.856														
Zirconium	339.198														

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG No.:

ICP-AES Instrument ID: T74 - 23745 Date: 07/25/2020

Analyte	Wave Length	Ag	Al	As	B	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Li
Aluminum	308.215														
Antimony	206.833										0.014735				
Arsenic	189.042		0.000031					-0.0001	-0.000727				0.000026		
Barium	455.403														
Beryllium	313.042														
Boron	249.773									-0.00204			0.000471		
Cadmium	226.502												0.0001		
Calcium	317.933								0.000161						
Chromium	267.716														
Cobalt	228.616					-0.001999									
Copper	327.396							0.00002							
Iron	261.187														
Lead	220.353		0.000181									0.000485	0.000039		
Lithium	670.784							0.000037							
Magnesium	285.213														
Manganese	257.610														
Molybdenum	202.030														
Nickel	231.604									-0.000791					
Phosphorus	177.495											0.004479			
Potassium	766.49														0.010615
Selenium	196.090												-0.000082		
Silicon	251.611														
Silver	328.068														
Sodium	589.592														
Strontium	421.552														
Sulfur	182.034														
Thallium	190.856									0.001756					
Thorium	283.730														
Tin	189.989														
Titanium	334.941														

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG No.:

ICP-AES Instrument ID: T74 - 23745 Date: 07/25/2020

Analyte	Wave Length	Ag	Al	As	B	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Li
Tungsten	207.911														
Vanadium	292.402														
Zinc	213.856											0.001188	0.000086		
Zirconium	339.198														

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG No.:

ICP-AES Instrument ID: T74 - 23745 Date: 07/25/2020

Analyte	Wave Length	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Se	Si	Sn	Sr
Aluminum	308.215			0.014823	0.000244					0.000475		0.000814			
Antimony	206.833														
Arsenic	189.042		0.000530	0.001055											
Barium	455.403														
Beryllium	313.042														
Boron	249.773														
Cadmium	226.502														
Calcium	317.933														
Chromium	267.716														
Cobalt	228.616					0.000141									
Copper	327.396														
Iron	261.187														
Lead	220.353												0.000067		
Lithium	670.784														
Magnesium	285.213														
Manganese	257.610														
Molybdenum	202.030														
Nickel	231.604												-0.000052		
Phosphorus	177.495														
Potassium	766.49	0.000226													
Selenium	196.090														
Silicon	251.611			0.019082											
Silver	328.068														
Sodium	589.592														
Strontium	421.552														
Sulfur	182.034														
Thallium	190.856		-0.002183												
Thorium	283.730														
Tin	189.989														
Titanium	334.941														

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG No.:

ICP-AES Instrument ID: T74 - 23745 Date: 07/25/2020

Analyte	Wave Length	Mg	Mn	Mo	Na	Ni	P	Pb	S	Sb	Sc	Se	Si	Sn	Sr
Tungsten	207.911														
Vanadium	292.402			-0.013831											
Zinc	213.856					0.004845			0.000015						
Zirconium	339.198														

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG No.:

ICP-AES Instrument ID: T74 - 23745 Date: 07/25/2020

Analyte	Wave Length	Th	Ti	Tl	V	W	Zn	Zr							
Aluminum	308.215	0.074381			0.131923										
Antimony	206.833														
Arsenic	189.042						0.001588								
Barium	455.403							0.000304							
Beryllium	313.042		-0.000752												
Boron	249.773					0.000123									
Cadmium	226.502														
Calcium	317.933	-0.047533													
Chromium	267.716														
Cobalt	228.616		0.002141												
Copper	327.396	0.03155	-0.004968					-0.000987							
Iron	261.187														
Lead	220.353														
Lithium	670.784														
Magnesium	285.213														
Manganese	257.610	-0.000286													
Molybdenum	202.030														
Nickel	231.604			0.000304											
Phosphorus	177.495														
Potassium	766.49														
Selenium	196.090					0.011099									
Silicon	251.611					0.074331									
Silver	328.068	-0.019394						0.003437							
Sodium	589.592														
Strontium	421.552														
Sulfur	182.034					-0.059269									
Thallium	190.856				0.000989										
Thorium	283.730														
Tin	189.989														
Titanium	334.941														

X-IN

10-IN
ICP-AES INTERELEMENT CORRECTION FACTORS
METALS

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG No.:

ICP-AES Instrument ID: T74 - 23745 Date: 07/25/2020

Analyte	Wave Length	Th	Ti	Tl	V	W	Zn	Zr							
Tungsten	207.911						0.012732								
Vanadium	292.402	0.000821	0.000626				0.012732								
Zinc	213.856														
Zirconium	339.198	0.05503													

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins Lancaster Laboratorie Job No: 410-10696-1

SDG No.:

Instrument ID: T70 - 11016 Date: 12/18/2018 10:08

Analyte	Integ. Time (Sec.)	Concentration (mg/L)	Method
Calcium		450	6010C
Iron		270	6010C
Magnesium		450	6010C
Sodium		450	6010C

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins Lancaster Laboratorie Job No: 410-10696-1

SDG No.:

Instrument ID: T72 - 16417 Date: 12/18/2018 10:10

Analyte	Integ. Time (Sec.)	Concentration (mg/L)	Method
Potassium		450	6010C

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins Lancaster Laboratorie Job No: 410-10696-1

SDG No.:

Instrument ID: T74 - 23745 Date: 12/18/2018 10:11

Analyte	Integ. Time (Sec.)	Concentration (mg/L)	Method
Calcium		450	6010C
Iron		270	6010C
Magnesium		450	6010C
Potassium		450	6010C
Sodium		450	6010C

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins Lancaster Laboratorie Job No: 410-10696-1

SDG No.:

Instrument ID: E07 - 27813 Date: 12/18/2018 10:12

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Aluminum		50000	6020A
Antimony		10000	6020A
Arsenic		10000	6020A
Barium		10000	6020A
Beryllium		10000	6020A
Cadmium		10000	6020A
Chromium		10000	6020A
Cobalt		10000	6020A
Copper		10000	6020A
Lead		10000	6020A
Manganese		10000	6020A
Nickel		10000	6020A
Selenium		10000	6020A
Silver		500	6020A
Thallium		10000	6020A
Vanadium		10000	6020A
Zinc		10000	6020A

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins Lancaster Laboratorie Job No: 410-10696-1

SDG No.:

Instrument ID: E08 - 30647 Date: 05/13/2019 12:31

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Aluminum		100000	6020A
Antimony		10000	6020A
Arsenic		1000	6020A
Barium		1000	6020A
Cadmium		1000	6020A
Chromium		10000	6020A
Cobalt		1000	6020A
Copper		1000	6020A
Lead		1000	6020A
Nickel		1000	6020A
Selenium		1000	6020A
Thallium		1000	6020A
Zinc		1000	6020A

11-IN
LINEAR RANGES
METALS

Lab Name: Eurofins Lancaster Laboratorie Job No: 410-10696-1

SDG No.:

Instrument ID: M09 - 65200 Date: 02/20/2020 00:00

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Mercury		4.5	7470A

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Prep Method: 3010A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 410-37214/1-A	08/26/2020 02:21	37214		50	50
LCS 410-37214/2-A	08/26/2020 02:21	37214		50	50
410-10696-3	08/26/2020 02:21	37214		50	50
410-10696-6	08/26/2020 02:21	37214		50	50
410-10696-1	08/26/2020 02:21	37214		50	50

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Prep Method: Non-Digest Prep

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 410-42157/1-A	09/09/2020 14:56	42157		50	51.5
LCS 410-42157/2-A	09/09/2020 14:56	42157		50	50
410-10696-1	09/09/2020 14:56	42157		50	51.5
410-10696-3	09/09/2020 14:56	42157		50	51.5
410-10696-6	09/09/2020 14:56	42157		50	51.5

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Prep Method: 3020A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 410-33581/1-A	08/15/2020 11:16	33581		50	50
LCS 410-33581/2-A	08/15/2020 11:16	33581		50	50
410-10696-1	08/15/2020 11:16	33581		50	50
410-10696-3	08/15/2020 11:16	33581		50	50
410-10696-6	08/15/2020 11:16	33581		50	50

FORM XII-IN

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Prep Method: Non-Digest Prep

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 410-33792/1-A	08/17/2020 06:24	33792		50	51.5
LCS 410-33792/2-A	08/17/2020 06:24	33792		50	50
410-10696-3	08/17/2020 06:24	33792		50	51.5
410-10696-6	08/17/2020 06:24	33792		50	51.5
410-10696-1	08/17/2020 06:24	33792		50	51.5

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Prep Method: 7470A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 410-33593/1-A	08/15/2020 11:36	33593		20	20
LCS 410-33593/2-A	08/15/2020 11:36	33593		20	20
410-10696-1	08/15/2020 11:36	33593		20	20
410-10696-3	08/15/2020 11:36	33593		20	20
410-10696-6	08/15/2020 11:36	33593		20	20

12-IN
PREPARATION LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Prep Method: 7470A

Lab Sample ID	Preparation Date	Prep Batch	Initial Weight	Initial Volume (mL)	Final Volume (mL)
MB 410-33595/1-A	08/15/2020 11:44	33595		20	20
LCS 410-33595/2-A	08/15/2020 11:44	33595		20	20
410-10696-1	08/15/2020 11:44	33595		20	20
410-10696-3	08/15/2020 11:44	33595		20	20
410-10696-6	08/15/2020 11:44	33595		20	20

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: T70 - 11016 Analysis Method: 6010C

Start Date: 09/10/2020 09:02 End Date: 09/10/2020 12:55

Lab Sample Id	D/F	Type	Time	Analytes																										
				Ca	Fe	K	Mg	Na																						
ZZZZZZ			09:02																											
ICIS 410-42585/2	1		09:05	X	X	X	X	X																						
STD1 410-42585/3 IC			09:08	X	X	X	X	X																						
STD2 410-42585/4 IC			09:11	X	X	X	X	X																						
STD3 410-42585/5 IC			09:14	X	X	X	X	X																						
ICV 410-42585/6	1		09:17	X	X	X	X	X																						
ICV 410-42585/7	1		09:20	X	X	X	X	X																						
ICB 410-42585/8	1		09:23	X	X	X	X	X																						
CRI 410-42585/9	1		09:26	X	X	X	X	X																						
ICSA 410-42585/10	1		09:29	X	X	X	X	X																						
ICSAB 410-42585/11	1		09:33	X	X	X	X	X																						
LRC 410-42585/12	1		09:36	X	X	X	X	X																						
LRC 410-42585/13	1		09:40	X	X	X	X	X																						
LRC 410-42585/14	1		09:43	X	X	X	X	X																						
LRC 410-42585/15	1		09:47	X	X	X	X	X																						
ZZZZZZ			09:50																											
CCV 410-42585/17	1		09:53	X	X	X	X	X																						
CCB 410-42585/18	1		09:56	X	X	X	X	X																						
MB 410-42157/1-A	1	T	10:08	X	X	X	X	X																						
LCS 410-42157/2-A	1	T	10:11		X		X	X																						
ZZZZZZ			10:14																											
ZZZZZZ			10:17																											
ZZZZZZ			10:21																											
ZZZZZZ			10:24																											
ZZZZZZ			10:27																											
ZZZZZZ			10:31																											
410-10696-1	1	D	10:34		X		X	X																						
410-10696-3	1	D	10:37		X		X	X																						
CCV 410-42585/29	1		10:40		X	X	X	X																						
CCB 410-42585/30	1		10:44	X	X	X	X	X																						
410-10696-6	1	D	10:47		X		X																							
ZZZZZZ			10:50																											
ZZZZZZ			10:53																											
ZZZZZZ			10:57																											
ZZZZZZ			11:00																											
ZZZZZZ			11:04																											
ZZZZZZ			11:07																											
ZZZZZZ			11:10																											
ZZZZZZ			11:14																											
ZZZZZZ			11:17																											
CCV 410-42585/41	1		11:20	X	X	X	X	X																						
CCB 410-42585/42	1		11:23	X	X	X	X																							

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: T70 - 11016 Analysis Method: 6010C

Start Date: 09/10/2020 09:02 End Date: 09/10/2020 12:55

Lab Sample Id	D/F	Type	Time	Analytes																									
				Ca	Fe	K	Mg	Na																					
ZZZZZZ			11:26																										
ZZZZZZ			11:30																										
ZZZZZZ			11:33																										
ZZZZZZ			11:37																										
ZZZZZZ			11:40																										
ZZZZZZ			11:43																										
CCV 410-42585/49	1		11:46	X	X	X	X	X																					
CCB 410-42585/50	1		12:34	X	X	X	X	X																					
410-10696-1	1	D	12:38	X																									
410-10696-3	1	D	12:41	X																									
410-10696-6	1	D	12:44	X				X																					
CCV 410-42585/54	1		12:47	X	X	X	X	X																					
CCB 410-42585/55	1		12:50	X	X	X	X	X																					
CRI 410-42585/56	1		12:55	X	X	X	X	X																					

Prep Types:
D = Dissolved
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: T72 - 16417 Analysis Method: 6010C

Start Date: 09/10/2020 11:27 End Date: 09/10/2020 13:53

Lab Sample Id	D/F	Type	Time	Analytes
				Ca
ZZZZZZ			11:27	
ICIS 410-42602/2			11:30	X
STD1 410-42602/3 IC			11:33	X
STD2 410-42602/4 IC			11:36	X
STD3 410-42602/5 IC			11:39	X
ICV 410-42602/6			11:43	
ICV 410-42602/7			11:46	
ICB 410-42602/8			11:49	
CRI 410-42602/9			11:52	
ICSA 410-42602/10			11:55	
ICSAB 410-42602/11			11:58	
LRC 410-42602/12			12:02	
LRC 410-42602/13			12:05	
LRC 410-42602/14			12:08	
LRC 410-42602/15			12:12	
ZZZZZZ			12:15	
CCV 410-42602/17			12:18	
CCB 410-42602/18			12:22	
ZZZZZZ			12:35	
ZZZZZZ			12:38	
ZZZZZZ			12:41	
ZZZZZZ			12:44	
CCV 410-42602/23			12:48	
CCB 410-42602/24			12:52	
ZZZZZZ			12:55	
LCS 410-42157/2-A	1	T	12:58	X
ZZZZZZ			13:01	
ZZZZZZ			13:04	
ZZZZZZ			13:08	
CCV 410-42602/30			13:11	
CCB 410-42602/31			13:50	
CRI 410-42602/32			13:53	

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: T72 - 16417 Analysis Method: 6010C

Start Date: 09/10/2020 14:27 End Date: 09/10/2020 16:06

Lab Sample Id	D/F	Type	Time	Analytes
				K
ZZZZZZ			14:27	
ICIS 410-42633/2	1		14:30	X
STD1 410-42633/3 IC			14:33	X
STD2 410-42633/4 IC			14:36	X
STD3 410-42633/5 IC			14:39	X
ICV 410-42633/6	1		14:42	X
ICV 410-42633/7	1		14:46	X
ICB 410-42633/8	1		14:49	X
CRI 410-42633/9	1		14:52	X
ICSA 410-42633/10	1		14:55	X
ICSAB 410-42633/11	1		14:58	X
LRC 410-42633/12	1		15:02	X
LRC 410-42633/13	1		15:05	X
LRC 410-42633/14	1		15:08	X
LRC 410-42633/15	1		15:12	X
ZZZZZZ			15:15	
CCV 410-42633/17	1		15:18	X
CCB 410-42633/18	1		15:22	X
ZZZZZZ			15:28	
LCS 410-42157/2-A	1	T	15:31	X
410-10696-1	1	D	15:34	X
410-10696-3	1	D	15:37	X
410-10696-6	1	D	15:40	X
ZZZZZZ			15:44	
ZZZZZZ			15:47	
CRI 410-42633/26	1		15:50	X
CCV 410-42633/27	1		16:02	X
CCB 410-42633/28	1		16:06	X

Prep Types:
D = Dissolved
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: T74 - 23745 Analysis Method: 6010C

Start Date: 08/31/2020 05:47 End Date: 08/31/2020 18:23

Lab Sample Id	D/F	Type	Time	Analytes																										
				Ca	Fe	K	Mg	Na																						
ZZZZZZ			05:47																											
ICIS 410-39416/2	1		05:50	X	X	X	X	X																						
STD1 410-39416/3 IC			05:53	X	X	X	X	X																						
STD2 410-39416/4 IC			05:56	X	X	X	X	X																						
STD3 410-39416/5 IC			06:00	X	X	X	X	X																						
ICV 410-39416/6	1		06:03	X	X	X	X	X																						
ICB 410-39416/7	1		06:06	X	X	X	X	X																						
CRI 410-39416/8	1		06:09	X	X	X	X	X																						
ICSA 410-39416/9	1		06:12	X	X	X	X	X																						
ICSAB 410-39416/10	1		06:16	X	X	X	X	X																						
ZZZZZZ			06:19																											
CCV 410-39416/12	1		06:22	X	X	X	X	X																						
CCB 410-39416/13	1		06:25	X	X	X	X	X																						
LRC 410-39416/14	1		06:28		X	X	X	X																						
LRC 410-39416/15	1		06:32	X	X	X	X	X																						
LRC 410-39416/16	1		06:35		X	X	X	X																						
LRC 410-39416/17	1		06:39	X	X	X	X	X																						
ZZZZZZ			06:42																											
CCV 410-39416/19	1		06:45	X	X	X	X	X																						
CCB 410-39416/20	1		06:48	X	X	X	X	X																						
ICSA 410-39416/21	1		14:06	X	X	X	X	X																						
ICSAB 410-39416/22	1		14:10	X	X	X	X	X																						
ZZZZZZ			14:13																											
CCV 410-39416/24			14:16																											
CCB 410-39416/25			14:19																											
CCV 410-39416/26	1		16:31	X	X	X	X	X																						
CCB 410-39416/27	1		16:34	X	X	X	X	X																						
MB 410-37214/1-A	1	T	16:37	X	X	X	X	X																						
LCS 410-37214/2-A	1	T	16:41	X	X	X	X	X																						
ZZZZZZ			16:44																											
ZZZZZZ			16:47																											
ZZZZZZ			16:50																											
ZZZZZZ			16:53																											
ZZZZZZ			16:56																											
ZZZZZZ			17:00																											
ZZZZZZ			17:03																											
ZZZZZZ			17:06																											
CCV 410-39416/38	1		17:09	X	X	X	X	X																						
CCB 410-39416/39	1		17:12	X	X	X	X	X																						
ZZZZZZ			17:15																											
ZZZZZZ			17:18																											
ZZZZZZ			17:22																											

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: T74 - 23745 Analysis Method: 6010C

Start Date: 08/31/2020 05:47 End Date: 08/31/2020 18:23

Lab Sample Id	D/F	Type	Time	Analytes																									
				Ca	Fe	K	Mg	Na																					
ZZZZZZ			17:25																										
ZZZZZZ			17:29																										
ZZZZZZ			17:32																										
ZZZZZZ			17:35																										
ZZZZZZ			17:38																										
ZZZZZZ			17:41																										
ZZZZZZ			17:45																										
CCV 410-39416/50	1		17:48	X	X	X	X	X																					
CCB 410-39416/51	1		17:51	X	X	X	X	X																					
ZZZZZZ			17:54																										
ZZZZZZ			17:57																										
410-10696-3	1	T	18:00	X	X	X	X	X																					
410-10696-6	1	T	18:04	X	X	X	X	X																					
410-10696-1	1	T	18:07	X	X	X	X	X																					
ZZZZZZ			18:10																										
ZZZZZZ			18:13																										
CCV 410-39416/59	1		18:16	X	X	X	X	X																					
CCB 410-39416/60	1		18:20	X	X	X	X	X																					
CRI 410-39416/61	1		18:23	X	X	X	X	X																					

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: E07 - 27813 Analysis Method: 6020A

Start Date: 08/18/2020 14:49 End Date: 08/18/2020 16:34

Lab Sample Id	D/F	Type	Time	Analytes																							
				Ag	As	Ba	Be	Cd	Co	Cr	Cu	Mn	Ni	Pb	Sb	Se	Tl	V	Zn								
ICIS 410-34834/1			14:49	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
STD1 410-34834/2 IC	1		14:50	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
STD2 410-34834/3 IC	1		14:52	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
STD3 410-34834/4 IC	1		14:54	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ICV 410-34834/5	1		14:56	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ICB 410-34834/6	1		14:58	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X								
CRI 410-34834/7	1		15:00	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ICSA 410-34834/8	1		15:02	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ICSAB 410-34834/9	1		15:04	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X								
LRC 410-34834/10	1		15:05	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
RINSE 410-34834/11			15:07																								
RINSE 410-34834/12			15:09																								
CCV 410-34834/13	1		15:11	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
CCB 410-34834/14	1		15:13	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X								
CCV 410-34834/15	1		15:24	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
CCB 410-34834/16	1		15:26	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
MB 410-33581/1-A	1	T	15:28	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
LCS 410-33581/2-A	1	T	15:30	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X								
ZZZZZZ			15:32																								
ZZZZZZ			15:34																								
ZZZZZZ			15:36																								
ZZZZZZ			15:37																								
ZZZZZZ			15:39																								
ZZZZZZ			15:41																								
ZZZZZZ			15:43																								
ZZZZZZ			15:45																								
CCV 410-34834/27	1		15:47	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
CCB 410-34834/28	1		15:49	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
410-10696-1	1	T	15:51	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ZZZZZZ			15:52																								
410-10696-3	1	T	15:54	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
410-10696-6	1	T	15:56	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X								
ZZZZZZ			15:58																								
ZZZZZZ			16:00																								
ZZZZZZ			16:02																								
ZZZZZZ			16:04																								
ZZZZZZ			16:06																								
ZZZZZZ			16:07																								
CCV 410-34834/39	1		16:09	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
CCB 410-34834/40	1		16:11	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
ZZZZZZ			16:13																								
ZZZZZZ			16:15																								

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: E07 - 27813 Analysis Method: 6020A

Start Date: 08/18/2020 14:49 End Date: 08/18/2020 16:34

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	As	Ba	Be	Cd	Co	Cr	Cu	Mn	Ni	Pb	Sb	Se	Tl	V	Zn									
ZZZZZZ			16:17																									
ZZZZZZ			16:19																									
ZZZZZZ			16:21																									
ZZZZZZ			16:22																									
ZZZZZZ			16:24																									
CCV 410-34834/48			16:26																									
CCB 410-34834/49			16:28																									
CRI 410-34834/50	1		16:30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
CCV 410-34834/51			16:32																									
CCB 410-34834/52			16:34																									

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: E07 - 27813 Analysis Method: 6020A

Start Date: 08/26/2020 09:45 End Date: 08/26/2020 16:32

Lab Sample Id	D/F	Type	Time	Analytes																										
				Ag	Be	Mn	V																							
ICIS 410-37661/1			09:45	X	X	X	X																							
STD1 410-37661/2 IC	1		09:47	X	X	X	X																							
ICV 410-37661/3	1		09:49	X	X	X	X																							
ICB 410-37661/4	1		09:50	X	X	X	X																							
CRI 410-37661/5	1		09:52	X	X	X	X																							
ICSA 410-37661/6	1		09:54	X	X	X	X																							
ICSAB 410-37661/7	1		09:56	X	X	X	X																							
LRC 410-37661/8	1		09:58	X	X	X	X																							
RINSE 410-37661/9			10:00																											
RINSE 410-37661/10			10:02																											
CCV 410-37661/11	1		10:04	X	X	X	X																							
CCB 410-37661/12	1		10:05	X	X	X	X																							
CCV 410-37661/13			14:51																											
CCB 410-37661/14			14:53																											
ZZZZZZ			14:55																											
ZZZZZZ			14:57																											
ZZZZZZ			14:59																											
ZZZZZZ			15:01																											
ZZZZZZ			15:02																											
ZZZZZZ			15:04																											
ZZZZZZ			15:06																											
ZZZZZZ			15:08																											
ZZZZZZ			15:10																											
ZZZZZZ			15:12																											
CCV 410-37661/25			15:14																											
CCB 410-37661/26			15:16																											
ZZZZZZ			15:17																											
ZZZZZZ			15:19																											
ZZZZZZ			15:21																											
ZZZZZZ			15:23																											
ZZZZZZ			15:25																											
ZZZZZZ			15:27																											
CCV 410-37661/33			15:29																											
CCB 410-37661/34			15:31																											
ZZZZZZ			15:34																											
ZZZZZZ			15:39																											
ZZZZZZ			15:41																											
ZZZZZZ			15:43																											
ZZZZZZ			15:45																											
ZZZZZZ			15:47																											
ZZZZZZ			15:49																											
ZZZZZZ			15:51																											

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: E07 - 27813 Analysis Method: 6020A

Start Date: 08/26/2020 09:45 End Date: 08/26/2020 16:32

Lab Sample Id	D/F	Type	Time	Analytes																									
				Ag	Be	Mn	V																						
CCV 410-37661/43			15:52																										
CCB 410-37661/44			15:54																										
ZZZZZZ			15:56																										
RINSE 410-37661/46			15:58																										
RINSE 410-37661/47			16:00																										
CCV 410-37661/48			16:02																										
CCB 410-37661/49			16:04																										
ZZZZZZ			16:06																										
ZZZZZZ			16:08																										
ZZZZZZ			16:09																										
ZZZZZZ			16:11																										
ZZZZZZ			16:13																										
ZZZZZZ			16:15																										
CCV 410-37661/56	1		16:17	X	X	X	X																						
CCB 410-37661/57	1		16:19	X	X	X	X																						
MB 410-33792/1-A	1	T	16:21		X		X																						
LCS 410-33792/2-A	1	T	16:23		X		X																						
410-10696-3	1	D	16:24	X	X	X	X																						
410-10696-6	1	D	16:26	X	X	X	X																						
410-10696-1	1	D	16:28	X	X	X	X																						
CCV 410-37661/63	1		16:30	X	X	X	X																						
CCB 410-37661/64	1		16:32	X	X	X	X																						

Prep Types:
D = Dissolved
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: E07 - 27813 Analysis Method: 6020A

Start Date: 08/26/2020 09:45 End Date: 08/26/2020 20:48

Lab Sample Id	D/F	Type	Time	Analytes																								
				Al	Sb																							
ICIS 410-37732/1			09:45	X	X																							
STD1 410-37732/2 IC	1		09:47	X	X																							
ICV 410-37732/3	1		09:49	X	X																							
ICB 410-37732/4	1		09:50	X	X																							
CRI 410-37732/5	1		09:52	X	X																							
ICSA 410-37732/6	1		09:54	X	X																							
ICSAB 410-37732/7	1		09:56	X	X																							
LRC 410-37732/8	1		09:58	X	X																							
RINSE 410-37732/9			10:00																									
RINSE 410-37732/10			10:02																									
CCV 410-37732/11	1		10:04	X	X																							
CCB 410-37732/12	1		10:05	X	X																							
CCV 410-37732/13	1		19:11	X	X																							
CCB 410-37732/14	1		19:13	X	X																							
MB 410-33581/1-A	1	T	19:14	X																								
LCS 410-33581/2-A	1	T	19:16	X	X																							
ZZZZZZ			19:18																									
ZZZZZZ			19:20																									
ZZZZZZ			19:22																									
ZZZZZZ			19:24																									
ZZZZZZ			19:26																									
ZZZZZZ			19:28																									
ZZZZZZ			19:29																									
410-10696-1	1	T	19:31	X																								
CCV 410-37732/25	1		19:33	X	X																							
CCB 410-37732/26	1		19:35	X	X																							
ZZZZZZ			19:37																									
ZZZZZZ			19:39																									
410-10696-3	1	T	19:41	X																								
ZZZZZZ			19:43																									
ZZZZZZ			19:44																									
410-10696-6	5	T	19:46	X	X																							
ZZZZZZ			19:48																									
ZZZZZZ			19:50																									
ZZZZZZ			19:52																									
ZZZZZZ			19:54																									
CCV 410-37732/37	1		19:56	X	X																							
CCB 410-37732/38	1		19:58	X	X																							
ZZZZZZ			20:00																									
ZZZZZZ			20:01																									
ZZZZZZ			20:03																									
ZZZZZZ			20:05																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: E07 - 27813 Analysis Method: 6020A

Start Date: 08/26/2020 09:45 End Date: 08/26/2020 20:48

Lab Sample Id	D/F	Type	Time	Analytes																									
				Al	Sb																								
ZZZZZZ			20:07																										
ZZZZZZ			20:09																										
ZZZZZZ			20:11																										
ZZZZZZ			20:13																										
ZZZZZZ			20:15																										
ZZZZZZ			20:16																										
CCV 410-37732/49	1		20:18	X	X																								
CCB 410-37732/50	1		20:20	X	X																								
ZZZZZZ			20:22																										
ZZZZZZ			20:24																										
ZZZZZZ			20:26																										
ZZZZZZ			20:28																										
ZZZZZZ			20:30																										
ZZZZZZ			20:31																										
ZZZZZZ			20:33																										
ZZZZZZ			20:35																										
ZZZZZZ			20:37																										
ZZZZZZ			20:39																										
CCV 410-37732/61	1		20:41	X	X																								
CCB 410-37732/62	1		20:43	X	X																								
CRI 410-37732/63	1		20:45	X	X																								
CCV 410-37732/64			20:46																										
CCB 410-37732/65			20:48																										

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: E08 - 30647 Analysis Method: 6020A

Start Date: 08/19/2020 10:05 End Date: 08/19/2020 21:35

Lab Sample Id	D/F	Type	Time	Analytes																								
				Ag	Al	As	Ba	Cd	Co	Cr	Cu	Mn	Ni	Pb	Sb	Se	Tl	Zn										
ICIS 410-35326/1			10:05	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
STD1 410-35326/2 IC	1		10:08	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
ICV 410-35326/3	1		10:10	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
ICB 410-35326/4	1		10:12	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
CRI 410-35326/5	1		10:14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
ICSA 410-35326/6	1		10:17	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
ICSAB 410-35326/7	1		10:19	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
LRC 410-35326/8	1		10:21		X	X	X	X	X	X	X	X	X	X	X	X	X	X										
RINSE 410-35326/9			10:23																									
RINSE 410-35326/10			10:26																									
CCV 410-35326/11	1		10:28	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
CCB 410-35326/12	1		10:30	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
CCV 410-35326/13	1		20:14	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
CCB 410-35326/14	1		20:16	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
MB 410-33792/1-A	1	T	20:18	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
LCS 410-33792/2-A	1	T	20:20	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
ZZZZZZ			20:23																									
ZZZZZZ			20:25																									
ZZZZZZ			20:27																									
ZZZZZZ			20:29																									
ZZZZZZ			20:32																									
ZZZZZZ			20:34																									
ZZZZZZ			20:36																									
ZZZZZZ			20:39																									
CCV 410-35326/25	1		20:41	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
CCB 410-35326/26	1		20:43	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
ZZZZZZ			20:45																									
ZZZZZZ			20:48																									
ZZZZZZ			20:50																									
ZZZZZZ			20:52																									
ZZZZZZ			20:54																									
ZZZZZZ			20:56																									
ZZZZZZ			20:59																									
ZZZZZZ			21:01																									
ZZZZZZ			21:03																									
ZZZZZZ			21:05																									
CCV 410-35326/37	1		21:08	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
CCB 410-35326/38	1		21:10	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X										
ZZZZZZ			21:12																									
ZZZZZZ			21:14																									
ZZZZZZ			21:17																									
ZZZZZZ			21:19																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: E08 - 30647 Analysis Method: 6020A

Start Date: 08/19/2020 10:05 End Date: 08/19/2020 21:35

Lab Sample Id	D/F	Type	Time	Analytes																											
				Ag	Al	As	Ba	Cd	Co	Cr	Cu	Mn	Ni	Pb	Sb	Se	Tl	Zn													
410-10696-3	1	D	21:21		X	X	X	X	X	X	X		X	X	X	X	X	X													
410-10696-6	1	D	21:23		X	X	X	X	X	X	X		X	X	X	X	X	X													
410-10696-1	1	D	21:26		X	X	X	X	X	X	X		X	X	X	X	X	X													
ZZZZZZ			21:28																												
ZZZZZZ			21:30																												
CCV 410-35326/48	1		21:32	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X													
CCB 410-35326/49	1		21:35	X	X	X	X	X	X	X	X		X	X	X	X	X	X													

Prep Types:
D = Dissolved
T = Total/NA

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: M09 - 65200 Analysis Method: 7470A

Start Date: 08/17/2020 08:16 End Date: 08/17/2020 11:39

Lab Sample Id	D/F	Type	Time	Analytes																								
				Hg																								
IC 410-32359/1-A			08:16	X																								
IC 410-32359/2-A			08:18	X																								
IC 410-32359/3-A			08:20	X																								
IC 410-32359/4-A			08:31	X																								
IC 410-32359/5-A			08:33	X																								
IC 410-32359/6-A			08:36	X																								
ICV 410-32359/7-A	1		08:38	X																								
ICB 410-32359/9-A	1		08:40	X																								
CRA 410-32359/11-A	1		08:55	X																								
CCV 410-32359/13-A			08:57																									
CCB 410-32359/10-A			08:59																									
ZZZZZZ			09:01																									
ZZZZZZ			09:03																									
ZZZZZZ			09:05																									
ZZZZZZ			09:07																									
ZZZZZZ			09:09																									
ZZZZZZ			09:11																									
ZZZZZZ			09:13																									
ZZZZZZ			09:15																									
ZZZZZZ			09:17																									
ZZZZZZ			09:19																									
CCV 410-32359/13-A			09:21																									
CCB 410-32359/10-A			09:23																									
ZZZZZZ			09:25																									
ZZZZZZ			09:27																									
ZZZZZZ			09:29																									
ZZZZZZ			09:32																									
ZZZZZZ			09:34																									
ZZZZZZ			09:36																									
ZZZZZZ			09:38																									
ZZZZZZ			09:40																									
ZZZZZZ			09:42																									
ZZZZZZ			09:44																									
CCV 410-32359/13-A			09:46																									
CCB 410-32359/10-A			09:48																									
ZZZZZZ			09:50																									
ZZZZZZ			09:52																									
ZZZZZZ			09:54																									
ZZZZZZ			09:56																									
ZZZZZZ			09:58																									
ZZZZZZ			10:00																									
ZZZZZZ			10:02																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: M09 - 65200 Analysis Method: 7470A

Start Date: 08/17/2020 08:16 End Date: 08/17/2020 11:39

Lab Sample Id	D/F	Type	Time	Analytes																								
				Hg																								
ZZZZZZ			10:04																									
ZZZZZZ			10:06																									
ZZZZZZ			10:08																									
CCV 410-32359/13-A	1		10:10	X																								
CCB 410-32359/10-A	1		10:12	X																								
ZZZZZZ			10:14																									
MB 410-33595/1-A	1	T	10:16	X																								
LCS 410-33595/2-A	1	T	10:18	X																								
ZZZZZZ			10:21																									
ZZZZZZ			10:23																									
ZZZZZZ			10:25																									
ZZZZZZ			10:27																									
ZZZZZZ			10:29																									
ZZZZZZ			10:31																									
ZZZZZZ			10:33																									
CCV 410-32359/13-A	1		10:35	X																								
CCB 410-32359/10-A	1		10:37	X																								
410-10696-1	1	T	10:39	X																								
410-10696-3	1	T	10:41	X																								
410-10696-6	1	T	10:43	X																								
ZZZZZZ			10:45																									
ZZZZZZ			10:47																									
ZZZZZZ			10:49																									
ZZZZZZ			10:51																									
ZZZZZZ			10:53																									
ZZZZZZ			10:55																									
ZZZZZZ			10:57																									
CCV 410-32359/13-A	1		10:59	X																								
CCB 410-32359/10-A	1		11:01	X																								
ZZZZZZ			11:04																									
ZZZZZZ			11:06																									
ZZZZZZ			11:10																									
ZZZZZZ			11:12																									
ZZZZZZ			11:15																									
ZZZZZZ			11:17																									
ZZZZZZ			11:19																									
ZZZZZZ			11:21																									
ZZZZZZ			11:23																									
ZZZZZZ			11:25																									
CCV 410-32359/13-A			11:27																									
CCB 410-32359/10-A			11:29																									
ZZZZZZ			11:31																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: M09 - 65200 Analysis Method: 7470A

Start Date: 08/17/2020 08:16 End Date: 08/17/2020 11:39

Lab Sample Id	D/F	Type	Time	Analytes																								
				Hg																								
ZZZZZZ			11:33																									
CRA 410-32359/11-A	1		11:35	X																								
CCV 410-32359/13-A			11:37																									
CCB 410-32359/10-A			11:39																									

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: M09 - 65200 Analysis Method: 7470A

Start Date: 08/18/2020 08:53 End Date: 08/18/2020 13:08

Lab Sample Id	D/F	Type	Time	Analytes																								
				Hg																								
IC 410-32834/1-A			08:53	X																								
IC 410-32834/2-A			08:55	X																								
IC 410-32834/3-A			08:57	X																								
IC 410-32834/4-A			08:59	X																								
IC 410-32834/5-A			09:01	X																								
IC 410-32834/6-A			09:03	X																								
ICV 410-32834/7-A	1		09:05	X																								
ICB 410-32834/9-A	1		09:08	X																								
CRA 410-32834/11-A	1		09:10	X																								
CCV 410-32834/13-A			09:12																									
CCB 410-32834/10-A			09:14																									
ZZZZZZ			09:16																									
ZZZZZZ			09:18																									
ZZZZZZ			09:20																									
ZZZZZZ			09:22																									
ZZZZZZ			09:24																									
ZZZZZZ			09:26																									
ZZZZZZ			09:28																									
ZZZZZZ			09:30																									
ZZZZZZ			09:32																									
ZZZZZZ			09:34																									
CCV 410-32834/13-A	1		09:36	X																								
CCB 410-32834/10-A	1		09:38	X																								
ZZZZZZ			09:40																									
ZZZZZZ			09:42																									
ZZZZZZ			09:44																									
ZZZZZZ			09:46																									
MB 410-33593/1-A	1	T	09:49	X																								
LCS 410-33593/2-A	1	T	09:51	X																								
ZZZZZZ			09:53																									
ZZZZZZ			09:55																									
ZZZZZZ			09:57																									
ZZZZZZ			09:59																									
CCV 410-32834/14-A	1		10:01	X																								
CCB 410-32834/10-A	1		10:03	X																								
ZZZZZZ			10:05																									
410-10696-1	1	D	10:07	X																								
410-10696-3	1	D	10:09	X																								
410-10696-6	1	D	10:11	X																								
ZZZZZZ			10:13																									
ZZZZZZ			10:15																									
ZZZZZZ			10:17																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: M09 - 65200 Analysis Method: 7470A

Start Date: 08/18/2020 08:53 End Date: 08/18/2020 13:08

Lab Sample Id	D/F	Type	Time	Analytes																								
				Hg																								
ZZZZZZ			10:19																									
ZZZZZZ			10:21																									
ZZZZZZ			10:30																									
CCV 410-32834/13-A	1		10:32	X																								
CCB 410-32834/10-A	1		10:34	X																								
ZZZZZZ			10:36																									
ZZZZZZ			10:38																									
ZZZZZZ			10:40																									
ZZZZZZ			10:42																									
ZZZZZZ			10:44																									
ZZZZZZ			10:46																									
ZZZZZZ			10:48																									
ZZZZZZ			10:50																									
ZZZZZZ			10:52																									
ZZZZZZ			10:54																									
CCV 410-32834/13-A			10:56																									
CCB 410-32834/10-A			10:58																									
ZZZZZZ			11:00																									
ZZZZZZ			11:02																									
ZZZZZZ			11:07																									
ZZZZZZ			11:09																									
ZZZZZZ			11:11																									
ZZZZZZ			11:13																									
ZZZZZZ			11:15																									
ZZZZZZ			11:17																									
ZZZZZZ			11:19																									
ZZZZZZ			11:21																									
CCV 410-32834/13-A			11:24																									
CCB 410-32834/10-A			11:26																									
ZZZZZZ			11:28																									
ZZZZZZ			11:30																									
ZZZZZZ			11:32																									
ZZZZZZ			11:34																									
ZZZZZZ			11:36																									
ZZZZZZ			11:38																									
ZZZZZZ			11:40																									
ZZZZZZ			11:42																									
ZZZZZZ			11:44																									
ZZZZZZ			11:50																									
CCV 410-32834/13-A			11:55																									
CCB 410-32834/10-A			11:57																									
ZZZZZZ			11:59																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
METALS

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: M09 - 65200 Analysis Method: 7470A

Start Date: 08/18/2020 08:53 End Date: 08/18/2020 13:08

Lab Sample Id	D/F	Type	Time	Analytes																									
				Hg																									
ZZZZZZ			12:01																										
ZZZZZZ			12:03																										
ZZZZZZ			12:05																										
ZZZZZZ			12:07																										
ZZZZZZ			12:09																										
ZZZZZZ			12:11																										
ZZZZZZ			12:13																										
ZZZZZZ			12:15																										
ZZZZZZ			12:17																										
CCV 410-32834/13-A			12:19																										
CCB 410-32834/10-A			12:21																										
ZZZZZZ			12:23																										
ZZZZZZ			12:25																										
ZZZZZZ			12:28																										
CCV 410-32834/13-A			12:33																										
CCB 410-32834/10-A			12:35																										
CRA 410-32834/12-A	1		12:42	X																									
CCV 410-32834/13-A			12:44																										
CCB 410-32834/10-A			12:46																										
ZZZZZZ			12:51																										
ZZZZZZ			12:53																										
ZZZZZZ			12:55																										
ZZZZZZ			12:57																										
ZZZZZZ			12:59																										
ZZZZZZ			13:01																										
CCV 410-32834/13-A			13:06																										
CCB 410-32834/10-A			13:08																										

Prep Types:
D = Dissolved
T = Total/NA

FORM XIII-IN

15-IN
ICP INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.: Analysis Batch No.: 42585

ICP Instrument ID: T70 - 11016 Start Date: 09/10/2020 End Date: 09/10/2020

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Y/0 224.306	Q	Element Y/0 371.030	Q	Element Y/1 371.030	Q	Element	Q	Element	Q
ICIS 410-42585/2	09:05										
ICV 410-42585/6	09:17	100		103		109					
ICV 410-42585/7	09:20	99		104		108					
ICB 410-42585/8	09:23	99		102		103					
CRI 410-42585/9	09:26	100		102		104					
ICSA 410-42585/10	09:29	91		94		102					
ICSAB 410-42585/11	09:33	92		94		101					
LRC 410-42585/12	09:36	97		105		106					
LRC 410-42585/13	09:40	89		93		100					
LRC 410-42585/14	09:43	95		102		104					
LRC 410-42585/15	09:47	91		95		101					
CCV 410-42585/17	09:53	98		100		102					
CCB 410-42585/18	09:56	98		102		103					
MB 410-42157/1-A	10:08	101		106		108					
LCS 410-42157/2-A	10:11	101		105		108					
410-10696-1	10:34	95		101		104					
410-10696-3	10:37	97		100		103					
CCV 410-42585/29	10:40	96		98		98					
CCB 410-42585/30	10:44	96		101		98					
410-10696-6	10:47	95		100		106					
CCV 410-42585/41	11:20	97		101		105					
CCB 410-42585/42	11:23	96		102		103					
CCV 410-42585/49	11:46	98		104		112					
CCB 410-42585/50	12:34	100		108		110					
410-10696-1	12:38	101		108		114					
410-10696-3	12:41	100		107		112					
410-10696-6	12:44	99		107		112					
CCV 410-42585/54	12:47	96		102		106					
CCB 410-42585/55	12:50	98		106		110					
CRI 410-42585/56	12:55	99		104		107					

15-IN
ICP INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.: Analysis Batch No.: 42633

ICP Instrument ID: T72 - 16417 Start Date: 09/10/2020 End Date: 09/10/2020

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Y/0 224.306	Q	Element Y/0 371.030	Q	Element Y/1 371.030	Q	Element	Q	Element	Q
ICIS 410-42633/2	14:30										
ICV 410-42633/6	14:42	99		98		100					
ICV 410-42633/7	14:46	99		98		102					
ICB 410-42633/8	14:49	100		101		102					
CRI 410-42633/9	14:52	101		101		103					
ICSA 410-42633/10	14:55	90		88		98					
ICSAB 410-42633/11	14:58	89		88		98					
LRC 410-42633/12	15:02	98		98		101					
LRC 410-42633/13	15:05	88		86		97					
LRC 410-42633/14	15:08	97		99		100					
LRC 410-42633/15	15:12	92		91		97					
CCV 410-42633/17	15:18	100		99		100					
CCB 410-42633/18	15:22	101		102		102					
LCS 410-42157/2-A	15:31	103		102		96					
410-10696-1	15:34	101		101		103					
410-10696-3	15:37	101		101		101					
410-10696-6	15:40	101		100		95					
CRI 410-42633/26	15:50	100		101		98					
CCV 410-42633/27	16:02	101		99		97					
CCB 410-42633/28	16:06	101		102		98					

15-IN
ICP INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.: Analysis Batch No.: 39416

ICP Instrument ID: T74 - 23745 Start Date: 08/31/2020 End Date: 08/31/2020

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Y/0 224.306	Q	Element Y/0 371.030	Q	Element Y/1 371.030	Q	Element	Q	Element	Q
ICIS 410-39416/2	05:50										
ICV 410-39416/6	06:03	100		99		103					
ICB 410-39416/7	06:06	103		103		104					
CRI 410-39416/8	06:09	102		101		102					
ICSA 410-39416/9	06:12	91		86		96					
ICSAB 410-39416/10	06:16	90		86		98					
CCV 410-39416/12	06:22	99		96		102					
CCB 410-39416/13	06:25	102		100		103					
LRC 410-39416/14	06:28	95		97		103					
LRC 410-39416/15	06:32	86		83		95					
LRC 410-39416/16	06:35	96		98		102					
LRC 410-39416/17	06:39	92		86		96					
CCV 410-39416/19	06:45	100		98		104					
CCB 410-39416/20	06:48	101		100		101					
ICSA 410-39416/21	14:06	89		86		94					
ICSAB 410-39416/22	14:10	90		87		96					
CCV 410-39416/26	16:31	98		97		95					
CCB 410-39416/27	16:34	100		102		96					
MB 410-37214/1-A	16:37	100		101		96					
LCS 410-37214/2-A	16:41	103		104		103					
CCV 410-39416/38	17:09	101		99		98					
CCB 410-39416/39	17:12	102		103		100					
CCV 410-39416/50	17:48	99		99		99					
CCB 410-39416/51	17:51	100		102		99					
410-10696-3	18:00	100		98		101					
410-10696-6	18:04	100		98		100					
410-10696-1	18:07	102		101		102					
CCV 410-39416/59	18:16	100		98		98					
CCB 410-39416/60	18:20	102		101		98					
CRI 410-39416/61	18:23	105		103		102					

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.: Analysis Batch No.: 34834

ICP-MS Instrument ID: E07 - 27813 Start Date: 08/18/2020 End Date: 08/18/2020

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Sc-45/1	Q	Element Sc-45/2	Q	Element Sc-45/3	Q	Element Ge/1	Q	Element Ge/2	Q
STD1 410-34834/2 IC	14:50	99		100		101		99		100	
STD2 410-34834/3 IC	14:52	99		101		102		100		100	
STD3 410-34834/4 IC	14:54	100		100		100		100		100	
ICV 410-34834/5	14:56	100		100		99		100		100	
ICB 410-34834/6	14:58	100		98		99		100		100	
CRI 410-34834/7	15:00	99		98		101		100		100	
ICSA 410-34834/8	15:02	98		98		99		100		99	
ICSAB 410-34834/9	15:04	98		99		99		99		99	
LRC 410-34834/10	15:05	99		98		101		99		100	
CCV 410-34834/13	15:11	99		96		97		100		98	
CCB 410-34834/14	15:13	97		94		96		100		97	
CCV 410-34834/15	15:24	99		97		98		100		98	
CCB 410-34834/16	15:26	97		96		97		100		98	
MB 410-33581/1-A	15:28	99		96		96		101		98	
LCS 410-33581/2-A	15:30	99		98		100		101		101	
CCV 410-34834/27	15:47	100		95		97		101		98	
CCB 410-34834/28	15:49	98		95		96		100		98	
410-10696-1	15:51	99		95		97		102		99	
410-10696-3	15:54	100		97		97		102		100	
410-10696-6	15:56	104		98		98		101		98	
CCV 410-34834/39	16:09	99		94		93		100		96	
CCB 410-34834/40	16:11	98		92		93		100		95	
CRI 410-34834/50	16:30	99		95		97		100		98	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.: Analysis Batch No.: 34834

ICP-MS Instrument ID: E07 - 27813 Start Date: 08/18/2020 End Date: 08/18/2020

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Ge/3	Q	Element In-115/2	Q	Element In-115/3	Q	Element Tb-159	Q	Element Bi-209	Q
STD1 410-34834/2 IC	14:50	101		101		101		101		100	
STD2 410-34834/3 IC	14:52	101		102		100		102		101	
STD3 410-34834/4 IC	14:54	100		102		101		101		100	
ICV 410-34834/5	14:56	101		101		100		101		100	
ICB 410-34834/6	14:58	101		100		100		100		100	
CRI 410-34834/7	15:00	101		100		101		101		101	
ICSA 410-34834/8	15:02	99		97		96		99		93	
ICSAB 410-34834/9	15:04	100		96		96		99		93	
LRC 410-34834/10	15:05	100		105		106		101		97	
CCV 410-34834/13	15:11	99		100		101		101		100	
CCB 410-34834/14	15:13	98		99		99		100		99	
CCV 410-34834/15	15:24	98		100		100		100		100	
CCB 410-34834/16	15:26	99		99		99		100		98	
MB 410-33581/1-A	15:28	98		100		100		101		100	
LCS 410-33581/2-A	15:30	101		102		102		101		100	
CCV 410-34834/27	15:47	99		100		100		101		100	
CCB 410-34834/28	15:49	98		100		100		100		99	
410-10696-1	15:51	99		100		98		101		100	
410-10696-3	15:54	100		100		99		101		99	
410-10696-6	15:56	100		99		99		103		99	
CCV 410-34834/39	16:09	96		99		98		101		99	
CCB 410-34834/40	16:11	96		98		96		99		99	
CRI 410-34834/50	16:30	100		101		100		101		100	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.: Analysis Batch No.: 37661

ICP-MS Instrument ID: E07 - 27813 Start Date: 08/26/2020 End Date: 08/26/2020

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Sc-45/1	Q	Element Sc-45/2	Q	Element Sc-45/3	Q	Element Ge/1	Q	Element Ge/2	Q
STD1 410-37661/2 IC	09:47	102		102		101		100		99	
ICV 410-37661/3	09:49	102		100		101		100		98	
ICB 410-37661/4	09:50	103		100		99		102		100	
CRI 410-37661/5	09:52	102		98		98		102		98	
ICSA 410-37661/6	09:54	99		99		97		101		98	
ICSAB 410-37661/7	09:56	102		98		99		101		97	
LRC 410-37661/8	09:58	103		99		99		101		97	
CCV 410-37661/11	10:04	103		94		98		100		93	
CCB 410-37661/12	10:05	102		94		96		101		95	
CCV 410-37661/56	16:17	99		101		101		97		100	
CCB 410-37661/57	16:19	98		99		99		99		100	
MB 410-33792/1-A	16:21	101		104		103		100		104	
LCS 410-33792/2-A	16:23	102		105		105		101		105	
410-10696-3	16:24	102		105		105		101		105	
410-10696-6	16:26	100		104		104		99		103	
410-10696-1	16:28	101		106		103		100		106	
CCV 410-37661/63	16:30	98		101		101		96		99	
CCB 410-37661/64	16:32	96		98		101		96		100	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.: Analysis Batch No.: 37661

ICP-MS Instrument ID: E07 - 27813 Start Date: 08/26/2020 End Date: 08/26/2020

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Ge/3	Q	Element In-115/2	Q	Element In-115/3	Q	Element Tb-159	Q	Element Bi-209	Q
STD1 410-37661/2 IC	09:47	99		100		101		102		100	
ICV 410-37661/3	09:49	99		100		101		101		100	
ICB 410-37661/4	09:50	100		99		100		100		100	
CRI 410-37661/5	09:52	99		99		100		100		101	
ICSA 410-37661/6	09:54	98		94		94		98		94	
ICSAB 410-37661/7	09:56	98		95		95		99		94	
LRC 410-37661/8	09:58	96		105		104		100		97	
CCV 410-37661/11	10:04	95		99		98		100		100	
CCB 410-37661/12	10:05	97		98		97		100		99	
CCV 410-37661/56	16:17	98		103		101		103		101	
CCB 410-37661/57	16:19	99		102		101		102		101	
MB 410-33792/1-A	16:21	101		106		102		102		103	
LCS 410-33792/2-A	16:23	102		106		104		102		104	
410-10696-3	16:24	103		105		102		104		101	
410-10696-6	16:26	103		104		102		104		103	
410-10696-1	16:28	103		105		101		103		104	
CCV 410-37661/63	16:30	97		102		100		101		100	
CCB 410-37661/64	16:32	98		100		99		100		102	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.: Analysis Batch No.: 37732

ICP-MS Instrument ID: E07 - 27813 Start Date: 08/26/2020 End Date: 08/26/2020

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Sc-45/1	Q	Element Sc-45/2	Q	Element Sc-45/3	Q	Element Ge/1	Q	Element Ge/2	Q
STD1 410-37732/2 IC	09:47	102		102		101		100		99	
ICV 410-37732/3	09:49	102		100		101		100		98	
ICB 410-37732/4	09:50	103		100		99		102		100	
CRI 410-37732/5	09:52	102		98		98		102		98	
ICSA 410-37732/6	09:54	99		99		97		101		98	
ICSAB 410-37732/7	09:56	102		98		99		101		97	
LRC 410-37732/8	09:58	103		99		99		101		97	
CCV 410-37732/11	10:04	103		94		98		100		93	
CCB 410-37732/12	10:05	102		94		96		101		95	
CCV 410-37732/13	19:11	100		101		100		96		98	
CCB 410-37732/14	19:13	97		98		98		98		99	
MB 410-33581/1-A	19:14	100		102		101		99		101	
LCS 410-33581/2-A	19:16	101		104		103		99		103	
410-10696-1	19:31	103		101		101		101		101	
CCV 410-37732/25	19:33	102		98		99		98		97	
CCB 410-37732/26	19:35	100		96		98		99		97	
410-10696-3	19:41	105		102		103		101		100	
410-10696-3	19:43	102		99		100		101		100	
410-10696-6	19:46	103		100		102		101		100	
CCV 410-37732/37	19:56	102		95		98		98		94	
CCB 410-37732/38	19:58	101		93		97		100		96	
CCV 410-37732/49	20:18	102		93		97		98		92	
CCB 410-37732/50	20:20	99		93		94		99		94	
410-10696-6	20:39	109		99		101		101		96	
CCV 410-37732/61	20:41	100		93		97		97		92	
CCB 410-37732/62	20:43	100		93		95		99		94	
CRI 410-37732/63	20:45	101		92		95		99		94	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.: Analysis Batch No.: 37732

ICP-MS Instrument ID: E07 - 27813 Start Date: 08/26/2020 End Date: 08/26/2020

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Ge/3	Q	Element In-115/2	Q	Element In-115/3	Q	Element Tb-159	Q	Element Bi-209	Q
STD1 410-37732/2 IC	09:47	99		100		101		102		100	
ICV 410-37732/3	09:49	99		100		101		101		100	
ICB 410-37732/4	09:50	100		99		100		100		100	
CRI 410-37732/5	09:52	99		99		100		100		101	
ICSA 410-37732/6	09:54	98		94		94		98		94	
ICSAB 410-37732/7	09:56	98		95		95		99		94	
LRC 410-37732/8	09:58	96		105		104		100		97	
CCV 410-37732/11	10:04	95		99		98		100		100	
CCB 410-37732/12	10:05	97		98		97		100		99	
CCV 410-37732/13	19:11	96		102		99		102		101	
CCB 410-37732/14	19:13	98		101		99		101		101	
MB 410-33581/1-A	19:14	99		103		102		102		104	
LCS 410-33581/2-A	19:16	101		105		103		102		102	
410-10696-1	19:31	100		103		101		103		103	
CCV 410-37732/25	19:33	95		102		100		102		100	
CCB 410-37732/26	19:35	97		101		98		100		100	
410-10696-3	19:41	101		104		101		103		102	
410-10696-3	19:43	100		103		100		102		102	
410-10696-6	19:46	100		102		99		102		102	
CCV 410-37732/37	19:56	94		100		97		101		102	
CCB 410-37732/38	19:58	96		100		98		100		101	
CCV 410-37732/49	20:18	93		100		98		102		101	
CCB 410-37732/50	20:20	95		100		97		101		100	
410-10696-6	20:39	98		100		98		103		101	
CCV 410-37732/61	20:41	95		99		98		101		101	
CCB 410-37732/62	20:43	97		100		98		100		101	
CRI 410-37732/63	20:45	95		99		97		99		100	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.: Analysis Batch No.: 35326

ICP-MS Instrument ID: E08 - 30647 Start Date: 08/19/2020 End Date: 08/19/2020

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Sc-45/1	Q	Element Sc-45/2	Q	Element Sc-45/3	Q	Element Ge/1	Q	Element Ge/2	Q
STD1 410-35326/2 IC	10:08	99		98		99		99		98	
ICV 410-35326/3	10:10	98		98		100		96		98	
ICB 410-35326/4	10:12	97		97		99		97		98	
CRI 410-35326/5	10:14	97		98		98		97		98	
ICSA 410-35326/6	10:17	95		96		95		98		96	
ICSAB 410-35326/7	10:19	95		96		96		98		97	
LRC 410-35326/8	10:21	96		97		98		96		97	
CCV 410-35326/11	10:28	97		97		98		95		97	
CCB 410-35326/12	10:30	95		97		97		96		98	
CCV 410-35326/13	20:14	102		100		98		101		98	
CCB 410-35326/14	20:16	103		100		97		101		99	
MB 410-33792/1-A	20:18	103		98		95		102		98	
LCS 410-33792/2-A	20:20	104		100		98		103		101	
CCV 410-35326/25	20:41	99		100		97		98		100	
CCB 410-35326/26	20:43	97		98		96		99		100	
CCV 410-35326/37	21:08	101		98		97		100		98	
CCB 410-35326/38	21:10	98		98		97		98		98	
410-10696-3	21:21	103		99		98		102		99	
410-10696-6	21:23	102		98		97		100		99	
410-10696-1	21:26	103		99		98		101		100	
CCV 410-35326/48	21:32	100		98		96		99		98	
CCB 410-35326/49	21:35	99		98		95		100		99	

15-IN
ICP-MS INTERNAL STANDARDS RELATIVE INTENSITY SUMMARY
METALS

Lab Name: Eurofins Lancaster Laboratories E Job No.: 410-10696-1

SDG No.: Analysis Batch No.: 35326

ICP-MS Instrument ID: E08 - 30647 Start Date: 08/19/2020 End Date: 08/19/2020

Lab Sample ID	Time	Internal Standards %RI For:									
		Element Ge/3	Q	Element In-115/2	Q	Element In-115/3	Q	Element Tb-159	Q	Element Bi-209	Q
STD1 410-35326/2 IC	10:08	97		100		99		98		98	
ICV 410-35326/3	10:10	98		99		99		100		99	
ICB 410-35326/4	10:12	97		98		98		99		99	
CRI 410-35326/5	10:14	98		99		98		99		99	
ICSA 410-35326/6	10:17	94		93		92		94		89	
ICSAB 410-35326/7	10:19	96		93		91		93		88	
LRC 410-35326/8	10:21	97		103		102		95		92	
CCV 410-35326/11	10:28	95		99		97		97		96	
CCB 410-35326/12	10:30	97		98		96		95		97	
CCV 410-35326/13	20:14	101		104		99		99		99	
CCB 410-35326/14	20:16	101		103		98		98		98	
MB 410-33792/1-A	20:18	100		103		97		98		98	
LCS 410-33792/2-A	20:20	103		105		100		98		98	
CCV 410-35326/25	20:41	102		103		100		97		96	
CCB 410-35326/26	20:43	101		102		98		96		96	
CCV 410-35326/37	21:08	100		102		99		98		98	
CCB 410-35326/38	21:10	100		101		98		98		98	
410-10696-3	21:21	103		102		97		98		96	
410-10696-6	21:23	101		101		97		98		96	
410-10696-1	21:26	102		102		97		97		98	
CCV 410-35326/48	21:32	101		103		99		98		98	
CCB 410-35326/49	21:35	100		101		97		96		97	

METALS BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 37214 Batch Start Date: 08/26/20 02:21 Batch Analyst: Mertz, James L

Batch Method: 3010A Batch End Date: 08/26/20 08:12

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MP_1:1HCl 00005	MT_HNO3_JT 00003	MT_ICPSPK_SCP 00002	MT_KNiZn_IV 00009
MB 410-37214/1		3010A, 6010C		50 mL	50 mL	5 mL	3 mL		
LCS 410-37214/2		3010A, 6010C		50 mL	50 mL	5 mL	3 mL	0.2 mL	0.5 mL
410-10696-A-3	MW-04	3010A, 6010C	T	50 mL	50 mL	5 mL	3 mL		
410-10696-A-6	WPA-GW-02	3010A, 6010C	T	50 mL	50 mL	5 mL	3 mL		
410-10696-A-1	MW-01	3010A, 6010C	T	50 mL	50 mL	5 mL	3 mL		

Batch Notes	
Batch Comment	Have A Wonderful Day
Digestion End Time	08/26/2020 08:12
Digestion Start Time	08/26/2020 02:21
Digestion Unit ID	15
Pipette/Syringe/Dispenser ID	R34046G P049
Analyst ID - Spike Analyst	1184
Digestion Tube/Cup ID	2001329

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 42157 Batch Start Date: 09/09/20 15:50 Batch Analyst: Rice, JoElla L

Batch Method: Non-Digest Prep Batch End Date: 09/09/20 15:55

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MP_1:1HCl 00005	MP_1:1HNO3 00006	MT_ICPSPK_SCP 00002	MT_KNiZn_IV 00011
MB 410-42157/1		Non-Digest Prep, 6010C		50 mL	51.5 mL	0.5 mL	1 mL		
LCS 410-42157/2		Non-Digest Prep, 6010C		50 mL	50 mL	0.5 mL	1 mL	0.2 mL	0.5 mL
410-10696-N-1	MW-01	Non-Digest Prep, 6010C	D	50 mL	51.5 mL	0.5 mL	1 mL		
410-10696-N-3	MW-04	Non-Digest Prep, 6010C	D	50 mL	51.5 mL	0.5 mL	1 mL		
410-10696-N-6	WPA-GW-02	Non-Digest Prep, 6010C	D	50 mL	51.5 mL	0.5 mL	1 mL		

Batch Notes	
Batch Comment	1364
Digestion Tubes ID	2003055
Pipette/Syringe/Dispenser ID	P049, R34046G

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 33581 Batch Start Date: 08/15/20 11:16 Batch Analyst: Rice, JoElla L

Batch Method: 3020A Batch End Date: 08/17/20 07:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MT_HNO3_JT 00003	MT_MSSPK_SCP 00008		
MB 410-33581/1		3020A, 6020A		50 mL	50 mL	3 mL			
LCS 410-33581/2		3020A, 6020A		50 mL	50 mL	3 mL	0.5 mL		
410-10696-O-1	MW-01	3020A, 6020A	T	50 mL	50 mL	3 mL			
410-10696-Q-3	MW-04	3020A, 6020A	T	50 mL	50 mL	3 mL			
410-10696-Q-6	WPA-GW-02	3020A, 6020A	T	50 mL	50 mL	3 mL			

Batch Notes	
Digestion End Time	0700
Digestion Start Time	02:40
Digestion Unit ID	14
Pipette/Syringe/Dispenser ID	R34046G
Analyst ID - Spike Analyst	1184
Digestion Tube/Cup ID	2001329

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 33792 Batch Start Date: 08/17/20 18:05 Batch Analyst: Mertz, James L

Batch Method: Non-Digest Prep Batch End Date: 08/17/20 18:10

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	MP_1:1HCl 00004	MP_1:1HNO3 00005	MT_MSSPK_SCP 00008	
MB 410-33792/1		Non-Digest Prep, 6020A		50 mL	51.5 mL	0.5 mL	1 mL		
LCS 410-33792/2		Non-Digest Prep, 6020A		50 mL	50 mL	0.5 mL	1 mL	0.5 mL	
410-10696-O-3	MW-04	Non-Digest Prep, 6020A	D	50 mL	51.5 mL	0.5 mL	1 mL		
410-10696-O-6	WPA-GW-02	Non-Digest Prep, 6020A	D	50 mL	51.5 mL	0.5 mL	1 mL		
410-10696-Q-1	MW-01	Non-Digest Prep, 6020A	D	50 mL	51.5 mL	0.5 mL	1 mL		

Batch Notes	
Batch Comment	1364
Digestion Tubes ID	2001329
Pipette/Syringe/Dispenser ID	R34046G

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 32359 Batch Start Date: 08/12/20 15:25 Batch Analyst: Valentin, Damary S

Batch Method: 7470A Batch End Date: 08/12/20 17:25

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Hg_0.1Cal_CP 00067	Hg_1Cal_CP 00059	Hg_1Cont_IV 00062	MP_5%KMnO4 00062
ICV 410-32359/7		7470A, 7470A		100 mL	100 mL			0.25 mL	6 mL
ICB 410-32359/9		7470A, 7470A		100 mL	100 mL				6 mL
CCB 410-32359/10		7470A, 7470A		100 mL	100 mL				6 mL
CRA 410-32359/11		7470A, 7470A		100 mL	100 mL	0.2 mL			6 mL
CCV 410-32359/13		7470A, 7470A		200 mL	200 mL		0.2 mL		6 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	MP_5K2S2O8 00014	MT_HNO3_JT 00003	MT_SULF_FI 00009			
ICV 410-32359/7		7470A, 7470A		3.2 mL	1 mL	2 mL			
ICB 410-32359/9		7470A, 7470A		3.2 mL	1 mL	2 mL			
CCB 410-32359/10		7470A, 7470A		3.2 mL	1 mL	2 mL			
CRA 410-32359/11		7470A, 7470A		3.2 mL	1 mL	2 mL			
CCV 410-32359/13		7470A, 7470A		3.2 mL	1 mL	2 mL			

Batch Notes	
Batch Comment	20013290151FA
Temperature - Corrected - End	95 Degrees C
Temperature - Corrected - Start	95 Degrees C
Digestion Unit ID	11
Thermometer ID	5555
Digestion Tube/Cup ID	2001329

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 32834 Batch Start Date: 08/14/20 06:20 Batch Analyst: Valentin, Damary S

Batch Method: 7470A Batch End Date: 08/14/20 08:20

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Hg_0.1Cont_IV 00056	Hg_1Cal_CP 00062	Hg_1Cont_IV 00063	Hg_NaClHNO 00006
ICV 410-32834/7		7470A, 7470A		100 mL	100 mL			0.25 mL	2.4 mL
ICB 410-32834/9		7470A, 7470A		100 mL	100 mL				2.4 mL
CCB 410-32834/10		7470A, 7470A		100 mL	100 mL				2.4 mL
CRA 410-32834/11		7470A, 7470A		100 mL	100 mL	0.2 mL			2.4 mL
CRA 410-32834/12		7470A, 7470A		100 mL	100 mL	0.2 mL			2.4 mL
CCV 410-32834/13		7470A, 7470A		200 mL	200 mL		0.2 mL		2.4 mL
CCV 410-32834/14		7470A, 7470A		200 mL	200 mL		0.2 mL		2.4 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	MP_5%KMnO4 00062	MP_5K2S2O8 00014	MT_HNO3_JT 00003	MT_SULF_FI 00009		
ICV 410-32834/7		7470A, 7470A		6 mL	3.2 mL	1 mL	2 mL		
ICB 410-32834/9		7470A, 7470A		6 mL	3.2 mL	1 mL	2 mL		
CCB 410-32834/10		7470A, 7470A		6 mL	3.2 mL	1 mL	2 mL		
CRA 410-32834/11		7470A, 7470A		6 mL	3.2 mL	1 mL	2 mL		
CRA 410-32834/12		7470A, 7470A		6 mL	3.2 mL	1 mL	2 mL		
CCV 410-32834/13		7470A, 7470A		6 mL	3.2 mL	1 mL	2 mL		
CCV 410-32834/14		7470A, 7470A		6 mL	3.2 mL	1 mL	2 mL		

Batch Notes	
Temperature - Corrected - End	95 Degrees C
Temperature - Corrected - Start	95 Degrees C
Digestion Unit ID	#11
Thermometer ID	5555
Digestion Tube/Cup ID	2001329

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 32834 Batch Start Date: 08/14/20 06:20 Batch Analyst: Valentin, Damary S

Batch Method: 7470A Batch End Date: 08/14/20 08:20

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 33593 Batch Start Date: 08/17/20 15:10 Batch Analyst: Rice, JoElla L

Batch Method: 7470A Batch End Date: 08/17/20 17:10

Lab Sample ID	Client Sample ID	Method Chain	Basis	Initial pH	InitialAmount	FinalAmount	Hg_5K2S2O8 00006	Hg_NaClHNO 00006	MP_40Hg_IV 00027
MB 410-33593/1		7470A, 7470A		<2 SU	20 mL	20 mL	1.6 mL	1.2 mL	
LCS 410-33593/2		7470A, 7470A		<2 SU	20 mL	20 mL	1.6 mL	1.2 mL	0.5 mL
410-10696-R-1	MW-01	7470A, 7470A	D	<2 SU	20 mL	20 mL	1.6 mL	1.2 mL	
410-10696-P-3	MW-04	7470A, 7470A	D	<2 SU	20 mL	20 mL	1.6 mL	1.2 mL	
410-10696-P-6	WPA-GW-02	7470A, 7470A	D	<2 SU	20 mL	20 mL	1.6 mL	1.2 mL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MP_5%KMnO4 00062	MT_HNO3_JT 00003	MT_SULF_FI 00009			
MB 410-33593/1		7470A, 7470A		3 mL	0.5 mL	1 mL			
LCS 410-33593/2		7470A, 7470A		3 mL	0.5 mL	1 mL			
410-10696-R-1	MW-01	7470A, 7470A	D	3 mL	0.5 mL	1 mL			
410-10696-P-3	MW-04	7470A, 7470A	D	3 mL	0.5 mL	1 mL			
410-10696-P-6	WPA-GW-02	7470A, 7470A	D	3 mL	0.5 mL	1 mL			

Batch Notes	
Batch Comment	20013290151FA
Temperature - Corrected - End	95 Degrees C
Temperature - Corrected - Start	95 Degrees C
Digestion Unit ID	12
Pipette/Syringe/Dispenser ID	R34046G
Analyst ID - Spike Analyst	1364
Thermometer ID	1517
Digestion Tube/Cup ID	2001329

Basis	Basis Description
D	Dissolved

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

METALS BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 33595 Batch Start Date: 08/15/20 11:44 Batch Analyst: Rice, JoElla L

Batch Method: 7470A Batch End Date: 08/17/20 05:40

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	Hg_5K2S2O8 00006	Hg_NaClHNO 00006	MP_40Hg_IV 00027	MP_5%KMnO4 00062
MB 410-33595/1		7470A, 7470A		20 mL	20 mL	1.6 mL	1.2 mL		3 mL
LCS 410-33595/2		7470A, 7470A		20 mL	20 mL	1.6 mL	1.2 mL	0.5 mL	3 mL
410-10696-P-1	MW-01	7470A, 7470A	T	20 mL	20 mL	1.6 mL	1.2 mL		3 mL
410-10696-R-3	MW-04	7470A, 7470A	T	20 mL	20 mL	1.6 mL	1.2 mL		3 mL
410-10696-R-6	WPA-GW-02	7470A, 7470A	T	20 mL	20 mL	1.6 mL	1.2 mL		3 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	MT_HNO3_JT 00003	MT_SULF_FI 00009				
MB 410-33595/1		7470A, 7470A		0.5 mL	1 mL				
LCS 410-33595/2		7470A, 7470A		0.5 mL	1 mL				
410-10696-P-1	MW-01	7470A, 7470A	T	0.5 mL	1 mL				
410-10696-R-3	MW-04	7470A, 7470A	T	0.5 mL	1 mL				
410-10696-R-6	WPA-GW-02	7470A, 7470A	T	0.5 mL	1 mL				

Batch Notes	
Batch Comment	Happy Monday!!!
Digestion End Time	0540
Digestion Start Time	0340
Digestion Unit ID	11
Pipette/Syringe/Dispenser ID	R34046G
Analyst ID - Spike Analyst	1184
Digestion Tube/Cup ID	2001329

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=Matrix_Rinse
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 9:02:02
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0010,.0004,45.11, .0014, .0009, .0006,None,,
Al,308.215 {109}2,Y2A,ppm, .0440,.0011,2.596, .0432, .0434, .0453,None,,
As,189.042 {478},Y1,ppm, -.0011,.0003,31.22, -.0010, -.0008, -.0015,None,,
B,249.773 {135},Y2A,ppm, -.0009,.0002,26.74, -.0007, -.0012, -.0008,None,,
Ba,455.403 { 74},Y2A,ppm, -.0001,.0000,10.52, -.0001, -.0001, -.0001,None,,
Be,313.042 {108},Y2A,ppm, -.00203,.00001,.39924, -.00203, -.00204, -.00203,None,,
Ca,317.933 {106},Y2R,ppm, .0053,.0036,67.37, .0072, .0075, .0012,None,,
Cd,226.502 {449},Y1,ppm, .0003,.0001,27.78, .0002, .0004, .0003,None,,
Co,228.616 {447},Y1,ppm, -.0015,.0001,6.542, -.0015, -.0017, -.0014,None,,
Cr,267.716 {126},Y2A,ppm, .0011,.0002,22.19, .0013, .0012, .0008,None,,
Cu,327.396 {103},Y2A,ppm, .0007,.0004,64.26, .0012, .0003, .0006,None,,
Fe,261.187 {129},Y2R,ppm, -.0061,.0076,123.5, .0025, -.0092, -.0117,None,,
K,766.490 { 44},Y2R,ppm, .1011,.0346,34.24, .0612, .1184, .1236,None,,
Li,670.784 { 50},Y2R,ppm, -.0026,.0010,36.71, -.0018, -.0037, -.0024,None,,
Mg,285.213 {118},Y2R,ppm, -.0015,.0007,49.44, -.0007, -.0016, -.0021,None,,
Mn,257.610 {131},Y2A,ppm, -.00034,.00002,4.8299, -.00035, -.00036, -.00032,None,,
Mo,202.030 {467},Y1,ppm, -.0001,.0000,16.28, -.0001, -.0001, -.0001,None,,
Na,589.592 { 57},Y2R,ppm, -.0663,.0167,25.19, -.0854, -.0547, -.0587,None,,
Ni,231.604 {445},Y1,ppm, -.0335,.0002,.5447, -.0336, -.0333, -.0336,None,,
P,177.495 {490},Y1,ppm, .0001,.0012,2107., .0015, -.0007, -.0005,None,,
Pb,220.353 {453},Y1,ppm, .0032,.0010,32.17, .0044, .0025, .0027,None,,
S,182.034 {485},Y1,ppm, -1.015,.0051,.4998, -1.019, -1.016, -1.009,None,,
Sb,206.833 {463},Y1,ppm, .0072,.0034,46.79, .0036, .0103, .0077,None,,
Se,196.090 {472},Y1,ppm, -.0081,.0026,31.67, -.0109, -.0060, -.0073,None,,
Si,251.611 {134},Y2R,ppm, -.01171,.00429,36.639, -.01169, -.01602, -.00743,None,,
Sn,189.989 {477},Y1,ppm, -.0018,.0006,33.14, -.0023, -.0021, -.0011,None,,
Sr,421.552 { 80},Y2A,ppm, -.0001,.0000,27.93, -.0001, -.0001, -.0000,None,,
Th,283.730 {119},Y2R,ppm, .0165,.0066,40.26, .0115, .0240, .0138,None,,
Ti,334.941 {101},Y2A,ppm, -.0003,.0001,15.86, -.0003, -.0004, -.0003,None,,
Tl,190.856 {477},Y1,ppm, .0107,.0062,57.34, .0066, .0178, .0078,None,,
V,292.402 {115},Y2A,ppm, -.0002,.0002,70.88, -.0002, -.0001, -.0004,None,,
W,207.911 {462},Y1,ppm, -.0060,.0004,7.360, -.0060, -.0055, -.0064,None,,
Zn,213.856 {458},Y1,ppm, -.0048,.0000,.8427, -.0049, -.0048, -.0048,None,,
Zr,339.198 { 99},Y2R,ppm, .0060,.0006,10.03, .0066, .0060, .0054,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 17318.,1061.2,6.1279,16600.,18537.,16817.
Y2A,371.030 { 91}2,Cts/S, 437800.,3230.5,.73790,441140.,437560.,434690.
Y2R,371.030 { 91}3,Cts/S, 29137.,168.04,.57673,29203.,28946.,29262.

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=S0
Username=dept 22
Comment=

Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 9:05:17
Sample Type=ReSlope
Mode=IR
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Ag,328.068 {103},Y2A,Cts/S, -.0441,.0005,1.033, -.0436, -.0445, -.0443
Al,308.215 {109}2,Y2A,Cts/S, -.0177,.0003,1.963, -.0181, -.0174, -.0175
As,189.042 {478},Y1,Cts/S, -.0034,.0022,63.67, -.0013, -.0034, -.0057
B,249.773 {135},Y2A,Cts/S, -.0000,.0000,76.88, -.0000, -.0000, -.0000
Ba,455.403 { 74},Y2A,Cts/S, .0001,.0001,171.5, .0001, .0002, -.0000
Be,313.042 {108},Y2A,Cts/S, .02709,.00191,7.0435, .02905, .02524, .02699
Ca,317.933 {106},Y2R,Cts/S, .0045,.0003,6.037, .0048, .0043, .0046
Cd,226.502 {449},Y1,Cts/S, -.0461,.0180,39.05, -.0375, -.0667, -.0340
Co,228.616 {447},Y1,Cts/S, .0160,.0042,26.22, .0125, .0148, .0206
Cr,267.716 {126},Y2A,Cts/S, .0000,.0000,397.0, .0000, -.0000, .0000
Cu,327.396 {103},Y2A,Cts/S, -.0011,.0006,51.07, -.0005, -.0013, -.0016
Fe,261.187 {129},Y2R,Cts/S, .0003,.0002,54.12, .0005, .0002, .0003
K,766.490 { 44},Y2R,Cts/S, -.3667,.0927,25.28, -.3097, -.3167, -.4737
Li,670.784 { 50},Y2R,Cts/S, .0010,.0022,225.0, -.0015, .0018, .0027
Mg,285.213 {118},Y2R,Cts/S, -.0006,.0001,23.89, -.0008, -.0006, -.0005
Mn,257.610 {131},Y2A,Cts/S, .00557,.00075,13.466, .00501, .00527, .00642
Mo,202.030 {467},Y1,Cts/S, .0029,.0043,150.3, .0075, -.0012, .0024
Na,589.592 { 57},Y2R,Cts/S, .0078,.0008,10.30, .0087, .0074, .0072
Ni,231.604 {445},Y1,Cts/S, .0767,.0132,17.26, .0673, .0918, .0710
P,177.495 {490},Y1,Cts/S, .0001,.0000,18.20, .0001, .0001, .0001
Pb,220.353 {453},Y1,Cts/S, -.0146,.0042,28.46, -.0163, -.0178, -.0099
S,182.034 {485},Y1,Cts/S, -.0000,.0001,816.3, .0000, .0000, -.0001
Sb,206.833 {463},Y1,Cts/S, -.0002,.0003,146.0, -.0005, -.0002, .0001
Se,196.090 {472},Y1,Cts/S, .0104,.0016,15.85, .0123, .0093, .0095
Si,251.611 {134},Y2R,Cts/S, .00028,.00015,53.440, .00045, .00015, .00024
Sn,189.989 {477},Y1,Cts/S, .0048,.0062,128.1, .0120, .0019, .0007
Sr,421.552 { 80},Y2A,Cts/S, .0003,.0000,17.55, .0003, .0003, .0002
Th,283.730 {119},Y2R,Cts/S, -.0000,.0002,999.0, .0001, .0002, -.0003
Ti,334.941 {101},Y2A,Cts/S, .0043,.0022,52.27, .0034, .0026, .0068
Tl,190.856 {477},Y1,Cts/S, -.0035,.0057,161.7, -.0100, .0001, -.0006
V,292.402 {115},Y2A,Cts/S, -.0025,.0007,29.31, -.0034, -.0022, -.0020
W,207.911 {462},Y1,Cts/S, .0004,.0001,23.44, .0005, .0003, .0005
Zn,213.856 {458},Y1,Cts/S, .0384,.0052,13.62, .0340, .0371, .0442
Zr,339.198 { 99},Y2R,Cts/S, -.0009,.0003,30.39, -.0012, -.0007, -.0008

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 7055.6,143.34,2.0316,6964.6,6981.3,7220.8
Y2A,371.030 { 91}2,Cts/S, 194470.,1149.7,.59122,195730.,194190.,193480.
Y2R,371.030 { 91}3,Cts/S, 14991.,92.596,.61767,15097.,14924.,14953.

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=S1
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 9:08:23
Sample Type=ReSlope
Mode=IR

```
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Al,308.215 {109}2,Y2A,Cts/S, 16.60,.0856,.5157, 16.54, 16.70, 16.57
Ca,317.933 {106},Y2R,Cts/S, 3.370,.0234,.6953, 3.375, 3.345, 3.391
Fe,261.187 {129},Y2R,Cts/S, 1.118,.0065,.5794, 1.121, 1.111, 1.124
K,766.490 { 44},Y2R,Cts/S, 51.05,.3517,.6890, 51.29, 50.65, 51.21
Mg,285.213 {118},Y2R,Cts/S, 6.040,.0406,.6716, 6.045, 5.997, 6.077
Na,589.592 { 57},Y2R,Cts/S, 3.373,.0216,.6407, 3.380, 3.348, 3.390
S,182.034 {485},Y1,Cts/S, .5195,.0018,.3561, .5176, .5213, .5195
Si,251.611 {134},Y2R,Cts/S, .78876,.00541,.68598, .79175, .78252, .79202

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 7103.0,27.433,.38622,7118.5,7071.3,7119.1
Y2A,371.030 { 91}2,Cts/S, 198110.,635.18,.32061,198850.,197760.,197730.
Y2R,371.030 { 91}3,Cts/S, 15637.,104.48,.66814,15625.,15747.,15539.

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=S2
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 9:11:23
Sample Type=ReSlope
Mode=IR
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Ag,328.068 {103},Y2A,Cts/S, 2.684,.0107,.3972, 2.676, 2.696, 2.679
As,189.042 {478},Y1,Cts/S, 1.287,.0100,.7741, 1.277, 1.286, 1.297
B,249.773 {135},Y2A,Cts/S, .0267,.0002,.8064, .0268, .0268, .0264
Ba,455.403 { 74},Y2A,Cts/S, 2.799,.0175,.6261, 2.812, 2.805, 2.779
Be,313.042 {108},Y2A,Cts/S, 64.819,.45853,.70740, 64.976, 65.178, 64.302
Cd,226.502 {449},Y1,Cts/S, 48.82,.1537,.3148, 48.76, 49.00, 48.71
Co,228.616 {447},Y1,Cts/S, 32.02,.1169,.3652, 31.93, 32.15, 31.98
Cu,327.396 {103},Y2A,Cts/S, 2.339,.0096,.4096, 2.337, 2.349, 2.330
Li,670.784 { 50},Y2R,Cts/S, .4834,.0032,.6697, .4861, .4844, .4798
Mn,257.610 {131},Y2A,Cts/S, 9.4284,.06021,.63861, 9.4414, 9.4810, 9.3627
Ni,231.604 {445},Y1,Cts/S, 22.24,.0936,.4208, 22.17, 22.35, 22.20
P,177.495 {490},Y1,Cts/S, .0177,.0001,.5838, .0176, .0177, .0177
Pb,220.353 {453},Y1,Cts/S, 4.209,.0359,.8536, 4.188, 4.189, 4.250
Se,196.090 {472},Y1,Cts/S, .9258,.0101,1.086, .9162, .9362, .9250
Sr,421.552 { 80},Y2A,Cts/S, 2.607,.0370,1.421, 2.600, 2.647, 2.574
Th,283.730 {119},Y2R,Cts/S, .0096,.0001,.9506, .0096, .0097, .0096
Tl,190.856 {477},Y1,Cts/S, .9291,.0020,.2196, .9305, .9301, .9268
W,207.911 {462},Y1,Cts/S, .0917,.0005,.5152, .0915, .0922, .0913
Zn,213.856 {458},Y1,Cts/S, 28.57,.0473,.1656, 28.52, 28.62, 28.58

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 7256.4,11.198,.15432,7267.7,7256.1,7245.3
Y2A,371.030 { 91}2,Cts/S, 205380.,2357.0,1.1476,203940.,204100.,208100.
Y2R,371.030 { 91}3,Cts/S, 15963.,269.64,1.6891,15856.,15763.,16270.

[Sample Header]
```

Method=New TRACE Fast(v1373)
SampleName=S3
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 9:14:33
Sample Type=ReSlope
Mode=IR
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Cr,267.716 {126},Y2A,Cts/S, .0321,.0013,4.032, .0306, .0329, .0328
Mo,202.030 {467},Y1,Cts/S, 8.186,.0445,.5439, 8.159, 8.161, 8.237
Sb,206.833 {463},Y1,Cts/S, .0415,.0002,.5057, .0414, .0413, .0417
Sn,189.989 {477},Y1,Cts/S, 3.816,.0213,.5572, 3.838, 3.814, 3.796
Ti,334.941 {101},Y2A,Cts/S, 8.904,.3362,3.776, 8.518, 9.138, 9.054
V,292.402 {115},Y2A,Cts/S, 2.989,.1166,3.899, 2.856, 3.072, 3.040
Zr,339.198 { 99},Y2R,Cts/S, .1698,.0012,.7197, .1683, .1704, .1705

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 7383.3,9.7849,.13253,7379.0,7376.4,7394.5
Y2A,371.030 { 91}2,Cts/S, 211900.,5683.8,2.6823,218330.,207560.,209810.
Y2R,371.030 { 91}3,Cts/S, 16181.,151.43,.93581,16287.,16249.,16008.

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=ICV 400900
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 9:17:33
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .6165,.0042,.6814, .6168, .6122, .6206,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 30.10,.1346,.4471, 29.96, 30.09, 30.23,Chk Pass,,
As,189.042 {478},Y1,ppm,W .6378,.0186,2.923, .6593, .6282, .6259,Chk
Warn,.6000,5.000%
B,249.773 {135},Y2A,ppm, .6001,.0038,.6284, .5958, .6025, .6021,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .6209,.0022,.3481, .6184, .6225, .6217,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .58512,.00156,.26701, .58389, .58460, .58688,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 31.38,1.593,5.076, 32.64, 29.59, 31.91,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .6088,.0015,.2493, .6105, .6082, .6076,Chk Pass,,
Co,228.616 {447},Y1,ppm, .6147,.0008,.1354, .6154, .6149, .6138,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .6093,.0004,.0600, .6092, .6090, .6097,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .6244,.0032,.5137, .6213, .6243, .6277,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 29.78,1.655,5.558, 31.20, 27.97, 30.18,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 29.53,1.364,4.618, 30.64, 28.01, 29.95,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .5916,.0183,3.093, .6061, .5710, .5976,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 29.42,1.477,5.021, 30.62, 27.77, 29.87,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .61824,.00152,.24619, .61696, .61783, .61992,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .5836,.0024,.4157, .5858, .5810, .5839,Chk Pass,,

Na,589.592 { 57},Y2R,ppm, 29.42,1.474,5.010, 30.60, 27.77, 29.89,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .5991,.0011,.1861, .6003, .5989, .5981,Chk Pass,,
P,177.495 {490},Y1,ppm, .6199,.0029,.4719, .6225, .6204, .6167,Chk Pass,,
Pb,220.353 {453},Y1,ppm,W .6320,.0018,.2812, .6340, .6306, .6315,Chk
Warn,.6000,5.000%
S,182.034 {485},Y1,ppm, 31.13,.1916,.6155, 31.34, 31.11, 30.96,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .6078,.0052,.8604, .6076, .6131, .6026,Chk Pass,,
Se,196.090 {472},Y1,ppm, .6243,.0114,1.827, .6357, .6129, .6243,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 29.613,1.4898,5.0310, 30.776, 27.934, 30.128,None,,
Sn,189.989 {477},Y1,ppm, .5980,.0025,.4187, .5999, .5990, .5952,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm,W .6353,.0058,.9104, .6412, .6352, .6296,Chk
Warn,.6000,5.000%
Th,283.730 {119},Y2R,ppm, .5999,.0272,4.534, .6284, .5972, .5742,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .6294,.0013,.2067, .6293, .6282, .6308,Chk Pass,,
Tl,190.856 {477},Y1,ppm,W .5642,.0150,2.660, .5741, .5715, .5469,Chk
Warn,.6000,-5.000%
V,292.402 {115},Y2A,ppm, .6142,.0014,.2309, .6131, .6137, .6158,Chk Pass,,
W,207.911 {462},Y1,ppm,F .2951,.0175,5.926, .3132, .2940, .2782,Chk
Fail,.6000,-10.00%
Zn,213.856 {458},Y1,ppm, .6110,.0011,.1790, .6122, .6107, .6101,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .6239,.0301,4.832, .6453, .5894, .6370,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 7074.4,9.5792,.13541,7082.2,7077.3,7063.7
Y2A,371.030 { 91}2,Cts/S, 200060.,918.88,.45931,199520.,201120.,199540.
Y2R,371.030 { 91}3,Cts/S, 16316.,631.24,3.8687,15772.,17009.,16168.

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=ICV 400900
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 9:20:40
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .6155,.0013,.2162, .6169, .6153, .6143,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 29.99,.0940,.3134, 29.99, 30.08, 29.90,Chk Pass,,
As,189.042 {478},Y1,ppm,W .6305,.0091,1.437, .6360, .6354, .6200,Chk
Warn,.6000,5.000%
B,249.773 {135},Y2A,ppm, .5959,.0050,.8307, .6007, .5961, .5908,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .6179,.0036,.5861, .6189, .6139, .6209,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .58125,.00213,.36604, .58226, .58268, .57880,Chk Pass,,
Ca,317.933 {106},Y2R,ppm,W 32.26,.1457,.4515, 32.20, 32.16, 32.43,Chk
Warn,30.00,5.000%
Cd,226.502 {449},Y1,ppm, .6077,.0008,.1285, .6071, .6086, .6075,Chk Pass,,
Co,228.616 {447},Y1,ppm, .6162,.0019,.3008, .6149, .6154, .6184,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .6058,.0027,.4380, .6048, .6089, .6038,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .6233,.0013,.2114, .6242, .6240, .6218,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 30.69,.1754,.5716, 30.49, 30.80, 30.79,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 30.25,.0527,.1744, 30.31, 30.21, 30.23,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .6177,.0091,1.470, .6169, .6091, .6272,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 30.24,.1037,.3428, 30.16, 30.20, 30.36,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .61552,.00190,.30889, .61626, .61695, .61337,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .5869,.0022,.3690, .5845, .5877, .5886,Chk Pass,,

Na,589.592 { 57},Y2R,ppm, 30.12,.1238,.4111, 30.06, 30.04, 30.26,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .5995,.0005,.0904, .5990, .5995, .6001,Chk Pass,,
P,177.495 {490},Y1,ppm, .6264,.0161,2.566, .6079, .6362, .6352,Chk Pass,,
Pb,220.353 {453},Y1,ppm,W .6315,.0028,.4364, .6299, .6347, .6300,Chk
Warn,.6000,5.000%
S,182.034 {485},Y1,ppm, 31.09,.1701,.5473, 30.89, 31.18, 31.19,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .6109,.0032,.5208, .6078, .6107, .6141,Chk Pass,,
Se,196.090 {472},Y1,ppm, .6235,.0099,1.594, .6122, .6273, .6309,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 30.346,.12602,.41527, 30.202, 30.396, 30.439,None,,
Sn,189.989 {477},Y1,ppm, .5971,.0005,.0817, .5967, .5968, .5976,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm,W .6329,.0050,.7874, .6275, .6372, .6341,Chk
Warn,.6000,5.000%
Th,283.730 {119},Y2R,ppm,W .6361,.0068,1.068, .6321, .6439, .6323,Chk
Warn,.6000,5.000%
Ti,334.941 {101},Y2A,ppm, .6268,.0031,.5013, .6287, .6286, .6232,Chk Pass,,
Tl,190.856 {477},Y1,ppm,W .5533,.0119,2.144, .5546, .5408, .5645,Chk
Warn,.6000,-5.000%
V,292.402 {115},Y2A,ppm, .6089,.0020,.3203, .6081, .6112, .6075,Chk Pass,,
W,207.911 {462},Y1,ppm,F .4522,.0087,1.928, .4607, .4527, .4433,Chk
Fail,.6000,-10.00%
Zn,213.856 {458},Y1,ppm, .6109,.0010,.1619, .6111, .6098, .6117,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm,W .6397,.0060,.9327, .6362, .6363, .6466,Chk
Warn,.6000,5.000%

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 7009.6,20.040,.28589,7012.4,7028.2,6988.4
Y2A,371.030 { 91}2,Cts/S, 202480.,218.87,.10809,202370.,202740.,202350.
Y2R,371.030 { 91}3,Cts/S, 16122.,46.708,.28971,16140.,16157.,16069.

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=ICB 412912
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 9:23:47
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0020,.0003,17.19, .0016, .0023, .0020,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .0183,.0031,17.21, .0194, .0207, .0147,Chk Pass,,
As,189.042 {478},Y1,ppm, -.0046,.0018,40.27, -.0030, -.0041, -.0066,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0026,.0007,27.62, .0033, .0018, .0028,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0002,.0000,8.004, .0002, .0002, .0002,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00019,.00002,10.608, .00018, .00021, .00018,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .0134,.0005,3.894, .0140, .0130, .0133,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0003,.0001,40.39, .0003, .0002, .0005,Chk Pass,,
Co,228.616 {447},Y1,ppm, -.0004,.0003,79.63, -.0006, -.0000, -.0005,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0012,.0008,68.92, .0012, .0003, .0019,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0015,.0012,75.51, .0009, .0029, .0008,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .0143,.0066,46.15, .0203, .0072, .0153,Chk Pass,,
K,766.490 { 44},Y2R,ppm, .0355,.0975,274.7, .0378, .1318, -.0631,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, -.0018,.0021,115.2, -.0030, .0006, -.0029,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .0062,.0033,54.28, .0048, .0100, .0037,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .00022,.00002,8.9091, .00021, .00021, .00024,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0008,.0006,66.61, .0002, .0011, .0012,Chk Pass,,

Na,589.592 { 57},Y2R,ppm, .0087,.0209,240.2, -.0124, .0091, .0294,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0001,.0002,183.8, .0002, .0002, -.0001,Chk Pass,,
P,177.495 {490},Y1,ppm, .0092,.0109,118.1, .0047, .0216, .0013,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .0005,.0019,376.7, .0027, -.0007, -.0005,Chk Pass,,
S,182.034 {485},Y1,ppm, .0111,.0156,140.9, .0053, .0287, -.0008,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .0100,.0043,43.17, .0118, .0051, .0131,Chk Pass,,
Se,196.090 {472},Y1,ppm, -.0001,.0038,2837., -.0017, .0042, -.0030,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .01228,.00441,35.895, .00769, .01267, .01647,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0003,.0014,512.0, -.0006, .0019, -.0004,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0001,.0000,45.90, .0001, .0001, .0000,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0125,.0233,185.4, .0171, -.0127, .0332,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0003,.0002,62.91, .0004, .0002, .0002,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0070,.0053,75.40, .0067, .0124, .0019,Chk Pass,,
V,292.402 {115},Y2A,ppm, -.0008,.0004,48.87, -.0006, -.0005, -.0012,Chk Pass,,
W,207.911 {462},Y1,ppm,F .0602,.0013,2.198, .0588, .0614, .0605,Chk
Fail,.0150,-.0150
Zn,213.856 {458},Y1,ppm, .0021,.0005,23.83, .0015, .0023, .0024,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0037,.0008,21.16, .0029, .0038, .0044,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 7018.2,50.542,.72015,7073.7,7006.0,6974.8
Y2A,371.030 { 91}2,Cts/S, 199070.,1214.1,.60990,199690.,199850.,197670.
Y2R,371.030 { 91}3,Cts/S, 15390.,155.22,1.0086,15395.,15232.,15542.

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=CRI 409665
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 9:26:52
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0119,.0003,2.856, .0123, .0117, .0117,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .1987,.0012,.5990, .1983, .2000, .1977,Chk Pass,,
As,189.042 {478},Y1,ppm, .0256,.0025,9.765, .0281, .0231, .0255,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0315,.0011,3.595, .0306, .0328, .0311,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0051,.0001,1.787, .0052, .0051, .0051,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00493,.00004,.91017, .00497, .00488, .00493,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .2134,.0062,2.917, .2113, .2204, .2085,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0053,.0002,4.726, .0056, .0051, .0051,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0052,.0002,4.557, .0054, .0052, .0049,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0156,.0004,2.313, .0157, .0159, .0152,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0165,.0011,6.539, .0167, .0175, .0153,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .2223,.0077,3.468, .2221, .2147, .2301,Chk Pass,,
K,766.490 { 44},Y2R,ppm,W .4056,.0183,4.516, .4259, .3903, .4006,Chk
Warn,.3000,20.00%
Li,670.784 { 50},Y2R,ppm, .0518,.0002,.4649, .0515, .0520, .0517,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .1095,.0011,.9882, .1107, .1086, .1091,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .01108,.00007,.61330, .01113, .01100, .01111,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0098,.0004,3.656, .0100, .0101, .0094,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 1.049,.0243,2.316, 1.027, 1.044, 1.075,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0105,.0001,1.238, .0107, .0105, .0104,Chk Pass,,
P,177.495 {490},Y1,ppm, .1020,.0056,5.492, .1083, .1001, .0976,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .0169,.0012,6.922, .0170, .0157, .0180,Chk Pass,,

S,182.034 {485},Y1,ppm, .5179,.0170,3.290, .5180, .5349, .5008,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .0588,.0019,3.199, .0567, .0601, .0597,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0448,.0072,16.17, .0529, .0425, .0390,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .51566,.00827,1.6031, .52078, .50613, .52008,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0518,.0006,1.212, .0522, .0511, .0522,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0053,.0001,1.289, .0053, .0053, .0052,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .5141,.0070,1.353, .5073, .5138, .5212,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0106,.0002,2.271, .0108, .0104, .0107,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0260,.0013,4.811, .0246, .0264, .0270,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0094,.0003,3.630, .0092, .0091, .0098,Chk Pass,,
W,207.911 {462},Y1,ppm,F .0592,.0020,3.434, .0578, .0583, .0615,Chk
Fail,.0300,50.00%
Zn,213.856 {458},Y1,ppm,W .0255,.0004,1.588, .0257, .0256, .0250,Chk
Warn,.0200,20.00%
Zr,339.198 { 99},Y2R,ppm,W .0722,.0030,4.122, .0688, .0740, .0739,Chk
Warn,.0500,20.00%

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 7027.3,22.904,.32593,7001.0,7042.9,7038.0
Y2A,371.030 { 91}2,Cts/S, 199050.,1102.8,.55405,199510.,199840.,197790.
Y2R,371.030 { 91}3,Cts/S, 15560.,111.29,.71523,15554.,15674.,15452.

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=ICSA 332979
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 9:29:58
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0011,.0006,50.56, .0017, .0006, .0010,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 497.9,3.703,.7437, 501.0, 493.8, 498.9,Chk Pass,,
As,189.042 {478},Y1,ppm, -.0170,.0111,65.49, -.0074, -.0292, -.0145,Chk Pass,,
B,249.773 {135},Y2A,ppm, -.0288,.0022,7.768, -.0272, -.0314, -.0279,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0024,.0001,2.507, .0024, .0023, .0025,Chk Pass,,
Be,313.042 {108},Y2A,ppm, -.00040,.00002,5.3496, -.00041, -.00041, -.00037,Chk
Pass,,
Ca,317.933 {106},Y2R,ppm, 523.1,3.709,.7091, 519.0, 526.0, 524.5,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0002,.0001,54.83, .0002, .0002, .0001,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0008,.0007,93.23, .0010, -.0000, .0013,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0025,.0017,69.82, .0006, .0040, .0028,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0142,.0012,8.549, .0128, .0150, .0149,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 202.1,2.236,1.107, 200.2, 204.6, 201.6,Chk Pass,,
K,766.490 { 44},Y2R,ppm, -.0067,.1453,2179., .1396, -.1510, -.0086,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, -.0120,.0026,21.75, -.0110, -.0150, -.0100,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 537.9,4.553,.8465, 533.4, 537.8, 542.5,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .00093,.00052,55.268, .00125, .00034, .00121,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.0025,.0011,44.97, -.0034, -.0028, -.0012,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .0473,.0166,35.17, .0479, .0304, .0636,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0037,.0004,11.73, .0032, .0041, .0036,Chk Pass,,
P,177.495 {490},Y1,ppm, .0124,.0036,28.91, .0135, .0153, .0084,Chk Pass,,
Pb,220.353 {453},Y1,ppm,W -.0195,.0099,50.81, -.0293, -.0197, -.0095,Chk
Warn,.0150,-.0150
S,182.034 {485},Y1,ppm, .0046,.0418,917.8, .0440, .0088, -.0392,Chk Pass,,

Sb,206.833 {463},Y1,ppm, -.0132,.0067,50.53, -.0122, -.0071, -.0204,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0089,.0177,198.5, .0284, .0048, -.0064,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .02030,.01035,51.014, .01346, .01522, .03221,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0042,.0028,67.02, .0041, .0071, .0015,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0009,.0001,7.211, .0009, .0008, .0008,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0015,.0338,2282., .0399, -.0236, -.0119,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0018,.0000,2.607, .0018, .0018, .0019,Chk Pass,,
Tl,190.856 {477},Y1,ppm, -.0253,.0114,45.00, -.0159, -.0379, -.0221,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0018,.0004,20.37, .0021, .0014, .0019,Chk Pass,,
W,207.911 {462},Y1,ppm,W .0339,.0017,5.090, .0329, .0329, .0359,Chk
Warn,.0300,-.0300
Zn,213.856 {458},Y1,ppm, .0049,.0005,10.90, .0053, .0043, .0050,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0065,.0008,12.71, .0059, .0075, .0063,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 6424.8,28.525,.44399,6441.9,6391.8,6440.6
Y2A,371.030 { 91}2,Cts/S, 183760.,1624.8,.88418,182920.,185630.,182730.
Y2R,371.030 { 91}3,Cts/S, 15258.,88.140,.57766,15356.,15232.,15186.

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=ICSAB 333010
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 9:33:24
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .2234,.0011,.5024, .2244, .2235, .2222,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 505.3,7.569,1.498, 512.8, 497.6, 505.4,Chk Pass,,
As,189.042 {478},Y1,ppm, .0865,.0051,5.935, .0860, .0919, .0816,Chk Pass,,
B,249.773 {135},Y2A,ppm, -.0295,.0044,14.99, -.0251, -.0296, -.0339,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .5382,.0057,1.056, .5316, .5409, .5420,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .49212,.00304,.61838, .49537, .49164, .48934,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 521.7,5.604,1.074, 515.3, 524.7, 525.2,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .9433,.0068,.7174, .9374, .9419, .9507,Chk Pass,,
Co,228.616 {447},Y1,ppm, .4940,.0047,.9440, .4904, .4923, .4992,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .5098,.0032,.6244, .5097, .5131, .5067,Chk Pass,,
Cu,327.396 {103},Y2A,ppm,W .5938,.0009,.1569, .5947, .5937, .5929,Chk
Warn,.5750,.4250
Fe,261.187 {129},Y2R,ppm, 204.2,1.883,.9219, 202.4, 204.0, 206.2,Chk Pass,,
K,766.490 { 44},Y2R,ppm, -.0294,.1325,450.9, -.0053, .0894, -.1722,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, -.0106,.0069,65.49, -.0031, -.0117, -.0168,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 531.1,3.113,.5862, 529.9, 534.7, 528.8,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .51062,.00375,.73432, .51444, .51047, .50695,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.0033,.0003,7.831, -.0032, -.0035, -.0030,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .0523,.0274,52.46, .0624, .0732, .0212,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .9505,.0052,.5508, .9500, .9455, .9559,Chk Pass,,
P,177.495 {490},Y1,ppm, .0183,.0065,35.76, .0258, .0143, .0147,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .5322,.0083,1.562, .5250, .5302, .5413,Chk Pass,,
S,182.034 {485},Y1,ppm, -.0156,.0034,21.51, -.0144, -.0130, -.0194,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .5915,.0020,.3334, .5893, .5922, .5931,Chk Pass,,
Se,196.090 {472},Y1,ppm, .5140,.0060,1.170, .5080, .5200, .5140,Chk Pass,,
Si,251.611 {134},Y2R,ppm,F .01681,.01307,77.762, .00339, .01753, .02950,Chk
Fail,1.0000,1.0000

Sn,189.989 {477},Y1,ppm, .0047,.0005,10.49, .0048, .0042, .0052,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0010,.0001,6.540, .0010, .0010, .0009,Chk Pass,,
Th,283.730 {119},Y2R,ppm, -.0070,.0177,252.4, -.0131, -.0208, .0129,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0018,.0003,16.95, .0020, .0015, .0021,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0873,.0133,15.22, .1026, .0804, .0789,Chk Pass,,
V,292.402 {115},Y2A,ppm, .5202,.0007,.1276, .5198, .5209, .5198,Chk Pass,,
W,207.911 {462},Y1,ppm,F .0226,.0011,5.047, .0217, .0223, .0239,Chk
Fail,-.0600,-.0600
Zn,213.856 {458},Y1,ppm, 1.017,.0058,.5671, 1.012, 1.017, 1.023,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0070,.0018,25.54, .0069, .0089, .0053,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 6465.0,19.772,.30584,6486.3,6461.3,6447.3
Y2A,371.030 { 91}2,Cts/S, 182730.,1420.3,.77730,181100.,183710.,183370.
Y2R,371.030 { 91}3,Cts/S, 15131.,96.213,.63585,15037.,15229.,15128.

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=LRC 396657
Username=dept 22
Comment=LRS2
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 9:36:50
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm,kF 2.644,.1452,5.493, 2.756,k 2.480, 2.696,Chk
Fail,5.000,-10.00%
Al,308.215 {109}2,Y2A,ppm,^ *****,-----,-----, -.6436,^ -----, -.6123,None,,
As,189.042 {478},Y1,ppm, 20.99,.0326,.1555, 21.02, 20.95, 20.99,Chk Pass,,
B,249.773 {135},Y2A,ppm, 4.598,.3508,7.630, 4.830, 4.194, 4.769,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, 4.926,.2152,4.369, 5.045, 4.677, 5.055,Chk Pass,,
Be,313.042 {108},Y2A,ppm,k 4.7407,.17278,3.6447, 4.8365,k 4.5412, 4.8443,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .1571,.0211,13.40, .1805, .1513, .1396,None,,
Cd,226.502 {449},Y1,ppm, 20.43,.0681,.3332, 20.50, 20.37, 20.40,Chk Pass,,
Co,228.616 {447},Y1,ppm,k 21.85,.0264,.1208, 21.88,k 21.83, 21.83,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, 20.01,1.800,8.992, 21.20, 17.94, 20.90,Chk Pass,,
Cu,327.396 {103},Y2A,ppm,k 20.48,1.451,7.084, 21.50,k 18.82, 21.12,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, -.0649,.0131,20.20, -.0530, -.0789, -.0627,None,,
K,766.490 { 44},Y2R,ppm, .0472,.0195,41.21, .0459, .0284, .0673,None,,
Li,670.784 { 50},Y2R,ppm, 20.33,.4135,2.033, 19.87, 20.49, 20.65,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .0691,.0120,17.43, .0810, .0693, .0569,None,,
Mn,257.610 {131},Y2A,ppm, 20.178,.92152,4.5671, 20.690, 19.114, 20.729,Chk Pass,,
Mo,202.030 {467},Y1,ppm, 20.61,.0314,.1524, 20.65, 20.59, 20.60,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .0338,.0020,5.907, .0333, .0360, .0321,None,,
Ni,231.604 {445},Y1,ppm,k 20.92,.0587,.2808, 20.98,k 20.86, 20.92,Chk Pass,,
P,177.495 {490},Y1,ppm,k 20.73,.0474,.2287, 20.75,k 20.75, 20.67,Chk Pass,,
Pb,220.353 {453},Y1,ppm,k 21.85,.0443,.2028, 21.89,k 21.80, 21.87,Chk Pass,,
S,182.034 {485},Y1,ppm, -.0165,.0052,31.51, -.0225, -.0144, -.0128,None,,
Sb,206.833 {463},Y1,ppm, 20.55,.0311,.1511, 20.54, 20.58, 20.52,Chk Pass,,
Se,196.090 {472},Y1,ppm,k 20.79,.0131,.0630, 20.81,k 20.79, 20.78,Chk Pass,,
Si,251.611 {134},Y2R,ppm,k 1.1064,.16749,15.139, .92689,k 1.1337, 1.2585,None,,
Sn,189.989 {477},Y1,ppm, 20.35,.0745,.3658, 20.43, 20.28, 20.35,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, 5.061,.2212,4.371, 5.150, 4.809, 5.224,Chk Pass,,
Th,283.730 {119},Y2R,ppm, 2.138,.0232,1.085, 2.142, 2.114, 2.160,None,,
Ti,334.941 {101},Y2A,ppm,k 20.03,.6105,3.047, 20.36,k 19.33, 20.41,Chk Pass,,

Tl,190.856 {477},Y1,ppm,k 21.31,.3015,1.415, 21.48,k 20.96, 21.48,Chk Pass,,
V,292.402 {115},Y2A,ppm,k 19.95,1.662,8.331, 21.06,k 18.04, 20.75,Chk Pass,,
W,207.911 {462},Y1,ppm, 21.49,.0336,.1562, 21.53, 21.46, 21.48,Chk Pass,,
Zn,213.856 {458},Y1,ppm,k 10.08,.0647,.6418, 10.06,k 10.15, 10.02,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm,k 19.55,.4202,2.149, 19.08,k 19.71, 19.87,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 6839.0,25.950,.37944,6809.8,6859.4,6847.7
Y2A,371.030 { 91}2,Cts/S, 204700.,8588.4,4.1955,199330.,214610.,200170.
Y2R,371.030 { 91}3,Cts/S, 15950.,217.69,1.3649,16200.,15806.,15843.

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=LRC 396687
Username=dept 22
Comment=LRS4
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 9:40:18
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0018,.0005,29.41, .0018, .0012, .0023,None,,
Al,308.215 {109}2,Y2A,ppm, 520.4,3.272,.6287, 516.6, 522.3, 522.2,Chk Pass,,
As,189.042 {478},Y1,ppm, -.0034,.0105,308.6, -.0121, -.0063, .0082,None,,
B,249.773 {135},Y2A,ppm, -.0669,.0035,5.249, -.0629, -.0684, -.0694,None,,
Ba,455.403 { 74},Y2A,ppm, .0012,.0000,2.552, .0012, .0012, .0012,None,,
Be,313.042 {108},Y2A,ppm, .00031,.00007,22.123, .00038, .00031, .00024,None,,
Ca,317.933 {106},Y2R,ppm, 527.4,12.04,2.283, 513.8, 536.7, 531.7,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0085,.0087,102.8, .0023, .0047, .0185,None,,
Co,228.616 {447},Y1,ppm, .0205,.0100,48.77, .0131, .0165, .0318,None,,
Cr,267.716 {126},Y2A,ppm, .0018,.0009,47.55, .0027, .0019, .0009,None,,
Cu,327.396 {103},Y2A,ppm, .0211,.0010,4.586, .0202, .0210, .0221,None,,
Fe,261.187 {129},Y2R,ppm, 317.6,2.766,.8709, 314.5, 318.8, 319.7,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 516.0,2.952,.5721, 512.7, 516.9, 518.5,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, -.0047,.0111,237.4, -.0175, .0007, .0027,None,,
Mg,285.213 {118},Y2R,ppm, 523.6,17.35,3.313, 505.8, 524.8, 540.4,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, -.02652,.00017,.65961, -.02632, -.02661, -.02664,None,,
Mo,202.030 {467},Y1,ppm, .0081,.0105,129.5, -.0001, .0044, .0199,None,,
Na,589.592 { 57},Y2R,ppm, 525.4,12.61,2.400, 511.1, 534.9, 530.2,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0253,.0093,36.64, .0178, .0225, .0357,None,,
P,177.495 {490},Y1,ppm, .0200,.0092,46.02, .0201, .0107, .0291,None,,
Pb,220.353 {453},Y1,ppm, .0842,.0129,15.29, .0769, .0766, .0990,None,,
S,182.034 {485},Y1,ppm, 214.9,1.391,.6472, 216.1, 215.4, 213.4,Chk Pass,,
Sb,206.833 {463},Y1,ppm, -.0037,.0146,388.4, -.0166, -.0068, .0121,None,,
Se,196.090 {472},Y1,ppm, .0320,.0075,23.32, .0238, .0383, .0340,None,,
Si,251.611 {134},Y2R,ppm, 197.71,1.8118,.91638, 195.70, 198.23, 199.21,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0194,.0080,41.16, .0119, .0185, .0277,None,,
Sr,421.552 { 80},Y2A,ppm, .0011,.0001,11.18, .0013, .0010, .0011,None,,
Th,283.730 {119},Y2R,ppm, -.0122,.0322,263.2, .0206, -.0437, -.0136,None,,
Ti,334.941 {101},Y2A,ppm, .0035,.0001,4.184, .0036, .0034, .0036,None,,
Tl,190.856 {477},Y1,ppm, -.4181,.0059,1.421, -.4129, -.4167, -.4246,None,,
V,292.402 {115},Y2A,ppm, .0060,.0004,7.137, .0055, .0063, .0062,None,,
W,207.911 {462},Y1,ppm, .0285,.0107,37.67, .0200, .0249, .0405,None,,
Zn,213.856 {458},Y1,ppm, -.0149,.0046,31.00, -.0180, -.0171, -.0096,None,,
Zr,339.198 { 99},Y2R,ppm, .0111,.0015,13.30, .0095, .0125, .0114,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 6262.1,47.318,.75563,6215.3,6261.2,6309.9
Y2A,371.030 { 91}2,Cts/S, 179930.,1269.1,.70534,181280.,179730.,178770.
Y2R,371.030 { 91}3,Cts/S, 14930.,140.51,.94115,15091.,14837.,14860.

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=LRC 396638
Username=dept 22
Comment=LRS3
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 9:43:52
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, 2.638,.0119,.4494, 2.631, 2.631, 2.651,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, -.4141,.0370,8.941, -.3735, -.4226, -.4461,None,,
As,189.042 {478},Y1,ppm, 10.76,.0599,.5567, 10.83, 10.73, 10.73,Chk Pass,,
B,249.773 {135},Y2A,ppm, 2.429,.0074,.3049, 2.422, 2.437, 2.427,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, 2.610,.0053,.2035, 2.611, 2.615, 2.604,Chk Pass,,
Be,313.042 {108},Y2A,ppm, 2.4782,.01950,.78680, 2.4561, 2.4853, 2.4931,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, -.0136,.0048,35.49, -.0104, -.0191, -.0112,None,,
Cd,226.502 {449},Y1,ppm, 10.56,.0446,.4220, 10.61, 10.52, 10.54,Chk Pass,,
Co,228.616 {447},Y1,ppm,F 11.18,.0448,.4004, 11.23, 11.15, 11.17,Chk
Fail,10.00,10.00%
Cr,267.716 {126},Y2A,ppm, 10.72,.0737,.6877, 10.64, 10.73, 10.78,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, 10.57,.0476,.4503, 10.51, 10.59, 10.60,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .0147,.0157,107.4, .0146, -.0011, .0304,None,,
K,766.490 { 44},Y2R,ppm, .4665,.0167,3.582, .4712, .4804, .4480,None,,
Li,670.784 { 50},Y2R,ppm, 10.46,.1168,1.117, 10.37, 10.41, 10.59,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .0952,.0043,4.486, .1000, .0935, .0920,None,,
Mn,257.610 {131},Y2A,ppm, 10.647,.12751,1.1976, 10.502, 10.701, 10.739,Chk Pass,,
Mo,202.030 {467},Y1,ppm, 10.78,.0600,.5568, 10.85, 10.73, 10.76,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .1109,.0132,11.94, .1081, .0992, .1253,None,,
Ni,231.604 {445},Y1,ppm, 10.71,.0471,.4399, 10.76, 10.67, 10.70,Chk Pass,,
P,177.495 {490},Y1,ppm, 10.69,.1200,1.122, 10.83, 10.60, 10.65,Chk Pass,,
Pb,220.353 {453},Y1,ppm,F 11.25,.0403,.3579, 11.26, 11.28, 11.20,Chk
Fail,10.00,10.00%
S,182.034 {485},Y1,ppm, .0333,.0096,28.87, .0426, .0340, .0234,None,,
Sb,206.833 {463},Y1,ppm, 10.66,.0610,.5720, 10.72, 10.59, 10.67,Chk Pass,,
Se,196.090 {472},Y1,ppm, 10.83,.0841,.7762, 10.93, 10.78, 10.79,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 1.1354,.01007,.88682, 1.1286, 1.1306, 1.1470,None,,
Sn,189.989 {477},Y1,ppm, 10.62,.0846,.7972, 10.71, 10.58, 10.56,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, 2.685,.0319,1.187, 2.658, 2.677, 2.720,Chk Pass,,
Th,283.730 {119},Y2R,ppm, 9.708,.0923,.9508, 9.638, 9.674, 9.813,None,,
Ti,334.941 {101},Y2A,ppm, 10.48,.0549,.5234, 10.48, 10.43, 10.54,Chk Pass,,
Tl,190.856 {477},Y1,ppm,F 11.10,.0475,.4277, 11.11, 11.05, 11.14,Chk
Fail,10.00,10.00%
V,292.402 {115},Y2A,ppm, 10.52,.0575,.5462, 10.46, 10.54, 10.57,Chk Pass,,
W,207.911 {462},Y1,ppm,F 11.15,.0352,.3159, 11.19, 11.12, 11.15,Chk
Fail,10.00,10.00%
Zn,213.856 {458},Y1,ppm, 5.288,.0288,.5438, 5.320, 5.266, 5.277,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, 10.46,.1304,1.247, 10.37, 10.41, 10.61,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3

Y1,224.306 {450},Cts/S, 6713.9,17.179,.25587,6698.2,6732.3,6711.2
Y2A,371.030 { 91}2,Cts/S, 198740.,2379.9,1.1975,201280.,198400.,196550.
Y2R,371.030 { 91}3,Cts/S, 15657.,84.924,.54242,15612.,15754.,15603.

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=LRC 396685
Username=dept 22
Comment=LRS5
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 9:47:19
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0017,.0007,43.69, .0019, .0022, .0008,None,,
Al,308.215 {109}2,Y2A,ppm,F 275.9,3.135,1.136, 273.8, 274.3, 279.5,Chk
Fail,250.0,10.00%
As,189.042 {478},Y1,ppm, -.0089,.0050,55.57, -.0146, -.0068, -.0054,None,,
B,249.773 {135},Y2A,ppm, -.0189,.0046,24.18, -.0143, -.0190, -.0234,None,,
Ba,455.403 { 74},Y2A,ppm, .0009,.0001,5.739, .0009, .0009, .0008,None,,
Be,313.042 {108},Y2A,ppm, .00049,.00005,9.6972, .00049, .00044, .00053,None,,
Ca,317.933 {106},Y2R,ppm, 274.3,4.701,1.714, 269.3, 275.0, 278.7,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0019,.0003,15.52, .0019, .0023, .0017,None,,
Co,228.616 {447},Y1,ppm, .0084,.0002,2.723, .0086, .0086, .0082,None,,
Cr,267.716 {126},Y2A,ppm, .0025,.0013,50.59, .0037, .0026, .0012,None,,
Cu,327.396 {103},Y2A,ppm, .0114,.0018,16.18, .0110, .0097, .0133,None,,
Fe,261.187 {129},Y2R,ppm, 157.8,2.943,1.864, 154.9, 157.8, 160.8,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 256.7,4.580,1.784, 251.7, 257.7, 260.7,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, -.0024,.0035,147.0, -.0035, .0015, -.0052,None,,
Mg,285.213 {118},Y2R,ppm, 261.0,4.791,1.836, 261.0, 256.1, 265.7,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, -.01195,.00029,2.4629, -.01161, -.01208, -.01216,None,,
Mo,202.030 {467},Y1,ppm, .0026,.0002,6.869, .0025, .0025, .0028,None,,
Na,589.592 { 57},Y2R,ppm, 264.5,7.597,2.872, 260.3, 259.9, 273.3,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0092,.0012,12.76, .0105, .0087, .0084,None,,
P,177.495 {490},Y1,ppm, .0205,.0088,43.04, .0259, .0252, .0103,None,,
Pb,220.353 {453},Y1,ppm, .0343,.0050,14.50, .0290, .0388, .0351,None,,
S,182.034 {485},Y1,ppm,F 111.8,.3097,.2772, 112.0, 111.9, 111.4,Chk
Fail,100.0,10.00%
Sb,206.833 {463},Y1,ppm, -.0046,.0035,76.97, -.0046, -.0081, -.0011,None,,
Se,196.090 {472},Y1,ppm, .0025,.0050,201.1, .0082, -.0008, -.0000,None,,
Si,251.611 {134},Y2R,ppm, 100.21,1.8303,1.8264, 98.269, 100.47, 101.90,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0057,.0036,62.82, .0047, .0096, .0027,None,,
Sr,421.552 { 80},Y2A,ppm, .0008,.0000,5.102, .0009, .0008, .0008,None,,
Th,283.730 {119},Y2R,ppm, .0306,.0190,61.91, .0228, .0523, .0168,None,,
Ti,334.941 {101},Y2A,ppm, .0066,.0003,4.657, .0068, .0068, .0062,None,,
Tl,190.856 {477},Y1,ppm, -.1809,.0049,2.682, -.1825, -.1754, -.1847,None,,
V,292.402 {115},Y2A,ppm, .0036,.0003,7.177, .0039, .0033, .0037,None,,
W,207.911 {462},Y1,ppm, .0111,.0024,21.31, .0084, .0123, .0126,None,,
Zn,213.856 {458},Y1,ppm, -.0089,.0008,9.198, -.0086, -.0083, -.0098,None,,
Zr,339.198 { 99},Y2R,ppm, .0092,.0012,13.07, .0097, .0101, .0078,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 6442.7,7.5305,.11688,6440.3,6436.7,6451.2
Y2A,371.030 { 91}2,Cts/S, 184010.,748.16,.40658,184500.,184390.,183150.
Y2R,371.030 { 91}3,Cts/S, 15141.,170.18,1.1239,15217.,15260.,14946.

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=CCS
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 9:50:42
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0008,.0009,106.5, .0018, .0001, .0006,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .0817,.0321,39.28, .1174, .0725, .0552,Chk Pass,,
As,189.042 {478},Y1,ppm, -.0040,.0031,77.88, -.0036, -.0073, -.0011,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0067,.0005,7.308, .0066, .0062, .0072,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0003,.0002,56.97, .0005, .0003, .0002,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00044,.00016,36.271, .00061, .00039, .00031,Chk Pass,,
Ca,317.933 {106},Y2R,ppm,W .2051,.2815,137.2, .0396, .0456, .5301,Chk
Warn,.1875,-.1875
Cd,226.502 {449},Y1,ppm, .0015,.0015,101.2, .0009, .0004, .0033,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0016,.0011,72.44, .0017, .0004, .0026,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0016,.0015,95.70, .0032, .0012, .0003,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0019,.0013,66.27, .0024, .0005, .0030,Chk Pass,,
Fe,261.187 {129},Y2R,ppm,F .1171,.1743,148.8, .0186, .0144, .3184,Chk
Fail,.1000,-.1000
K,766.490 { 44},Y2R,ppm,F .5965,.2789,46.76, .4560, .4159, .9178,Chk
Fail,.2500,-.2500
Li,670.784 { 50},Y2R,ppm, .0014,.0066,468.6, -.0017, -.0031, .0090,Chk Pass,,
Mg,285.213 {118},Y2R,ppm,F .1819,.2580,141.8, .0346, .0312, .4798,Chk
Fail,.0500,-.0500
Mn,257.610 {131},Y2A,ppm, .00125,.00059,47.394, .00186, .00123, .00067,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0020,.0011,53.50, .0013, .0015, .0032,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .2552,.2451,96.04, .1383, .0904, .5368,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0011,.0017,158.2, .0001, .0001, .0030,Chk Pass,,
P,177.495 {490},Y1,ppm, .0033,.0007,20.08, .0041, .0028, .0032,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .0036,.0040,109.0, .0082, .0012, .0016,Chk Pass,,
S,182.034 {485},Y1,ppm, .0433,.0382,88.11, .0245, .0182, .0872,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .0110,.0028,25.44, .0141, .0089, .0099,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0115,.0092,79.58, .0138, .0193, .0014,Chk Pass,,
Si,251.611 {134},Y2R,ppm,W .19680,.09129,46.386, .15459, .13427, .30156,Chk
Warn,.18750,-.18750
Sn,189.989 {477},Y1,ppm, .0024,.0023,99.12, .0026, -.0001, .0046,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0003,.0001,44.95, .0004, .0002, .0002,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0111,.0503,452.6, -.0007, .0663, -.0322,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0010,.0007,67.52, .0016, .0012, .0003,Chk Pass,,
Tl,190.856 {477},Y1,ppm, -.0001,.0080,6973., .0042, -.0094, .0048,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0001,.0007,1422., .0009, -.0003, -.0004,Chk Pass,,
W,207.911 {462},Y1,ppm, .0061,.0023,37.64, .0040, .0056, .0085,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .0031,.0009,28.49, .0027, .0025, .0041,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0051,.0049,95.88, .0019, .0026, .0107,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 6932.9,19.220,.27722,6954.4,6917.3,6927.1
Y2A,371.030 { 91}2,Cts/S, 198770.,1697.6,.85405,200300.,199070.,196950.
Y2R,371.030 { 91}3,Cts/S, 15323.,63.481,.41429,15337.,15378.,15253.

[Sample Header]

Method=New TRACE Fast(v1373)
SampleName=CCV 411045
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 9:53:47
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .5156,.0045,.8692, .5104, .5176, .5186,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 24.82,.1167,.4700, 24.74, 24.77, 24.96,Chk Pass,,
As,189.042 {478},Y1,ppm, .5216,.0060,1.152, .5153, .5222, .5273,Chk Pass,,
B,249.773 {135},Y2A,ppm, .4857,.0024,.5034, .4840, .4845, .4885,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .5103,.0105,2.053, .5089, .5006, .5214,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .48274,.00265,.54930, .48190, .48061, .48571,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 26.54,.3193,1.203, 26.29, 26.42, 26.90,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .5022,.0015,.2909, .5008, .5037, .5021,Chk Pass,,
Co,228.616 {447},Y1,ppm, .5251,.0009,.1691, .5248, .5261, .5244,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .5231,.0036,.6891, .5212, .5208, .5273,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .5157,.0053,1.020, .5140, .5115, .5216,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 25.49,.2216,.8695, 25.39, 25.34, 25.74,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 24.67,.2761,1.119, 24.68, 24.39, 24.94,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .5090,.0109,2.145, .4967, .5128, .5175,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 24.61,.3212,1.305, 24.41, 24.45, 24.98,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .50894,.00248,.48698, .50835, .50681, .51166,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .5068,.0011,.2238, .5063, .5060, .5081,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 25.24,.3665,1.452, 25.01, 25.06, 25.67,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .5054,.0009,.1842, .5063, .5056, .5044,Chk Pass,,
P,177.495 {490},Y1,ppm, .5237,.0096,1.837, .5128, .5309, .5275,Chk Pass,,
Pb,220.353 {453},Y1,ppm,W .5435,.0039,.7254, .5409, .5480, .5415,Chk
Warn,.5000,8.000%
S,182.034 {485},Y1,ppm, 26.67,.1881,.7051, 26.50, 26.88, 26.64,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .4907,.0033,.6680, .4937, .4911, .4872,Chk Pass,,
Se,196.090 {472},Y1,ppm, .5111,.0055,1.067, .5164, .5055, .5114,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 24.294,.36856,1.5171, 23.966, 24.222, 24.693,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .4903,.0040,.8227, .4869, .4947, .4892,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .5335,.0046,.8657, .5349, .5283, .5372,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .5063,.0074,1.456, .4979, .5117, .5093,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .5098,.0034,.6593, .5081, .5075, .5136,Chk Pass,,
Tl,190.856 {477},Y1,ppm,W .4569,.0027,.5803, .4541, .4571, .4594,Chk
Warn,.5000,-8.000%
V,292.402 {115},Y2A,ppm, .5002,.0026,.5208, .5001, .4976, .5028,Chk Pass,,
W,207.911 {462},Y1,ppm, .5252,.0023,.4451, .5226, .5270, .5261,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .5188,.0008,.1541, .5185, .5197, .5182,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .5030,.0096,1.903, .4962, .4988, .5140,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 6888.9,28.756,.41742,6910.2,6856.2,6900.2
Y2A,371.030 { 91}2,Cts/S, 194680.,1156.9,.59426,194010.,196020.,194010.
Y2R,371.030 { 91}3,Cts/S, 15335.,165.25,1.0776,15472.,15382.,15152.

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=CCB 412912

Username=dept 22

Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 9:56:56
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0014,.0001,10.40, .0015, .0014, .0012,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .0140,.0103,73.09, .0243, .0141, .0037,Chk Pass,,
As,189.042 {478},Y1,ppm, .0044,.0033,73.40, .0017, .0080, .0036,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0049,.0007,13.94, .0047, .0056, .0043,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0001,.0001,82.35, .0001, .0002, .0000,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00029,.00001,3.4026, .00029, .00030, .00028,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .0345,.0123,35.68, .0487, .0273, .0275,Chk Pass,,
Cd,226.502 {449},Y1,ppm,F .0026,.0035,131.8, .0066, .0008, .0004,Chk
Fail,.0025,-.0025
Co,228.616 {447},Y1,ppm,W .0022,.0033,147.6, .0060, .0009, -.0002,Chk
Warn,.0019,-.0019
Cr,267.716 {126},Y2A,ppm, .0011,.0001,12.00, .0012, .0012, .0010,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0006,.0009,158.5, -.0005, .0011, .0010,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .0191,.0027,14.33, .0168, .0221, .0183,Chk Pass,,
K,766.490 { 44},Y2R,ppm, .1767,.0781,44.19, .1952, .2438, .0910,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, -.0005,.0028,586.5, -.0020, .0028, -.0022,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .0357,.0092,25.76, .0460, .0327, .0284,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .00055,.00013,23.927, .00060, .00064, .00040,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0022,.0031,140.5, .0057, .0012, -.0002,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .0729,.0197,27.02, .0935, .0709, .0542,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0021,.0036,171.3, .0061, .0011, -.0009,Chk Pass,,
P,177.495 {490},Y1,ppm, .0049,.0115,237.0, .0179, .0008, -.0041,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .0012,.0015,125.4, .0028, .0009, -.0001,Chk Pass,,
S,182.034 {485},Y1,ppm, .0741,.1076,145.3, .1983, .0073, .0167,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .0105,.0043,40.57, .0099, .0150, .0065,Chk Pass,,
Se,196.090 {472},Y1,ppm, -.0060,.0042,69.65, -.0014, -.0072, -.0095,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .04734,.00855,18.056, .05525, .04851, .03827,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0029,.0023,79.77, .0052, .0007, .0026,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0001,.0000,13.80, .0001, .0001, .0001,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0366,.0108,29.35, .0455, .0398, .0247,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0002,.0003,169.9, .0006, .0000, -.0000,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0032,.0060,187.2, .0055, .0078, -.0036,Chk Pass,,
V,292.402 {115},Y2A,ppm, -.0008,.0002,22.75, -.0009, -.0007, -.0006,Chk Pass,,
W,207.911 {462},Y1,ppm, .0050,.0059,116.4, .0118, .0011, .0022,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .0036,.0021,58.16, .0060, .0026, .0022,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0027,.0012,43.59, .0014, .0038, .0030,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 6901.8,37.368,.54142,6918.3,6928.0,6859.0
Y2A,371.030 { 91}2,Cts/S, 197590.,482.75,.24432,197460.,197180.,198120.
Y2R,371.030 { 91}3,Cts/S, 15476.,27.644,.17862,15453.,15469.,15507.

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=MB 410-42157/1-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=

Run Time=9/10/2020 10:08:02
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0010191,.0004453,43.69728, .0010211, .0005728,
.0014634,None,,
Al,308.215 {109}2,Y2A,ppm, .0034458,.0051661,149.9252, .0032900, .0086881,
-.001641,None,,
As,189.042 {478},Y1,ppm, -.004667,.0024561,52.62922, -.007206, -.004492,
-.002303,None,,
B,249.773 {135},Y2A,ppm, .0023833,.0002512,10.53872, .0020943, .0025064,
.0025492,None,,
Ba,455.403 { 74},Y2A,ppm, .0000208,.0000794,381.0351, .0001125, -.000025,
-.000025,None,,
Be,313.042 {108},Y2A,ppm, .0001480,.0000089,5.983078, .0001424, .0001583,
.0001434,None,,
Ca,317.933 {106},Y2R,ppm, .0406663,.0805468,198.0675, .0001931, -.011618,
.1334234,None,,
Cd,226.502 {449},Y1,ppm, .0002272,.0001410,62.04468, .0003541, .0002522,
.0000754,None,,
Co,228.616 {447},Y1,ppm, -.000435,.0003743,85.96943, -.000867, -.000230,
-.000208,None,,
Cr,267.716 {126},Y2A,ppm, .0005204,.0002301,44.20959, .0007776, .0003343,
.0004494,None,,
Cu,327.396 {103},Y2A,ppm, .0009526,.0002797,29.36646, .0010602, .0011626,
.0006350,None,,
Fe,261.187 {129},Y2R,ppm, .0318568,.0521585,163.7281, -.000503, .0040468,
.0920268,None,,
K,766.490 { 44},Y2R,ppm, .0893024,.0814240,91.17781, .0675649, .0209533,
.1793890,None,,
Li,670.784 { 50},Y2R,ppm, -.001679,.0019081,113.6267, .0001961, -.001616,
-.003618,None,,
Mg,285.213 {118},Y2R,ppm, .0444283,.0757335,170.4624, .0020782, -.000657,
.1318635,None,,
Mn,257.610 {131},Y2A,ppm, .0005461,.0001227,22.46976, .0006415, .0005892,
.0004077,None,,
Mo,202.030 {467},Y1,ppm, .0005502,.0006407,116.4386, .0004290, -.000021,
.0012428,None,,
Na,589.592 { 57},Y2R,ppm, .0214703,.0591557,275.5233, -.014093, -.011254,
.0897578,None,,
Ni,231.604 {445},Y1,ppm, -.000343,.0000721,21.05439, -.000330, -.000420,
-.000277,None,,
P,177.495 {490},Y1,ppm, .0009949,.0091169,916.3577, -.004236, -.004302,
.0115221,None,,
Pb,220.353 {453},Y1,ppm, .0014365,.0019618,136.5607, .0008302, -.000150,
.0036299,None,,
S,182.034 {485},Y1,ppm, .0081366,.0138277,169.9459, .0013093, .0240501,
-.000950,None,,
Sb,206.833 {463},Y1,ppm, .0069498,.0004613,6.637498, .0074745, .0067669,
.0066080,None,,
Se,196.090 {472},Y1,ppm, -.007439,.0068249,91.74492, -.014814, -.001345,
-.006158,None,,
Si,251.611 {134},Y2R,ppm, .0151326,.0308900,204.1286, -.009301, .0048454,
.0498536,None,,
Sn,189.989 {477},Y1,ppm, .0012342,.0016650,134.9063, -.000684, .0020868,
.0023003,None,,
Sr,421.552 { 80},Y2A,ppm, .0000302,.0000204,67.60148, .0000092, .0000500,
.0000313,None,,
Th,283.730 {119},Y2R,ppm, .0264314,.0070811,26.79060, .0279831, .0326081,

.0187032,None,,
Ti,334.941 {101},Y2A,ppm, .0000749,.0000402,53.64242, .0000652, .0000405,
.0001191,None,,
Tl,190.856 {477},Y1,ppm, -.001368,.0044047,321.9886, .0037062, -.004207,
-.003603,None,,
V,292.402 {115},Y2A,ppm, -.000640,.0004073,63.59247, -.000383, -.000429,
-.001110,None,,
W,207.911 {462},Y1,ppm, .0074712,.0025912,34.68291, .0045113, .0085719,
.0093304,None,,
Zn,213.856 {458},Y1,ppm, .0004922,.0002606,52.94085, .0003015, .0003860,
.0007891,None,,
Zr,339.198 { 99},Y2R,ppm, .0030305,.0011026,36.38155, .0020458, .0028241,
.0042217,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 7158.948,26.60851,.3716818,7145.508,7141.740,7189.596,None,,
Y2A,371.030 { 91}2,Cts/S,
205507.8,1053.921,.5128377,204341.1,206391.0,205791.1,None,,
Y2R,371.030 { 91}3,Cts/S,
16129.43,381.2061,2.363419,16062.10,15786.38,16539.82,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=lcs 410-42157/2-a
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 10:11:09
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0227834,.0003051,1.339313, .0225161, .0227181,
.0231159,None,,
Al,308.215 {109}2,Y2A,ppm, .3873368,.0085572,2.209239, .3959917, .3871379,
.3788808,None,,
As,189.042 {478},Y1,ppm, .0725303,.0164132,22.62949, .0914391, .0641884,
.0619634,None,,
B,249.773 {135},Y2A,ppm, .0620857,.0000279,.0450093, .0620856, .0620578,
.0621137,None,,
Ba,455.403 { 74},Y2A,ppm, .0108101,.0000277,.2561602, .0107931, .0107952,
.0108421,None,,
Be,313.042 {108},Y2A,ppm, .0100134,.0000906,.9049039, .0100000, .0099303,
.0101100,None,,
Ca,317.933 {106},Y2R,ppm, .4426412,.0043720,.9877129, .4403709, .4398713,
.4476813,None,,
Cd,226.502 {449},Y1,ppm, .0106394,.0001188,1.116858, .0106830, .0107303,
.0105050,None,,
Co,228.616 {447},Y1,ppm, .0109258,.0001529,1.398993, .0109943, .0110323,
.0107506,None,,
Cr,267.716 {126},Y2A,ppm, .0344645,.0003216,.9331959, .0345758, .0341021,
.0347157,None,,
Cu,327.396 {103},Y2A,ppm, .0444451,.0012058,2.713111, .0442382, .0433561,
.0457410,None,,
Fe,261.187 {129},Y2R,ppm, .4415247,.0076104,1.723671, .4327429, .4456362,
.4461951,None,,
K,766.490 { 44},Y2R,ppm, 5.729789,.0517323,.9028662, 5.670604, 5.766390,

```
5.752372,None,,
Li,670.784 { 50},Y2R,ppm, .1034915,.0011385,1.100094, .1046426, .1034658,
.1023660,None,,
Mg,285.213 {118},Y2R,ppm, .2108052,.0011274,.5348004, .2103536, .2099737,
.2120884,None,,
Mn,257.610 {131},Y2A,ppm, .0222767,.0000661,.2966552, .0222065, .0223378,
.0222857,None,,
Mo,202.030 {467},Y1,ppm, .0214815,.0004288,1.995944, .0215311, .0218834,
.0210302,None,,
Na,589.592 { 57},Y2R,ppm, 2.168261,.0228859,1.055495, 2.143916, 2.189337,
2.171529,None,,
Ni,231.604 {445},Y1,ppm, 2.138237,.0066924,.3129885, 2.143980, 2.139843,
2.130888,None,,
P,177.495 {490},Y1,ppm, .2232538,.0067667,3.030948, .2307898, .2212733,
.2176983,None,,
Pb,220.353 {453},Y1,ppm, .0347266,.0017248,4.966699, .0341428, .0333696,
.0366675,None,,
S,182.034 {485},Y1,ppm, 1.153498,.0298187,2.585065, 1.174077, 1.119302,
1.167114,None,,
Sb,206.833 {463},Y1,ppm, .1118179,.0047873,4.281343, .1138401, .1063513,
.1152623,None,,
Se,196.090 {472},Y1,ppm, .1128745,.0020686,1.832643, .1129702, .1148936,
.1107598,None,,
Si,251.611 {134},Y2R,ppm, 1.041739,.0077436,.7433319, 1.048886, 1.042817,
1.033512,None,,
Sn,189.989 {477},Y1,ppm, .1070354,.0028787,2.689446, .1085946, .1087982,
.1037135,None,,
Sr,421.552 { 80},Y2A,ppm, .0112809,.0001185,1.049964, .0113755, .0111481,
.0113192,None,,
Th,283.730 {119},Y2R,ppm, .0150661,.0329493,218.6989, .0411530, .0260072,
-.021962,None,,
Ti,334.941 {101},Y2A,ppm, .0215054,.0001487,.6915036, .0216339, .0213425,
.0215399,None,,
Tl,190.856 {477},Y1,ppm, .0592920,.0021937,3.699878, .0567890, .0608810,
.0602059,None,,
V,292.402 {115},Y2A,ppm, .0207624,.0001967,.9474295, .0206922, .0209846,
.0206105,None,,
W,207.911 {462},Y1,ppm, .0716149,.0010490,1.464723, .0704671, .0718538,
.0725238,None,,
Zn,213.856 {458},Y1,ppm, .4802169,.0018349,.3820910, .4805525, .4818609,
.4782374,None,,
Zr,339.198 { 99},Y2R,ppm, .1071910,.0017032,1.588892, .1087959, .1054042,
.1073730,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 7115.686,21.13940,.2970817,7108.716,7098.911,7139.430,None,,
Y2A,371.030 { 91}2,Cts/S,
204600.7,1140.126,.5572444,205074.8,205427.3,203300.0,None,,
Y2R,371.030 { 91}3,Cts/S,
16245.70,97.16176,.5980770,16351.78,16161.04,16224.26,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-13150-J-6-B
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 10:14:12
Sample Type=Unk
Mode=CONC
```

```
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0011581,.0011608,100.2334, .0020399, .0015914,
-.000157,None,,
Al,308.215 {109}2,Y2A,ppm, .3321461,.0285866,8.606628, .2996069, .3436097,
.3532215,None,,
As,189.042 {478},Y1,ppm, .0580262,.0016020,2.760843, .0581310, .0563744,
.0595733,None,,
B,249.773 {135},Y2A,ppm, 2.679426,.0234098,.8736882, 2.661235, 2.705838,
2.671207,None,,
Ba,455.403 { 74},Y2A,ppm, .1242637,.0013369,1.075842, .1229845, .1256516,
.1241551,None,,
Be,313.042 {108},Y2A,ppm, .0004385,.0000316,7.216918, .0004109, .0004730,
.0004315,None,,
Ca,317.933 {106},Y2R,ppm, 293.6612,6.726363,2.290518, 286.7651, 300.2038,
294.0147,None,,
Cd,226.502 {449},Y1,ppm, -.000008,.0001967,2374.550, .0001785, -.000214,
.0000101,None,,
Co,228.616 {447},Y1,ppm, .0002535,.0007261,286.4199, .0000183, .0010681,
-.000326,None,,
Cr,267.716 {126},Y2A,ppm, .0012343,.0002903,23.51740, .0011690, .0015516,
.0009822,None,,
Cu,327.396 {103},Y2A,ppm, .0072594,.0003742,5.154374, .0075890, .0068527,
.0073365,None,,
Fe,261.187 {129},Y2R,ppm, .6446910,.0155644,2.414236, .6316401, .6619171,
.6405158,None,,
K,766.490 { 44},Y2R,ppm, 212.1663,5.189361,2.445893, 206.9490, 217.3273,
212.2227,None,,
Li,670.784 { 50},Y2R,ppm, .0954450,.0053588,5.614502, .0941270, .1013398,
.0908683,None,,
Mg,285.213 {118},Y2R,ppm, 717.5612,26.68307,3.718577, 689.4091, 742.4807,
720.7939,None,,
Mn,257.610 {131},Y2A,ppm, .7192876,.0075867,1.054759, .7123956, .7274170,
.7180502,None,,
Mo,202.030 {467},Y1,ppm, .0068300,.0006214,9.098376, .0061887, .0074294,
.0068718,None,,
Na,589.592 { 57},Y2R,ppm, 4959.615,57.09985,1.151296, 4910.084, 5022.069,
4946.692,None,,
Ni,231.604 {445},Y1,ppm, .0047984,.0012397,25.83606, .0038961, .0062120,
.0042872,None,,
P,177.495 {490},Y1,ppm, .5560314,.0132191,2.377397, .5711069, .5505648,
.5464224,None,,
Pb,220.353 {453},Y1,ppm, .0068307,.0029733,43.52894, .0041164, .0063672,
.0100086,None,,
S,182.034 {485},Y1,ppm, 554.8680,6.309042,1.137035, 558.4457, 547.5834,
558.5750,None,,
Sb,206.833 {463},Y1,ppm, .0060021,.0058931,98.18486, .0104476, -.000682,
.0082409,None,,
Se,196.090 {472},Y1,ppm, -.002776,.0084454,304.2359, -.012527, .0020297,
.0021700,None,,
Si,251.611 {134},Y2R,ppm, 9.866378,.2148703,2.177804, 9.655963, 10.08544,
9.857728,None,,
Sn,189.989 {477},Y1,ppm, .0006729,.0026561,394.7043, .0000267, -.001600,
.0035925,None,,
Sr,421.552 { 80},Y2A,ppm, 4.614509,.0816366,1.769128, 4.562950, 4.708631,
4.571944,None,,
Th,283.730 {119},Y2R,ppm, .0134164,.0230431,171.7534, -.000859, .0400000,
.0011080,None,,
Ti,334.941 {101},Y2A,ppm, .0181843,.0028275,15.54888, .0151675, .0207738,
.0186117,None,,
```

Tl,190.856 {477},Y1,ppm, .0026697,.0178856,669.9457, .0224946, -.002230,
-.012255,None,,
V,292.402 {115},Y2A,ppm, .0028217,.0007514,26.62991, .0025735, .0022258,
.0036659,None,,
W,207.911 {462},Y1,ppm, .0196140,.0003177,1.619676, .0197777, .0192478,
.0198163,None,,
Zn,213.856 {458},Y1,ppm, .0076367,.0004054,5.308837, .0078744, .0078671,
.0071686,None,,
Zr,339.198 { 99},Y2R,ppm, .0026435,.0031587,119.4904, .0055436, -.000722,
.0031090,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 5561.111,8.353774,.1502177,5556.655,5570.748,5555.929,None,,
Y2A,371.030 { 91}2,Cts/S,
165056.3,1307.551,.7921844,166292.2,163687.3,165189.5,None,,
Y2R,371.030 { 91}3,Cts/S,
14569.35,147.6601,1.013498,14694.28,14406.40,14607.38,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-13150-J-6-B PDS
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 10:17:42
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0247666,.0006879,2.777485, .0250457, .0252711,
.0239830,None,,
Al,308.215 {109}2,Y2A,ppm, 1.314503,.0102025,.7761481, 1.323529, 1.316546,
1.303433,None,,
As,189.042 {478},Y1,ppm, .6499469,.0093644,1.440789, .6460456, .6606312,
.6431639,None,,
B,249.773 {135},Y2A,ppm, 2.859097,.0406272,1.420981, 2.905738, 2.840134,
2.831418,None,,
Ba,455.403 { 74},Y2A,ppm, .1744611,.0022474,1.288202, .1769129, .1739715,
.1724988,None,,
Be,313.042 {108},Y2A,ppm, .0189525,.0001781,.9399260, .0191556, .0188786,
.0188231,None,,
Ca,317.933 {106},Y2R,ppm, 295.5457,3.469388,1.173892, 291.7081, 296.4688,
298.4602,None,,
Cd,226.502 {449},Y1,ppm, .0457058,.0006696,1.465109, .0449400, .0461812,
.0459963,None,,
Co,228.616 {447},Y1,ppm, .1002869,.0018194,1.814182, .1002346, .1021318,
.0984942,None,,
Cr,267.716 {126},Y2A,ppm, .2073803,.0011918,.5746772, .2083929, .2076809,
.2060669,None,,
Cu,327.396 {103},Y2A,ppm, .6025228,.0088456,1.468100, .6121797, .6005759,
.5948127,None,,
Fe,261.187 {129},Y2R,ppm, 1.082925,.0102369,.9452965, 1.071110, 1.089125,
1.088542,None,,
K,766.490 { 44},Y2R,ppm, 212.4413,2.726443,1.283386, 209.3603, 213.4214,
214.5422,None,,
Li,670.784 { 50},Y2R,ppm, 1.207751,.0218238,1.806977, 1.183929, 1.212544,
1.226780,None,,

Mg,285.213 {118},Y2R,ppm, 724.6321,9.108213,1.256943, 716.7886, 734.6218,
722.4860,None,,
Mn,257.610 {131},Y2A,ppm, .7767361,.0084846,1.092339, .7864901, .7726541,
.7710640,None,,
Mo,202.030 {467},Y1,ppm, .2098843,.0027681,1.318874, .2068568, .2105102,
.2122858,None,,
Na,589.592 { 57},Y2R,ppm, 4809.432,72.23624,1.501970, 4888.987, 4747.945,
4791.364,None,,
Ni,231.604 {445},Y1,ppm, .1431217,.0015171,1.060029, .1414464, .1444029,
.1435159,None,,
P,177.495 {490},Y1,ppm, 1.713910,.0031361,.1829797, 1.710512, 1.716693,
1.714523,None,,
Pb,220.353 {453},Y1,ppm, .5014966,.0119995,2.392733, .4946957, .5153516,
.4944425,None,,
S,182.034 {485},Y1,ppm, 545.4904,5.655669,1.036804, 538.9599, 548.7207,
548.7907,None,,
Sb,206.833 {463},Y1,ppm, .4230168,.0092980,2.198022, .4136588, .4231381,
.4322536,None,,
Se,196.090 {472},Y1,ppm, .7977086,.0214049,2.683293, .7758228, .8185977,
.7987052,None,,
Si,251.611 {134},Y2R,ppm, 10.55960,.1224137,1.159264, 10.42782, 10.58121,
10.66977,None,,
Sn,189.989 {477},Y1,ppm, .5701157,.0096689,1.695953, .5589570, .5760129,
.5753771,None,,
Sr,421.552 { 80},Y2A,ppm, 4.636351,.0739058,1.594051, 4.712732, 4.565199,
4.631122,None,,
Th,283.730 {119},Y2R,ppm, .0109725,.0223642,203.8200, .0334379, .0107687,
-.011289,None,,
Ti,334.941 {101},Y2A,ppm, .1142646,.0013647,1.194339, .1156076, .1143069,
.1128792,None,,
Tl,190.856 {477},Y1,ppm, .8605630,.0189286,2.199556, .8535471, .8819979,
.8461441,None,,
V,292.402 {115},Y2A,ppm, .1050260,.0015224,1.449588, .1066767, .1047242,
.1036770,None,,
W,207.911 {462},Y1,ppm, .1194408,.0023172,1.940060, .1169736, .1215712,
.1197777,None,,
Zn,213.856 {458},Y1,ppm, .1412286,.0023786,1.684225, .1384885, .1424356,
.1427617,None,,
Zr,339.198 { 99},Y2R,ppm, 1.030761,.0158489,1.537591, 1.012588, 1.037973,
1.041721,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 5437.690,64.34936,1.183395,5497.572,5369.651,5445.847,None,,
Y2A,371.030 { 91}2,Cts/S,
160036.5,1926.349,1.203693,158235.8,162067.7,159806.0,None,,
Y2R,371.030 { 91}3,Cts/S,
13945.85,64.58420,.4631071,13958.42,13875.90,14003.22,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-13150-E-6-A DU
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 10:21:04
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

```
[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0002925,.0006183,211.3993, -.000416, .0007227,
.0005707,None,,
Al,308.215 {109}2,Y2A,ppm, .3150740,.0353399,11.21639, .2821506, .3106564,
.3524150,None,,
As,189.042 {478},Y1,ppm, .0612121,.0105414,17.22107, .0567490, .0732508,
.0536364,None,,
B,249.773 {135},Y2A,ppm, 2.726065,.0230791,.8466075, 2.741980, 2.699596,
2.736620,None,,
Ba,455.403 { 74},Y2A,ppm, .1252679,.0009838,.7853174, .1253547, .1242436,
.1262053,None,,
Be,313.042 {108},Y2A,ppm, .0004676,.0000170,3.642921, .0004508, .0004673,
.0004849,None,,
Ca,317.933 {106},Y2R,ppm, 299.0039,4.800932,1.605642, 300.0592, 303.1893,
293.7631,None,,
Cd,226.502 {449},Y1,ppm, -.000040,.0002626,659.4659, .0001628, .0000542,
-.000336,None,,
Co,228.616 {447},Y1,ppm, .0010394,.0004479,43.09472, .0014823, .0010494,
.0005866,None,,
Cr,267.716 {126},Y2A,ppm, .0014775,.0010118,68.48290, .0004488, .0015121,
.0024716,None,,
Cu,327.396 {103},Y2A,ppm, .0071349,.0012778,17.90891, .0065890, .0085949,
.0062207,None,,
Fe,261.187 {129},Y2R,ppm, .6434826,.0235860,3.665364, .6524982, .6612309,
.6167186,None,,
K,766.490 { 44},Y2R,ppm, 213.4814,3.253864,1.524191, 213.9286, 216.4885,
210.0271,None,,
Li,670.784 { 50},Y2R,ppm, .0965788,.0026168,2.709520, .0941090, .0993213,
.0963061,None,,
Mg,285.213 {118},Y2R,ppm, 725.0327,23.28269,3.211260, 736.9631, 739.9322,
698.2029,None,,
Mn,257.610 {131},Y2A,ppm, .7303235,.0077775,1.064932, .7290640, .7232526,
.7386538,None,,
Mo,202.030 {467},Y1,ppm, .0065181,.0014042,21.54251, .0061027, .0053685,
.0080831,None,,
Na,589.592 { 57},Y2R,ppm, 4749.399,112.2600,2.363666, 4782.372, 4841.480,
4624.345,None,,
Ni,231.604 {445},Y1,ppm, .0046327,.0003847,8.303698, .0042000, .0047619,
.0049361,None,,
P,177.495 {490},Y1,ppm, .5609477,.0035464,.6322097, .5574428, .5645341,
.5608662,None,,
Pb,220.353 {453},Y1,ppm, -.000555,.0016831,303.1223, .0013120, -.001022,
-.001955,None,,
S,182.034 {485},Y1,ppm, 554.8275,4.902716,.8836469, 550.9963, 553.1336,
560.3525,None,,
Sb,206.833 {463},Y1,ppm, .0112697,.0018475,16.39363, .0104786, .0099494,
.0133810,None,,
Se,196.090 {472},Y1,ppm, -.007145,.0060824,85.12272, -.010350, -.000131,
-.010956,None,,
Si,251.611 {134},Y2R,ppm, 10.01022,.1759625,1.757829, 9.952012, 10.20791,
9.870734,None,,
Sn,189.989 {477},Y1,ppm, .0029571,.0014723,49.78828, .0039391, .0036678,
.0012643,None,,
Sr,421.552 { 80},Y2A,ppm, 4.695710,.0411269,.8758392, 4.692064, 4.656528,
4.738539,None,,
Th,283.730 {119},Y2R,ppm, -.007075,.0099283,140.3293, -.004385, -.018071,
.0012308,None,,
Ti,334.941 {101},Y2A,ppm, .0188134,.0026692,14.18783, .0161694, .0187636,
.0215071,None,,
Tl,190.856 {477},Y1,ppm, -.012272,.0084410,68.78379, -.006338, -.008542,
-.021935,None,,
V,292.402 {115},Y2A,ppm, .0027603,.0001661,6.017017, .0028280, .0025711,
```

.0028819,None,,
W,207.911 {462},Y1,ppm, .0098320,.0013183,13.40831, .0109309, .0083703,
.0101948,None,,
Zn,213.856 {458},Y1,ppm, .0073313,.0001758,2.397971, .0071380, .0074816,
.0073742,None,,
Zr,339.198 { 99},Y2R,ppm, .0002804,.0008858,315.8932, -.000387, -.000057,
.0012855,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 5502.973,21.92882,.3984904,5513.542,5517.615,5477.761,None,,
Y2A,371.030 { 91}2,Cts/S,
159977.3,1569.126,.9808426,159457.1,161740.5,158734.4,None,,
Y2R,371.030 { 91}3,Cts/S,
14112.12,257.1366,1.822098,14001.35,13928.93,14406.07,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-13150-j-6-c ms
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 10:24:32
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0254209,.0014211,5.590249, .0238871, .0266928,
.0256828,None,,
Al,308.215 {109}2,Y2A,ppm, .4972762,.0045043,.9057905, .4920868, .5001729,
.4995690,None,,
As,189.042 {478},Y1,ppm, .1276325,.0090786,7.113089, .1280609, .1364892,
.1183472,None,,
B,249.773 {135},Y2A,ppm, 2.736996,.0128642,.4700104, 2.734185, 2.725770,
2.751033,None,,
Ba,455.403 { 74},Y2A,ppm, .1333463,.0006784,.5087640, .1331675, .1327752,
.1340962,None,,
Be,313.042 {108},Y2A,ppm, .0099770,.0000420,.4208482, .0099829, .0099324,
.0100158,None,,
Ca,317.933 {106},Y2R,ppm, 296.9288,.9304517,.3133586, 297.8336, 295.9747,
296.9779,None,,
Cd,226.502 {449},Y1,ppm, .0098881,.0009733,9.843545, .0110113, .0092920,
.0093609,None,,
Co,228.616 {447},Y1,ppm, .0109201,.0004282,3.921118, .0114134, .0107027,
.0106443,None,,
Cr,267.716 {126},Y2A,ppm, .0328007,.0004605,1.403787, .0322818, .0329599,
.0331604,None,,
Cu,327.396 {103},Y2A,ppm, .0575779,.0007870,1.366836, .0575933, .0567833,
.0583570,None,,
Fe,261.187 {129},Y2R,ppm, .5645700,.0117006,2.072479, .5540470, .5624931,
.5771700,None,,
K,766.490 { 44},Y2R,ppm, 215.8971,.9943601,.4605714, 216.8032, 214.8333,
216.0547,None,,
Li,670.784 { 50},Y2R,ppm, .2093499,.0017393,.8308227, .2090875, .2077567,
.2112056,None,,
Mg,285.213 {118},Y2R,ppm, 733.6788,12.69843,1.730789, 734.1797, 746.1194,
720.7374,None,,
Mn,257.610 {131},Y2A,ppm, .7431847,.0023900,.3215893, .7414135, .7422375,

.7459031,None,,
Mo,202.030 {467},Y1,ppm, .0273180,.0007845,2.871627, .0265268, .0280955,
.0273318,None,,
Na,589.592 { 57},Y2R,ppm, 4743.186,54.41002,1.147120, 4805.855, 4707.995,
4715.707,None,,
Ni,231.604 {445},Y1,ppm, 1.908158,.0080549,.4221305, 1.915969, 1.899880,
1.908625,None,,
P,177.495 {490},Y1,ppm, .6978687,.0098764,1.415218, .7013920, .6867138,
.7055002,None,,
Pb,220.353 {453},Y1,ppm, .0318566,.0024831,7.794602, .0289957, .0334510,
.0331232,None,,
S,182.034 {485},Y1,ppm, 545.2595,2.852243,.5230982, 545.4663, 542.3095,
548.0027,None,,
Sb,206.833 {463},Y1,ppm, .1164536,.0065591,5.632386, .1089699, .1212040,
.1191869,None,,
Se,196.090 {472},Y1,ppm, .1048432,.0067399,6.428575, .0999901, .1020008,
.1125388,None,,
Si,251.611 {134},Y2R,ppm, 10.28903,.0318367,.3094237, 10.29110, 10.31978,
10.25621,None,,
Sn,189.989 {477},Y1,ppm, .1037234,.0025807,2.488064, .1057631, .1045851,
.1008221,None,,
Sr,421.552 { 80},Y2A,ppm, 4.645761,.0452106,.9731579, 4.600352, 4.690771,
4.646161,None,,
Th,283.730 {119},Y2R,ppm, -.011553,.0126987,109.9125, -.017880, -.019846,
.0030657,None,,
Ti,334.941 {101},Y2A,ppm, .0270788,.0005033,1.858702, .0275810, .0265744,
.0270808,None,,
Tl,190.856 {477},Y1,ppm, .0476145,.0097550,20.48752, .0499920, .0368905,
.0559610,None,,
V,292.402 {115},Y2A,ppm, .0228637,.0003958,1.731157, .0232918, .0225110,
.0227885,None,,
W,207.911 {462},Y1,ppm, .0757513,.0022464,2.965533, .0736936, .0781480,
.0754124,None,,
Zn,213.856 {458},Y1,ppm, .4905985,.0017286,.3523535, .4921746, .4887497,
.4908712,None,,
Zr,339.198 { 99},Y2R,ppm, .1082574,.0017822,1.646222, .1083344, .1064380,
.1099998,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 5348.648,12.86061,.2404459,5342.634,5363.414,5339.896,None,,
Y2A,371.030 { 91}2,Cts/S,
158875.3,257.1175,.1618361,158932.9,159098.7,158594.3,None,,
Y2R,371.030 { 91}3,Cts/S,
13552.39,18.16045,.1340018,13573.11,13539.25,13544.80,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-13150-h-6-c msd
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 10:27:56
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0252106,.0010076,3.996836, .0259054, .0256714,

.0240549,None,,
Al,308.215 {109}2,Y2A,ppm, .6687562,.0089444,1.337474, .6786549, .6612545,
.6663593,None,,
As,189.042 {478},Y1,ppm, .1243654,.0050433,4.055253, .1190600, .1249383,
.1290977,None,,
B,249.773 {135},Y2A,ppm, 2.690098,.0333263,1.238852, 2.726182, 2.660475,
2.683637,None,,
Ba,455.403 { 74},Y2A,ppm, .1311040,.0017061,1.301354, .1330202, .1297497,
.1305420,None,,
Be,313.042 {108},Y2A,ppm, .0098102,.0001546,1.576430, .0099493, .0096437,
.0098375,None,,
Ca,317.933 {106},Y2R,ppm, 294.0466,4.762268,1.619562, 288.7742, 295.3295,
298.0359,None,,
Cd,226.502 {449},Y1,ppm, .0094805,.0005272,5.560941, .0100401, .0094082,
.0089932,None,,
Co,228.616 {447},Y1,ppm, .0101510,.0002397,2.361086, .0103678, .0098936,
.0101917,None,,
Cr,267.716 {126},Y2A,ppm, .0338659,.0007258,2.143011, .0346809, .0336275,
.0332893,None,,
Cu,327.396 {103},Y2A,ppm, .0559702,.0015437,2.757998, .0577502, .0549994,
.0551610,None,,
Fe,261.187 {129},Y2R,ppm, 1.008692,.0275206,2.728347, .9776789, 1.030200,
1.018198,None,,
K,766.490 { 44},Y2R,ppm, 213.3976,3.398911,1.592760, 209.6373, 214.3045,
216.2512,None,,
Li,670.784 { 50},Y2R,ppm, .2065480,.0083369,4.036316, .1997475, .2040474,
.2158491,None,,
Mg,285.213 {118},Y2R,ppm, 713.5263,12.40286,1.738249, 700.2987, 715.3858,
724.8944,None,,
Mn,257.610 {131},Y2A,ppm, .7307532,.0090171,1.233943, .7407791, .7233076,
.7281728,None,,
Mo,202.030 {467},Y1,ppm, .0270748,.0005246,1.937701, .0268402, .0276757,
.0267083,None,,
Na,589.592 { 57},Y2R,ppm, 4708.104,78.15691,1.660051, 4628.728, 4710.601,
4784.982,None,,
Ni,231.604 {445},Y1,ppm, 1.861963,.0160978,.8645625, 1.878979, 1.859935,
1.846975,None,,
P,177.495 {490},Y1,ppm, .7715067,.0256112,3.319634, .7604791, .7532565,
.8007845,None,,
Pb,220.353 {453},Y1,ppm, .0379331,.0015894,4.189963, .0390699, .0361169,
.0386124,None,,
S,182.034 {485},Y1,ppm, 532.1438,4.704886,.8841382, 535.8845, 526.8615,
533.6853,None,,
Sb,206.833 {463},Y1,ppm, .1151138,.0039349,3.418292, .1109872, .1188240,
.1155303,None,,
Se,196.090 {472},Y1,ppm, .0940824,.0112696,11.97844, .0821142, .1044909,
.0956420,None,,
Si,251.611 {134},Y2R,ppm, 10.57992,.1465352,1.385032, 10.41731, 10.62070,
10.70174,None,,
Sn,189.989 {477},Y1,ppm, .0991828,.0035987,3.628392, .1025391, .0996265,
.0953827,None,,
Sr,421.552 { 80},Y2A,ppm, 4.639585,.0255079,.5497890, 4.617820, 4.633281,
4.667654,None,,
Th,283.730 {119},Y2R,ppm, -.029462,.0128613,43.65342, -.044196, -.020479,
-.023712,None,,
Ti,334.941 {101},Y2A,ppm, .0329061,.0004239,1.288097, .0324182, .0331172,
.0331830,None,,
Tl,190.856 {477},Y1,ppm, .0487030,.0179588,36.87403, .0694188, .0391580,
.0375323,None,,
V,292.402 {115},Y2A,ppm, .0235897,.0002307,.9777390, .0235883, .0238210,
.0233597,None,,
W,207.911 {462},Y1,ppm, .0702854,.0025955,3.692779, .0677881, .0700991,
.0729690,None,,

Zn,213.856 {458},Y1,ppm, .4815360,.0051420,1.067831, .4872914, .4773948,
.4799218,None,,
Zr,339.198 { 99},Y2R,ppm, .1052014,.0027078,2.573947, .1022077, .1059167,
.1074797,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 5490.653,44.39171,.8084961,5439.676,5511.487,5520.796,None,,
Y2A,371.030 { 91}2,Cts/S,
157910.1,1015.239,.6429221,156954.6,158976.1,157799.7,None,,
Y2R,371.030 { 91}3,Cts/S,
13628.12,278.8787,2.046347,13930.55,13572.72,13381.11,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-13150-J-6-B SD@5
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 10:31:21
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, -.000031,.0003642,1156.361, -.000028, -.000397,
.0003310,None,,
Al,308.215 {109}2,Y2A,ppm, .0081391,.0145403,178.6468, .0157588, -.008627,
.0172860,None,,
As,189.042 {478},Y1,ppm, .0089888,.0094518,105.1507, .0067718, .0193521,
.0008426,None,,
B,249.773 {135},Y2A,ppm, .5459261,.0026082,.4777496, .5448788, .5440044,
.5488952,None,,
Ba,455.403 { 74},Y2A,ppm, .0249382,.0001009,.4046649, .0248302, .0249544,
.0250301,None,,
Be,313.042 {108},Y2A,ppm, .0004986,.0000290,5.810130, .0005012, .0004684,
.0005262,None,,
Ca,317.933 {106},Y2R,ppm, 61.05835,.5391257,.8829680, 60.54071, 61.61666,
61.01767,None,,
Cd,226.502 {449},Y1,ppm, .0007038,.0007467,106.1046, .0000142, .0014969,
.0006003,None,,
Co,228.616 {447},Y1,ppm, .0009726,.0014959,153.8077, -.000530, .0009861,
.0024616,None,,
Cr,267.716 {126},Y2A,ppm, .0002945,.0003842,130.4340, -.000102, .0006650,
.0003207,None,,
Cu,327.396 {103},Y2A,ppm, .0012275,.0009132,74.39806, .0004589, .0009866,
.0022370,None,,
Fe,261.187 {129},Y2R,ppm, .1271252,.0198335,15.60156, .1282685, .1463624,
.1067448,None,,
K,766.490 { 44},Y2R,ppm, 40.42077,.3413234,.8444260, 40.18263, 40.81181,
40.26787,None,,
Li,670.784 { 50},Y2R,ppm, .0188883,.0023778,12.58871, .0200103, .0161571,
.0204975,None,,
Mg,285.213 {118},Y2R,ppm, 141.3563,1.199952,.8488851, 140.3841, 142.6974,
140.9874,None,,
Mn,257.610 {131},Y2A,ppm, .1498534,.0009998,.6671757, .1490941, .1494800,
.1509861,None,,
Mo,202.030 {467},Y1,ppm, .0021190,.0022782,107.5095, -.000356, .0041292,
.0025836,None,,

Na,589.592 { 57},Y2R,ppm, 1111.607,9.721622,.8745553, 1108.410, 1122.525,
1103.887,None,,
Ni,231.604 {445},Y1,ppm, .0096051,.0090959,94.69915, -.000015, .0180655,
.0107648,None,,
P,177.495 {490},Y1,ppm, .1129823,.0046315,4.099346, .1076347, .1155976,
.1157147,None,,
Pb,220.353 {453},Y1,ppm, .0025212,.0009943,39.43588, .0020353, .0036650,
.0018634,None,,
S,182.034 {485},Y1,ppm, 110.3521,1.980434,1.794649, 108.9536, 112.6183,
109.4846,None,,
Sb,206.833 {463},Y1,ppm, .0063872,.0040073,62.73980, .0037923, .0043668,
.0110025,None,,
Se,196.090 {472},Y1,ppm, .0018227,.0045103,247.4557, .0065291, .0014008,
-.002462,None,,
Si,251.611 {134},Y2R,ppm, 1.845759,.0261158,1.414910, 1.839220, 1.874523,
1.823534,None,,
Sn,189.989 {477},Y1,ppm, .0012043,.0020656,171.5219, .0000290, .0035893,
-.000005,None,,
Sr,421.552 { 80},Y2A,ppm, .9868198,.0046432,.4705211, .9825051, .9862209,
.9917334,None,,
Th,283.730 {119},Y2R,ppm, .0271272,.0136383,50.27554, .0357146, .0342657,
.0114012,None,,
Ti,334.941 {101},Y2A,ppm, .0053987,.0002915,5.399458, .0051215, .0057026,
.0053720,None,,
Tl,190.856 {477},Y1,ppm, .0034518,.0090013,260.7691, .0042350, .0120359,
-.005915,None,,
V,292.402 {115},Y2A,ppm, -.000516,.0002523,48.88552, -.000335, -.000409,
-.000804,None,,
W,207.911 {462},Y1,ppm, -.000682,.0023664,347.1554, -.003032, .0017006,
-.000714,None,,
Zn,213.856 {458},Y1,ppm, .0041188,.0022398,54.37936, .0018502, .0063285,
.0041777,None,,
Zr,339.198 { 99},Y2R,ppm, .0034713,.0022742,65.51425, .0008454, .0048033,
.0047652,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 6034.205,22.32444,.3699649,6054.369,6038.032,6010.215,None,,
Y2A,371.030 { 91}2,Cts/S,
177807.0,2094.255,1.177825,178506.5,179462.0,175452.6,None,,
Y2R,371.030 { 91}3,Cts/S,
14625.76,83.68197,.5721545,14554.84,14604.40,14718.06,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-10696-N-1-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 10:34:42
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0009432,.0001191,12.63053, .0010160, .0010078,
.0008057,None,,
Al,308.215 {109}2,Y2A,ppm, .0117535,.0027557,23.44529, .0142520, .0122107,
.0087979,None,,

As,189.042 {478},Y1,ppm, .0280451,.0061932,22.08305, .0343670, .0219891,
.0277792,None,,
B,249.773 {135},Y2A,ppm, .0194347,.0014441,7.430622, .0181998, .0190816,
.0210226,None,,
Ba,455.403 { 74},Y2A,ppm, .3510568,.0066520,1.894851, .3448104, .3503087,
.3580512,None,,
Be,313.042 {108},Y2A,ppm, .0002807,.0000562,20.03289, .0002169, .0003022,
.0003230,None,,
Ca,317.933 {106},Y2R,ppm, 33.57947,.5170780,1.539864, 33.14327, 33.44449,
34.15065,None,,
Cd,226.502 {449},Y1,ppm, -.000278,.0002062,74.06138, -.000410, -.000041,
-.000384,None,,
Co,228.616 {447},Y1,ppm, .0114705,.0004365,3.805125, .0117432, .0109671,
.0117012,None,,
Cr,267.716 {126},Y2A,ppm, .0033438,.0006592,19.71302, .0026574, .0034023,
.0039718,None,,
Cu,327.396 {103},Y2A,ppm, .0021596,.0011758,54.44335, .0015579, .0014065,
.0035145,None,,
Fe,261.187 {129},Y2R,ppm, 53.08729,.6954680,1.310046, 52.45430, 52.97580,
53.83177,None,,
K,766.490 { 44},Y2R,ppm, 1.746631,.1043998,5.977212, 1.797204, 1.626576,
1.816113,None,,
Li,670.784 { 50},Y2R,ppm, -.002292,.0018629,81.27627, -.004443, -.001252,
-.001181,None,,
Mg,285.213 {118},Y2R,ppm, 14.56822,.2192610,1.505064, 14.34732, 14.57153,
14.78580,None,,
Mn,257.610 {131},Y2A,ppm, .8294591,.0172683,2.081875, .8129662, .8280007,
.8474103,None,,
Mo,202.030 {467},Y1,ppm, .0006954,.0000430,6.189568, .0006741, .0007449,
.0006672,None,,
Na,589.592 { 57},Y2R,ppm, 6.313111,.0161162,.2552819, 6.313923, 6.328806,
6.296604,None,,
Ni,231.604 {445},Y1,ppm, .0027752,.0005754,20.73359, .0021445, .0029093,
.0032716,None,,
P,177.495 {490},Y1,ppm, .0200895,.0089349,44.47541, .0184185, .0297418,
.0121080,None,,
Pb,220.353 {453},Y1,ppm, .0387994,.0015935,4.106943, .0398481, .0369658,
.0395845,None,,
S,182.034 {485},Y1,ppm, .5639810,.0211384,3.748073, .5856775, .5434488,
.5628169,None,,
Sb,206.833 {463},Y1,ppm, .0050593,.0008206,16.21888, .0058422, .0051301,
.0042057,None,,
Se,196.090 {472},Y1,ppm, .0098876,.0052099,52.69090, .0158486, .0076084,
.0062057,None,,
Si,251.611 {134},Y2R,ppm, 5.123508,.0688564,1.343931, 5.082961, 5.084552,
5.203011,None,,
Sn,189.989 {477},Y1,ppm, .0014637,.0026695,182.3769, .0045312, .0001918,
-.000332,None,,
Sr,421.552 { 80},Y2A,ppm, .3270650,.0064029,1.957690, .3209658, .3264954,
.3337336,None,,
Th,283.730 {119},Y2R,ppm, .0255957,.0208735,81.55088, .0395084, .0356844,
.0015944,None,,
Ti,334.941 {101},Y2A,ppm, .0035422,.0001710,4.828047, .0035005, .0033958,
.0037301,None,,
Tl,190.856 {477},Y1,ppm, -.208261,.0100530,4.827126, -.218780, -.198751,
-.207252,None,,
V,292.402 {115},Y2A,ppm, .0006318,.0005404,85.54198, .0001472, .0005336,
.0012146,None,,
W,207.911 {462},Y1,ppm, .0018566,.0018840,101.4761, .0025918, .0032622,
-.000284,None,,
Zn,213.856 {458},Y1,ppm, -.004522,.0003974,8.788535, -.004191, -.004413,
-.004963,None,,
Zr,339.198 { 99},Y2R,ppm, .0038284,.0025752,67.26483, .0009709, .0059695,

.0045448,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 6706.332,134.0668,1.999107,6567.372,6716.725,6834.901,None,,
Y2A,371.030 { 91}2,Cts/S,
197088.8,3714.427,1.884647,199838.7,198564.3,192863.3,None,,
Y2R,371.030 { 91}3,Cts/S,
15520.28,201.1510,1.296052,15719.65,15523.80,15317.39,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-10696-N-3-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 10:37:44
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0008333,.0002596,31.14901, .0005428, .0009149,
.0010423,None,,
Al,308.215 {109}2,Y2A,ppm, .4275563,.0116046,2.714169, .4398830, .4259432,
.4168426,None,,
As,189.042 {478},Y1,ppm, .0113712,.0036991,32.53040, .0105710, .0154050,
.0081377,None,,
B,249.773 {135},Y2A,ppm, .0248719,.0003314,1.332241, .0251501, .0245053,
.0249602,None,,
Ba,455.403 { 74},Y2A,ppm, .2648312,.0014044,.5302974, .2634843, .2647225,
.2662868,None,,
Be,313.042 {108},Y2A,ppm, .0002920,.0000330,11.30071, .0003287, .0002824,
.0002648,None,,
Ca,317.933 {106},Y2R,ppm, 56.30380,.2444093,.4340902, 56.52969, 56.04434,
56.33737,None,,
Cd,226.502 {449},Y1,ppm, -.000040,.0002576,638.1822, -.000330, .0000441,
.0001645,None,,
Co,228.616 {447},Y1,ppm, .0071125,.0004253,5.979121, .0075936, .0069574,
.0067866,None,,
Cr,267.716 {126},Y2A,ppm, .0050248,.0006919,13.76918, .0057184, .0043347,
.0050213,None,,
Cu,327.396 {103},Y2A,ppm, .0027568,.0006706,24.32388, .0035262, .0024474,
.0022968,None,,
Fe,261.187 {129},Y2R,ppm, 26.82499,.2004908,.7474031, 27.05567, 26.72655,
26.69274,None,,
K,766.490 { 44},Y2R,ppm, .3919575,.0210204,5.362915, .4106089, .3960835,
.3691801,None,,
Li,670.784 { 50},Y2R,ppm, .0023622,.0024222,102.5374, .0047817, -.000063,
.0023676,None,,
Mg,285.213 {118},Y2R,ppm, 27.46717,.1064056,.3873920, 27.51940, 27.34475,
27.53738,None,,
Mn,257.610 {131},Y2A,ppm, 3.274541,.0223741,.6832733, 3.252947, 3.273055,
3.297621,None,,
Mo,202.030 {467},Y1,ppm, .0011289,.0008067,71.45550, .0018853, .0002799,
.0012216,None,,
Na,589.592 { 57},Y2R,ppm, 57.01642,.1968319,.3452196, 57.02430, 56.81577,
57.20919,None,,
Ni,231.604 {445},Y1,ppm, .0028954,.0002918,10.07787, .0031929, .0028838,

.0026096,None,,
P,177.495 {490},Y1,ppm, .1914613,.0038049,1.987289, .1886534, .1899388,
.1957917,None,,
Pb,220.353 {453},Y1,ppm, .0272990,.0036158,13.24508, .0272954, .0309166,
.0236850,None,,
S,182.034 {485},Y1,ppm, 1.475463,.0042638,.2889785, 1.472698, 1.473318,
1.480374,None,,
Sb,206.833 {463},Y1,ppm, .0054173,.0034449,63.58931, .0015792, .0064316,
.0082412,None,,
Se,196.090 {472},Y1,ppm, .0027211,.0046992,172.6990, -.002544, .0042150,
.0064918,None,,
Si,251.611 {134},Y2R,ppm, 9.674062,.1721405,1.779402, 9.852351, 9.661025,
9.508811,None,,
Sn,189.989 {477},Y1,ppm, .0026484,.0007811,29.49510, .0017594, .0029606,
.0032250,None,,
Sr,421.552 { 80},Y2A,ppm, .4697393,.0054724,1.164978, .4644793, .4693368,
.4754018,None,,
Th,283.730 {119},Y2R,ppm, .0132321,.0255551,193.1295, -.015910, .0318193,
.0237868,None,,
Ti,334.941 {101},Y2A,ppm, .0235058,.0056721,24.13045, .0207770, .0300265,
.0197139,None,,
Tl,190.856 {477},Y1,ppm, -.118208,.0160714,13.59585, -.108317, -.136752,
-.109555,None,,
V,292.402 {115},Y2A,ppm, .0019402,.0002967,15.29048, .0017652, .0017727,
.0022828,None,,
W,207.911 {462},Y1,ppm, .0013520,.0012721,94.08835, .0002080, .0027219,
.0011261,None,,
Zn,213.856 {458},Y1,ppm, -.000622,.0003696,59.41471, -.001047, -.000442,
-.000377,None,,
Zr,339.198 { 99},Y2R,ppm, .0027626,.0037212,134.7007, .0033094, .0061801,
-.001202,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 6850.787,71.61140,1.045302,6922.179,6778.959,6851.224,None,,
Y2A,371.030 { 91}2,Cts/S,
194743.8,1508.105,.7744047,196290.3,194663.9,193277.2,None,,
Y2R,371.030 { 91}3,Cts/S,
15500.08,113.9994,.7354759,15375.32,15598.83,15526.10,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=CCV 411045
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 10:40:53
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm,W .5423,.0037,.6842, .5449, .5440, .5380,Chk
Warn,.5000,8.000%
Al,308.215 {109}2,Y2A,ppm, 25.47,.1329,.5218, 25.62, 25.35, 25.46,Chk Pass,,
As,189.042 {478},Y1,ppm, .5400,.0164,3.032, .5502, .5211, .5486,Chk Pass,,
B,249.773 {135},Y2A,ppm, .4958,.0045,.9060, .5004, .4914, .4955,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .5345,.0047,.8852, .5312, .5323, .5399,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .48689,.00284,.58426, .48923, .48372, .48771,Chk Pass,,

Ca,317.933 {106},Y2R,ppm,F 27.90,.2627,.9418, 27.65, 27.86, 28.17,Chk
Fail,25.00,10.00%
Cd,226.502 {449},Y1,ppm, .5023,.0189,3.758, .5127, .4805, .5138,Chk Pass,,
Co,228.616 {447},Y1,ppm,W .5406,.0189,3.505, .5529, .5188, .5501,Chk
Warn,.5000,8.000%
Cr,267.716 {126},Y2A,ppm,W .5451,.0033,.6055, .5489, .5430, .5433,Chk
Warn,.5000,8.000%
Cu,327.396 {103},Y2A,ppm, .5377,.0044,.8186, .5417, .5330, .5385,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 26.94,.3270,1.214, 26.79, 26.72, 27.32,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 25.02,.2133,.8526, 24.78, 25.16, 25.13,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .5279,.0065,1.223, .5276, .5217, .5346,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 25.54,.2390,.9359, 25.32, 25.51, 25.79,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .52120,.00484,.92905, .52618, .51651, .52091,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .5247,.0169,3.213, .5336, .5052, .5352,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 26.78,.3012,1.125, 26.53, 26.68, 27.11,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .5139,.0128,2.484, .5203, .4992, .5221,Chk Pass,,
P,177.495 {490},Y1,ppm,W .5412,.0236,4.366, .5515, .5142, .5579,Chk
Warn,.5000,8.000%
Pb,220.353 {453},Y1,ppm,F .5516,.0198,3.596, .5632, .5287, .5630,Chk
Fail,.5000,10.00%
S,182.034 {485},Y1,ppm,F 29.63,1.288,4.346, 28.45, 31.00, 29.43,Chk
Fail,25.00,10.00%
Sb,206.833 {463},Y1,ppm, .5100,.0149,2.918, .5146, .4934, .5221,Chk Pass,,
Se,196.090 {472},Y1,ppm, .5289,.0178,3.356, .5412, .5086, .5370,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 24.867,.31314,1.2592, 24.647, 24.729, 25.225,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .4994,.0200,4.000, .5061, .4770, .5152,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm,F .5666,.0051,.8939, .5656, .5620, .5720,Chk
Fail,.5000,10.00%
Th,283.730 {119},Y2R,ppm, .5337,.0238,4.451, .5171, .5230, .5609,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .5220,.0034,.6445, .5257, .5192, .5209,Chk Pass,,
Tl,190.856 {477},Y1,ppm,W .4560,.0135,2.970, .4614, .4405, .4659,Chk
Warn,.5000,-8.000%
V,292.402 {115},Y2A,ppm, .5103,.0049,.9671, .5111, .5050, .5148,Chk Pass,,
W,207.911 {462},Y1,ppm, .5387,.0176,3.261, .5479, .5184, .5497,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .5340,.0165,3.085, .5429, .5150, .5441,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .5143,.0049,.9507, .5087, .5166, .5176,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 6755.9,138.63,2.0520,6693.6,6914.7,6659.3
Y2A,371.030 { 91}2,Cts/S, 190760.,1673.9,.87750,190030.,192680.,189580.
Y2R,371.030 { 91}3,Cts/S, 14743.,14.166,.09609,14735.,14734.,14759.

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=CCB 412912

Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 10:44:02
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0004,.0006,158.7, .0007, -.0003, .0008,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .0072,.0059,80.91, .0098, .0005, .0113,Chk Pass,,
As,189.042 {478},Y1,ppm, -.0071,.0007,9.377, -.0077, -.0064, -.0072,Chk Pass,,

B,249.773 {135},Y2A,ppm, .0072,.0011,15.04, .0067, .0064, .0084,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0001,.0000,31.01, .0001, .0001, .0002,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00037,.00002,6.1788, .00038, .00034, .00039,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .0204,.0069,33.95, .0282, .0153, .0175,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0001,.0003,258.8, .0002, -.0003, .0004,Chk Pass,,
Co,228.616 {447},Y1,ppm, -.0003,.0004,112.4, .0001, -.0007, -.0004,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0009,.0009,99.00, .0018, .0000, .0009,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0013,.0010,81.88, .0024, .0004, .0010,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .0156,.0125,80.05, .0222, .0235, .0012,Chk Pass,,
K,766.490 { 44},Y2R,ppm, .1441,.0237,16.43, .1185, .1652, .1486,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, -.0009,.0018,189.6, -.0014, -.0025, .0010,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .0235,.0029,12.29, .0248, .0255, .0202,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .00042,.00009,21.470, .00050, .00043, .00032,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0004,.0009,244.1, -.0004, .0001, .0014,Chk Pass,,
Na,589.592 { 57},Y2R,ppm,W .3893,.0046,1.188, .3945, .3880, .3855,Chk
Warn,.3750,-.3750
Ni,231.604 {445},Y1,ppm, .0000,.0002,570.1, .0002, .0002, -.0002,Chk Pass,,
P,177.495 {490},Y1,ppm, .0001,.0062,10650., .0063, .0001, -.0062,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .0000,.0041,9553., .0043, -.0002, -.0040,Chk Pass,,
S,182.034 {485},Y1,ppm, .0172,.0105,61.30, .0051, .0221, .0244,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .0042,.0016,37.99, .0024, .0050, .0052,Chk Pass,,
Se,196.090 {472},Y1,ppm, -.0029,.0050,169.4, .0015, -.0083, -.0021,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .00761,.01501,197.35, .02004, -.00907, .01184,Chk Pass,,
Sn,189.989 {477},Y1,ppm, -.0000,.0035,59760., .0025, -.0041, .0016,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0002,.0000,16.10, .0001, .0002, .0002,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0269,.0248,92.16, .0222, .0536, .0048,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0003,.0000,17.45, .0002, .0003, .0003,Chk Pass,,
Tl,190.856 {477},Y1,ppm, -.0043,.0092,212.0, .0060, -.0076, -.0114,Chk Pass,,
V,292.402 {115},Y2A,ppm, -.0005,.0001,29.32, -.0003, -.0006, -.0005,Chk Pass,,
W,207.911 {462},Y1,ppm, .0009,.0017,181.2, .0022, .0016, -.0010,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .0023,.0003,14.99, .0022, .0020, .0027,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0018,.0045,252.0, -.0025, .0014, .0064,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 6758.1,43.963,.65052,6737.1,6728.5,6808.6
Y2A,371.030 { 91}2,Cts/S, 195620.,819.05,.41870,194790.,195620.,196430.
Y2R,371.030 { 91}3,Cts/S, 14755.,102.25,.69296,14702.,14690.,14873.

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-10696-N-6-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 10:47:09
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0012638,.0001770,14.00881, .0012600, .0014428,
.0010887,None,,
Al,308.215 {109}2,Y2A,ppm, .0204649,.0062945,30.75744, .0212378, .0263373,
.0138197,None,,
As,189.042 {478},Y1,ppm, -.023603,.0260823,110.5042, -.052543, -.016353,
-.001912,None,,
B,249.773 {135},Y2A,ppm, .0478060,.0012922,2.702936, .0488388, .0482221,
.0463570,None,,

Ba,455.403 { 74},Y2A,ppm, .3773525,.0019310,.5117165, .3795384, .3766406,
.3758786,None,,
Be,313.042 {108},Y2A,ppm, .0003334,.0000314,9.432622, .0003071, .0003683,
.0003249,None,,
Ca,317.933 {106},Y2R,ppm, 68.36133,.4611455,.6745707, 68.13323, 68.05869,
68.89208,None,,
Cd,226.502 {449},Y1,ppm, .0000356,.0003058,858.8023, .0000448, -.000275,
.0003367,None,,
Co,228.616 {447},Y1,ppm, .0070561,.0003156,4.472352, .0069347, .0068193,
.0074144,None,,
Cr,267.716 {126},Y2A,ppm, .0053308,.0010458,19.61824, .0051607, .0064513,
.0043805,None,,
Cu,327.396 {103},Y2A,ppm, .0011910,.0007931,66.59198, .0018328, .0014357,
.0003043,None,,
Fe,261.187 {129},Y2R,ppm, 1.607872,.0253923,1.579251, 1.586397, 1.601320,
1.635898,None,,
K,766.490 { 44},Y2R,ppm, .7163803,.0303705,4.239437, .7417885, .7246092,
.6827433,None,,
Li,670.784 { 50},Y2R,ppm, .0003912,.0015626,399.4450, -.000229, .0021686,
-.000766,None,,
Mg,285.213 {118},Y2R,ppm, 34.02603,.2085742,.6129843, 33.88642, 33.92589,
34.26579,None,,
Mn,257.610 {131},Y2A,ppm, 5.293588,.0243247,.4595129, 5.316797, 5.295682,
5.268283,None,,
Mo,202.030 {467},Y1,ppm, .0093389,.0004352,4.660280, .0096686, .0088456,
.0095025,None,,
Na,589.592 { 57},Y2R,ppm, 27.69913,.0939115,.3390412, 27.68774, 27.61144,
27.79822,None,,
Ni,231.604 {445},Y1,ppm, .0088846,.0007251,8.161374, .0092002, .0080552,
.0093983,None,,
P,177.495 {490},Y1,ppm, -.004709,.0045182,95.94631, -.000616, -.009557,
-.003954,None,,
Pb,220.353 {453},Y1,ppm, .0042613,.0044350,104.0763, .0006165, .0029683,
.0091991,None,,
S,182.034 {485},Y1,ppm, 1.451926,.0188863,1.300778, 1.447361, 1.435740,
1.472676,None,,
Sb,206.833 {463},Y1,ppm, .0042458,.0074453,175.3557, -.003548, .0050010,
.0112847,None,,
Se,196.090 {472},Y1,ppm, -.005228,.0086066,164.6198, -.001169, .0005978,
-.015114,None,,
Si,251.611 {134},Y2R,ppm, 8.159635,.0726136,.8899124, 8.154137, 8.089927,
8.234841,None,,
Sn,189.989 {477},Y1,ppm, .0016995,.0008744,51.44913, .0008800, .0015984,
.0026200,None,,
Sr,421.552 { 80},Y2A,ppm, .5699939,.0085663,1.502879, .5680105, .5793780,
.5625933,None,,
Th,283.730 {119},Y2R,ppm, .0255018,.0111347,43.66251, .0230592, .0157912,
.0376551,None,,
Ti,334.941 {101},Y2A,ppm, .0052263,.0001515,2.899016, .0053982, .0051687,
.0051121,None,,
Tl,190.856 {477},Y1,ppm, -.013450,.0076954,57.21378, -.021138, -.005748,
-.013464,None,,
V,292.402 {115},Y2A,ppm, .0012546,.0001619,12.90176, .0010914, .0014151,
.0012572,None,,
W,207.911 {462},Y1,ppm, .0022581,.0016263,72.01977, .0024011, .0005650,
.0038081,None,,
Zn,213.856 {458},Y1,ppm, .0184437,.0001932,1.047354, .0182303, .0184938,
.0186068,None,,
Zr,339.198 { 99},Y2R,ppm, .0021346,.0010503,49.20414, .0015729, .0033463,
.0014846,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High

Y1,224.306 {450},Cts/S, 6667.557,27.80761,.4170585,6696.611,6664.866,6641.192,None,,
Y2A,371.030 { 91}2,Cts/S,
194097.7,1414.021,.7285099,194101.3,192681.8,195509.9,None,,
Y2R,371.030 { 91}3,Cts/S,
15953.54,165.1970,1.035488,16081.59,16011.97,15767.07,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-13014-T-3-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 10:50:20
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0006717,.0008354,124.3855, .0004863, -.000056,
.0015842,None,,
Al,308.215 {109}2,Y2A,ppm, .1107679,.0018913,1.707454, .1092031, .1102311,
.1128696,None,,
As,189.042 {478},Y1,ppm, .2040980,.0107633,5.273572, .2158525, .2017170,
.1947247,None,,
B,249.773 {135},Y2A,ppm, 1.734711,.0147297,.8491152, 1.744394, 1.717760,
1.741980,None,,
Ba,455.403 { 74},Y2A,ppm, .5388481,.0034896,.6476028, .5390868, .5352452,
.5422122,None,,
Be,313.042 {108},Y2A,ppm, .0004763,.0000536,11.25723, .0004188, .0005250,
.0004851,None,,
Ca,317.933 {106},Y2R,ppm, 174.0546,3.099902,1.780994, 171.3816, 173.3293,
177.4528,None,,
Cd,226.502 {449},Y1,ppm, -.000080,.0001890,235.2676, .0001366, -.000209,
-.000168,None,,
Co,228.616 {447},Y1,ppm, .0048912,.0005856,11.97316, .0042226, .0053132,
.0051377,None,,
Cr,267.716 {126},Y2A,ppm, .0017670,.0013480,76.28688, .0032276, .0005707,
.0015027,None,,
Cu,327.396 {103},Y2A,ppm, .0169125,.0008464,5.004289, .0177960, .0161090,
.0168324,None,,
Fe,261.187 {129},Y2R,ppm, 21.89614,.3337153,1.524083, 21.56398, 21.89306,
22.23139,None,,
K,766.490 { 44},Y2R,ppm, 67.65168,.7826626,1.156901, 66.94910, 67.51067,
68.49526,None,,
Li,670.784 { 50},Y2R,ppm, .0208882,.0001006,.4814107, .0208435, .0210033,
.0208177,None,,
Mg,285.213 {118},Y2R,ppm, 495.4167,15.71395,3.171864, 485.8211, 486.8776,
513.5513,None,,
Mn,257.610 {131},Y2A,ppm, 6.403402,.0452806,.7071339, 6.411077, 6.354774,
6.444354,None,,
Mo,202.030 {467},Y1,ppm, .0428492,.0010255,2.393247, .0440334, .0422536,
.0422608,None,,
Na,589.592 { 57},Y2R,ppm, 1019.281,21.94407,2.152896, 1000.054, 1014.602,
1043.187,None,,
Ni,231.604 {445},Y1,ppm, .0252431,.0011589,4.591017, .0265588, .0243733,
.0247973,None,,
P,177.495 {490},Y1,ppm, 1.817662,.0314708,1.731389, 1.838652, 1.832856,
1.781477,None,,
Pb,220.353 {453},Y1,ppm, .0239009,.0035246,14.74684, .0199556, .0267388,

.0250085,None,,
S,182.034 {485},Y1,ppm, 45.49379,.0703056,.1545389, 45.50609, 45.41815,
45.55714,None,,
Sb,206.833 {463},Y1,ppm, .0004110,.0043394,1055.925, .0013637, .0041948,
-.004326,None,,
Se,196.090 {472},Y1,ppm, .0130747,.0072007,55.07371, .0059332, .0129578,
.0203332,None,,
Si,251.611 {134},Y2R,ppm, 26.23173,.3479528,1.326458, 25.92361, 26.16248,
26.60910,None,,
Sn,189.989 {477},Y1,ppm, .0039555,.0013624,34.44275, .0024081, .0044836,
.0049748,None,,
Sr,421.552 { 80},Y2A,ppm, 3.395377,.0522396,1.538552, 3.403870, 3.339411,
3.442850,None,,
Th,283.730 {119},Y2R,ppm, -.007694,.0152509,198.2157, .0062063, -.024008,
-.005281,None,,
Ti,334.941 {101},Y2A,ppm, .0124518,.0005173,4.154030, .0123823, .0119728,
.0130003,None,,
Tl,190.856 {477},Y1,ppm, -.091843,.0330017,35.93270, -.109217, -.112528,
-.053784,None,,
V,292.402 {115},Y2A,ppm, .0075794,.0003153,4.159422, .0073229, .0074839,
.0079314,None,,
W,207.911 {462},Y1,ppm, .0035798,.0016093,44.95542, .0020504, .0052586,
.0034304,None,,
Zn,213.856 {458},Y1,ppm, .0017856,.0000533,2.984497, .0018230, .0018093,
.0017246,None,,
Zr,339.198 { 99},Y2R,ppm, .0215599,.0019231,8.919845, .0235225, .0196789,
.0214784,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 5920.766,37.82686,.6388845,5877.997,5949.830,5934.471,None,,
Y2A,371.030 { 91}2,Cts/S,
177302.6,1194.441,.6736736,176529.8,178678.4,176699.8,None,,
Y2R,371.030 { 91}3,Cts/S,
14973.19,383.9070,2.563963,15270.84,15108.86,14539.87,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-13150-J-2-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 10:53:43
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0011163,.0007689,68.87364, .0017247, .0013722,
.0002522,None,,
Al,308.215 {109}2,Y2A,ppm, 1.702292,.0722180,4.242399, 1.651115, 1.670862,
1.784899,None,,
As,189.042 {478},Y1,ppm, .1561740,.0065876,4.218104, .1544394, .1506273,
.1634553,None,,
B,249.773 {135},Y2A,ppm, 2.698223,.0129518,.4800103, 2.689483, 2.692085,
2.713103,None,,
Ba,455.403 { 74},Y2A,ppm, .1110630,.0006036,.5434990, .1111199, .1104330,
.1116362,None,,
Be,313.042 {108},Y2A,ppm, .0009974,.0001949,19.54432, .0012209, .0008620,

.0009095,None,,
Ca,317.933 {106},Y2R,ppm, 282.4848,12.30070,4.354462, 288.5069, 290.6141,
268.3334,None,,
Cd,226.502 {449},Y1,ppm, .0000667,.0001450,217.2039, .0002012, .0000858,
-.000087,None,,
Co,228.616 {447},Y1,ppm, .0014604,.0012044,82.46863, .0006129, .0009293,
.0028390,None,,
Cr,267.716 {126},Y2A,ppm, .0064703,.0012552,19.39853, .0057087, .0057833,
.0079190,None,,
Cu,327.396 {103},Y2A,ppm, .0114474,.0012124,10.59098, .0116972, .0125155,
.0101296,None,,
Fe,261.187 {129},Y2R,ppm, 3.579001,.2908582,8.126799, 3.407535, 3.414638,
3.914830,None,,
K,766.490 { 44},Y2R,ppm, 194.3275,7.835494,4.032107, 198.4899, 199.2035,
185.2893,None,,
Li,670.784 { 50},Y2R,ppm, .0938338,.0008306,.8851724, .0947414, .0931116,
.0936484,None,,
Mg,285.213 {118},Y2R,ppm, 666.9571,45.38732,6.805134, 679.4363, 704.7993,
616.6356,None,,
Mn,257.610 {131},Y2A,ppm, .9198829,.0069378,.7542068, .9218452, .9121753,
.9256282,None,,
Mo,202.030 {467},Y1,ppm, .0054321,.0011210,20.63688, .0041799, .0063423,
.0057740,None,,
Na,589.592 { 57},Y2R,ppm, 4536.146,283.0671,6.240255, 4693.313, 4705.758,
4209.368,None,,
Ni,231.604 {445},Y1,ppm, .0096032,.0002898,3.017997, .0095631, .0093355,
.0099109,None,,
P,177.495 {490},Y1,ppm, .7847359,.0022954,.2925068, .7863726, .7857230,
.7821120,None,,
Pb,220.353 {453},Y1,ppm, .0087414,.0040471,46.29736, .0088819, .0046260,
.0127164,None,,
S,182.034 {485},Y1,ppm, 525.3234,4.386317,.8349746, 530.3137, 522.0783,
523.5781,None,,
Sb,206.833 {463},Y1,ppm, .0034715,.0057136,164.5840, .0083538, -.002812,
.0048731,None,,
Se,196.090 {472},Y1,ppm, -.000881,.0085805,974.3227, .0082613, -.002144,
-.008760,None,,
Si,251.611 {134},Y2R,ppm, 12.74568,.0466171,.3657485, 12.75648, 12.78594,
12.69461,None,,
Sn,189.989 {477},Y1,ppm, .0012838,.0016279,126.7987, .0011646, .0029680,
-.000281,None,,
Sr,421.552 { 80},Y2A,ppm, 4.601655,.1080435,2.347926, 4.531079, 4.547850,
4.726037,None,,
Th,283.730 {119},Y2R,ppm, .0277304,.0183093,66.02615, .0215949, .0132767,
.0483194,None,,
Ti,334.941 {101},Y2A,ppm, .0604579,.0068175,11.27641, .0546254, .0587953,
.0679528,None,,
Tl,190.856 {477},Y1,ppm, -.007118,.0069282,97.33161, -.004968, -.014866,
-.001520,None,,
V,292.402 {115},Y2A,ppm, .0088964,.0001721,1.933894, .0086989, .0090134,
.0089770,None,,
W,207.911 {462},Y1,ppm, .0039325,.0015719,39.97139, .0042330, .0053325,
.0022321,None,,
Zn,213.856 {458},Y1,ppm, .0321614,.0002898,.9010454, .0321859, .0324381,
.0318601,None,,
Zr,339.198 { 99},Y2R,ppm, .0062549,.0039929,63.83601, .0017403, .0077020,
.0093226,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 5411.416,23.90076,.4416730,5385.683,5415.643,5432.920,None,,
Y2A,371.030 { 91}2,Cts/S,
158968.5,2311.378,1.453985,159968.3,160611.7,156325.5,None,,

Y2R,371.030 { 91}3,Cts/S,
13912.75,854.9945,6.145405,13539.19,13308.09,14890.95,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-13150-J-3-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 10:57:09
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0001021,.0007969,780.3795, -.000480, .0010103,
-.000224,None,,
Al,308.215 {109}2,Y2A,ppm, .4794160,.0548623,11.44356, .4252017, .4781422,
.5349041,None,,
As,189.042 {478},Y1,ppm, .0284461,.0038456,13.51896, .0272580, .0327456,
.0253348,None,,
B,249.773 {135},Y2A,ppm, 2.010321,.0084778,.4217123, 2.007007, 2.019955,
2.004001,None,,
Ba,455.403 { 74},Y2A,ppm, .0882444,.0004774,.5409487, .0877177, .0886485,
.0883670,None,,
Be,313.042 {108},Y2A,ppm, .0005733,.0001310,22.84378, .0005154, .0007233,
.0004814,None,,
Ca,317.933 {106},Y2R,ppm, 196.8430,4.779484,2.428070, 192.5508, 201.9935,
195.9846,None,,
Cd,226.502 {449},Y1,ppm, .0003545,.0002440,68.81274, .0002237, .0006360,
.0002039,None,,
Co,228.616 {447},Y1,ppm, .0012807,.0008442,65.91891, .0011771, .0004931,
.0021720,None,,
Cr,267.716 {126},Y2A,ppm, .0020728,.0003425,16.52395, .0017244, .0020849,
.0024090,None,,
Cu,327.396 {103},Y2A,ppm, .0072696,.0005904,8.122256, .0069933, .0079475,
.0068679,None,,
Fe,261.187 {129},Y2R,ppm, .4865826,.0151794,3.119584, .4697116, .4991340,
.4909023,None,,
K,766.490 { 44},Y2R,ppm, 107.7335,2.678295,2.486037, 105.3711, 110.6431,
107.1863,None,,
Li,670.784 { 50},Y2R,ppm, .0550603,.0011296,2.051565, .0551002, .0539113,
.0561694,None,,
Mg,285.213 {118},Y2R,ppm, 370.0500,11.97470,3.235966, 358.6602, 368.9555,
382.5344,None,,
Mn,257.610 {131},Y2A,ppm, .3464980,.0017138,.4946086, .3480756, .3467439,
.3446745,None,,
Mo,202.030 {467},Y1,ppm, .0059502,.0008095,13.60416, .0067460, .0051278,
.0059766,None,,
Na,589.592 { 57},Y2R,ppm, 2753.648,37.67742,1.368273, 2710.802, 2781.608,
2768.535,None,,
Ni,231.604 {445},Y1,ppm, .0037238,.0008328,22.36367, .0030695, .0034407,
.0046612,None,,
P,177.495 {490},Y1,ppm, .2690732,.0010187,.3786082, .2702496, .2684875,
.2684827,None,,
Pb,220.353 {453},Y1,ppm, .0049208,.0076317,155.0908, -.003766, .0105501,
.0079779,None,,
S,182.034 {485},Y1,ppm, 298.3237,4.460197,1.495086, 293.2327, 300.1946,
301.5437,None,,

Sb,206.833 {463},Y1,ppm, .0008607,.0012773,148.3962, -.000551, .0019369,
.0011959,None,,
Se,196.090 {472},Y1,ppm, -.000573,.0135052,2358.827, .0148882, -.006538,
-.010068,None,,
Si,251.611 {134},Y2R,ppm, 11.38195,.2083974,1.830947, 11.16926, 11.58577,
11.39081,None,,
Sn,189.989 {477},Y1,ppm, .0013653,.0020239,148.2349, .0036669, -.000137,
.0005659,None,,
Sr,421.552 { 80},Y2A,ppm, 2.768146,.0080670,.2914228, 2.758989, 2.771247,
2.774203,None,,
Th,283.730 {119},Y2R,ppm, .0223286,.0057468,25.73753, .0193785, .0186561,
.0289514,None,,
Ti,334.941 {101},Y2A,ppm, .0307236,.0073237,23.83736, .0378136, .0231867,
.0311704,None,,
Tl,190.856 {477},Y1,ppm, .0033945,.0006046,17.81210, .0027444, .0034989,
.0039400,None,,
V,292.402 {115},Y2A,ppm, .0054693,.0006860,12.54241, .0054370, .0061709,
.0048001,None,,
W,207.911 {462},Y1,ppm, .0017480,.0008439,48.28066, .0017791, .0025759,
.0008889,None,,
Zn,213.856 {458},Y1,ppm, .0124813,.0001763,1.412310, .0126827, .0123548,
.0124066,None,,
Zr,339.198 { 99},Y2R,ppm, -.000378,.0021918,579.3372, -.001722, -.001563,
.0021508,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 5914.595,74.07571,1.252422,5997.503,5891.357,5854.923,None,,
Y2A,371.030 { 91}2,Cts/S,
168887.1,647.1222,.3831684,168622.3,168414.4,169624.7,None,,
Y2R,371.030 { 91}3,Cts/S,
14131.77,306.4437,2.168473,14473.29,14041.23,13880.80,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-13150-J-4-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 11:00:36
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0007599,.0003589,47.22626, .0003898, .0007836,
.0011063,None,,
Al,308.215 {109}2,Y2A,ppm, 2.358692,.0783314,3.320967, 2.286382, 2.347792,
2.441903,None,,
As,189.042 {478},Y1,ppm, .0940704,.0217998,23.17392, .0926101, .0730375,
.1165637,None,,
B,249.773 {135},Y2A,ppm, 2.739341,.0193281,.7055765, 2.761578, 2.726570,
2.729876,None,,
Ba,455.403 { 74},Y2A,ppm, .1558342,.0010578,.6787956, .1568297, .1547235,
.1559492,None,,
Be,313.042 {108},Y2A,ppm, .0006665,.0000367,5.510919, .0006670, .0007030,
.0006295,None,,
Ca,317.933 {106},Y2R,ppm, 323.9870,6.822915,2.105922, 316.5733, 325.3852,
330.0025,None,,

Cd,226.502 {449},Y1,ppm, .0000032,.0004986,15469.49, .0004184, .0001411,
-.000550,None,,
Co,228.616 {447},Y1,ppm, .0019257,.0008247,42.82354, .0009894, .0025441,
.0022435,None,,
Cr,267.716 {126},Y2A,ppm, .0098778,.0037325,37.78628, .0141632, .0081317,
.0073384,None,,
Cu,327.396 {103},Y2A,ppm, .0131628,.0003373,2.562388, .0130042, .0129341,
.0135502,None,,
Fe,261.187 {129},Y2R,ppm, 4.113444,.1685900,4.098512, 3.942625, 4.117993,
4.279713,None,,
K,766.490 { 44},Y2R,ppm, 213.8695,5.039662,2.356420, 208.3492, 215.0351,
218.2242,None,,
Li,670.784 { 50},Y2R,ppm, .1001513,.0052401,5.232185, .0941912, .1022276,
.1040350,None,,
Mg,285.213 {118},Y2R,ppm, 751.6538,9.864607,1.312387, 740.2638, 757.2473,
757.4504,None,,
Mn,257.610 {131},Y2A,ppm, 1.548737,.0123024,.7943539, 1.562932, 1.541176,
1.542101,None,,
Mo,202.030 {467},Y1,ppm, .0038882,.0001695,4.358833, .0039968, .0039750,
.0036929,None,,
Na,589.592 { 57},Y2R,ppm, 4821.832,77.38612,1.604911, 4735.886, 4885.985,
4843.624,None,,
Ni,231.604 {445},Y1,ppm, .0097488,.0003397,3.484373, .0093725, .0100328,
.0098410,None,,
P,177.495 {490},Y1,ppm, .6921998,.0103232,1.491361, .6974028, .6803103,
.6988861,None,,
Pb,220.353 {453},Y1,ppm, .0115608,.0092875,80.33639, .0025622, .0211126,
.0110077,None,,
S,182.034 {485},Y1,ppm, 593.4311,2.513413,.4235392, 591.6668, 592.3176,
596.3089,None,,
Sb,206.833 {463},Y1,ppm, -.001629,.0045923,281.8905, -.004239, .0036734,
-.004322,None,,
Se,196.090 {472},Y1,ppm, -.000533,.0051418,964.7544, -.006142, .0005871,
.0039564,None,,
Si,251.611 {134},Y2R,ppm, 13.19800,.7614150,5.769169, 12.42835, 13.21475,
13.95091,None,,
Sn,189.989 {477},Y1,ppm, -.000662,.0052498,793.0930, -.006202, .0042397,
-.000024,None,,
Sr,421.552 { 80},Y2A,ppm, 5.079985,.0025285,.0497734, 5.077130, 5.080883,
5.081942,None,,
Th,283.730 {119},Y2R,ppm, -.008478,.0278220,328.1844, .0120744, -.040137,
.0026304,None,,
Ti,334.941 {101},Y2A,ppm, .0965614,.0032352,3.350435, .1002061, .0940292,
.0954488,None,,
Tl,190.856 {477},Y1,ppm, -.018641,.0012565,6.740531, -.017875, -.020091,
-.017957,None,,
V,292.402 {115},Y2A,ppm, .0085218,.0005390,6.324555, .0087063, .0079148,
.0089443,None,,
W,207.911 {462},Y1,ppm, .0042916,.0008263,19.25472, .0036338, .0052191,
.0040218,None,,
Zn,213.856 {458},Y1,ppm, .0299728,.0004123,1.375416, .0298505, .0304323,
.0296355,None,,
Zr,339.198 { 99},Y2R,ppm, .0044812,.0019476,43.46218, .0065443, .0042247,
.0026745,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 5375.324,15.44536,.2873382,5392.772,5369.800,5363.400,None,,
Y2A,371.030 { 91}2,Cts/S,
159205.1,699.6420,.4394595,158407.2,159713.6,159494.6,None,,
Y2R,371.030 { 91}3,Cts/S,
14219.19,88.96869,.6256947,14319.85,14151.10,14186.60,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-13150-J-5-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 11:04:01
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0013483,.0013540,100.4204, .0028324, .0001803,
.0010322,None,,
Al,308.215 {109}2,Y2A,ppm, .1186176,.1160505,97.83581, .2512303, .0689881,
.0356344,None,,
As,189.042 {478},Y1,ppm, .0781341,.0066204,8.473137, .0849064, .0716769,
.0778191,None,,
B,249.773 {135},Y2A,ppm, 2.381830,.0310419,1.303280, 2.363055, 2.364775,
2.417661,None,,
Ba,455.403 { 74},Y2A,ppm, .1536945,.0014163,.9214932, .1531535, .1526285,
.1553016,None,,
Be,313.042 {108},Y2A,ppm, .0009095,.0005187,57.03021, .0015036, .0006783,
.0005467,None,,
Ca,317.933 {106},Y2R,ppm, 306.1163,9.261956,3.025633, 306.6991, 315.0731,
296.5767,None,,
Cd,226.502 {449},Y1,ppm, -.000158,.0005024,318.4883, -.000247, .0003832,
-.000610,None,,
Co,228.616 {447},Y1,ppm, .0007933,.0007417,93.49792, .0005267, .0016314,
.0002217,None,,
Cr,267.716 {126},Y2A,ppm, .0042165,.0028084,66.60631, .0073740, .0032779,
.0019975,None,,
Cu,327.396 {103},Y2A,ppm, .0083117,.0004712,5.668749, .0088260, .0082085,
.0079008,None,,
Fe,261.187 {129},Y2R,ppm, .9774615,.2375836,24.30618, .8401109, .8404743,
1.251799,None,,
K,766.490 { 44},Y2R,ppm, 184.1016,4.826583,2.621696, 183.9013, 189.0252,
179.3782,None,,
Li,670.784 { 50},Y2R,ppm, .0909533,.0073448,8.075344, .0849502, .0887665,
.0991431,None,,
Mg,285.213 {118},Y2R,ppm, 675.8050,34.07310,5.041853, 678.0564, 708.6966,
640.6621,None,,
Mn,257.610 {131},Y2A,ppm, 1.817021,.0194423,1.070008, 1.801496, 1.810740,
1.838828,None,,
Mo,202.030 {467},Y1,ppm, .0057328,.0010565,18.42938, .0051193, .0069527,
.0051263,None,,
Na,589.592 { 57},Y2R,ppm, 4362.311,190.8409,4.374766, 4435.616, 4505.631,
4145.686,None,,
Ni,231.604 {445},Y1,ppm, .0068451,.0009922,14.49539, .0066007, .0079367,
.0059979,None,,
P,177.495 {490},Y1,ppm, .3649494,.0103897,2.846888, .3633009, .3760649,
.3554826,None,,
Pb,220.353 {453},Y1,ppm, .0063723,.0030263,47.49067, .0042785, .0098421,
.0049965,None,,
S,182.034 {485},Y1,ppm, 528.8566,2.453127,.4638548, 528.7482, 526.4595,
531.3622,None,,
Sb,206.833 {463},Y1,ppm, -.003339,.0027033,80.96177, -.003208, -.006106,
-.000704,None,,
Se,196.090 {472},Y1,ppm, .0037404,.0058011,155.0946, .0003735, .0104389,

.0004087,None,,
Si,251.611 {134},Y2R,ppm, 10.11062,.0627104,.6202430, 10.07268, 10.18301,
10.07619,None,,
Sn,189.989 {477},Y1,ppm, .0004232,.0030274,715.3621, .0010082, -.002854,
.0031154,None,,
Sr,421.552 { 80},Y2A,ppm, 4.581570,.0406687,.8876580, 4.557140, 4.559052,
4.628517,None,,
Th,283.730 {119},Y2R,ppm, .0315757,.0369689,117.0802, .0726853, .0209810,
.0010609,None,,
Ti,334.941 {101},Y2A,ppm, .0069972,.0023176,33.12221, .0096476, .0053513,
.0059928,None,,
Tl,190.856 {477},Y1,ppm, -.005643,.0070843,125.5310, -.001724, -.013821,
-.001385,None,,
V,292.402 {115},Y2A,ppm, .0030574,.0018800,61.48934, .0052168, .0017845,
.0021710,None,,
W,207.911 {462},Y1,ppm, .0043822,.0019165,43.73321, .0039590, .0064749,
.0027127,None,,
Zn,213.856 {458},Y1,ppm, .0136140,.0003252,2.388419, .0139352, .0136219,
.0132850,None,,
Zr,339.198 { 99},Y2R,ppm, .0065348,.0029025,44.41658, .0035312, .0067488,
.0093244,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 5455.113,16.80032,.3079737,5467.452,5461.908,5435.980,None,,
Y2A,371.030 { 91}2,Cts/S,
164425.2,2033.829,1.236933,166691.8,163824.6,162759.4,None,,
Y2R,371.030 { 91}3,Cts/S,
13968.89,460.1911,3.294401,13905.85,13543.46,14457.34,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-13150-H-7-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 11:07:28
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0002699,.0007208,267.0121, .0009852, .0002808,
-.000456,None,,
Al,308.215 {109}2,Y2A,ppm, .3083271,.0273202,8.860775, .2811888, .3079670,
.3358256,None,,
As,189.042 {478},Y1,ppm, .0596796,.0040242,6.742993, .0615087, .0624644,
.0550657,None,,
B,249.773 {135},Y2A,ppm, 2.603438,.0237926,.9138927, 2.614152, 2.576173,
2.619991,None,,
Ba,455.403 { 74},Y2A,ppm, .1228871,.0007025,.5716362, .1233298, .1220771,
.1232543,None,,
Be,313.042 {108},Y2A,ppm, .0005735,.0000332,5.792971, .0005657, .0005449,
.0006099,None,,
Ca,317.933 {106},Y2R,ppm, 293.4806,3.634164,1.238298, 290.6394, 292.2267,
297.5757,None,,
Cd,226.502 {449},Y1,ppm, -.000313,.0001320,42.11212, -.000371, -.000162,
-.000407,None,,
Co,228.616 {447},Y1,ppm, -.000775,.0018470,238.4426, -.002902, .0004229,

```
.0001550,None,,
Cr,267.716 {126},Y2A,ppm, .0013342,.0004575,34.28782, .0013924, .0008504,
.0017598,None,,
Cu,327.396 {103},Y2A,ppm, .0086108,.0021685,25.18353, .0061456, .0094634,
.0102235,None,,
Fe,261.187 {129},Y2R,ppm, .6495459,.0137753,2.120755, .6442982, .6651738,
.6391658,None,,
K,766.490 { 44},Y2R,ppm, 203.6357,2.477070,1.216422, 201.4659, 203.1065,
206.3346,None,,
Li,670.784 { 50},Y2R,ppm, .0930275,.0013605,1.462488, .0914856, .0940591,
.0935378,None,,
Mg,285.213 {118},Y2R,ppm, 697.8509,21.68802,3.107830, 679.6617, 692.0379,
721.8530,None,,
Mn,257.610 {131},Y2A,ppm, .7100104,.0050591,.7125341, .7123190, .7042088,
.7135033,None,,
Mo,202.030 {467},Y1,ppm, .0053586,.0007999,14.92805, .0046428, .0052110,
.0062221,None,,
Na,589.592 { 57},Y2R,ppm, 4515.783,61.60895,1.364303, 4452.823, 4518.581,
4575.946,None,,
Ni,231.604 {445},Y1,ppm, .0034687,.0008471,24.42128, .0032579, .0044013,
.0027469,None,,
P,177.495 {490},Y1,ppm, .5330678,.0117123,2.197155, .5312553, .5455806,
.5223673,None,,
Pb,220.353 {453},Y1,ppm, .0103541,.0021071,20.35046, .0094516, .0127622,
.0088486,None,,
S,182.034 {485},Y1,ppm, 551.8552,6.234681,1.129768, 548.6726, 559.0389,
547.8541,None,,
Sb,206.833 {463},Y1,ppm, -.006460,.0084284,130.4613, -.009267, -.013128,
.0030130,None,,
Se,196.090 {472},Y1,ppm, .0014302,.0133214,931.4525, -.000800, -.010636,
.0157258,None,,
Si,251.611 {134},Y2R,ppm, 9.599783,.1557811,1.622757, 9.436227, 9.616715,
9.746406,None,,
Sn,189.989 {477},Y1,ppm, .0016506,.0003252,19.70237, .0019410, .0012992,
.0017116,None,,
Sr,421.552 { 80},Y2A,ppm, 4.710216,.0457798,.9719258, 4.748591, 4.659543,
4.722512,None,,
Th,283.730 {119},Y2R,ppm, -.024255,.0311733,128.5215, .0089435, -.028807,
-.052903,None,,
Ti,334.941 {101},Y2A,ppm, .0221803,.0059464,26.80926, .0214964, .0166054,
.0284390,None,,
Tl,190.856 {477},Y1,ppm, -.019911,.0231008,116.0202, -.014890, -.045109,
.0002664,None,,
V,292.402 {115},Y2A,ppm, .0025012,.0009830,39.30284, .0018946, .0036354,
.0019736,None,,
W,207.911 {462},Y1,ppm, .0021204,.0007349,34.66000, .0017117, .0016806,
.0029688,None,,
Zn,213.856 {458},Y1,ppm, .0073566,.0004751,6.457925, .0069883, .0078929,
.0071887,None,,
Zr,339.198 { 99},Y2R,ppm, .0022392,.0013267,59.24853, .0018718, .0037109,
.0011350,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 5544.138,42.59943,.7683689,5590.265,5506.278,5535.872,None,,
Y2A,371.030 { 91}2,Cts/S,
162858.1,1125.158,.6908822,162850.2,163987.2,161736.9,None,,
Y2R,371.030 { 91}3,Cts/S,
14257.79,208.6188,1.463192,14349.53,14404.82,14019.02,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-13150-H-8-A
```

Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 11:10:54
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0006381,.0010488,164.3535, -.000544, .0014574,
.0010009,None,,
Al,308.215 {109}2,Y2A,ppm, -.002608,.0047057,180.4558, -.001066, -.007891,
.0011335,None,,
As,189.042 {478},Y1,ppm, -.017644,.0194501,110.2372, -.040093, -.006984,
-.005854,None,,
B,249.773 {135},Y2A,ppm, .0097533,.0010442,10.70604, .0107459, .0086642,
.0098500,None,,
Ba,455.403 { 74},Y2A,ppm, .0000451,.0000138,30.61290, .0000597, .0000323,
.0000432,None,,
Be,313.042 {108},Y2A,ppm, .0003000,.0000551,18.38539, .0002363, .0003335,
.0003301,None,,
Ca,317.933 {106},Y2R,ppm, .0385694,.0146101,37.88011, .0227501, .0515552,
.0414028,None,,
Cd,226.502 {449},Y1,ppm, -.000024,.0001618,669.8279, .0001215, -.000198,
.0000043,None,,
Co,228.616 {447},Y1,ppm, .0002441,.0006889,282.2659, .0009985, .0000850,
-.000351,None,,
Cr,267.716 {126},Y2A,ppm, .0003188,.0005566,174.5883, .0000935, .0009528,
-.000090,None,,
Cu,327.396 {103},Y2A,ppm, .0005914,.0004209,71.16006, .0002954, .0004057,
.0010732,None,,
Fe,261.187 {129},Y2R,ppm, -.010755,.0017668,16.42861, -.011528, -.012003,
-.008733,None,,
K,766.490 { 44},Y2R,ppm, .2582723,.0924056,35.77838, .1926044, .3639389,
.2182735,None,,
Li,670.784 { 50},Y2R,ppm, .0000514,.0048025,9337.930, -.005372, .0017633,
.0037634,None,,
Mg,285.213 {118},Y2R,ppm, .1020763,.0303718,29.75407, .0686014, .1278704,
.1097570,None,,
Mn,257.610 {131},Y2A,ppm, .0002109,.0000934,44.30472, .0003149, .0001839,
.0001339,None,,
Mo,202.030 {467},Y1,ppm, .0004086,.0005963,145.9329, -.000258, .0008915,
.0005922,None,,
Na,589.592 { 57},Y2R,ppm, 1.603490,.2500598,15.59473, 1.359364, 1.859088,
1.592017,None,,
Ni,231.604 {445},Y1,ppm, .0006952,.0009351,134.5161, .0006649, -.000224,
.0016450,None,,
P,177.495 {490},Y1,ppm, .0005128,.0012625,246.1809, -.000742, .0004984,
.0017825,None,,
Pb,220.353 {453},Y1,ppm, .0005983,.0059727,998.2953, .0005778, .0065812,
-.005364,None,,
S,182.034 {485},Y1,ppm, .2769266,.3806738,137.4638, .0617473, .0525737,
.7164590,None,,
Sb,206.833 {463},Y1,ppm, .0070377,.0051367,72.98784, .0012118, .0089866,
.0109147,None,,
Se,196.090 {472},Y1,ppm, -.003242,.0081799,252.3318, -.008938, .0061314,
-.006919,None,,
Si,251.611 {134},Y2R,ppm, .0030554,.0063623,208.2326, -.003120, .0026961,
.0095897,None,,

Sn,189.989 {477},Y1,ppm, -.000322,.0012932,401.0471, -.000200, -.001673,
.0009050,None,,
Sr,421.552 { 80},Y2A,ppm, .0005923,.0000684,11.54496, .0005832, .0006647,
.0005289,None,,
Th,283.730 {119},Y2R,ppm, .0053185,.0265467,499.1400, .0055046, .0317716,
-.021321,None,,
Ti,334.941 {101},Y2A,ppm, .0002921,.0002665,91.23875, .0004498, .0004422,
-.000016,None,,
Tl,190.856 {477},Y1,ppm, .0004609,.0069054,1498.379, -.001413, -.005315,
.0081097,None,,
V,292.402 {115},Y2A,ppm, -.000257,.0005076,197.5030, -.000842, .0000612,
.0000101,None,,
W,207.911 {462},Y1,ppm, .0009898,.0035663,360.3003, -.002143, .0048706,
.0002422,None,,
Zn,213.856 {458},Y1,ppm, .0007382,.0002662,36.05985, .0008033, .0009659,
.0004455,None,,
Zr,339.198 { 99},Y2R,ppm, .0016479,.0014087,85.48452, .0014129, .0031593,
.0003715,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 6837.489,22.51264,.3292530,6846.386,6854.194,6811.888,None,,
Y2A,371.030 { 91}2,Cts/S,
200737.3,2526.687,1.258703,202769.0,201534.8,197908.1,None,,
Y2R,371.030 { 91}3,Cts/S,
15776.49,253.6872,1.608008,16065.99,15670.51,15592.99,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-13150-H-9-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 11:14:00
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0011053,.0006735,60.93942, .0003286, .0015291,
.0014581,None,,
Al,308.215 {109}2,Y2A,ppm, .0475390,.0060101,12.64252, .0464765, .0421310,
.0540095,None,,
As,189.042 {478},Y1,ppm, .0170657,.0123610,72.43194, .0294953, .0047744,
.0169274,None,,
B,249.773 {135},Y2A,ppm, 2.132919,.0250368,1.173828, 2.104574, 2.152017,
2.142166,None,,
Ba,455.403 { 74},Y2A,ppm, .2444600,.0012254,.5012592, .2430547, .2450198,
.2453054,None,,
Be,313.042 {108},Y2A,ppm, .0004073,.0000210,5.153509, .0003851, .0004101,
.0004268,None,,
Ca,317.933 {106},Y2R,ppm, 309.5906,6.207241,2.004983, 304.5426, 307.7081,
316.5212,None,,
Cd,226.502 {449},Y1,ppm, .0000875,.0001871,213.9210, .0000389, .0002941,
-.000071,None,,
Co,228.616 {447},Y1,ppm, .0015898,.0003098,19.48389, .0014056, .0014164,
.0019474,None,,
Cr,267.716 {126},Y2A,ppm, .0022536,.0003664,16.25893, .0019823, .0021081,
.0026704,None,,

Cu,327.396 {103},Y2A,ppm, .0062040,.0004327,6.973685, .0066589, .0057978,
.0061553,None,,
Fe,261.187 {129},Y2R,ppm, 1.201144,.0354665,2.952732, 1.164775, 1.203022,
1.235634,None,,
K,766.490 { 44},Y2R,ppm, 148.2584,2.777277,1.873268, 145.7745, 147.7438,
151.2570,None,,
Li,670.784 { 50},Y2R,ppm, .0738048,.0014311,1.939075, .0736177, .0724765,
.0753203,None,,
Mg,285.213 {118},Y2R,ppm, 568.7148,8.496956,1.494063, 559.6015, 570.1235,
576.4193,None,,
Mn,257.610 {131},Y2A,ppm, 3.610909,.0195142,.5404232, 3.589118, 3.616839,
3.626771,None,,
Mo,202.030 {467},Y1,ppm, .0035146,.0003500,9.957888, .0034513, .0032006,
.0038919,None,,
Na,589.592 { 57},Y2R,ppm, 3802.525,26.02142,.6843195, 3773.880, 3808.993,
3824.702,None,,
Ni,231.604 {445},Y1,ppm, .0038353,.0004134,10.77802, .0037319, .0042905,
.0034834,None,,
P,177.495 {490},Y1,ppm, .6467387,.0231959,3.586595, .6294461, .6376714,
.6730987,None,,
Pb,220.353 {453},Y1,ppm, .0019016,.0037180,195.5157, .0034444, -.002339,
.0045998,None,,
S,182.034 {485},Y1,ppm, 438.5828,8.018225,1.828212, 431.5684, 436.8563,
447.3236,None,,
Sb,206.833 {463},Y1,ppm, .0052319,.0019685,37.62571, .0047989, .0073808,
.0035159,None,,
Se,196.090 {472},Y1,ppm, -.003647,.0044945,123.2373, -.003405, .0007217,
-.008258,None,,
Si,251.611 {134},Y2R,ppm, 9.204212,.1661778,1.805454, 9.065823, 9.158292,
9.388521,None,,
Sn,189.989 {477},Y1,ppm, .0021941,.0016191,73.79199, .0012781, .0040636,
.0012407,None,,
Sr,421.552 { 80},Y2A,ppm, 4.152520,.0117010,.2817818, 4.139250, 4.161355,
4.156956,None,,
Th,283.730 {119},Y2R,ppm, .0074188,.0087026,117.3054, .0166693, .0061933,
-.000606,None,,
Ti,334.941 {101},Y2A,ppm, .0054808,.0004612,8.414582, .0060102, .0052653,
.0051667,None,,
Tl,190.856 {477},Y1,ppm, -.007395,.0126271,170.7448, -.021860, .0014237,
-.001749,None,,
V,292.402 {115},Y2A,ppm, .0016505,.0003807,23.06645, .0016271, .0012821,
.0020424,None,,
W,207.911 {462},Y1,ppm, -.000066,.0021376,3235.329, -.002516, .0009019,
.0014163,None,,
Zn,213.856 {458},Y1,ppm, .0072384,.0006119,8.452947, .0074357, .0065522,
.0077272,None,,
Zr,339.198 { 99},Y2R,ppm, .0031625,.0012614,39.88567, .0020538, .0045349,
.0028989,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 5694.413,110.9307,1.948063,5804.257,5696.556,5582.426,None,,
Y2A,371.030 { 91}2,Cts/S,
170612.2,844.9733,.4952596,171553.5,169919.1,170364.0,None,,
Y2R,371.030 { 91}3,Cts/S,
14899.97,342.4688,2.298453,15108.26,15086.93,14504.71,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-13150-H-10-A
Username=dept 22
Comment=
Custom ID1=

```
Custom ID2=
Custom ID3=
Run Time=9/10/2020 11:17:24
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0013786,.0001143,8.290831, .0015105, .0013168,
.0013085,None,,
Al,308.215 {109}2,Y2A,ppm, .0085197,.0216249,253.8222, .0334227, -.005517,
-.002346,None,,
As,189.042 {478},Y1,ppm, .0522053,.0042168,8.077327, .0479706, .0522411,
.0564040,None,,
B,249.773 {135},Y2A,ppm, 2.279610,.0397975,1.745802, 2.247570, 2.267100,
2.324159,None,,
Ba,455.403 { 74},Y2A,ppm, .2042502,.0042195,2.065836, .2003366, .2036937,
.2087203,None,,
Be,313.042 {108},Y2A,ppm, .0004950,.0000297,6.003156, .0005058, .0005177,
.0004614,None,,
Ca,317.933 {106},Y2R,ppm, 299.0975,1.124827,.3760735, 299.2001, 297.9249,
300.1676,None,,
Cd,226.502 {449},Y1,ppm, -.000280,.0000835,29.84574, -.000187, -.000348,
-.000304,None,,
Co,228.616 {447},Y1,ppm, .0002757,.0006666,241.7287, .0004826, .0008144,
-.000470,None,,
Cr,267.716 {126},Y2A,ppm, .0019840,.0008760,44.15276, .0014382, .0029945,
.0015195,None,,
Cu,327.396 {103},Y2A,ppm, .0070247,.0007924,11.27956, .0077226, .0061634,
.0071881,None,,
Fe,261.187 {129},Y2R,ppm, .0551967,.0244167,44.23578, .0440274, .0832003,
.0383624,None,,
K,766.490 { 44},Y2R,ppm, 162.1453,.7415995,.4573672, 162.4402, 161.3016,
162.6941,None,,
Li,670.784 { 50},Y2R,ppm, .0761504,.0023784,3.123255, .0745940, .0788882,
.0749690,None,,
Mg,285.213 {118},Y2R,ppm, 608.9294,4.434931,.7283162, 612.9271, 609.7021,
604.1588,None,,
Mn,257.610 {131},Y2A,ppm, 2.704406,.0857256,3.169848, 2.616321, 2.709338,
2.787559,None,,
Mo,202.030 {467},Y1,ppm, .0043928,.0001033,2.351906, .0044719, .0042759,
.0044304,None,,
Na,589.592 { 57},Y2R,ppm, 4007.296,8.736509,.2180150, 4013.004, 3997.239,
4011.646,None,,
Ni,231.604 {445},Y1,ppm, .0047419,.0008002,16.87433, .0049319, .0054299,
.0038638,None,,
P,177.495 {490},Y1,ppm, .8978485,.0219442,2.444084, .9197073, .8980182,
.8758199,None,,
Pb,220.353 {453},Y1,ppm, .0052821,.0018332,34.70526, .0045810, .0039029,
.0073623,None,,
S,182.034 {485},Y1,ppm, 465.5932,5.019245,1.078032, 466.5411, 470.0709,
460.1676,None,,
Sb,206.833 {463},Y1,ppm, -.001619,.0022061,136.2568, -.004046, .0002644,
-.001076,None,,
Se,196.090 {472},Y1,ppm, .0014770,.0111089,752.1171, .0141811, -.003338,
-.006412,None,,
Si,251.611 {134},Y2R,ppm, 7.319642,.0209244,.2858668, 7.311425, 7.304073,
7.343428,None,,
Sn,189.989 {477},Y1,ppm, .0011644,.0008334,71.57655, .0011632, .0019984,
.0003315,None,,
Sr,421.552 { 80},Y2A,ppm, 4.261877,.2067178,4.850394, 4.030282, 4.327626,
```

4.427724,None,,
Th,283.730 {119},Y2R,ppm, .0127301,.0254110,199.6132, -.011027, .0395221,
.0096956,None,,
Ti,334.941 {101},Y2A,ppm, .0044655,.0004993,11.18207, .0049555, .0039574,
.0044834,None,,
Tl,190.856 {477},Y1,ppm, -.001208,.0031919,264.2884, -.004284, -.001427,
.0020881,None,,
V,292.402 {115},Y2A,ppm, .0013835,.0001075,7.769905, .0013442, .0013012,
.0015051,None,,
W,207.911 {462},Y1,ppm, .0030468,.0022690,74.47332, .0056060, .0022532,
.0012811,None,,
Zn,213.856 {458},Y1,ppm, .0095480,.0002123,2.223198, .0093029, .0096666,
.0096745,None,,
Zr,339.198 { 99},Y2R,ppm, .0026535,.0014664,55.26378, .0034295, .0009621,
.0035688,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 5691.581,99.15545,1.742142,5653.666,5616.977,5804.099,None,,
Y2A,371.030 { 91}2,Cts/S,
169253.2,5509.563,3.255219,174979.3,168791.2,163989.3,None,,
Y2R,371.030 { 91}3,Cts/S,
14264.38,228.4986,1.601883,14527.26,14152.42,14113.45,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=CCV 411045
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 11:20:50
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .5158,.0039,.7582, .5150, .5201, .5124,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 24.07,.0810,.3367, 24.15, 23.98, 24.07,Chk Pass,,
As,189.042 {478},Y1,ppm, .5249,.0019,.3527, .5262, .5228, .5257,Chk Pass,,
B,249.773 {135},Y2A,ppm, .4687,.0023,.4963, .4711, .4687, .4664,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .5114,.0008,.1647, .5122, .5105, .5114,Chk Pass,,
Be,313.042 {108},Y2A,ppm,W .45307,.00122,.27006, .45405, .45170, .45347,Chk
Warn,.50000,-8.0000%
Ca,317.933 {106},Y2R,ppm, 26.36,.4486,1.702, 25.85, 26.53, 26.70,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .4829,.0015,.3147, .4813, .4844, .4829,Chk Pass,,
Co,228.616 {447},Y1,ppm, .5337,.0007,.1259, .5333, .5333, .5344,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .5245,.0022,.4145, .5263, .5251, .5221,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .5049,.0021,.4215, .5072, .5044, .5030,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 25.43,.4785,1.882, 24.90, 25.57, 25.82,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 23.14,.4244,1.834, 22.65, 23.32, 23.44,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .4926,.0112,2.278, .4802, .4953, .5022,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 23.87,.4002,1.677, 23.42, 24.00, 24.18,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .49358,.00125,.25293, .49500, .49311, .49263,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .5188,.0004,.0711, .5191, .5190, .5184,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 26.87,.3283,1.222, 26.49, 27.06, 27.07,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .4924,.0014,.2779, .4921, .4940, .4913,Chk Pass,,
P,177.495 {490},Y1,ppm, .5354,.0031,.5863, .5383, .5358, .5320,Chk Pass,,
Pb,220.353 {453},Y1,ppm,W .5478,.0025,.4623, .5450, .5499, .5485,Chk
Warn,.5000,8.000%

S,182.034 {485},Y1,ppm,F 27.90,.2195,.7866, 27.93, 27.67, 28.11,Chk
Fail,25.00,10.00%
Sb,206.833 {463},Y1,ppm, .4979,.0055,1.108, .4917, .4998, .5022,Chk Pass,,
Se,196.090 {472},Y1,ppm, .5050,.0065,1.288, .5068, .5104, .4978,Chk Pass,,
Si,251.611 {134},Y2R,ppm,W 22.872,.41386,1.8095, 22.419, 22.964, 23.231,Chk
Warn,25.000,-8.0000%
Sn,189.989 {477},Y1,ppm, .4851,.0015,.3033, .4865, .4852, .4836,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm,W .5439,.0048,.8884, .5471, .5383, .5461,Chk
Warn,.5000,8.000%
Th,283.730 {119},Y2R,ppm, .4917,.0403,8.201, .4797, .4586, .5366,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .4901,.0017,.3495, .4914, .4882, .4907,Chk Pass,,
Tl,190.856 {477},Y1,ppm,F .4446,.0068,1.536, .4501, .4370, .4467,Chk
Fail,.5000,-10.00%
V,292.402 {115},Y2A,ppm, .4772,.0023,.4870, .4795, .4749, .4771,Chk Pass,,
W,207.911 {462},Y1,ppm, .5283,.0025,.4649, .5267, .5270, .5311,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .5245,.0006,.1146, .5252, .5242, .5242,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .4782,.0090,1.892, .4687, .4791, .4867,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 6810.8,14.756,.21666,6821.6,6794.0,6816.7
Y2A,371.030 { 91}2,Cts/S, 197150.,618.36,.31365,196490.,197720.,197230.
Y2R,371.030 { 91}3,Cts/S, 15799.,94.801,.60003,15907.,15760.,15730.

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=CCB 412912

Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 11:23:51
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0008,.0001,16.18, .0008, .0010, .0007,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .0076,.0024,32.35, .0047, .0091, .0088,Chk Pass,,
As,189.042 {478},Y1,ppm, -.0034,.0008,24.15, -.0032, -.0026, -.0042,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0090,.0002,2.450, .0089, .0093, .0089,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0002,.0000,19.09, .0002, .0002, .0002,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00046,.00002,3.4795, .00045, .00048, .00045,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .0286,.0033,11.54, .0303, .0307, .0248,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0002,.0001,41.12, .0004, .0002, .0002,Chk Pass,,
Co,228.616 {447},Y1,ppm, -.0002,.0005,258.8, -.0007, .0003, -.0001,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0010,.0006,61.98, .0015, .0010, .0003,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0009,.0015,156.3, .0003, -.0001, .0026,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .0160,.0041,25.56, .0143, .0130, .0207,Chk Pass,,
K,766.490 { 44},Y2R,ppm, .1842,.0506,27.48, .2426, .1556, .1544,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, -.0010,.0014,136.1, -.0020, -.0016, .0006,Chk Pass,,
Mg,285.213 {118},Y2R,ppm,W .0421,.0072,17.12, .0500, .0403, .0359,Chk
Warn,.0375,-.0375
Mn,257.610 {131},Y2A,ppm, .00037,.00008,22.265, .00045, .00037, .00029,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0003,.0005,178.2, -.0002, .0008, .0003,Chk Pass,,
Na,589.592 { 57},Y2R,ppm,F .8996,.0472,5.252, .9354, .9172, .8460,Chk
Fail,.5000,-.5000
Ni,231.604 {445},Y1,ppm, -.0007,.0005,68.62, -.0003, -.0005, -.0012,Chk Pass,,
P,177.495 {490},Y1,ppm, .0009,.0036,413.6, .0035, .0023, -.0032,Chk Pass,,

Pb,220.353 {453},Y1,ppm, .0004,.0034,779.4, -.0034, .0026, .0021,Chk Pass,,
S,182.034 {485},Y1,ppm, .0380,.0041,10.79, .0411, .0334, .0397,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .0011,.0102,952.8, .0063, .0076, -.0107,Chk Pass,,
Se,196.090 {472},Y1,ppm, -.0010,.0041,404.3, .0028, -.0052, -.0006,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .01072,.00335,31.290, .00976, .01445, .00795,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0006,.0045,790.6, .0034, .0030, -.0047,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0003,.0000,10.50, .0003, .0003, .0003,Chk Pass,,
Th,283.730 {119},Y2R,ppm, -.0041,.0222,547.7, -.0086, .0201, -.0236,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0003,.0002,58.36, .0004, .0004, .0001,Chk Pass,,
Tl,190.856 {477},Y1,ppm, -.0016,.0217,1318., .0225, -.0080, -.0194,Chk Pass,,
V,292.402 {115},Y2A,ppm, -.0001,.0001,248.6, -.0002, .0000, .0000,Chk Pass,,
W,207.911 {462},Y1,ppm, -.0014,.0017,120.5, -.0004, -.0034, -.0005,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .0023,.0003,14.96, .0022, .0020, .0026,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0021,.0022,103.0, -.0003, .0029, .0039,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 6799.0,13.190,.19400,6797.3,6786.7,6812.9
Y2A,371.030 { 91}2,Cts/S, 199280.,990.54,.49706,198690.,198730.,200420.
Y2R,371.030 { 91}3,Cts/S, 15401.,59.395,.38566,15386.,15466.,15350.

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-13150-H-11-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 11:26:54
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0007315,.0012407,169.6100, -.000682, .0016397,
.0012369,None,,
Al,308.215 {109}2,Y2A,ppm, -.011252,.0061380,54.54814, -.007731, -.018340,
-.007687,None,,
As,189.042 {478},Y1,ppm, .0125830,.0042965,34.14499, .0080257, .0165595,
.0131637,None,,
B,249.773 {135},Y2A,ppm, 1.892927,.0193403,1.021711, 1.910423, 1.872160,
1.896197,None,,
Ba,455.403 { 74},Y2A,ppm, .4364376,.0051919,1.189600, .4412934, .4309648,
.4370547,None,,
Be,313.042 {108},Y2A,ppm, .0004350,.0000665,15.28562, .0005113, .0004048,
.0003890,None,,
Ca,317.933 {106},Y2R,ppm, 269.6595,6.779972,2.514272, 262.5570, 270.3587,
276.0627,None,,
Cd,226.502 {449},Y1,ppm, .0002356,.0004951,210.1100, -.000301, .0003346,
.0006738,None,,
Co,228.616 {447},Y1,ppm, .0002491,.0001297,52.06800, .0003933, .0001421,
.0002118,None,,
Cr,267.716 {126},Y2A,ppm, .0023212,.0009581,41.27478, .0033757, .0015043,
.0020836,None,,
Cu,327.396 {103},Y2A,ppm, .0065880,.0004428,6.721653, .0068808, .0068046,
.0060786,None,,
Fe,261.187 {129},Y2R,ppm, .0585886,.0055705,9.507749, .0527050, .0592794,
.0637815,None,,
K,766.490 { 44},Y2R,ppm, 89.53651,2.194785,2.451274, 87.34880, 89.52242,
91.73830,None,,

Li,670.784 { 50},Y2R,ppm, .0513058,.0054470,10.61665, .0455253, .0520493,
.0563429,None,,
Mg,285.213 {118},Y2R,ppm, 374.8788,9.283198,2.476320, 365.9620, 374.1850,
384.4895,None,,
Mn,257.610 {131},Y2A,ppm, 4.323579,.0464397,1.074104, 4.370297, 4.277423,
4.323018,None,,
Mo,202.030 {467},Y1,ppm, .0018278,.0008416,46.04689, .0009896, .0026729,
.0018208,None,,
Na,589.592 { 57},Y2R,ppm, 2688.226,62.74765,2.334165, 2622.196, 2695.410,
2747.073,None,,
Ni,231.604 {445},Y1,ppm, .0029488,.0010432,35.37866, .0041262, .0021398,
.0025803,None,,
P,177.495 {490},Y1,ppm, 1.813334,.0187289,1.032843, 1.816447, 1.793243,
1.830311,None,,
Pb,220.353 {453},Y1,ppm, .0060685,.0021387,35.24290, .0036006, .0073815,
.0072235,None,,
S,182.034 {485},Y1,ppm, 275.0102,1.971069,.7167257, 276.7672, 272.8788,
275.3847,None,,
Sb,206.833 {463},Y1,ppm, .0017946,.0009103,50.72750, .0013282, .0012119,
.0028436,None,,
Se,196.090 {472},Y1,ppm, -.007981,.0057717,72.31547, -.006730, -.002938,
-.014276,None,,
Si,251.611 {134},Y2R,ppm, 11.22271,.2620947,2.335396, 10.94174, 11.26580,
11.46059,None,,
Sn,189.989 {477},Y1,ppm, .0030692,.0035492,115.6364, -.001001, .0046876,
.0055208,None,,
Sr,421.552 { 80},Y2A,ppm, 3.258504,.0252882,.7760684, 3.287413, 3.247616,
3.240484,None,,
Th,283.730 {119},Y2R,ppm, .0226437,.0170209,75.16809, .0030277, .0335096,
.0313939,None,,
Ti,334.941 {101},Y2A,ppm, .0041848,.0001028,2.455280, .0042765, .0040737,
.0042043,None,,
Tl,190.856 {477},Y1,ppm, -.001337,.0079494,594.4425, -.001919, .0068870,
-.008980,None,,
V,292.402 {115},Y2A,ppm, .0014446,.0005400,37.38211, .0010399, .0020578,
.0012361,None,,
W,207.911 {462},Y1,ppm, .0025728,.0007882,30.63402, .0019054, .0034423,
.0023706,None,,
Zn,213.856 {458},Y1,ppm, .0114871,.0004264,3.711870, .0117423, .0109948,
.0117241,None,,
Zr,339.198 { 99},Y2R,ppm, .0035697,.0010032,28.10434, .0035871, .0045642,
.0025579,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 5844.586,40.18693,.6875925,5818.043,5890.821,5824.893,None,,
Y2A,371.030 { 91}2,Cts/S,
172444.5,1426.032,.8269513,171065.0,173912.9,172355.6,None,,
Y2R,371.030 { 91}3,Cts/S,
14803.84,374.5626,2.530173,15198.79,14759.01,14453.70,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-13080-C-1-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 11:30:18
Sample Type=Unk
Mode=CONC
CorrFactor=1.000

Repeats=3

[Results]

Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0001706,.0005246,307.5596, .0003286, -.000415,
.0005979,None,,
Al,308.215 {109}2,Y2A,ppm, .0020237,.0053092,262.3560, .0003936, .0079568,
-.002279,None,,
As,189.042 {478},Y1,ppm, -.002449,.0014389,58.75261, -.001479, -.004102,
-.001766,None,,
B,249.773 {135},Y2A,ppm, .8597878,.0116029,1.349503, .8481385, .8598813,
.8713436,None,,
Ba,455.403 { 74},Y2A,ppm, 1.098043,.0181328,1.651377, 1.077854, 1.103333,
1.112943,None,,
Be,313.042 {108},Y2A,ppm, .0006901,.0000361,5.230443, .0006809, .0007299,
.0006595,None,,
Ca,317.933 {106},Y2R,ppm, 155.3369,3.854359,2.481290, 153.0717, 159.7873,
153.1516,None,,
Cd,226.502 {449},Y1,ppm, .0000424,.0002416,570.4049, .0002559, .0000912,
-.000220,None,,
Co,228.616 {447},Y1,ppm, .0006396,.0008155,127.5120, .0015805, .0002030,
.0001353,None,,
Cr,267.716 {126},Y2A,ppm, .0040568,.0009439,23.26752, .0032080, .0050733,
.0038890,None,,
Cu,327.396 {103},Y2A,ppm, .0034150,.0009915,29.03229, .0027747, .0045570,
.0029133,None,,
Fe,261.187 {129},Y2R,ppm, 6.343336,.1647286,2.596876, 6.292699, 6.527439,
6.209871,None,,
K,766.490 { 44},Y2R,ppm, 49.43762,1.180057,2.386961, 48.70082, 50.79868,
48.81335,None,,
Li,670.784 { 50},Y2R,ppm, .0429618,.0025456,5.925204, .0456915, .0425412,
.0406528,None,,
Mg,285.213 {118},Y2R,ppm, 250.9615,10.88982,4.339239, 243.6413, 263.4760,
245.7673,None,,
Mn,257.610 {131},Y2A,ppm, .6235388,.0067179,1.077386, .6167721, .6236374,
.6302069,None,,
Mo,202.030 {467},Y1,ppm, .0002576,.0005686,220.7453, .0009140, -.000084,
-.000058,None,,
Na,589.592 { 57},Y2R,ppm, 2197.322,67.90044,3.090145, 2164.005, 2275.445,
2152.515,None,,
Ni,231.604 {445},Y1,ppm, .0009492,.0007440,78.38810, .0002597, .0017378,
.0008500,None,,
P,177.495 {490},Y1,ppm, 2.580186,.0062335,.2415914, 2.584518, 2.582998,
2.573042,None,,
Pb,220.353 {453},Y1,ppm, .0082591,.0030506,36.93621, .0047894, .0105202,
.0094677,None,,
S,182.034 {485},Y1,ppm, 130.8950,.7669547,.5859313, 131.6953, 130.1664,
130.8233,None,,
Sb,206.833 {463},Y1,ppm, .0092333,.0049926,54.07189, .0044659, .0088098,
.0144242,None,,
Se,196.090 {472},Y1,ppm, .0087036,.0064625,74.25088, .0083323, .0024347,
.0153437,None,,
Si,251.611 {134},Y2R,ppm, 13.57822,.3391957,2.498086, 13.38296, 13.96989,
13.38182,None,,
Sn,189.989 {477},Y1,ppm, .0042004,.0006926,16.49017, .0037425, .0049973,
.0038614,None,,
Sr,421.552 { 80},Y2A,ppm, 1.737797,.0167231,.9623190, 1.719974, 1.740273,
1.753144,None,,
Th,283.730 {119},Y2R,ppm, .0189977,.0092420,48.64773, .0293693, .0159881,
.0116357,None,,
Ti,334.941 {101},Y2A,ppm, .0053275,.0003210,6.024708, .0050839, .0052075,
.0056912,None,,
Tl,190.856 {477},Y1,ppm, -.029159,.0036131,12.39090, -.025086, -.031978,

-.030413,None,,
V,292.402 {115},Y2A,ppm, .0016773,.0007396,44.09518, .0008859, .0017950,
.0023510,None,,
W,207.911 {462},Y1,ppm, .0015138,.0028870,190.7131, -.001097, .0010241,
.0046144,None,,
Zn,213.856 {458},Y1,ppm, .0002889,.0004019,139.1207, .0007372, -.000039,
.0001683,None,,
Zr,339.198 { 99},Y2R,ppm, .0041860,.0001551,3.706185, .0041532, .0040500,
.0043550,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 5932.927,28.82215,.4857998,5965.803,5912.007,5920.971,None,,
Y2A,371.030 { 91}2,Cts/S,
180283.6,2019.961,1.120435,182471.9,179888.6,178490.3,None,,
Y2R,371.030 { 91}3,Cts/S,
15560.92,413.0995,2.654724,15702.95,15095.55,15884.27,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-13080-C-3-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 11:33:54
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0045037,.0006815,15.13248, .0038641, .0052205,
.0044264,None,,
Al,308.215 {109}2,Y2A,ppm, 1.063060,.0088644,.8338594, 1.072160, 1.062568,
1.054451,None,,
As,189.042 {478},Y1,ppm, -.007374,.0068099,92.34461, -.005130, -.015023,
-.001970,None,,
B,249.773 {135},Y2A,ppm, .4379473,.0091888,2.098152, .4355732, .4301785,
.4480902,None,,
Ba,455.403 { 74},Y2A,ppm, .1113264,.0009314,.8366438, .1113899, .1103649,
.1122245,None,,
Be,313.042 {108},Y2A,ppm, .0007273,.0000438,6.021213, .0006876, .0007743,
.0007200,None,,
Ca,317.933 {106},Y2R,ppm, 464.7538,11.31961,2.435614, 461.7751, 455.2215,
477.2650,None,,
Cd,226.502 {449},Y1,ppm, -.000522,.0004018,77.00640, -.000412, -.000967,
-.000186,None,,
Co,228.616 {447},Y1,ppm, .0514428,.0014004,2.722303, .0523115, .0521896,
.0498273,None,,
Cr,267.716 {126},Y2A,ppm, .0311750,.0008839,2.835242, .0302471, .0320071,
.0312708,None,,
Cu,327.396 {103},Y2A,ppm, .1210896,.0014451,1.193376, .1218803, .1194217,
.1219668,None,,
Fe,261.187 {129},Y2R,ppm, 39.16978,.4796714,1.224596, 38.72548, 39.10551,
39.67834,None,,
K,766.490 { 44},Y2R,ppm,k 169.1003,1.426006,.8432900,k 167.4831,k 169.6406,k
170.1773,None,,
Li,670.784 { 50},Y2R,ppm, .1642938,.0058267,3.546515, .1577158, .1688069,
.1663585,None,,
Mg,285.213 {118},Y2R,ppm, 327.2238,2.870966,.8773706, 326.4963, 324.7866,

330.3886,None,,
Mn,257.610 {131},Y2A,ppm, 5.057304,.0345968,.6840951, 5.063011, 5.020208,
5.088692,None,,
Mo,202.030 {467},Y1,ppm, .2135551,.0014777,.6919770, .2141833, .2146149,
.2118670,None,,
Na,589.592 { 57},Y2R,ppm,^ *****,-----,-----,^ -----,^ -----,^ -----,None,,
Ni,231.604 {445},Y1,ppm, .3678731,.0007524,.2045307, .3673544, .3687361,
.3675289,None,,
P,177.495 {490},Y1,ppm, .2710526,.0109509,4.040145, .2624357, .2833756,
.2673464,None,,
Pb,220.353 {453},Y1,ppm, .4945605,.0045380,.9175845, .4912374, .4997308,
.4927133,None,,
S,182.034 {485},Y1,ppm, 5906.341,58.45652,.9897248, 5906.181, 5964.878,
5847.965,None,,
Sb,206.833 {463},Y1,ppm, .0149062,.0079249,53.16501, .0075556, .0138613,
.0233018,None,,
Se,196.090 {472},Y1,ppm, .1308304,.0081217,6.207780, .1244554, .1399745,
.1280612,None,,
Si,251.611 {134},Y2R,ppm, 20.31862,.2516303,1.238422, 20.13604, 20.21415,
20.60565,None,,
Sn,189.989 {477},Y1,ppm, .0048255,.0020639,42.77074, .0024423, .0060107,
.0060236,None,,
Sr,421.552 { 80},Y2A,ppm, 2.608677,.0277846,1.065084, 2.631559, 2.577761,
2.616712,None,,
Th,283.730 {119},Y2R,ppm, .0451532,.0315212,69.80932, .0117617, .0493055,
.0743925,None,,
Ti,334.941 {101},Y2A,ppm, .0092827,.0032085,34.56446, .0063090, .0088560,
.0126833,None,,
Tl,190.856 {477},Y1,ppm, -.160032,.0065264,4.078175, -.166835, -.153822,
-.159440,None,,
V,292.402 {115},Y2A,ppm, .0020316,.0002567,12.63833, .0017678, .0020462,
.0022807,None,,
W,207.911 {462},Y1,ppm, .0071450,.0003264,4.568653, .0068463, .0070953,
.0074934,None,,
Zn,213.856 {458},Y1,ppm, .1249508,.0014744,1.179971, .1252358, .1262618,
.1233547,None,,
Zr,339.198 { 99},Y2R,ppm, .0151416,.0035154,23.21690, .0190659, .0140779,
.0122808,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 4498.742,28.86720,.6416726,4485.719,4478.681,4531.827,None,,
Y2A,371.030 { 91}2,Cts/S,
136697.9,458.0335,.3350699,136582.1,137202.7,136308.9,None,,
Y2R,371.030 { 91}3,Cts/S,
13430.99,254.1041,1.891924,13479.94,13657.05,13155.97,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-13080-H-5-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 11:37:26
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High

Ag,328.068 {103},Y2A,ppm, .0003610,.0005166,143.1014, -.000053, .0001962,
.0009400,None,,
Al,308.215 {109}2,Y2A,ppm, .0003767,.0048835,1296.577, -.005239, .0027409,
.0036281,None,,
As,189.042 {478},Y1,ppm, -.004965,.0074656,150.3752, -.005014, -.012405,
.0025256,None,,
B,249.773 {135},Y2A,ppm, .0061273,.0014053,22.93542, .0072545, .0045528,
.0065747,None,,
Ba,455.403 { 74},Y2A,ppm, .0009222,.0000348,3.775581, .0008905, .0009166,
.0009595,None,,
Be,313.042 {108},Y2A,ppm, .0003258,.0000964,29.60165, .0002203, .0003475,
.0004095,None,,
Ca,317.933 {106},Y2R,ppm, .1504488,.0029814,1.981677, .1479081, .1537310,
.1497074,None,,
Cd,226.502 {449},Y1,ppm, .0006843,.0010748,157.0500, -.000083, .0002238,
.0019126,None,,
Co,228.616 {447},Y1,ppm, .0004661,.0011600,248.8590, -.000654, .0003909,
.0016619,None,,
Cr,267.716 {126},Y2A,ppm, .0031198,.0009693,31.06932, .0021316, .0031587,
.0040690,None,,
Cu,327.396 {103},Y2A,ppm, .0010827,.0007228,66.75933, .0019114, .0005821,
.0007547,None,,
Fe,261.187 {129},Y2R,ppm, .0082877,.0047908,57.80641, .0086383, .0033312,
.0128935,None,,
K,766.490 { 44},Y2R,ppm, .2790397,.0190527,6.827933, .2991034, .2768239,
.2611919,None,,
Li,670.784 { 50},Y2R,ppm, -.000630,.0030744,488.0195, .0027385, -.003285,
-.001344,None,,
Mg,285.213 {118},Y2R,ppm, .0466371,.0157056,33.67628, .0317159, .0630244,
.0451710,None,,
Mn,257.610 {131},Y2A,ppm, .0006305,.0001117,17.70776, .0005997, .0007544,
.0005376,None,,
Mo,202.030 {467},Y1,ppm, .0015374,.0007804,50.76330, .0006727, .0017499,
.0021895,None,,
Na,589.592 { 57},Y2R,ppm, 3.455750,.3429398,9.923745, 3.185157, 3.841431,
3.340661,None,,
Ni,231.604 {445},Y1,ppm, .0018002,.0021633,120.1700, .0005485, .0005539,
.0042982,None,,
P,177.495 {490},Y1,ppm, .0080207,.0126650,157.9031, -.002784, .0048880,
.0219580,None,,
Pb,220.353 {453},Y1,ppm, .0042725,.0040652,95.14817, .0000584, .0045887,
.0081704,None,,
S,182.034 {485},Y1,ppm, 28.41984,35.50329,124.9243, 1.089071, 15.62288,
68.54756,None,,
Sb,206.833 {463},Y1,ppm, .0051716,.0078403,151.6008, -.001535, .0032579,
.0137916,None,,
Se,196.090 {472},Y1,ppm, .0001703,.0097942,5751.898, -.004164, -.006709,
.0113838,None,,
Si,251.611 {134},Y2R,ppm, .2722448,.0095751,3.517083, .2670734, .2663675,
.2832937,None,,
Sn,189.989 {477},Y1,ppm, .0032593,.0018138,55.65146, .0044168, .0011689,
.0041922,None,,
Sr,421.552 { 80},Y2A,ppm, .0005829,.0000802,13.75506, .0006647, .0005795,
.0005045,None,,
Th,283.730 {119},Y2R,ppm, .0251267,.0081534,32.44912, .0194456, .0344689,
.0214656,None,,
Ti,334.941 {101},Y2A,ppm, .0002033,.0001232,60.59968, .0000649, .0003009,
.0002442,None,,
Tl,190.856 {477},Y1,ppm, -.005122,.0070196,137.0498, -.008635, -.009692,
.0029606,None,,
V,292.402 {115},Y2A,ppm, -.000752,.0005694,75.75099, -.001389, -.000573,
-.000293,None,,
W,207.911 {462},Y1,ppm, -.000217,.0002407,111.0285, -.000183, -.000473,

.0000052,None,,
Zn,213.856 {458},Y1,ppm, .0013809,.0007375,53.40480, .0009244, .0009867,
.0022317,None,,
Zr,339.198 { 99},Y2R,ppm, .0019635,.0020462,104.2093, -.000183, .0021821,
.0038916,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 6995.787,118.3571,1.691834,6883.661,6984.179,7119.520,None,,
Y2A,371.030 { 91}2,Cts/S,
202362.6,5331.198,2.634477,208440.2,198475.7,200172.0,None,,
Y2R,371.030 { 91}3,Cts/S,
15774.82,273.9678,1.736741,15893.74,15969.23,15461.49,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-13326-F-1-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 11:40:32
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0008783,.0005377,61.22709, .0002632, .0011122,
.0012595,None,,
Al,308.215 {109}2,Y2A,ppm, .0041662,.0058082,139.4131, -.002155, .0092678,
.0053856,None,,
As,189.042 {478},Y1,ppm, .0745901,.0017032,2.283373, .0765541, .0735200,
.0736961,None,,
B,249.773 {135},Y2A,ppm, .2709996,.0011752,.4336577, .2718529, .2714866,
.2696591,None,,
Ba,455.403 { 74},Y2A,ppm, .2521537,.0007310,.2899180, .2516874, .2529962,
.2517774,None,,
Be,313.042 {108},Y2A,ppm, .0003358,.0000954,28.39647, .0004365, .0002470,
.0003238,None,,
Ca,317.933 {106},Y2R,ppm, 51.66909,.3477014,.6729387, 51.47550, 51.46129,
52.07050,None,,
Cd,226.502 {449},Y1,ppm, .0001918,.0001158,60.36789, .0002278, .0000623,
.0002854,None,,
Co,228.616 {447},Y1,ppm, -.000056,.0004863,866.2595, -.000352, -.000322,
.0005052,None,,
Cr,267.716 {126},Y2A,ppm, .0016465,.0008469,51.43783, .0010121, .0026083,
.0013193,None,,
Cu,327.396 {103},Y2A,ppm, .0024189,.0014293,59.08731, .0015915, .0040693,
.0015960,None,,
Fe,261.187 {129},Y2R,ppm, 12.85730,.1089660,.8475024, 12.80502, 12.78434,
12.98256,None,,
K,766.490 { 44},Y2R,ppm, 8.434418,.0476704,.5651892, 8.474118, 8.381546,
8.447588,None,,
Li,670.784 { 50},Y2R,ppm, .0179870,.0024772,13.77196, .0205055, .0155534,
.0179020,None,,
Mg,285.213 {118},Y2R,ppm, 9.452101,.0822485,.8701615, 9.411722, 9.397846,
9.546735,None,,
Mn,257.610 {131},Y2A,ppm, .4243872,.0009493,.2236943, .4249479, .4249225,
.4232911,None,,
Mo,202.030 {467},Y1,ppm, .0029533,.0002022,6.845208, .0028082, .0028676,

.0031842,None,,
Na,589.592 { 57},Y2R,ppm, 55.07360,1.049611,1.905834, 54.01680, 55.08812,
56.11587,None,,
Ni,231.604 {445},Y1,ppm, .0021107,.0000712,3.375769, .0021915, .0020568,
.0020838,None,,
P,177.495 {490},Y1,ppm, .2656594,.0042055,1.583043, .2636459, .2704931,
.2628392,None,,
Pb,220.353 {453},Y1,ppm, .0101052,.0023635,23.38874, .0073761, .0114755,
.0114640,None,,
S,182.034 {485},Y1,ppm, 28.98259,.1269049,.4378660, 29.11440, 28.97213,
28.86124,None,,
Sb,206.833 {463},Y1,ppm, .0077381,.0017025,22.00166, .0081633, .0091878,
.0058633,None,,
Se,196.090 {472},Y1,ppm, .0028015,.0071808,256.3246, .0092838, .0040379,
-.004917,None,,
Si,251.611 {134},Y2R,ppm, 12.67844,.0795057,.6270938, 12.64009, 12.62538,
12.76985,None,,
Sn,189.989 {477},Y1,ppm, .0015925,.0017364,109.0375, -.000257, .0031883,
.0018459,None,,
Sr,421.552 { 80},Y2A,ppm, .2897937,.0005837,.2014276, .2894894, .2904667,
.2894251,None,,
Th,283.730 {119},Y2R,ppm, .0185123,.0070839,38.26573, .0241196, .0105512,
.0208662,None,,
Ti,334.941 {101},Y2A,ppm, .0037593,.0002689,7.153334, .0040626, .0036650,
.0035501,None,,
Tl,190.856 {477},Y1,ppm, -.051992,.0080943,15.56836, -.047263, -.047375,
-.061338,None,,
V,292.402 {115},Y2A,ppm, .0000527,.0003146,597.1904, -.000295, .0001342,
.0003186,None,,
W,207.911 {462},Y1,ppm, .0014246,.0006478,45.47127, .0021003, .0013645,
.0008090,None,,
Zn,213.856 {458},Y1,ppm, .0034127,.0001673,4.902527, .0035719, .0034280,
.0032383,None,,
Zr,339.198 { 99},Y2R,ppm, .0055055,.0020557,37.33873, .0078621, .0045737,
.0040808,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 6999.083,19.01751,.2717143,6980.996,6997.342,7018.912,None,,
Y2A,371.030 { 91}2,Cts/S,
205773.7,705.1484,.3426816,205024.5,206424.5,205872.0,None,,
Y2R,371.030 { 91}3,Cts/S,
16732.18,164.8825,.9854211,16812.90,16841.15,16542.49,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-13326-F-3-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 11:43:33
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0009196,.0002057,22.36699, .0006850, .0010049,
.0010689,None,,
Al,308.215 {109}2,Y2A,ppm, .1509070,.0061723,4.090142, .1580161, .1469124,

.1477927,None,,
As,189.042 {478},Y1,ppm, -.005597,.0066140,118.1783, -.007068, .0016293,
-.011351,None,,
B,249.773 {135},Y2A,ppm, .7252774,.0030930,.4264524, .7233241, .7236646,
.7288434,None,,
Ba,455.403 { 74},Y2A,ppm, .0316611,.0000552,.1744403, .0316064, .0317168,
.0316603,None,,
Be,313.042 {108},Y2A,ppm, .0003334,.0000251,7.519416, .0003256, .0003614,
.0003131,None,,
Ca,317.933 {106},Y2R,ppm, 19.66946,.1566652,.7964896, 19.49119, 19.73197,
19.78521,None,,
Cd,226.502 {449},Y1,ppm, .0001422,.0002548,179.1016, .0004281, .0000597,
-.000061,None,,
Co,228.616 {447},Y1,ppm, -.000442,.0004220,95.44305, .0000261, -.000793,
-.000560,None,,
Cr,267.716 {126},Y2A,ppm, .0022185,.0005047,22.74804, .0016761, .0023053,
.0026742,None,,
Cu,327.396 {103},Y2A,ppm, .0004035,.0012072,299.2194, .0010308, -.000988,
.0011679,None,,
Fe,261.187 {129},Y2R,ppm, .0286086,.0128501,44.91697, .0164969, .0420877,
.0272411,None,,
K,766.490 { 44},Y2R,ppm, 12.24152,.0349641,.2856190, 12.20271, 12.25129,
12.27057,None,,
Li,670.784 { 50},Y2R,ppm, .0300494,.0031394,10.44743, .0264244, .0318575,
.0318664,None,,
Mg,285.213 {118},Y2R,ppm, 2.317189,.0120737,.5210507, 2.306297, 2.315099,
2.330172,None,,
Mn,257.610 {131},Y2A,ppm, .0025935,.0000044,.1703509, .0025899, .0025984,
.0025920,None,,
Mo,202.030 {467},Y1,ppm, .0333787,.0003737,1.119427, .0338056, .0332197,
.0331110,None,,
Na,589.592 { 57},Y2R,ppm, 82.25716,.3388882,.4119862, 81.86829, 82.41383,
82.48937,None,,
Ni,231.604 {445},Y1,ppm, .0017772,.0004639,26.10607, .0018013, .0022286,
.0013016,None,,
P,177.495 {490},Y1,ppm, .1304453,.0051318,3.934036, .1273046, .1363673,
.1276639,None,,
Pb,220.353 {453},Y1,ppm, -.001249,.0027960,223.8046, .0001661, -.004470,
.0005560,None,,
S,182.034 {485},Y1,ppm, 21.80013,.2333290,1.070310, 21.80322, 21.56527,
22.03189,None,,
Sb,206.833 {463},Y1,ppm, .0045599,.0031346,68.74282, .0081740, .0029237,
.0025819,None,,
Se,196.090 {472},Y1,ppm, .0155732,.0021137,13.57282, .0177780, .0135642,
.0153774,None,,
Si,251.611 {134},Y2R,ppm, 1.184094,.0213418,1.802373, 1.165807, 1.178931,
1.207543,None,,
Sn,189.989 {477},Y1,ppm, .0004390,.0023529,535.9732, .0025648, -.002089,
.0008414,None,,
Sr,421.552 { 80},Y2A,ppm, .0708146,.0002065,.2916128, .0705952, .0710051,
.0708436,None,,
Th,283.730 {119},Y2R,ppm, .0450154,.0141551,31.44491, .0562538, .0496744,
.0291181,None,,
Ti,334.941 {101},Y2A,ppm, .0021400,.0001993,9.311685, .0019136, .0022885,
.0022180,None,,
Tl,190.856 {477},Y1,ppm, -.003739,.0050524,135.1429, .0007573, -.009206,
-.002767,None,,
V,292.402 {115},Y2A,ppm, -.000402,.0005158,128.4413, .0000027, -.000225,
-.000982,None,,
W,207.911 {462},Y1,ppm, .0058226,.0011406,19.58903, .0055073, .0048727,
.0070876,None,,
Zn,213.856 {458},Y1,ppm, .0013296,.0001162,8.742483, .0014371, .0013455,
.0012062,None,,

Zr,339.198 { 99},Y2R,ppm, .0032409,.0008195,25.28725, .0027210, .0028160,
.0041856,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 6966.489,74.38487,1.067753,7008.201,6880.609,7010.658,None,,
Y2A,371.030 { 91}2,Cts/S,
205727.8,1392.073,.6766575,204274.7,205859.1,207049.5,None,,
Y2R,371.030 { 91}3,Cts/S,
16344.09,65.15699,.3986577,16418.73,16315.02,16298.54,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=CCV 411045
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 11:46:36
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .5033,.0089,1.764, .5117, .4940, .5041,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 23.50,.1148,.4887, 23.51, 23.38, 23.61,Chk Pass,,
As,189.042 {478},Y1,ppm, .5231,.0041,.7807, .5256, .5184, .5254,Chk Pass,,
B,249.773 {135},Y2A,ppm,W .4527,.0023,.5153, .4551, .4505, .4524,Chk
Warn,.5000,-8.000%
Ba,455.403 { 74},Y2A,ppm, .4994,.0060,1.203, .5049, .5004, .4930,Chk Pass,,
Be,313.042 {108},Y2A,ppm,F .43953,.00175,.39905, .43957, .43775, .44126,Chk
Fail,.50000,-10.000%
Ca,317.933 {106},Y2R,ppm, 25.65,.1660,.6470, 25.52, 25.60, 25.84,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .4747,.0041,.8644, .4708, .4745, .4790,Chk Pass,,
Co,228.616 {447},Y1,ppm, .5260,.0064,1.219, .5196, .5260, .5324,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .5133,.0010,.2024, .5128, .5126, .5145,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .5029,.0017,.3406, .5035, .5010, .5043,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 24.71,.1654,.6694, 24.56, 24.69, 24.89,Chk Pass,,
K,766.490 { 44},Y2R,ppm,F 22.44,.1188,.5294, 22.39, 22.35, 22.57,Chk
Fail,25.00,-10.00%
Li,670.784 { 50},Y2R,ppm, .4840,.0034,.6994, .4801, .4858, .4860,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 23.29,.1690,.7253, 23.17, 23.23, 23.48,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .47929,.00284,.59216, .48041, .47606, .48139,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .5118,.0039,.7631, .5096, .5095, .5163,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 25.62,.1450,.5660, 25.54, 25.54, 25.79,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .4849,.0050,1.024, .4810, .4833, .4905,Chk Pass,,
P,177.495 {490},Y1,ppm, .5249,.0023,.4306, .5260, .5223, .5264,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .5365,.0039,.7314, .5331, .5355, .5408,Chk Pass,,
S,182.034 {485},Y1,ppm,F 27.75,.2903,1.046, 27.46, 27.75, 28.04,Chk
Fail,25.00,10.00%
Sb,206.833 {463},Y1,ppm, .4963,.0151,3.045, .4853, .4900, .5135,Chk Pass,,
Se,196.090 {472},Y1,ppm, .5099,.0059,1.162, .5047, .5087, .5163,Chk Pass,,
Si,251.611 {134},Y2R,ppm,F 22.173,.18104,.81646, 22.027, 22.117, 22.376,Chk
Fail,25.000,-10.000%
Sn,189.989 {477},Y1,ppm, .4792,.0046,.9628, .4755, .4777, .4844,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm,W .5430,.0016,.2987, .5417, .5425, .5448,Chk
Warn,.5000,8.000%
Th,283.730 {119},Y2R,ppm, .4758,.0142,2.981, .4819, .4596, .4859,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .4799,.0020,.4216, .4801, .4778, .4818,Chk Pass,,
Tl,190.856 {477},Y1,ppm,F .4397,.0053,1.207, .4447, .4341, .4402,Chk

```
Fail,.5000,-10.00%
V,292.402 {115},Y2A,ppm, .4688,.0026,.5599, .4703, .4658, .4703,Chk Pass,,
W,207.911 {462},Y1,ppm, .5216,.0057,1.090, .5152, .5235, .5261,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .5206,.0059,1.139, .5153, .5197, .5270,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .4647,.0042,.8996, .4643, .4607, .4690,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 6895.4,49.769,.72177,6926.5,6921.7,6838.0
Y2A,371.030 { 91}2,Cts/S, 203110.,1123.4,.55311,204370.,202210.,202750.
Y2R,371.030 { 91}3,Cts/S, 16724.,128.54,.76861,16862.,16702.,16608.

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=CCB 412912

Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 12:34:55
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0007,.0003,44.95, .0011, .0004, .0007,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, -.0035,.0036,102.6, -.0013, -.0077, -.0016,Chk Pass,,
As,189.042 {478},Y1,ppm, -.0063,.0058,93.48, -.0067, -.0118, -.0002,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0031,.0005,17.49, .0037, .0028, .0027,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0002,.0000,28.38, .0002, .0001, .0002,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00044,.00005,11.705, .00049, .00042, .00040,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .0001,.0030,5501., -.0014, -.0020, .0035,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0002,.0001,29.02, .0002, .0002, .0003,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0002,.0010,407.1, -.0001, -.0006, .0014,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0017,.0006,34.54, .0010, .0021, .0018,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0003,.0005,184.7, .0008, -.0000, .0000,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .0040,.0056,139.1, .0081, .0063, -.0023,Chk Pass,,
K,766.490 { 44},Y2R,ppm, .1257,.0301,23.98, .1101, .1066, .1605,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, -.0050,.0004,8.758, -.0055, -.0047, -.0048,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .0077,.0021,27.37, .0081, .0054, .0096,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .00012,.00011,90.862, .00020, .00016, -.00000,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0000,.0006,1601., -.0005, .0006, .0000,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .1608,.0249,15.51, .1332, .1818, .1673,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0000,.0002,935.5, .0002, .0001, -.0002,Chk Pass,,
P,177.495 {490},Y1,ppm, .0018,.0059,336.2, -.0027, -.0005, .0085,Chk Pass,,
Pb,220.353 {453},Y1,ppm, -.0009,.0030,321.9, .0015, -.0043, -.0000,Chk Pass,,
S,182.034 {485},Y1,ppm, .0417,.0165,39.57, .0461, .0555, .0234,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .0059,.0048,80.89, .0009, .0105, .0063,Chk Pass,,
Se,196.090 {472},Y1,ppm, -.0055,.0049,90.03, .0002, -.0081, -.0085,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .00314,.00721,230.08, .00429, -.00458, .00970,Chk Pass,,
Sn,189.989 {477},Y1,ppm, -.0001,.0012,1792., .0010, .0002, -.0014,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0001,.0000,34.60, .0002, .0001, .0001,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0198,.0059,29.86, .0151, .0179, .0265,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0002,.0002,78.42, .0001, .0002, .0004,Chk Pass,,
Tl,190.856 {477},Y1,ppm, -.0058,.0103,178.8, -.0067, .0050, -.0156,Chk Pass,,
V,292.402 {115},Y2A,ppm, -.0004,.0003,75.45, -.0004, -.0006, -.0001,Chk Pass,,
W,207.911 {462},Y1,ppm, -.0020,.0009,48.00, -.0029, -.0010, -.0019,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .0017,.0002,12.97, .0019, .0016, .0014,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0003,.0017,582.3, .0018, .0005, -.0015,Chk Pass,,
```

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 7039.2,22.393,.31811,7065.1,7027.3,7025.4
Y2A,371.030 { 91}2,Cts/S, 209600.,703.97,.33587,210250.,209680.,208850.
Y2R,371.030 { 91}3,Cts/S, 16543.,110.07,.66534,16555.,16428.,16647.

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-10696-N-1-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 12:38:01
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0011970,.0003196,26.70257, .0013003, .0008385,
.0014522,None,,
Al,308.215 {109}2,Y2A,ppm, -.005497,.0050338,91.57680, -.003988, -.001390,
-.011113,None,,
As,189.042 {478},Y1,ppm, .0281914,.0007089,2.514614, .0276091, .0289808,
.0279843,None,,
B,249.773 {135},Y2A,ppm, .0078921,.0006018,7.625833, .0076780, .0085717,
.0074266,None,,
Ba,455.403 { 74},Y2A,ppm, .3441064,.0010003,.2906987, .3432435, .3452029,
.3438729,None,,
Be,313.042 {108},Y2A,ppm, .0003968,.0000023,.5817019, .0003995, .0003955,
.0003954,None,,
Ca,317.933 {106},Y2R,ppm, 32.54616,.2089286,.6419457, 32.47030, 32.38575,
32.78242,None,,
Cd,226.502 {449},Y1,ppm, -.000411,.0001214,29.51809, -.000512, -.000445,
-.000277,None,,
Co,228.616 {447},Y1,ppm, .0106188,.0005811,5.472233, .0105348, .0112373,
.0100843,None,,
Cr,267.716 {126},Y2A,ppm, .0035552,.0000800,2.250992, .0034802, .0035460,
.0036395,None,,
Cu,327.396 {103},Y2A,ppm, .0009935,.0010869,109.4032, .0008126, .0021595,
.0000084,None,,
Fe,261.187 {129},Y2R,ppm, 51.91763,.2534265,.4881318, 51.92658, 51.65984,
52.16645,None,,
K,766.490 { 44},Y2R,ppm, 1.587532,.1906027,12.00623, 1.444706, 1.513928,
1.803962,None,,
Li,670.784 { 50},Y2R,ppm, .0014998,.0058733,391.6085, .0082066, -.002725,
-.000982,None,,
Mg,285.213 {118},Y2R,ppm, 13.79477,.0748075,.5422890, 13.77032, 13.73524,
13.87874,None,,
Mn,257.610 {131},Y2A,ppm, .7882163,.0043062,.5463178, .7851111, .7931321,
.7864055,None,,
Mo,202.030 {467},Y1,ppm, .0009586,.0004932,51.45037, .0010696, .0013869,
.0004194,None,,
Na,589.592 { 57},Y2R,ppm, 5.371836,.0389841,.7257135, 5.362181, 5.338587,
5.414741,None,,
Ni,231.604 {445},Y1,ppm, .0013815,.0001276,9.235342, .0013530, .0015210,
.0012706,None,,
P,177.495 {490},Y1,ppm, .0158754,.0019949,12.56626, .0152308, .0142824,
.0181129,None,,

Pb,220.353 {453},Y1,ppm, .0411087,.0026573,6.463978, .0382139, .0434371,
.0416751,None,,
S,182.034 {485},Y1,ppm, .5345335,.0030120,.5634760, .5349740, .5373009,
.5313255,None,,
Sb,206.833 {463},Y1,ppm, .0075259,.0055741,74.06602, .0017599, .0079319,
.0128859,None,,
Se,196.090 {472},Y1,ppm, .0109738,.0008648,7.880919, .0113194, .0116123,
.0099896,None,,
Si,251.611 {134},Y2R,ppm, 4.749047,.0496285,1.045020, 4.735485, 4.707610,
4.804047,None,,
Sn,189.989 {477},Y1,ppm, .0023724,.0047094,198.5050, -.000976, .0077573,
.0003356,None,,
Sr,421.552 { 80},Y2A,ppm, .3263995,.0012254,.3754303, .3251383, .3275857,
.3264745,None,,
Th,283.730 {119},Y2R,ppm, .0412569,.0238051,57.69965, .0169224, .0423536,
.0644946,None,,
Ti,334.941 {101},Y2A,ppm, .0029540,.0002108,7.136684, .0027171, .0030240,
.0031209,None,,
Tl,190.856 {477},Y1,ppm, -.189852,.0241027,12.69548, -.192086, -.164711,
-.212761,None,,
V,292.402 {115},Y2A,ppm, .0008992,.0000963,10.70740, .0010100, .0008522,
.0008355,None,,
W,207.911 {462},Y1,ppm, .0012833,.0006212,48.40669, .0019768, .0007779,
.0010951,None,,
Zn,213.856 {458},Y1,ppm, -.004753,.0001602,3.370663, -.004903, -.004770,
-.004584,None,,
Zr,339.198 { 99},Y2R,ppm, .0037142,.0011750,31.63569, .0033005, .0050402,
.0028020,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 7108.014,14.21906,.2000427,7097.854,7124.264,7101.924,None,,
Y2A,371.030 { 91}2,Cts/S,
210795.8,1369.729,.6497895,211840.5,209245.0,211301.8,None,,
Y2R,371.030 { 91}3,Cts/S,
17020.79,75.07616,.4410852,16984.58,17107.10,16970.67,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-10696-N-3-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 12:41:04
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0010201,.0005571,54.61308, .0004580, .0010302,
.0015721,None,,
Al,308.215 {109}2,Y2A,ppm, .1590361,.0153314,9.640168, .1427437, .1611849,
.1731797,None,,
As,189.042 {478},Y1,ppm, .0178004,.0040684,22.85578, .0142988, .0168390,
.0222635,None,,
B,249.773 {135},Y2A,ppm, .0175987,.0008147,4.629442, .0166926, .0178325,
.0182709,None,,
Ba,455.403 { 74},Y2A,ppm, .2588609,.0015813,.6108487, .2588274, .2572967,
.2604587,None,,

Be,313.042 {108},Y2A,ppm, .0003767,.0000531,14.10671, .0003241, .0003756,
.0004304,None,,
Ca,317.933 {106},Y2R,ppm, 54.57529,.6086217,1.115196, 54.11438, 54.34629,
55.26519,None,,
Cd,226.502 {449},Y1,ppm, .0008181,.0018441,225.4166, -.000336, -.000155,
.0029449,None,,
Co,228.616 {447},Y1,ppm, .0084243,.0015377,18.25351, .0078990, .0072180,
.0101558,None,,
Cr,267.716 {126},Y2A,ppm, .0044945,.0006492,14.44442, .0039139, .0043740,
.0051955,None,,
Cu,327.396 {103},Y2A,ppm, .0031380,.0006953,22.15699, .0039145, .0029264,
.0025731,None,,
Fe,261.187 {129},Y2R,ppm, 25.89489,.1935842,.7475767, 25.80222, 25.76506,
26.11739,None,,
K,766.490 { 44},Y2R,ppm, .3349393,.0194633,5.810995, .3270708, .3571050,
.3206422,None,,
Li,670.784 { 50},Y2R,ppm, -.000652,.0049919,765.3601, -.006043, .0002760,
.0038104,None,,
Mg,285.213 {118},Y2R,ppm, 26.11949,.2988920,1.144326, 25.93106, 25.96328,
26.46412,None,,
Mn,257.610 {131},Y2A,ppm, 3.130071,.0206796,.6606745, 3.131169, 3.108864,
3.150180,None,,
Mo,202.030 {467},Y1,ppm, .0019331,.0019453,100.6303, .0000311, .0018492,
.0039190,None,,
Na,589.592 { 57},Y2R,ppm, 55.63568,.5267903,.9468569, 55.27040, 55.39709,
56.23955,None,,
Ni,231.604 {445},Y1,ppm, .0039049,.0015070,38.59187, .0021884, .0045157,
.0050105,None,,
P,177.495 {490},Y1,ppm, .1887734,.0077563,4.108800, .1917066, .1946354,
.1799783,None,,
Pb,220.353 {453},Y1,ppm, .0256756,.0038094,14.83655, .0212843, .0280916,
.0276510,None,,
S,182.034 {485},Y1,ppm, 1.533320,.0952239,6.210306, 1.478909, 1.477778,
1.643273,None,,
Sb,206.833 {463},Y1,ppm, .0035325,.0051226,145.0138, .0071645, -.002327,
.0057596,None,,
Se,196.090 {472},Y1,ppm, .0036049,.0028826,79.96346, .0018265, .0020574,
.0069308,None,,
Si,251.611 {134},Y2R,ppm, 8.077660,.0822105,1.017752, 8.010680, 8.052895,
8.169407,None,,
Sn,189.989 {477},Y1,ppm, .0028884,.0006741,23.33663, .0021303, .0034203,
.0031145,None,,
Sr,421.552 { 80},Y2A,ppm, .4725705,.0044429,.9401520, .4703678, .4696593,
.4776844,None,,
Th,283.730 {119},Y2R,ppm, .0022158,.0203124,916.7204, -.014746, -.003333,
.0247259,None,,
Ti,334.941 {101},Y2A,ppm, .0101894,.0020439,20.05907, .0119729, .0079590,
.0106364,None,,
Tl,190.856 {477},Y1,ppm, -.109512,.0095606,8.730139, -.107284, -.119990,
-.101263,None,,
V,292.402 {115},Y2A,ppm, .0015758,.0002008,12.73921, .0014436, .0014770,
.0018068,None,,
W,207.911 {462},Y1,ppm, .0043040,.0034873,81.02433, .0022200, .0023621,
.0083300,None,,
Zn,213.856 {458},Y1,ppm, .0005938,.0019024,320.3576, -.000487, -.000522,
.0027905,None,,
Zr,339.198 { 99},Y2R,ppm, .0050951,.0006401,12.56233, .0056144, .0052910,
.0043800,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 7062.504,152.8133,2.163727,6969.026,6979.635,7238.851,None,,
Y2A,371.030 { 91}2,Cts/S,

207872.9,1899.404,.9137334,207486.9,209935.6,206196.1,None,,
Y2R,371.030 { 91}3,Cts/S,
16798.75,252.4969,1.503070,17029.92,16837.04,16529.30,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=410-10696-N-6-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 12:44:16
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0013571,.0005933,43.72001, .0007326, .0014254,
.0019133,None,,
Al,308.215 {109}2,Y2A,ppm, .0050457,.0059309,117.5448, -.000287, .0114331,
.0039915,None,,
As,189.042 {478},Y1,ppm, -.000160,.0050684,3166.626, -.005813, .0013533,
.0039793,None,,
B,249.773 {135},Y2A,ppm, .0420679,.0008161,1.939888, .0415997, .0430103,
.0415938,None,,
Ba,455.403 { 74},Y2A,ppm, .3557895,.0015754,.4427966, .3544878, .3553399,
.3575409,None,,
Be,313.042 {108},Y2A,ppm, .0003645,.0000475,13.04324, .0004139, .0003190,
.0003607,None,,
Ca,317.933 {106},Y2R,ppm, 63.84971,.4535018,.7102645, 63.34913, 63.96686,
64.23315,None,,
Cd,226.502 {449},Y1,ppm, .0000574,.0005482,955.0398, -.000540, .0005369,
.0001756,None,,
Co,228.616 {447},Y1,ppm, .0073901,.0007292,9.867561, .0065488, .0077796,
.0078419,None,,
Cr,267.716 {126},Y2A,ppm, .0058817,.0009918,16.86286, .0047404, .0065344,
.0063704,None,,
Cu,327.396 {103},Y2A,ppm, .0013169,.0012935,98.22912, .0018744, .0022381,
-.000162,None,,
Fe,261.187 {129},Y2R,ppm, 1.529969,.0243226,1.589746, 1.553890, 1.505263,
1.530753,None,,
K,766.490 { 44},Y2R,ppm, .6261708,.0568745,9.082897, .6306784, .5671767,
.6806573,None,,
Li,670.784 { 50},Y2R,ppm, .0014790,.0070260,475.0488, -.004362, .0092757,
-.000477,None,,
Mg,285.213 {118},Y2R,ppm, 31.21606,.1893655,.6066286, 31.01946, 31.23147,
31.39725,None,,
Mn,257.610 {131},Y2A,ppm, 4.893918,.0179808,.3674111, 4.876212, 4.893381,
4.912161,None,,
Mo,202.030 {467},Y1,ppm, .0098508,.0001361,1.381482, .0097583, .0100071,
.0097870,None,,
Na,589.592 { 57},Y2R,ppm, 26.03542,.0785952,.3018779, 25.94541, 26.07037,
26.09048,None,,
Ni,231.604 {445},Y1,ppm, .0076920,.0003628,4.717014, .0081106, .0074982,
.0074673,None,,
P,177.495 {490},Y1,ppm, .0030332,.0074639,246.0776, -.002539, .0115134,
.0001253,None,,
Pb,220.353 {453},Y1,ppm, .0006090,.0015879,260.7563, .0020803, -.001074,
.0008209,None,,
S,182.034 {485},Y1,ppm, 1.781976,.3895334,21.85963, 1.445277, 2.208611,

1.692040,None,,
Sb,206.833 {463},Y1,ppm, .0044360,.0032990,74.36997, .0019245, .0081722,
.0032112,None,,
Se,196.090 {472},Y1,ppm, -.003143,.0028381,90.29779, .0000064, -.003933,
-.005502,None,,
Si,251.611 {134},Y2R,ppm, 7.416627,.0480360,.6476800, 7.388508, 7.389281,
7.472093,None,,
Sn,189.989 {477},Y1,ppm, .0021129,.0001752,8.291848, .0021930, .0022338,
.0019120,None,,
Sr,421.552 { 80},Y2A,ppm, .5524139,.0027474,.4973421, .5496898, .5551840,
.5523679,None,,
Th,283.730 {119},Y2R,ppm, .0352701,.0374355,106.1397, .0004261, .0305371,
.0748470,None,,
Ti,334.941 {101},Y2A,ppm, .0042737,.0000794,1.857751, .0041822, .0043254,
.0043133,None,,
Tl,190.856 {477},Y1,ppm, -.007913,.0078078,98.67374, .0007604, -.014381,
-.010117,None,,
V,292.402 {115},Y2A,ppm, .0011465,.0003343,29.15854, .0012609, .0014084,
.0007700,None,,
W,207.911 {462},Y1,ppm, .0033453,.0020185,60.33823, .0019892, .0023817,
.0056651,None,,
Zn,213.856 {458},Y1,ppm, .0177081,.0002645,1.493865, .0175866, .0175261,
.0180115,None,,
Zr,339.198 { 99},Y2R,ppm, .0025408,.0011520,45.34004, .0024292, .0014487,
.0037446,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 7009.224,22.68743,.3236797,6997.059,7035.399,6995.213,None,,
Y2A,371.030 { 91}2,Cts/S,
207368.2,1333.031,.6428330,208845.2,207005.0,206254.4,None,,
Y2R,371.030 { 91}3,Cts/S,
16828.75,190.3260,1.130957,17046.66,16744.51,16695.08,None,,

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=CCV 411045
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 12:47:25
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .5163,.0021,.4136, .5158, .5145, .5186,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 24.00,.0285,.1188, 24.00, 24.02, 23.97,Chk Pass,,
As,189.042 {478},Y1,ppm, .5241,.0094,1.803, .5295, .5131, .5295,Chk Pass,,
B,249.773 {135},Y2A,ppm,W .4537,.0014,.3015, .4526, .4533, .4552,Chk
Warn,.5000,-8.000%
Ba,455.403 { 74},Y2A,ppm, .5160,.0004,.0690, .5163, .5161, .5156,Chk Pass,,
Be,313.042 {108},Y2A,ppm,F .44907,.00044,.09894, .44958, .44882, .44880,Chk
Fail,.50000,-10.000%
Ca,317.933 {106},Y2R,ppm, 26.36,.2465,.9351, 26.13, 26.33, 26.62,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .4723,.0059,1.248, .4755, .4655, .4759,Chk Pass,,
Co,228.616 {447},Y1,ppm, .5324,.0064,1.199, .5363, .5251, .5359,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .5274,.0009,.1799, .5284, .5273, .5265,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .5113,.0020,.3826, .5120, .5128, .5090,Chk Pass,,

Fe,261.187 {129},Y2R,ppm, 25.61,.2382,.9303, 25.41, 25.53, 25.87,Chk Pass,,
K,766.490 { 44},Y2R,ppm,W 22.72,.2904,1.279, 22.62, 23.04, 22.48,Chk
Warn,25.00,-8.000%
Li,670.784 { 50},Y2R,ppm, .4899,.0072,1.471, .4844, .4873, .4981,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 23.70,.2091,.8822, 23.50, 23.68, 23.92,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .49088,.00115,.23488, .48955, .49152, .49158,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .5195,.0083,1.606, .5241, .5099, .5246,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 25.77,.2588,1.004, 25.55, 25.71, 26.05,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .4859,.0048,.9827, .4881, .4804, .4892,Chk Pass,,
P,177.495 {490},Y1,ppm, .5276,.0051,.9723, .5315, .5218, .5297,Chk Pass,,
Pb,220.353 {453},Y1,ppm,W .5444,.0094,1.725, .5487, .5337, .5509,Chk
Warn,.5000,8.000%
S,182.034 {485},Y1,ppm,F 28.08,.4291,1.528, 28.22, 27.60, 28.42,Chk
Fail,25.00,10.00%
Sb,206.833 {463},Y1,ppm, .4972,.0084,1.699, .4994, .4878, .5043,Chk Pass,,
Se,196.090 {472},Y1,ppm, .5039,.0096,1.905, .5044, .4940, .5132,Chk Pass,,
Si,251.611 {134},Y2R,ppm,W 22.602,.18846,.83381, 22.446, 22.549, 22.811,Chk
Warn,25.000,-8.0000%
Sn,189.989 {477},Y1,ppm, .4738,.0100,2.111, .4774, .4625, .4814,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm,F .5530,.0025,.4529, .5508, .5557, .5524,Chk
Fail,.5000,10.00%
Th,283.730 {119},Y2R,ppm, .5119,.0285,5.576, .5392, .5143, .4822,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .4877,.0004,.0900, .4881, .4872, .4877,Chk Pass,,
Tl,190.856 {477},Y1,ppm,F .4320,.0125,2.891, .4298, .4207, .4454,Chk
Fail,.5000,-10.00%
V,292.402 {115},Y2A,ppm, .4734,.0008,.1594, .4725, .4739, .4737,Chk Pass,,
W,207.911 {462},Y1,ppm, .5242,.0098,1.876, .5272, .5132, .5322,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .5211,.0060,1.147, .5231, .5144, .5259,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .4705,.0083,1.767, .4635, .4683, .4797,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 6791.3,114.95,1.6926,6709.9,6922.8,6741.2
Y2A,371.030 { 91}2,Cts/S, 197530.,1361.4,.68921,199090.,196580.,196930.
Y2R,371.030 { 91}3,Cts/S, 15917.,163.89,1.0297,16035.,15730.,15986.

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=CCB 412912

Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 12:50:24
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0008,.0008,104.0, -.0001, .0009, .0015,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, -.0006,.0014,256.6, .0011, -.0015, -.0012,Chk Pass,,
As,189.042 {478},Y1,ppm, -.0089,.0080,89.44, .0002, -.0144, -.0125,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0039,.0008,21.65, .0044, .0029, .0043,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0001,.0000,10.13, .0002, .0001, .0002,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00049,.00001,2.5769, .00048, .00051, .00049,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .0060,.0067,111.4, .0133, -.0000, .0049,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0003,.0001,39.34, .0003, .0004, .0002,Chk Pass,,
Co,228.616 {447},Y1,ppm, -.0001,.0002,213.9, -.0001, -.0002, .0001,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0003,.0010,336.8, .0013, .0004, -.0008,Chk Pass,,

Cu,327.396 {103},Y2A,ppm, .0016,.0010,63.36, .0005, .0024, .0020,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, -.0001,.0168,11800., .0163, .0006, -.0174,Chk Pass,,
K,766.490 { 44},Y2R,ppm, .1050,.0453,43.17, .1474, .1106, .0572,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, -.0022,.0044,196.5, .0026, -.0034, -.0059,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .0117,.0017,14.26, .0099, .0131, .0122,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .00036,.00005,13.728, .00031, .00037, .00041,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.0002,.0006,267.9, -.0002, -.0008, .0004,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .1598,.0077,4.845, .1638, .1509, .1648,Chk Pass,,
Ni,231.604 {445},Y1,ppm, -.0001,.0004,482.6, .0004, -.0004, -.0003,Chk Pass,,
P,177.495 {490},Y1,ppm, .0039,.0075,191.6, .0121, -.0027, .0024,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .0006,.0071,1149., -.0062, .0001, .0080,Chk Pass,,
S,182.034 {485},Y1,ppm, .0335,.0064,19.21, .0408, .0290, .0305,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .0027,.0049,182.6, -.0024, .0030, .0073,Chk Pass,,
Se,196.090 {472},Y1,ppm, -.0054,.0010,17.60, -.0043, -.0058, -.0061,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .00792,.00485,61.200, .01240, .00277, .00859,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0004,.0006,145.5, -.0002, .0011, .0004,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0002,.0000,20.87, .0001, .0002, .0002,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0112,.0258,229.4, .0231, -.0183, .0289,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0004,.0002,46.64, .0005, .0004, .0002,Chk Pass,,
Tl,190.856 {477},Y1,ppm, -.0010,.0039,378.3, -.0020, .0033, -.0044,Chk Pass,,
V,292.402 {115},Y2A,ppm, -.0003,.0004,145.2, -.0007, .0001, -.0003,Chk Pass,,
W,207.911 {462},Y1,ppm, .0002,.0008,436.5, .0011, -.0001, -.0004,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .0015,.0001,6.387, .0014, .0016, .0015,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0024,.0024,102.0, .0049, .0021, .0001,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 6913.2,44.315,.64102,6959.2,6870.8,6909.6
Y2A,371.030 { 91}2,Cts/S, 205290.,788.15,.38393,206150.,204610.,205100.
Y2R,371.030 { 91}3,Cts/S, 16565.,113.93,.68780,16452.,16680.,16563.

[Sample Header]
Method=New TRACE Fast(v1373)
SampleName=CRI 409665
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 12:55:48
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0105,.0012,11.22, .0111, .0092, .0113,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .1835,.0015,.7915, .1823, .1851, .1831,Chk Pass,,
As,189.042 {478},Y1,ppm, .0270,.0020,7.420, .0262, .0255, .0293,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0299,.0004,1.199, .0296, .0303, .0297,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0054,.0001,1.119, .0054, .0054, .0053,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00483,.00005,1.0113, .00486, .00484, .00477,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .2220,.0191,8.593, .2088, .2134, .2439,Chk Pass,,
Cd,226.502 {449},Y1,ppm,W .0060,.0018,29.94, .0048, .0051, .0081,Chk
Warn,.0050,20.00%
Co,228.616 {447},Y1,ppm,W .0070,.0017,23.69, .0063, .0058, .0089,Chk
Warn,.0050,20.00%
Cr,267.716 {126},Y2A,ppm, .0167,.0007,3.978, .0163, .0163, .0174,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0179,.0003,1.880, .0176, .0178, .0183,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .2213,.0056,2.549, .2152, .2223, .2264,Chk Pass,,
K,766.490 { 44},Y2R,ppm,W .3652,.0338,9.266, .3270, .3916, .3769,Chk
Warn,.3000,20.00%

Li,670.784 { 50},Y2R,ppm, .0477,.0030,6.270, .0464, .0511, .0455,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .1118,.0195,17.46, .1027, .0985, .1342,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .01142,.00037,3.2267, .01181, .01137, .01108,Chk Pass,,
Mo,202.030 {467},Y1,ppm,W .0121,.0026,21.03, .0103, .0111, .0150,Chk
Warn,.0100,20.00%
Na,589.592 { 57},Y2R,ppm, 1.189,.0441,3.706, 1.161, 1.166, 1.240,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0113,.0019,16.47, .0103, .0102, .0135,Chk Pass,,
P,177.495 {490},Y1,ppm, .1075,.0050,4.669, .1047, .1133, .1045,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .0176,.0045,25.58, .0172, .0133, .0223,Chk Pass,,
S,182.034 {485},Y1,ppm,F 1.511,1.592,105.3, .5921, .5920, 3.349,Chk
Fail,.5000,50.00%
Sb,206.833 {463},Y1,ppm,W .0729,.0178,24.44, .0629, .0935, .0623,Chk
Warn,.0500,20.00%
Se,196.090 {472},Y1,ppm, .0492,.0020,4.143, .0470, .0511, .0496,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .47736,.01273,2.6669, .48003, .46351, .48855,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0519,.0009,1.710, .0517, .0511, .0528,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0058,.0001,2.073, .0059, .0058, .0057,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .4902,.0073,1.484, .4942, .4947, .4818,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0104,.0000,.1652, .0104, .0103, .0103,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0288,.0029,10.24, .0254, .0307, .0303,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0087,.0001,1.064, .0087, .0088, .0087,Chk Pass,,
W,207.911 {462},Y1,ppm, .0318,.0025,7.792, .0290, .0338, .0324,Chk Pass,,
Zn,213.856 {458},Y1,ppm,W .0280,.0014,4.959, .0275, .0270, .0296,Chk
Warn,.0200,20.00%
Zr,339.198 { 99},Y2R,ppm,W .0629,.0008,1.274, .0623, .0625, .0638,Chk
Warn,.0500,20.00%

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 6974.0,114.67,1.6443,6904.9,6910.8,7106.4
Y2A,371.030 { 91}2,Cts/S, 203190.,1164.8,.57325,202480.,204530.,202560.
Y2R,371.030 { 91}3,Cts/S, 16027.,99.703,.62211,15920.,16117.,16043.

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=Matrix_Rinse
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 14:27:02
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, -.0013,.0009,70.06, -.0013, -.0004, -.0021,None,,
Al,308.215 {109}2,Y2A,ppm, .0054,.0049,91.32, .0082, -.0003, .0083,None,,
As,189.042 {478},Y1,ppm, .0092,.0119,129.0, .0218, -.0017, .0075,None,,
B,249.773 {135},Y2A,ppm, -.0007,.0005,65.07, -.0013, -.0004, -.0005,None,,
Ba,455.403 { 74},Y2A,ppm, .0000,.0000,138.3, .0001, .0000, -.0000,None,,
Be,313.042 {108},Y2A,ppm, .00002,.00001,36.131, .00003, .00002, .00002,None,,
Ca,317.933 {106},Y2R,ppm, -.0056,.0031,54.54, -.0042, -.0035, -.0092,None,,
Cd,226.502 {449},Y1,ppm, .0002,.0004,239.5, .0005, -.0003, .0003,None,,
Co,228.616 {447},Y1,ppm, .0014,.0004,30.72, .0009, .0014, .0018,None,,
Cr,267.716 {126},Y2A,ppm, .0002,.0005,233.0, .0000, -.0002, .0008,None,,
Cu,327.396 {103},Y2A,ppm, .0015,.0017,109.2, .0024, -.0004, .0025,None,,
Fe,261.187 {129},Y2R,ppm, .0300,.0401,133.6, -.0162, .0549, .0514,None,,
K,766.490 { 44},Y2R,ppm, -.1571,.0611,38.90, -.0908, -.2111, -.1695,None,,
Li,670.784 { 50},Y2R,ppm, .0012,.0047,391.7, -.0042, .0032, .0046,None,,
Mg,285.213 {118},Y2R,ppm, -.0074,.0082,110.6, -.0011, -.0044, -.0167,None,,
Mn,257.610 {131},Y2A,ppm, .00005,.00003,50.991, .00003, .00005, .00008,None,,
Mo,202.030 {467},Y1,ppm, -.0006,.0026,456.8, -.0006, .0020, -.0032,None,,
Na,589.592 { 57},Y2R,ppm, .1165,.0237,20.32, .1293, .1311, .0892,None,,
Ni,231.604 {445},Y1,ppm, .0054,.0007,12.90, .0059, .0046, .0058,None,,
P,177.495 {490},Y1,ppm, -.0119,.0012,9.762, -.0114, -.0132, -.0111,None,,
Pb,220.353 {453},Y1,ppm, -.0030,.0037,124.6, -.0060, -.0042, .0012,None,,
S,182.034 {485},Y1,ppm, .0175,.0078,44.59, .0189, .0245, .0091,None,,
Sb,206.833 {463},Y1,ppm, .0049,.0090,184.5, -.0007, .0153, .0000,None,,
Se,196.090 {472},Y1,ppm, -.0127,.0134,105.7, -.0281, -.0068, -.0032,None,,
Si,251.611 {134},Y2R,ppm, .01753,.02061,117.52, .00126, .01064, .04071,None,,
Sn,189.989 {477},Y1,ppm, .0022,.0072,322.1, .0002, -.0037, .0103,None,,
Sr,421.552 { 80},Y2A,ppm, .0000,.0000,102.7, .0000, .0000, .0001,None,,
Th,283.730 {119},Y2R,ppm, .0098,.0800,814.3, .0037, .0926, -.0669,None,,
Ti,334.941 {101},Y2A,ppm, -.0000,.0002,825.0, .0001, .0001, -.0003,None,,
Tl,190.856 {477},Y1,ppm, .0102,.0077,75.95, .0190, .0068, .0048,None,,
V,292.402 {115},Y2A,ppm, -.0003,.0002,62.70, -.0004, -.0001, -.0003,None,,
W,207.911 {462},Y1,ppm, -.0004,.0013,311.6, .0009, -.0016, -.0006,None,,
Zn,213.856 {458},Y1,ppm, .0012,.0002,15.51, .0014, .0010, .0013,None,,
Zr,339.198 { 99},Y2R,ppm, -.0124,.0078,63.20, -.0043, -.0199, -.0130,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 2249.3,20.324,.90356,2272.8,2237.6,2237.6
Y2A,371.030 { 91}2,Cts/S, 203490.,841.99,.41377,204320.,202640.,203520.
Y2R,371.030 { 91}3,Cts/S, 3050.5,33.045,1.0832,3088.7,3030.2,3032.7

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=S0
Username=dept 22
Comment=

Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 14:30:10
Sample Type=ReSlope
Mode=IR
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Ag,328.068 {103},Y2A,Cts/S, -.0336,.0020,6.104, -.0313, -.0352, -.0342
Al,308.215 {109}2,Y2A,Cts/S, .0642,.0028,4.395, .0654, .0662, .0609
As,189.042 {478},Y1,Cts/S, .0107,.0109,102.1, .0091, .0007, .0224
B,249.773 {135},Y2A,Cts/S, .0000,.0000,16.53, .0000, .0000, .0000
Ba,455.403 { 74},Y2A,Cts/S, .0002,.0001,46.24, .0003, .0001, .0003
Be,313.042 {108},Y2A,Cts/S, .00924,.00039,4.2146, .00927, .00961, .00884
Ca,317.933 {106},Y2R,Cts/S, .0027,.0010,36.26, .0038, .0019, .0024
Cd,226.502 {449},Y1,Cts/S, -.0228,.0133,58.34, -.0355, -.0090, -.0239
Co,228.616 {447},Y1,Cts/S, -.0557,.0240,43.11, -.0689, -.0701, -.0280
Cr,267.716 {126},Y2A,Cts/S, .0000,.0000,34.68, .0000, .0000, .0000
Cu,327.396 {103},Y2A,Cts/S, -.0055,.0014,26.14, -.0039, -.0064, -.0063
Fe,261.187 {129},Y2R,Cts/S, .0006,.0001,25.14, .0006, .0007, .0004
K,766.490 { 44},Y2R,Cts/S, -.3464,.1217,35.14, -.4245, -.4085, -.2062
Li,670.784 { 50},Y2R,Cts/S, .0207,.0031,14.76, .0183, .0197, .0242
Mg,285.213 {118},Y2R,Cts/S, -.0011,.0006,54.41, -.0005, -.0017, -.0012
Mn,257.610 {131},Y2A,Cts/S, .00110,.00068,62.156, .00178, .00111, .00041
Mo,202.030 {467},Y1,Cts/S, -.0239,.0068,28.45, -.0314, -.0219, -.0183
Na,589.592 { 57},Y2R,Cts/S, -.0191,.0032,16.67, -.0223, -.0159, -.0191
Ni,231.604 {445},Y1,Cts/S, -.0626,.0193,30.84, -.0514, -.0848, -.0515
P,177.495 {490},Y1,Cts/S, .0006,.0001,18.68, .0005, .0007, .0005
Pb,220.353 {453},Y1,Cts/S, .0354,.0210,59.43, .0586, .0301, .0175
S,182.034 {485},Y1,Cts/S, .0015,.0003,16.97, .0014, .0013, .0018
Sb,206.833 {463},Y1,Cts/S, .0001,.0002,129.2, .0000, .0004, .0000
Se,196.090 {472},Y1,Cts/S, -.0039,.0078,198.8, -.0038, -.0118, .0038
Si,251.611 {134},Y2R,Cts/S, .00027,.00035,126.95, -.00002, .00018, .00066
Sn,189.989 {477},Y1,Cts/S, .0165,.0222,133.9, -.0018, .0102, .0412
Sr,421.552 { 80},Y2A,Cts/S, .0002,.0001,34.77, .0001, .0002, .0002
Th,283.730 {119},Y2R,Cts/S, .0001,.0007,518.0, .0005, -.0006, .0005
Ti,334.941 {101},Y2A,Cts/S, .0061,.0013,21.25, .0057, .0051, .0075
Tl,190.856 {477},Y1,Cts/S, .0035,.0069,199.0, .0107, .0029, -.0031
V,292.402 {115},Y2A,Cts/S, .0027,.0008,29.41, .0028, .0019, .0034
W,207.911 {462},Y1,Cts/S, -.0001,.0001,150.1, .0001, -.0002, -.0002
Zn,213.856 {458},Y1,Cts/S, .0479,.0053,10.99, .0427, .0532, .0477
Zr,339.198 { 99},Y2R,Cts/S, .0022,.0003,11.51, .0025, .0023, .0020

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 2242.7,7.3325,.32695,2248.2,2245.5,2234.4
Y2A,371.030 { 91}2,Cts/S, 210960.,1901.8,.90152,212060.,208760.,212060.
Y2R,371.030 { 91}3,Cts/S, 3119.4,14.610,.46837,3127.0,3102.5,3128.6

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=S1
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 14:33:19
Sample Type=ReSlope
Mode=IR

CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Al,308.215 {109}2,Y2A,Cts/S, 23.58,.0050,.0210, 23.59, 23.59, 23.58
Ca,317.933 {106},Y2R,Cts/S, 3.410,.0175,.5125, 3.428, 3.393, 3.411
Fe,261.187 {129},Y2R,Cts/S, .4686,.0046,.9896, .4724, .4635, .4700
K,766.490 { 44},Y2R,Cts/S, 120.6,.7506,.6222, 121.4, 119.9, 120.6
Mg,285.213 {118},Y2R,Cts/S, 4.938,.0304,.6159, 4.957, 4.903, 4.954
Na,589.592 { 57},Y2R,Cts/S, 7.110,.0392,.5515, 7.135, 7.064, 7.129
S,182.034 {485},Y1,Cts/S, .6491,.0075,1.155, .6539, .6530, .6405
Si,251.611 {134},Y2R,Cts/S, .33764,.00370,1.0949, .34149, .33412, .33730

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 2199.0,5.3200,.24193,2193.7,2199.0,2204.3
Y2A,371.030 { 91}2,Cts/S, 205300.,1280.9,.62390,206400.,205600.,203890.
Y2R,371.030 { 91}3,Cts/S, 3129.7,19.782,.63207,3123.3,3113.9,3151.9

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=S2
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 14:36:24
Sample Type=ReSlope
Mode=IR
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Ag,328.068 {103},Y2A,Cts/S, 2.572,.0081,.3136, 2.574, 2.563, 2.579
As,189.042 {478},Y1,Cts/S, 1.244,.0284,2.287, 1.215, 1.244, 1.272
B,249.773 {135},Y2A,Cts/S, .0195,.0000,.1691, .0195, .0195, .0195
Ba,455.403 { 74},Y2A,Cts/S, 3.193,.0372,1.164, 3.171, 3.172, 3.236
Be,313.042 {108},Y2A,Cts/S, 64.492,.97954,1.5189, 63.511, 64.495, 65.470
Cd,226.502 {449},Y1,Cts/S, 72.08,.0985,.1366, 71.98, 72.09, 72.18
Co,228.616 {447},Y1,Cts/S, 40.00,.1052,.2630, 39.89, 40.01, 40.10
Cu,327.396 {103},Y2A,Cts/S, 2.768,.0118,.4248, 2.760, 2.781, 2.763
Li,670.784 { 50},Y2R,Cts/S, 1.108,.0069,.6246, 1.108, 1.101, 1.115
Mn,257.610 {131},Y2A,Cts/S, 9.2988,.00243,.02610, 9.3016, 9.2976, 9.2972
Ni,231.604 {445},Y1,Cts/S, 22.85,.0835,.3653, 22.75, 22.91, 22.88
P,177.495 {490},Y1,Cts/S, .0294,.0001,.1958, .0294, .0293, .0294
Pb,220.353 {453},Y1,Cts/S, 5.976,.0212,.3542, 5.951, 5.987, 5.989
Se,196.090 {472},Y1,Cts/S, .8621,.0408,4.732, .8426, .9090, .8347
Sr,421.552 { 80},Y2A,Cts/S, 2.240,.0247,1.104, 2.212, 2.258, 2.249
Th,283.730 {119},Y2R,Cts/S, .0070,.0003,3.883, .0070, .0072, .0067
Tl,190.856 {477},Y1,Cts/S, 1.236,.0078,.6302, 1.241, 1.227, 1.241
W,207.911 {462},Y1,Cts/S, .0996,.0003,.3098, .0994, .0999, .0995
Zn,213.856 {458},Y1,Cts/S, 40.66,.1604,.3945, 40.48, 40.70, 40.80

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 2231.6,6.3455,.28435,2233.6,2224.5,2236.7
Y2A,371.030 { 91}2,Cts/S, 207880.,711.37,.34221,208510.,208010.,207110.
Y2R,371.030 { 91}3,Cts/S, 3135.0,22.128,.70583,3122.5,3160.6,3122.0

[Sample Header]

Method=New TRACE Fast(v1474)
SampleName=S3
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 14:39:49
Sample Type=ReSlope
Mode=IR
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Cr,267.716 {126},Y2A,Cts/S, .0343,.0002,.6221, .0342, .0341, .0345
Mo,202.030 {467},Y1,Cts/S, 9.979,.0637,.6381, 10.04, 9.917, 9.977
Sb,206.833 {463},Y1,Cts/S, .0466,.0004,.8373, .0470, .0462, .0466
Sn,189.989 {477},Y1,Cts/S, 3.384,.0213,.6306, 3.409, 3.374, 3.370
Ti,334.941 {101},Y2A,Cts/S, 13.75,.0760,.5529, 13.73, 13.68, 13.83
V,292.402 {115},Y2A,Cts/S, 2.286,.0107,.4663, 2.292, 2.273, 2.292
Zr,339.198 { 99},Y2R,Cts/S, .1833,.0019,1.038, .1822, .1854, .1821

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 2272.9,17.384,.76485,2257.4,2291.7,2269.6
Y2A,371.030 { 91}2,Cts/S, 216000.,1092.4,.50576,217240.,215560.,215200.
Y2R,371.030 { 91}3,Cts/S, 3221.5,18.889,.58636,3237.6,3200.7,3226.2

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=ICV 400900
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 14:42:56
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .5901,.0019,.3139, .5883, .5920, .5901,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 29.15,.0831,.2850, 29.07, 29.24, 29.14,Chk Pass,,
As,189.042 {478},Y1,ppm, .6010,.0102,1.696, .6097, .5898, .6034,Chk Pass,,
B,249.773 {135},Y2A,ppm, .5828,.0034,.5811, .5798, .5864, .5820,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .5905,.0093,1.582, .5804, .5921, .5989,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .57954,.00140,.24152, .57794, .58055, .58014,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 30.28,.2516,.8311, 30.52, 30.29, 30.02,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .5954,.0031,.5178, .5986, .5924, .5953,Chk Pass,,
Co,228.616 {447},Y1,ppm, .5997,.0040,.6748, .6035, .5954, .6001,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .5709,.0032,.5602, .5672, .5730, .5724,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .6098,.0045,.7355, .6053, .6143, .6098,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 30.00,.2835,.9448, 30.33, 29.86, 29.82,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 29.53,.2300,.7789, 29.76, 29.52, 29.31,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .5931,.0071,1.198, .5951, .5989, .5852,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 30.06,.1742,.5794, 30.19, 30.13, 29.87,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .60310,.00111,.18338, .60194, .60414, .60322,Chk Pass,,
Mo,202.030 {467},Y1,ppm,W .5655,.0037,.6587, .5668, .5613, .5684,Chk
Warn,.6000,-5.000%

Na,589.592 { 57},Y2R,ppm, 29.03,.2101,.7235, 29.26, 29.00, 28.84,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .5885,.0024,.4112, .5907, .5859, .5890,Chk Pass,,
P,177.495 {490},Y1,ppm, .5892,.0036,.6138, .5910, .5916, .5851,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .5993,.0024,.4056, .6021, .5984, .5975,Chk Pass,,
S,182.034 {485},Y1,ppm, 29.73,.1514,.5094, 29.79, 29.56, 29.84,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .5894,.0114,1.938, .5973, .5763, .5946,Chk Pass,,
Se,196.090 {472},Y1,ppm, .6064,.0135,2.230, .6095, .6181, .5916,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 29.627,.12624,.42609, 29.766, 29.597, 29.519,None,,
Sn,189.989 {477},Y1,ppm,W .5679,.0021,.3643, .5679, .5700, .5659,Chk
Warn,.6000,-5.000%
Sr,421.552 { 80},Y2A,ppm, .6026,.0036,.5986, .5997, .6066, .6013,Chk Pass,,
Th,283.730 {119},Y2R,ppm,W .5467,.0930,17.01, .6020, .4393, .5987,Chk
Warn,.6000,-5.000%
Ti,334.941 {101},Y2A,ppm, .5950,.0018,.3017, .5932, .5967, .5950,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .6041,.0258,4.267, .5749, .6134, .6239,Chk Pass,,
V,292.402 {115},Y2A,ppm, .5833,.0006,.0991, .5826, .5837, .5835,Chk Pass,,
W,207.911 {462},Y1,ppm,W .5419,.0074,1.357, .5504, .5380, .5374,Chk
Warn,.6000,-5.000%
Zn,213.856 {458},Y1,ppm, .5920,.0026,.4429, .5942, .5891, .5926,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .5949,.0172,2.893, .5939, .6126, .5782,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 2211.5,21.662,.97949,2186.6,2222.9,2225.2
Y2A,371.030 { 91}2,Cts/S, 206270.,1116.9,.54144,206680.,205010.,207130.
Y2R,371.030 { 91}3,Cts/S, 3109.3,32.897,1.0580,3108.2,3077.0,3142.8

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=ICV 400900
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 14:46:11
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .5876,.0025,.4295, .5863, .5905, .5860,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 28.95,.1034,.3573, 28.85, 28.94, 29.06,Chk Pass,,
As,189.042 {478},Y1,ppm, .6223,.0160,2.568, .6367, .6251, .6051,Chk Pass,,
B,249.773 {135},Y2A,ppm, .5805,.0010,.1746, .5794, .5807, .5814,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .5941,.0082,1.380, .5978, .5999, .5847,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .57435,.00245,.42723, .57152, .57571, .57583,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 29.97,.2324,.7753, 29.79, 30.23, 29.89,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .5926,.0036,.6014, .5925, .5962, .5891,Chk Pass,,
Co,228.616 {447},Y1,ppm, .5986,.0033,.5531, .6006, .6004, .5947,Chk Pass,,
Cr,267.716 {126},Y2A,ppm,W .5693,.0016,.2805, .5675, .5699, .5705,Chk
Warn,.6000,-5.000%
Cu,327.396 {103},Y2A,ppm, .6055,.0015,.2537, .6038, .6068, .6058,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 29.63,.1824,.6158, 29.55, 29.83, 29.49,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 29.32,.1578,.5382, 29.24, 29.50, 29.22,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .5836,.0032,.5404, .5808, .5870, .5831,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 29.75,.1743,.5861, 29.59, 29.93, 29.73,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .59950,.00253,.42163, .59720, .59909, .60221,Chk Pass,,
Mo,202.030 {467},Y1,ppm,W .5626,.0012,.2153, .5630, .5636, .5613,Chk
Warn,.6000,-5.000%
Na,589.592 { 57},Y2R,ppm, 28.66,.1758,.6132, 28.51, 28.85, 28.63,Chk Pass,,

Ni,231.604 {445},Y1,ppm, .5865,.0020,.3395, .5862, .5887, .5847,Chk Pass,,
P,177.495 {490},Y1,ppm, .5936,.0204,3.431, .6141, .5935, .5733,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .5989,.0072,1.199, .5928, .6068, .5970,Chk Pass,,
S,182.034 {485},Y1,ppm, 29.41,.2222,.7554, 29.53, 29.54, 29.15,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .5823,.0084,1.443, .5825, .5907, .5739,Chk Pass,,
Se,196.090 {472},Y1,ppm, .6053,.0258,4.270, .6126, .6267, .5766,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 29.305,.08468,.28896, 29.242, 29.272, 29.401,None,,
Sn,189.989 {477},Y1,ppm,W .5631,.0082,1.451, .5713, .5630, .5549,Chk
Warn,.6000,-5.000%
Sr,421.552 { 80},Y2A,ppm, .6009,.0046,.7665, .6062, .5978, .5988,Chk Pass,,
Th,283.730 {119},Y2R,ppm,F .5084,.0481,9.453, .4737, .4882, .5633,Chk
Fail,.6000,-10.00%
Ti,334.941 {101},Y2A,ppm, .5907,.0022,.3729, .5885, .5908, .5929,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .5968,.0057,.9478, .5991, .5904, .6010,Chk Pass,,
V,292.402 {115},Y2A,ppm, .5809,.0016,.2708, .5796, .5803, .5826,Chk Pass,,
W,207.911 {462},Y1,ppm, .5750,.0062,1.077, .5803, .5766, .5682,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .5886,.0016,.2782, .5903, .5885, .5870,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .5942,.0094,1.587, .5949, .5845, .6033,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 2210.7,15.609,.70608,2227.2,2196.1,2208.9
Y2A,371.030 { 91}2,Cts/S, 207720.,1085.9,.52279,208000.,206510.,208630.
Y2R,371.030 { 91}3,Cts/S, 3180.4,8.9872,.28258,3183.0,3170.4,3187.8

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=ICB 412912
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 14:49:25
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, -.0023,.0004,17.25, -.0020, -.0023, -.0028,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .0017,.0078,460.1, -.0038, .0107, -.0018,Chk Pass,,
As,189.042 {478},Y1,ppm, .0021,.0025,118.2, .0022, -.0004, .0045,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0022,.0007,31.81, .0014, .0028, .0024,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0001,.0001,76.25, .0001, .0002, .0000,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00005,.00003,58.302, .00003, .00008, .00004,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .0050,.0123,243.4, .0188, -.0046, .0009,Chk Pass,,
Cd,226.502 {449},Y1,ppm, -.0002,.0001,85.94, -.0000, -.0003, -.0002,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0002,.0004,235.7, -.0003, .0002, .0006,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0000,.0002,590.9, .0003, .0000, -.0002,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0018,.0022,123.9, .0006, .0044, .0005,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, -.0558,.0324,58.04, -.0744, -.0184, -.0746,Chk Pass,,
K,766.490 { 44},Y2R,ppm, -.0398,.0534,134.0, .0095, -.0325, -.0965,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, -.0030,.0007,24.61, -.0025, -.0026, -.0038,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .0028,.0037,131.2, .0024, .0067, -.0007,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, -.00007,.00014,197.57, .00004, -.00023, -.00002,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0003,.0009,355.0, .0001, .0013, -.0006,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .0233,.0120,51.26, .0325, .0277, .0098,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0020,.0002,10.42, .0019, .0023, .0019,Chk Pass,,
P,177.495 {490},Y1,ppm, -.0056,.0194,343.9, -.0155, .0167, -.0181,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .0009,.0035,385.8, .0020, .0038, -.0030,Chk Pass,,
S,182.034 {485},Y1,ppm, -.0393,.0078,19.93, -.0339, -.0356, -.0482,Chk Pass,,

Sb,206.833 {463},Y1,ppm, .0039,.0023,58.73, .0055, .0013, .0049,Chk Pass,,
Se,196.090 {472},Y1,ppm,W -.0202,.0085,41.97, -.0121, -.0194, -.0290,Chk
Warn,.0188,-.0188
Si,251.611 {134},Y2R,ppm, .04530,.06331,139.78, .03218, -.01043, .11414,Chk Pass,,
Sn,189.989 {477},Y1,ppm, -.0022,.0015,66.85, -.0008, -.0038, -.0021,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0000,.0001,283.8, -.0000, .0001, -.0000,Chk Pass,,
Th,283.730 {119},Y2R,ppm, -.0433,.0493,114.0, -.0159, -.1002, -.0137,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0002,.0001,71.04, .0000, .0002, .0003,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0063,.0091,144.3, .0164, .0034, -.0010,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0001,.0006,404.4, -.0005, .0004, .0006,Chk Pass,,
W,207.911 {462},Y1,ppm, .0076,.0065,84.87, .0093, .0131, .0005,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .0006,.0002,35.13, .0008, .0004, .0005,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.0046,.0046,101.4, -.0099, -.0023, -.0015,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 2235.9,29.219,1.3068,2264.8,2206.4,2236.5
Y2A,371.030 { 91}2,Cts/S, 213240.,2984.7,1.3997,215280.,214630.,209820.
Y2R,371.030 { 91}3,Cts/S, 3168.4,50.453,1.5924,3167.7,3219.2,3118.3

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=CRI 409665
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 14:52:33
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0094,.0003,3.235, .0093, .0098, .0092,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .2051,.0025,1.235, .2070, .2022, .2062,Chk Pass,,
As,189.042 {478},Y1,ppm,W .0239,.0108,45.33, .0357, .0214, .0145,Chk
Warn,.0300,-20.00%
B,249.773 {135},Y2A,ppm, .0305,.0005,1.633, .0309, .0306, .0300,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0052,.0000,.7503, .0052, .0053, .0053,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00471,.00001,.26900, .00472, .00469, .00471,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .2229,.0061,2.758, .2200, .2187, .2299,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0051,.0004,7.320, .0052, .0047, .0054,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0051,.0005,10.23, .0057, .0050, .0047,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0144,.0004,3.121, .0140, .0149, .0142,Chk Pass,,
Cu,327.396 {103},Y2A,ppm,W .0250,.0012,4.775, .0247, .0263, .0240,Chk
Warn,.0200,20.00%
Fe,261.187 {129},Y2R,ppm, .1946,.0126,6.489, .1843, .1909, .2087,Chk Pass,,
K,766.490 { 44},Y2R,ppm, .2606,.0959,36.81, .3266, .1506, .3046,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0462,.0032,6.878, .0497, .0434, .0456,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .1069,.0087,8.173, .1080, .1151, .0977,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .01054,.00002,.16694, .01052, .01055, .01055,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0096,.0010,10.92, .0099, .0105, .0084,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .9408,.0620,6.593, .8696, .9696, .9832,Chk Pass,,
Ni,231.604 {445},Y1,ppm,W .0131,.0012,9.170, .0121, .0129, .0144,Chk
Warn,.0100,20.00%
P,177.495 {490},Y1,ppm, .1021,.0060,5.871, .1063, .1049, .0953,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .0179,.0024,13.37, .0151, .0189, .0196,Chk Pass,,
S,182.034 {485},Y1,ppm, .4965,.0100,2.024, .4918, .5080, .4897,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .0554,.0022,4.044, .0578, .0533, .0549,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0441,.0016,3.700, .0458, .0437, .0426,Chk Pass,,

Si,251.611 {134},Y2R,ppm, .49230,.06509,13.221, .56597, .44259, .46834,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0457,.0038,8.308, .0428, .0444, .0500,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0049,.0000,.3086, .0049, .0049, .0049,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .4131,.0653,15.80, .3867, .3652, .4875,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0101,.0002,1.530, .0100, .0102, .0100,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0351,.0036,10.19, .0343, .0390, .0320,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0101,.0005,4.695, .0102, .0105, .0096,Chk Pass,,
W,207.911 {462},Y1,ppm, .0360,.0026,7.295, .0344, .0346, .0390,Chk Pass,,
Zn,213.856 {458},Y1,ppm,W .0282,.0004,1.403, .0287, .0281, .0279,Chk
Warn,.0200,20.00%
Zr,339.198 { 99},Y2R,ppm, .0553,.0064,11.52, .0481, .0601, .0577,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 2273.3,11.203,.49282,2284.6,2262.2,2273.2
Y2A,371.030 { 91}2,Cts/S, 212730.,1689.1,.79403,214680.,211860.,211650.
Y2R,371.030 { 91}3,Cts/S, 3205.4,40.966,1.2780,3189.2,3252.0,3175.0

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=ICSA 332979
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 14:55:40
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm,F -.0371,.0003,.9325, -.0372, -.0373, -.0367,Chk
Fail,.0200,-.0200
Al,308.215 {109}2,Y2A,ppm, 499.3,4.298,.8608, 497.1, 504.3, 496.6,Chk Pass,,
As,189.042 {478},Y1,ppm, .0006,.0189,3364., .0137, -.0211, .0090,Chk Pass,,
B,249.773 {135},Y2A,ppm, -.0024,.0021,85.73, -.0032, -.0001, -.0040,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0022,.0000,1.790, .0022, .0022, .0023,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00026,.00002,9.1184, .00026, .00024, .00028,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 505.5,2.829,.5596, 506.2, 502.4, 507.9,Chk Pass,,
Cd,226.502 {449},Y1,ppm,W -.0052,.0002,4.559, -.0053, -.0049, -.0054,Chk
Warn,.0050,-.0050
Co,228.616 {447},Y1,ppm, -.0003,.0007,231.4, .0002, -.0010, -.0001,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0049,.0008,15.55, .0040, .0051, .0055,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0149,.0024,16.32, .0125, .0174, .0148,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 199.2,1.152,.5782, 199.1, 198.0, 200.3,Chk Pass,,
K,766.490 { 44},Y2R,ppm, -.0318,.1196,376.8, -.1476, -.0390, .0913,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, -.0008,.0028,355.1, -.0034, .0022, -.0012,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 536.9,2.546,.4742, 537.3, 534.1, 539.2,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .00047,.00017,36.632, .00060, .00053, .00027,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.0069,.0021,30.23, -.0092, -.0052, -.0064,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .0948,.0462,48.77, .0452, .1024, .1367,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0100,.0010,9.939, .0111, .0094, .0095,Chk Pass,,
P,177.495 {490},Y1,ppm, .0205,.0057,27.91, .0142, .0254, .0220,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .0068,.0133,196.4, .0145, -.0086, .0143,Chk Pass,,
S,182.034 {485},Y1,ppm, -.0664,.0125,18.81, -.0794, -.0652, -.0545,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .0324,.0176,54.45, .0369, .0474, .0129,Chk Pass,,
Se,196.090 {472},Y1,ppm, -.0379,.0281,74.14, -.0496, -.0058, -.0582,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .04936,.05573,112.91, -.00884, .05469, .10224,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0067,.0066,98.30, .0128, -.0003, .0076,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0008,.0000,3.224, .0007, .0008, .0008,Chk Pass,,

Th,283.730 {119},Y2R,ppm, -.1592,.0731,45.93, -.0766, -.2156, -.1854,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0003,.0002,69.64, .0001, .0004, .0003,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0169,.0271,160.8, -.0130, .0399, .0237,Chk Pass,,
V,292.402 {115},Y2A,ppm, -.0026,.0013,51.57, -.0040, -.0023, -.0014,Chk Pass,,
W,207.911 {462},Y1,ppm, .0013,.0035,259.7, -.0021, .0049, .0013,Chk Pass,,
Zn,213.856 {458},Y1,ppm, -.0007,.0001,15.93, -.0008, -.0006, -.0007,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0046,.0104,226.8, -.0064, .0061, .0141,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 2029.3,4.2787,.21085,2033.9,2028.5,2025.4
Y2A,371.030 { 91}2,Cts/S, 185320.,2518.5,1.3590,187280.,182480.,186190.
Y2R,371.030 { 91}3,Cts/S, 3056.5,19.081,.62428,3069.4,3034.6,3065.5

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=ICSAB 333010
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 14:58:54
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .1764,.0009,.5350, .1772, .1766, .1754,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 502.3,4.501,.8960, 502.5, 497.7, 506.7,Chk Pass,,
As,189.042 {478},Y1,ppm, .1061,.0038,3.583, .1080, .1086, .1017,Chk Pass,,
B,249.773 {135},Y2A,ppm, -.0027,.0010,36.69, -.0026, -.0037, -.0018,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .5118,.0061,1.187, .5136, .5051, .5169,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .49061,.00151,.30741, .49235, .48988, .48961,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 502.6,4.896,.9740, 497.0, 504.7, 506.1,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .9175,.0021,.2293, .9171, .9197, .9156,Chk Pass,,
Co,228.616 {447},Y1,ppm, .4671,.0016,.3405, .4666, .4689, .4659,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .4741,.0014,.3036, .4756, .4739, .4728,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .5560,.0032,.5762, .5597, .5543, .5540,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 197.8,1.914,.9677, 195.6, 198.8, 199.0,Chk Pass,,
K,766.490 { 44},Y2R,ppm, -.1106,.1116,100.9, .0103, -.2095, -.1325,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, -.0007,.0017,254.1, -.0009, .0011, -.0023,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 531.6,4.423,.8320, 526.6, 533.1, 535.0,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .49245,.00101,.20474, .49346, .49144, .49244,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.0069,.0013,18.34, -.0083, -.0066, -.0058,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .1368,.0330,24.09, .1192, .1165, .1749,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .9178,.0041,.4439, .9161, .9225, .9149,Chk Pass,,
P,177.495 {490},Y1,ppm, .0261,.0084,32.12, .0195, .0232, .0355,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .5146,.0049,.9545, .5129, .5201, .5107,Chk Pass,,
S,182.034 {485},Y1,ppm, -.0735,.0348,47.38, -.0864, -.0340, -.0999,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .6199,.0120,1.939, .6077, .6317, .6203,Chk Pass,,
Se,196.090 {472},Y1,ppm, .4713,.0171,3.621, .4600, .4630, .4910,Chk Pass,,
Si,251.611 {134},Y2R,ppm,F .00444,.05070,1142.8, .05053, -.04987, .01265,Chk
Fail,1.0000,1.0000
Sn,189.989 {477},Y1,ppm, .0082,.0023,28.08, .0057, .0088, .0102,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0008,.0001,8.945, .0008, .0008, .0007,Chk Pass,,
Th,283.730 {119},Y2R,ppm, -.2407,.0573,23.79, -.2757, -.2718, -.1746,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0007,.0001,9.859, .0006, .0007, .0006,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .1074,.0097,9.015, .1171, .0977, .1074,Chk Pass,,
V,292.402 {115},Y2A,ppm, .4938,.0020,.4066, .4960, .4921, .4933,Chk Pass,,
W,207.911 {462},Y1,ppm,F .0001,.0051,3505., .0057, -.0012, -.0041,Chk

```
Fail,-.0600,-.0600
Zn,213.856 {458},Y1,ppm, .9784,.0019,.1964, .9783, .9803, .9765,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0097,.0049,50.66, .0059, .0152, .0079,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 2007.0,11.173,.55668,2006.6,1996.0,2018.4
Y2A,371.030 { 91}2,Cts/S, 185480.,1901.4,1.0251,186050.,187030.,183350.
Y2R,371.030 { 91}3,Cts/S, 3053.9,35.911,1.1759,3012.5,3072.1,3077.0

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=LRC 396657
Username=dept 22
Comment=LRS2
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 15:02:08
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm,F 2.466,.0161,.6536, 2.448, 2.474, 2.477,Chk
Fail,5.000,-10.00%
Al,308.215 {109}2,Y2A,ppm, -.9679,.3536,36.54, -.5598, -1.159, -1.185,None,,
As,189.042 {478},Y1,ppm, 19.35,.0157,.0813, 19.35, 19.36, 19.33,Chk Pass,,
B,249.773 {135},Y2A,ppm, 4.752,.0262,.5508, 4.724, 4.776, 4.756,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, 4.870,.0097,.1995, 4.872, 4.859, 4.878,Chk Pass,,
Be,313.042 {108},Y2A,ppm, 4.7319,.02100,.44383, 4.7500, 4.7368, 4.7088,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .0618,.0245,39.55, .0796, .0719, .0340,None,,
Cd,226.502 {449},Y1,ppm, 19.50,.0325,.1667, 19.54, 19.48, 19.48,Chk Pass,,
Co,228.616 {447},Y1,ppm, 20.33,.0050,.0247, 20.34, 20.33, 20.33,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, 19.02,.1008,.5303, 18.91, 19.11, 19.04,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, 20.20,.1124,.5563, 20.10, 20.32, 20.19,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, -.1084,.0093,8.548, -.1139, -.1135, -.0977,None,,
K,766.490 { 44},Y2R,ppm, -.2316,.0627,27.07, -.1723, -.2972, -.2254,None,,
Li,670.784 { 50},Y2R,ppm, 19.52,.0812,.4162, 19.53, 19.59, 19.43,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .0208,.0081,39.06, .0287, .0125, .0212,None,,
Mn,257.610 {131},Y2A,ppm, 19.299,.33422,1.7318, 18.929, 19.387, 19.580,Chk Pass,,
Mo,202.030 {467},Y1,ppm, 19.14,.0061,.0321, 19.14, 19.14, 19.13,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .0655,.0254,38.70, .0688, .0891, .0387,None,,
Ni,231.604 {445},Y1,ppm, 19.97,.0167,.0836, 19.99, 19.96, 19.96,Chk Pass,,
P,177.495 {490},Y1,ppm, 19.55,.0319,.1634, 19.57, 19.52, 19.58,Chk Pass,,
Pb,220.353 {453},Y1,ppm, 20.28,.0091,.0446, 20.30, 20.28, 20.28,Chk Pass,,
S,182.034 {485},Y1,ppm, .2899,.0277,9.548, .2896, .2623, .3177,None,,
Sb,206.833 {463},Y1,ppm, 19.24,.0218,.1134, 19.23, 19.26, 19.22,Chk Pass,,
Se,196.090 {472},Y1,ppm, 20.09,.0462,.2297, 20.09, 20.05, 20.14,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .95977,.16069,16.742, .78528, .99238, 1.1017,None,,
Sn,189.989 {477},Y1,ppm, 18.80,.0064,.0338, 18.80, 18.80, 18.81,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, 4.823,.0895,1.856, 4.848, 4.724, 4.898,Chk Pass,,
Th,283.730 {119},Y2R,ppm,F 1.817,.1071,5.895, 1.824, 1.706, 1.920,Chk
Fail,20.00,-10.00%
Ti,334.941 {101},Y2A,ppm, 18.95,.1835,.9687, 18.95, 18.76, 19.13,Chk Pass,,
Tl,190.856 {477},Y1,ppm, 19.99,.0123,.0617, 19.98, 19.99, 20.01,Chk Pass,,
V,292.402 {115},Y2A,ppm, 19.99,.1334,.6670, 19.85, 20.11, 20.02,Chk Pass,,
W,207.911 {462},Y1,ppm, 20.27,.0275,.1355, 20.30, 20.25, 20.26,Chk Pass,,
Zn,213.856 {458},Y1,ppm, 9.588,.0134,.1393, 9.601, 9.574, 9.590,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, 19.16,.1141,.5954, 19.15, 19.28, 19.06,Chk Pass,,
```

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 2194.1,12.308,.56097,2180.8,2205.0,2196.4
Y2A,371.030 { 91}2,Cts/S, 206430.,2018.4,.97776,207650.,207540.,204100.
Y2R,371.030 { 91}3,Cts/S, 3162.4,43.788,1.3846,3200.1,3114.4,3172.7

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=LRC 396687
Username=dept 22
Comment=LRS4
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 15:05:38
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, -.0485,.0074,15.26, -.0399, -.0532, -.0522,None,,
Al,308.215 {109}2,Y2A,ppm, 485.7,8.857,1.824, 492.4, 475.6, 489.0,Chk Pass,,
As,189.042 {478},Y1,ppm, .0284,.0278,97.81, .0601, .0082, .0169,None,,
B,249.773 {135},Y2A,ppm, -.0728,.0175,24.03, -.0528, -.0804, -.0853,None,,
Ba,455.403 { 74},Y2A,ppm,^ *****,-----,-----,^ -----, .0003, .0004,None,,
Be,313.042 {108},Y2A,ppm, .00767,.01264,164.75, .02226, .00039, .00036,None,,
Ca,317.933 {106},Y2R,ppm, 496.2,6.419,1.294, 489.3, 497.4, 501.9,Chk Pass,,
Cd,226.502 {449},Y1,ppm, -.0073,.0003,3.792, -.0070, -.0075, -.0074,None,,
Co,228.616 {447},Y1,ppm, .0112,.0011,10.11, .0125, .0102, .0109,None,,
Cr,267.716 {126},Y2A,ppm, .0330,.0497,150.6, .0905, .0043, .0043,None,,
Cu,327.396 {103},Y2A,ppm, .0583,.0595,102.0, .1269, .0262, .0218,None,,
Fe,261.187 {129},Y2R,ppm, 300.2,3.475,1.158, 296.2, 301.9, 302.5,Chk Pass,,
K,766.490 { 44},Y2R,ppm,k 533.3,7.111,1.333,k 525.5, 534.8, 539.5,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0586,.0210,35.80, .0468, .0829, .0462,None,,
Mg,285.213 {118},Y2R,ppm, 519.9,6.937,1.334, 512.2, 522.0, 525.6,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .00336,.05387,1603.8, .06556, -.02777, -.02771,None,,
Mo,202.030 {467},Y1,ppm, -.0078,.0014,18.54, -.0092, -.0078, -.0063,None,,
Na,589.592 { 57},Y2R,ppm, 521.7,8.334,1.597, 513.6, 521.3, 530.3,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0289,.0024,8.264, .0274, .0277, .0317,None,,
P,177.495 {490},Y1,ppm, .0290,.0043,14.96, .0333, .0292, .0246,None,,
Pb,220.353 {453},Y1,ppm, .0099,.0076,76.46, .0150, .0136, .0012,None,,
S,182.034 {485},Y1,ppm, 204.5,.4844,.2369, 205.0, 204.0, 204.5,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .0412,.0106,25.69, .0291, .0457, .0488,None,,
Se,196.090 {472},Y1,ppm, -.0166,.0329,198.7, -.0036, .0079, -.0540,None,,
Si,251.611 {134},Y2R,ppm, 190.26,2.6119,1.3728, 187.35, 191.02, 192.40,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0113,.0060,52.90, .0093, .0066, .0181,None,,
Sr,421.552 { 80},Y2A,ppm,^ *****,-----,-----,^ -----, .0003, .0003,None,,
Th,283.730 {119},Y2R,ppm, -.3218,.0917,28.51, -.2984, -.4229, -.2440,None,,
Ti,334.941 {101},Y2A,ppm, .0322,.0530,164.8, .0934, .0016, .0015,None,,
Tl,190.856 {477},Y1,ppm, .0374,.0210,56.04, .0193, .0604, .0325,None,,
V,292.402 {115},Y2A,ppm, .0283,.0527,186.7, .0892, -.0023, -.0021,None,,
W,207.911 {462},Y1,ppm, .0083,.0054,65.33, .0143, .0037, .0069,None,,
Zn,213.856 {458},Y1,ppm, -.0282,.0005,1.809, -.0277, -.0283, -.0287,None,,
Zr,339.198 { 99},Y2R,ppm, .0331,.0241,72.80, .0221, .0608, .0165,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1964.4,27.257,1.3875,1933.2,1983.4,1976.7
Y2A,371.030 { 91}2,Cts/S, 181060.,672.33,.37133,181820.,180550.,180810.
Y2R,371.030 { 91}3,Cts/S, 3030.9,23.847,.78682,3055.2,3030.0,3007.5

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=LRC 339435
Username=dept 22
Comment=LRS3
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 15:08:59
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, 2.553,.0100,.3912, 2.542, 2.562, 2.555,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, -.6244,.0647,10.36, -.6828, -.5549, -.6355,None,,
As,189.042 {478},Y1,ppm, 10.22,.0422,.4127, 10.24, 10.24, 10.17,Chk Pass,,
B,249.773 {135},Y2A,ppm, 2.491,.0091,.3658, 2.481, 2.495, 2.498,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, 2.592,.0626,2.414, 2.592, 2.654, 2.529,Chk Pass,,
Be,313.042 {108},Y2A,ppm, 2.4974,.02919,1.1690, 2.4927, 2.5287, 2.4709,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .0974,.0972,99.80, .0308, .0524, .2089,None,,
Cd,226.502 {449},Y1,ppm, 10.50,.0159,.1511, 10.50, 10.51, 10.48,Chk Pass,,
Co,228.616 {447},Y1,ppm, 10.82,.0240,.2219, 10.84, 10.84, 10.80,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, 9.906,.0471,.4751, 9.859, 9.953, 9.906,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, 10.52,.0680,.6467, 10.45, 10.58, 10.53,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, -.0347,.0768,221.1, -.0679, -.0894, .0531,None,,
K,766.490 { 44},Y2R,ppm, .3303,.1041,31.52, .3155, .2343, .4409,None,,
Li,670.784 { 50},Y2R,ppm, 10.09,.0431,.4272, 10.13, 10.05, 10.10,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .0761,.0883,116.0, .0198, .0307, .1778,None,,
Mn,257.610 {131},Y2A,ppm, 10.282,.09669,.94036, 10.239, 10.393, 10.215,Chk Pass,,
Mo,202.030 {467},Y1,ppm, 10.24,.0178,.1741, 10.26, 10.23, 10.22,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .2956,.0759,25.67, .2664, .2387, .3818,None,,
Ni,231.604 {445},Y1,ppm, 10.68,.0159,.1487, 10.68, 10.70, 10.67,Chk Pass,,
P,177.495 {490},Y1,ppm, 10.41,.0249,.2391, 10.43, 10.38, 10.41,Chk Pass,,
Pb,220.353 {453},Y1,ppm, 10.83,.0116,.1068, 10.82, 10.84, 10.83,Chk Pass,,
S,182.034 {485},Y1,ppm, .1256,.0405,32.27, .1594, .0807, .1368,None,,
Sb,206.833 {463},Y1,ppm, 10.18,.0331,.3249, 10.22, 10.17, 10.16,Chk Pass,,
Se,196.090 {472},Y1,ppm, 10.71,.0467,.4357, 10.69, 10.76, 10.67,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .82134,.14622,17.803, .71504, .76089, .98809,None,,
Sn,189.989 {477},Y1,ppm, 9.985,.0439,.4401, 9.999, 10.02, 9.935,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, 2.579,.0373,1.446, 2.548, 2.621, 2.569,Chk Pass,,
Th,283.730 {119},Y2R,ppm, 9.364,.0775,.8280, 9.356, 9.290, 9.445,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, 9.923,.0134,.1352, 9.929, 9.933, 9.908,Chk Pass,,
Tl,190.856 {477},Y1,ppm, 10.74,.0143,.1329, 10.75, 10.73, 10.73,Chk Pass,,
V,292.402 {115},Y2A,ppm, 10.40,.0367,.3525, 10.37, 10.44, 10.40,Chk Pass,,
W,207.911 {462},Y1,ppm, 10.72,.0168,.1566, 10.72, 10.73, 10.70,Chk Pass,,
Zn,213.856 {458},Y1,ppm, 5.172,.0056,.1081, 5.170, 5.178, 5.167,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, 10.05,.0401,.3986, 10.06, 10.01, 10.09,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 2175.0,6.5978,.30335,2181.9,2168.8,2174.2
Y2A,371.030 { 91}2,Cts/S, 209240.,1484.1,.70928,210070.,207530.,210120.
Y2R,371.030 { 91}3,Cts/S, 3122.7,60.042,1.9227,3055.4,3170.6,3142.3

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=LRC 339468
Username=dept 22
Comment=LRS5
Custom ID1=

Custom ID2=
Custom ID3=
Run Time=9/10/2020 15:12:33
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, -.0286,.0004,1.493, -.0291, -.0284, -.0283,None,,
Al,308.215 {109}2,Y2A,ppm, 261.6,.8021,.3066, 262.5, 260.9, 261.4,Chk Pass,,
As,189.042 {478},Y1,ppm, .0036,.0103,286.0, -.0038, .0154, -.0008,None,,
B,249.773 {135},Y2A,ppm, -.0284,.0005,1.802, -.0278, -.0284, -.0288,None,,
Ba,455.403 { 74},Y2A,ppm, .0009,.0000,1.520, .0009, .0009, .0009,None,,
Be,313.042 {108},Y2A,ppm, .00085,.00003,3.6499, .00088, .00084, .00082,None,,
Ca,317.933 {106},Y2R,ppm, 258.1,2.188,.8476, 255.7, 258.7, 259.9,Chk Pass,,
Cd,226.502 {449},Y1,ppm, -.0028,.0011,40.62, -.0031, -.0038, -.0016,None,,
Co,228.616 {447},Y1,ppm, .0067,.0009,13.56, .0077, .0065, .0059,None,,
Cr,267.716 {126},Y2A,ppm, .0031,.0007,21.62, .0027, .0028, .0039,None,,
Cu,327.396 {103},Y2A,ppm, .0134,.0007,5.471, .0129, .0130, .0142,None,,
Fe,261.187 {129},Y2R,ppm, 154.7,1.073,.6937, 153.5, 155.3, 155.4,Chk Pass,,
K,766.490 { 44},Y2R,ppm,F 277.2,2.492,.8993, 274.3, 278.4, 278.8,Chk
Fail,250.0,10.00%
Li,670.784 { 50},Y2R,ppm, .0496,.0177,35.60, .0700, .0403, .0386,None,,
Mg,285.213 {118},Y2R,ppm, 264.4,1.821,.6888, 262.4, 264.7, 266.0,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, -.01292,.00023,1.7977, -.01278, -.01280, -.01319,None,,
Mo,202.030 {467},Y1,ppm, -.0033,.0008,22.87, -.0025, -.0034, -.0041,None,,
Na,589.592 { 57},Y2R,ppm, 273.4,2.529,.9251, 270.7, 273.9, 275.7,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0172,.0009,5.263, .0183, .0166, .0168,None,,
P,177.495 {490},Y1,ppm, .0059,.0101,170.7, .0129, -.0057, .0105,None,,
Pb,220.353 {453},Y1,ppm, .0070,.0076,108.3, -.0017, .0124, .0104,None,,
S,182.034 {485},Y1,ppm, 107.6,.2540,.2362, 107.5, 107.4, 107.9,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .0259,.0060,23.00, .0328, .0222, .0227,None,,
Se,196.090 {472},Y1,ppm, -.0317,.0229,71.99, -.0554, -.0098, -.0301,None,,
Si,251.611 {134},Y2R,ppm, 100.73,.64266,.63797, 100.08, 100.77, 101.36,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0081,.0061,75.39, .0016, .0090, .0138,None,,
Sr,421.552 { 80},Y2A,ppm, .0009,.0000,4.225, .0009, .0009, .0009,None,,
Th,283.730 {119},Y2R,ppm, -.1063,.0433,40.76, -.0574, -.1400, -.1215,None,,
Ti,334.941 {101},Y2A,ppm, .0030,.0003,8.654, .0029, .0034, .0029,None,,
Tl,190.856 {477},Y1,ppm, .0137,.0083,61.09, .0086, .0091, .0233,None,,
V,292.402 {115},Y2A,ppm, -.0013,.0005,39.02, -.0019, -.0010, -.0010,None,,
W,207.911 {462},Y1,ppm, .0047,.0040,86.73, .0085, .0004, .0051,None,,
Zn,213.856 {458},Y1,ppm, -.0130,.0007,5.670, -.0132, -.0136, -.0122,None,,
Zr,339.198 { 99},Y2R,ppm, .0126,.0163,129.7, .0308, .0073, -.0004,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 2065.5,7.6131,.36858,2063.9,2073.8,2058.9
Y2A,371.030 { 91}2,Cts/S, 191060.,1089.4,.57020,191210.,189900.,192060.
Y2R,371.030 { 91}3,Cts/S, 3038.0,32.939,1.0842,3004.1,3039.9,3069.9

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=CCS
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 15:15:45
Sample Type=QC
Mode=CONC

CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, -.0021,.0004,18.86, -.0019, -.0025, -.0018,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .0117,.0077,66.14, .0054, .0203, .0093,Chk Pass,,
As,189.042 {478},Y1,ppm, .0027,.0018,68.80, .0020, .0048, .0013,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0050,.0003,5.796, .0046, .0051, .0052,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0001,.0000,56.78, .0000, .0001, .0001,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00006,.00001,17.327, .00007, .00005, .00005,Chk Pass,,
Ca,317.933 {106},Y2R,ppm,F .4483,.6183,137.9, .0292, 1.158, .1572,Chk
Fail,.2500,-.2500
Cd,226.502 {449},Y1,ppm, .0002,.0002,84.72, .0004, .0002, .0000,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0001,.0005,939.1, -.0004, -.0000, .0006,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, -.0003,.0006,206.8, -.0001, .0002, -.0010,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0040,.0017,42.02, .0020, .0047, .0051,Chk Pass,,
Fe,261.187 {129},Y2R,ppm,F .2236,.3295,147.4, .0064, .6027, .0615,Chk
Fail,.1000,-.1000
K,766.490 { 44},Y2R,ppm,F .7166,.5075,70.82, .4702, 1.300, .3793,Chk
Fail,.2500,-.2500
Li,670.784 { 50},Y2R,ppm, .0167,.0161,96.36, .0063, .0352, .0085,Chk Pass,,
Mg,285.213 {118},Y2R,ppm,F .4335,.6236,143.9, .0062, 1.149, .1451,Chk
Fail,.0500,-.0500
Mn,257.610 {131},Y2A,ppm, .00009,.00005,58.659, .00006, .00006, .00015,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0005,.0006,107.5, .0008, -.0001, .0009,Chk Pass,,
Na,589.592 { 57},Y2R,ppm,F .5003,.5196,103.9, .1632, 1.099, .2390,Chk
Fail,.5000,-.5000
Ni,231.604 {445},Y1,ppm,W .0039,.0005,13.59, .0044, .0034, .0038,Chk
Warn,.0038,-.0038
P,177.495 {490},Y1,ppm, -.0052,.0134,256.2, -.0192, -.0041, .0076,Chk Pass,,
Pb,220.353 {453},Y1,ppm, -.0032,.0039,121.3, .0008, -.0033, -.0070,Chk Pass,,
S,182.034 {485},Y1,ppm, -.0157,.0304,193.1, .0150, -.0457, -.0165,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .0087,.0010,11.67, .0080, .0083, .0099,Chk Pass,,
Se,196.090 {472},Y1,ppm, -.0048,.0148,306.9, -.0162, -.0101, .0119,Chk Pass,,
Si,251.611 {134},Y2R,ppm,W .22468,.29187,129.91, -.01434, .54996, .13841,Chk
Warn,.18750,-.18750
Sn,189.989 {477},Y1,ppm, .0028,.0051,180.6, -.0008, .0086, .0006,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0000,.0000,146.0, .0001, -.0000, .0000,Chk Pass,,
Th,283.730 {119},Y2R,ppm, -.1263,.0526,41.67, -.0697, -.1737, -.1354,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0003,.0000,4.593, .0003, .0003, .0003,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0053,.0047,89.34, .0029, .0023, .0108,Chk Pass,,
V,292.402 {115},Y2A,ppm, -.0001,.0001,73.17, -.0001, -.0001, -.0002,Chk Pass,,
W,207.911 {462},Y1,ppm, .0018,.0022,123.9, .0011, .0042, .0000,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .0005,.0004,86.89, .0001, .0005, .0010,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0053,.0198,371.6, -.0110, .0273, -.0003,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 2273.6,9.3999,.41344,2282.0,2263.4,2275.4
Y2A,371.030 { 91}2,Cts/S, 215130.,1165.5,.54175,215200.,213930.,216260.
Y2R,371.030 { 91}3,Cts/S, 3184.1,46.700,1.4667,3133.9,3226.3,3192.0

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=CCV 392869
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 15:18:54
Sample Type=QC

Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .4818,.0012,.2549, .4828, .4821, .4804,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 24.29,.0225,.0927, 24.29, 24.31, 24.27,Chk Pass,,
As,189.042 {478},Y1,ppm, .4638,.0044,.9463, .4670, .4588, .4657,Chk Pass,,
B,249.773 {135},Y2A,ppm, .4827,.0009,.1924, .4818, .4836, .4828,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .4981,.0044,.8751, .4946, .4968, .5030,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .47347,.00106,.22413, .47312, .47467, .47264,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 24.57,.0468,.1907, 24.53, 24.55, 24.62,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .4872,.0023,.4776, .4898, .4864, .4854,Chk Pass,,
Co,228.616 {447},Y1,ppm, .4927,.0022,.4370, .4947, .4930, .4905,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .5003,.0015,.3008, .5020, .4996, .4992,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .4996,.0033,.6561, .4958, .5011, .5018,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 24.75,.0977,.3948, 24.64, 24.81, 24.80,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 24.92,.0698,.2801, 24.85, 24.92, 24.99,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .4979,.0056,1.123, .4987, .4919, .5030,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 24.84,.0682,.2747, 24.78, 24.82, 24.92,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .49351,.00070,.14243, .49288, .49427, .49339,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .5055,.0018,.3640, .5069, .5062, .5034,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 24.68,.0218,.0884, 24.67, 24.67, 24.71,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .4895,.0022,.4553, .4920, .4879, .4886,Chk Pass,,
P,177.495 {490},Y1,ppm, .4935,.0048,.9676, .4885, .4981, .4939,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .4921,.0081,1.654, .5015, .4875, .4872,Chk Pass,,
S,182.034 {485},Y1,ppm, 24.87,.0403,.1620, 24.85, 24.83, 24.91,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .5030,.0061,1.203, .5091, .5029, .4970,Chk Pass,,
Se,196.090 {472},Y1,ppm, .4800,.0135,2.819, .4928, .4812, .4659,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 24.363,.06467,.26543, 24.289, 24.410, 24.391,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .4953,.0024,.4793, .4980, .4944, .4935,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .4920,.0009,.1763, .4926, .4910, .4925,Chk Pass,,
Th,283.730 {119},Y2R,ppm,F .4277,.0449,10.51, .4294, .4718, .3820,Chk
Fail,.5000,-10.00%
Ti,334.941 {101},Y2A,ppm, .5153,.0007,.1360, .5146, .5160, .5155,Chk Pass,,
Tl,190.856 {477},Y1,ppm,F .4426,.0132,2.973, .4578, .4342, .4359,Chk
Fail,.5000,-10.00%
V,292.402 {115},Y2A,ppm, .5131,.0021,.4127, .5109, .5152, .5131,Chk Pass,,
W,207.911 {462},Y1,ppm, .5042,.0059,1.179, .5083, .5070, .4974,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .4865,.0026,.5381, .4878, .4882, .4835,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .5119,.0131,2.553, .5119, .4988, .5249,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 2236.5,21.176,.94680,2214.0,2239.6,2256.0
Y2A,371.030 { 91}2,Cts/S, 209420.,384.63,.18366,209860.,209240.,209160.
Y2R,371.030 { 91}3,Cts/S, 3115.3,22.203,.71271,3134.1,3090.8,3121.1

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=CCB 412912

Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 15:22:09
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

```
[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, -.0019,.0008,41.98, -.0011, -.0027, -.0020,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .0814,.1237,151.8, .2242, .0130, .0071,Chk Pass,,
As,189.042 {478},Y1,ppm, -.0000,.0027,24530., .0014, -.0031, .0017,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0047,.0015,31.21, .0063, .0034, .0043,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0007,.0012,159.7, .0021, .0001, .0001,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00070,.00116,166.64, .00203, .00003, .00002,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .0064,.0076,119.6, .0144, -.0007, .0054,Chk Pass,,
Cd,226.502 {449},Y1,ppm, -.0001,.0002,131.9, -.0000, -.0003, -.0000,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0004,.0003,71.71, .0007, .0002, .0002,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0011,.0009,77.89, .0021, .0005, .0008,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0067,.0023,33.69, .0092, .0060, .0049,Chk Pass,,
Fe,261.187 {129},Y2R,ppm,W -.0888,.0176,19.84, -.0793, -.1092, -.0780,Chk
Warn,.0750,-.0750
K,766.490 { 44},Y2R,ppm, .0059,.0366,621.0, .0090, -.0322, .0409,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0055,.0039,71.35, .0034, .0031, .0100,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, -.0042,.0066,155.6, -.0102, .0028, -.0052,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .00084,.00136,161.14, .00241, .00004, .00008,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.0001,.0004,805.2, -.0003, -.0003, .0004,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .0314,.0320,101.8, -.0054, .0528, .0468,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0028,.0013,44.16, .0014, .0034, .0037,Chk Pass,,
P,177.495 {490},Y1,ppm, .0072,.0037,50.68, .0114, .0060, .0044,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .0052,.0032,61.78, .0088, .0026, .0043,Chk Pass,,
S,182.034 {485},Y1,ppm, -.0396,.0054,13.65, -.0369, -.0458, -.0360,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .0029,.0070,243.4, .0020, -.0037, .0102,Chk Pass,,
Se,196.090 {472},Y1,ppm, -.0016,.0144,911.8, .0083, -.0181, .0051,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .00322,.03692,1148.3, -.02177, .04562, -.01421,Chk Pass,,
Sn,189.989 {477},Y1,ppm, -.0007,.0027,368.6, -.0007, .0020, -.0035,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0006,.0011,180.1, .0020, -.0000, -.0000,Chk Pass,,
Th,283.730 {119},Y2R,ppm,W -.1974,.0501,25.39, -.2476, -.1973, -.1474,Chk
Warn,.1875,-.1875
Ti,334.941 {101},Y2A,ppm, .0008,.0013,161.3, .0024, .0001, -.0000,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0000,.0125,67220., .0037, -.0139, .0103,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0013,.0012,98.94, .0023, -.0001, .0016,Chk Pass,,
W,207.911 {462},Y1,ppm, .0016,.0031,193.8, -.0003, -.0001, .0051,Chk Pass,,
Zn,213.856 {458},Y1,ppm, -.0000,.0004,50500., .0004, -.0004, -.0001,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0052,.0064,122.6, .0108, .0067, -.0018,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 2254.6,7.8127,.34652,2257.5,2245.8,2260.6
Y2A,371.030 { 91}2,Cts/S, 216130.,3301.7,1.5277,219940.,214100.,214350.
Y2R,371.030 { 91}3,Cts/S, 3167.2,42.123,1.3300,3193.2,3189.9,3118.6

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=mb 410-42157/1-a
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 15:28:09
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, -.001324,.0004546,34.32558, -.000967, -.001170,
```

-.001836,None,,
Al,308.215 {109}2,Y2A,ppm, .0013071,.0051588,394.6850, -.004150, .0061045,
.0019664,None,,
As,189.042 {478},Y1,ppm, .0011384,.0150987,1326.317, .0169848, -.013081,
-.000489,None,,
B,249.773 {135},Y2A,ppm, .0018302,.0013917,76.03781, .0002236, .0026063,
.0026608,None,,
Ba,455.403 { 74},Y2A,ppm, .0000694,.0000224,32.30851, .0000448, .0000887,
.0000747,None,,
Be,313.042 {108},Y2A,ppm, .0000399,.0000281,70.46052, .0000720, .0000198,
.0000278,None,,
Ca,317.933 {106},Y2R,ppm, .0102047,.0001886,1.848136, .0101664, .0104095,
.0100381,None,,
Cd,226.502 {449},Y1,ppm, .0000064,.0003010,4696.866, -.000338, .0002182,
.0001392,None,,
Co,228.616 {447},Y1,ppm, .0004763,.0005003,105.0367, .0007396, -.000101,
.0007899,None,,
Cr,267.716 {126},Y2A,ppm, .0000571,.0005783,1012.172, .0003686, .0004129,
-.000610,None,,
Cu,327.396 {103},Y2A,ppm, .0013744,.0014393,104.7247, -.000196, .0026312,
.0016876,None,,
Fe,261.187 {129},Y2R,ppm, -.048461,.0610992,126.0789, -.104352, -.057801,
.0167705,None,,
K,766.490 { 44},Y2R,ppm, .0525745,.1660525,315.8426, -.114042, .0537071,
.2180577,None,,
Li,670.784 { 50},Y2R,ppm, -.006271,.0019523,31.13144, -.008490, -.005509,
-.004815,None,,
Mg,285.213 {118},Y2R,ppm, .0069224,.0089237,128.9112, .0170978, .0004284,
.0032408,None,,
Mn,257.610 {131},Y2A,ppm, .0005310,.0000547,10.30380, .0004683, .0005561,
.0005687,None,,
Mo,202.030 {467},Y1,ppm, -.000390,.0013997,358.7883, .0009752, -.000324,
-.001822,None,,
Na,589.592 { 57},Y2R,ppm, .0251058,.0183397,73.04966, .0437967, .0071387,
.0243820,None,,
Ni,231.604 {445},Y1,ppm, .0018604,.0010540,56.65383, .0006525, .0023355,
.0025932,None,,
P,177.495 {490},Y1,ppm, -.006564,.0020969,31.94789, -.008624, -.004432,
-.006634,None,,
Pb,220.353 {453},Y1,ppm, .0022266,.0005275,23.69206, .0021520, .0017403,
.0027874,None,,
S,182.034 {485},Y1,ppm, -.043846,.0045330,10.33844, -.045980, -.046919,
-.038640,None,,
Sb,206.833 {463},Y1,ppm, .0055484,.0055671,100.3370, .0072465, .0100686,
-.000670,None,,
Se,196.090 {472},Y1,ppm, .0011026,.0043448,394.0641, .0007383, -.003049,
.0056180,None,,
Si,251.611 {134},Y2R,ppm, -.004739,.0209290,441.6458, -.026364, -.003269,
.0154164,None,,
Sn,189.989 {477},Y1,ppm, -.002717,.0016228,59.71985, -.004529, -.002224,
-.001398,None,,
Sr,421.552 { 80},Y2A,ppm, -.000014,.0000144,99.37810, .0000011, -.000027,
-.000017,None,,
Th,283.730 {119},Y2R,ppm, -.031298,.0641637,205.0065, .0413748, -.080122,
-.055147,None,,
Ti,334.941 {101},Y2A,ppm, .0000722,.0001595,221.0181, .0001841, .0001429,
-.000110,None,,
Tl,190.856 {477},Y1,ppm, -.000915,.0112788,1232.260, -.011633, -.001964,
.0108513,None,,
V,292.402 {115},Y2A,ppm, .0000200,.0001820,909.0326, -.000076, .0002299,
-.000094,None,,
W,207.911 {462},Y1,ppm, .0012550,.0022130,176.3311, .0027182, .0023378,
-.001291,None,,

Zn,213.856 {458},Y1,ppm, .0000856,.0005619,656.4519, .0002997, .0005089,
-.000552,None,,
Zr,339.198 { 99},Y2R,ppm, .0015854,.0054958,346.6477, .0079138, -.001989,
-.001169,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 2321.517,2.062913,.0888605,2322.195,2319.200,2323.155,None,,
Y2A,371.030 { 91}2,Cts/S,
217268.3,3063.289,1.409911,220046.7,213983.3,217774.9,None,,
Y2R,371.030 { 91}3,Cts/S,
3189.564,10.40813,.3263182,3178.350,3198.914,3191.429,None,,

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=lcs 410-42157/2-a
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 15:31:20
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0184866,.0009950,5.382346, .0182514, .0195781,
.0176302,None,,
Al,308.215 {109}2,Y2A,ppm, .4001904,.0078470,1.960813, .3999645, .3924588,
.4081479,None,,
As,189.042 {478},Y1,ppm, .0707568,.0151537,21.41663, .0679963, .0571731,
.0871010,None,,
B,249.773 {135},Y2A,ppm, .0605951,.0014280,2.356686, .0622095, .0600784,
.0594973,None,,
Ba,455.403 { 74},Y2A,ppm, .0104865,.0001190,1.134812, .0104692, .0106133,
.0103772,None,,
Be,313.042 {108},Y2A,ppm, .0095432,.0000707,.7404513, .0095867, .0095812,
.0094616,None,,
Ca,317.933 {106},Y2R,ppm, .4332705,.0030879,.7127081, .4309636, .4367785,
.4320693,None,,
Cd,226.502 {449},Y1,ppm, .0107079,.0002929,2.735708, .0104129, .0109988,
.0107120,None,,
Co,228.616 {447},Y1,ppm, .0111186,.0002354,2.116891, .0108787, .0111280,
.0113492,None,,
Cr,267.716 {126},Y2A,ppm, .0293991,.0005693,1.936326, .0300563, .0290605,
.0290805,None,,
Cu,327.396 {103},Y2A,ppm, .0443420,.0042564,9.598957, .0439968, .0402688,
.0487605,None,,
Fe,261.187 {129},Y2R,ppm, .3712334,.0662970,17.85858, .3298365, .3361643,
.4476994,None,,
K,766.490 { 44},Y2R,ppm, 5.448040,.0762117,1.398883, 5.360985, 5.502717,
5.480417,None,,
Li,670.784 { 50},Y2R,ppm, .0918834,.0064668,7.038092, .0844661, .0963389,
.0948452,None,,
Mg,285.213 {118},Y2R,ppm, .2076586,.0016202,.7801971, .2057879, .2086124,
.2085755,None,,
Mn,257.610 {131},Y2A,ppm, .0215782,.0002689,1.246308, .0215502, .0218601,
.0213244,None,,
Mo,202.030 {467},Y1,ppm, .0198684,.0002125,1.069365, .0197194, .0201117,
.0197742,None,,

Na,589.592 { 57},Y2R,ppm, 2.004269,.0162221,.8093793, 2.001587, 2.021665,
1.989555,None,,
Ni,231.604 {445},Y1,ppm, 2.138192,.0090804,.4246760, 2.141254, 2.145347,
2.127977,None,,
P,177.495 {490},Y1,ppm, .2064039,.0088948,4.309422, .2125282, .1962012,
.2104823,None,,
Pb,220.353 {453},Y1,ppm, .0341772,.0030153,8.822397, .0332360, .0317449,
.0375508,None,,
S,182.034 {485},Y1,ppm, .9835650,.0088750,.9023300, .9809893, .9762628,
.9934430,None,,
Sb,206.833 {463},Y1,ppm, .1000574,.0026411,2.639603, .0970517, .1020072,
.1011132,None,,
Se,196.090 {472},Y1,ppm, .0989394,.0021608,2.183962, .1007823, .0994747,
.0965613,None,,
Si,251.611 {134},Y2R,ppm, .9612384,.0505197,5.255691, .9417716, .9233480,
1.018596,None,,
Sn,189.989 {477},Y1,ppm, .0986362,.0031935,3.237662, .0961477, .1022372,
.0975239,None,,
Sr,421.552 { 80},Y2A,ppm, .0099276,.0000415,.4181369, .0099305, .0099675,
.0098847,None,,
Th,283.730 {119},Y2R,ppm, -.083986,.1785697,212.6172, -.075860, .0903812,
-.266481,None,,
Ti,334.941 {101},Y2A,ppm, .0205832,.0001439,.6989079, .0205705, .0207329,
.0204461,None,,
Tl,190.856 {477},Y1,ppm, .0643444,.0131107,20.37589, .0712870, .0492223,
.0725239,None,,
V,292.402 {115},Y2A,ppm, .0204700,.0013327,6.510322, .0197758, .0196277,
.0220065,None,,
W,207.911 {462},Y1,ppm, .0639289,.0016557,2.589867, .0656311, .0638317,
.0623240,None,,
Zn,213.856 {458},Y1,ppm, .4510859,.0018850,.4178734, .4526136, .4516646,
.4489794,None,,
Zr,339.198 { 99},Y2R,ppm, .0961249,.0111413,11.59048, .0937170, .0863845,
.1082734,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 2300.703,9.482412,.4121527,2294.630,2295.850,2311.630,None,,
Y2A,371.030 { 91}2,Cts/S,
215327.8,2626.865,1.219938,213357.1,214316.3,218310.1,None,,
Y2R,371.030 { 91}3,Cts/S,
2991.050,23.14686,.7738707,3017.229,2982.629,2973.293,None,,

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=410-10696-n-1-a
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 15:34:26
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, -.010253,.0004409,4.299845, -.010102, -.010749,
-.009907,None,,
Al,308.215 {109}2,Y2A,ppm, .0273236,.0036994,13.53914, .0293505, .0295667,
.0230538,None,,

As,189.042 {478},Y1,ppm, .0310335,.0059157,19.06217, .0374452, .0298681,
.0257873,None,,
B,249.773 {135},Y2A,ppm, .0237562,.0007673,3.229670, .0244462, .0229300,
.0238924,None,,
Ba,455.403 { 74},Y2A,ppm, .3332015,.0009083,.2726073, .3329762, .3324270,
.3342012,None,,
Be,313.042 {108},Y2A,ppm, .0000744,.0000106,14.19773, .0000625, .0000825,
.0000783,None,,
Ca,317.933 {106},Y2R,ppm, 29.76571,.2476837,.8321109, 29.97885, 29.49399,
29.82430,None,,
Cd,226.502 {449},Y1,ppm, -.001046,.0000642,6.136575, -.000974, -.001097,
-.001066,None,,
Co,228.616 {447},Y1,ppm, .0102471,.0002538,2.477006, .0100911, .0101102,
.0105399,None,,
Cr,267.716 {126},Y2A,ppm, .0030422,.0006112,20.08965, .0023857, .0035947,
.0031462,None,,
Cu,327.396 {103},Y2A,ppm, .0057422,.0022087,38.46434, .0057347, .0079546,
.0035373,None,,
Fe,261.187 {129},Y2R,ppm, 49.03988,.7439668,1.517065, 49.35541, 48.19015,
49.57409,None,,
K,766.490 { 44},Y2R,ppm, 1.396007,.1117824,8.007300, 1.314051, 1.350626,
1.523343,None,,
Li,670.784 { 50},Y2R,ppm, -.002900,.0045777,157.8451, -.008186, -.000209,
-.000306,None,,
Mg,285.213 {118},Y2R,ppm, 14.21706,.1980611,1.393123, 14.33601, 13.98842,
14.32675,None,,
Mn,257.610 {131},Y2A,ppm, .7915150,.0008216,.1038000, .7905728, .7918900,
.7920822,None,,
Mo,202.030 {467},Y1,ppm, -.002641,.0009039,34.22694, -.001598, -.003201,
-.003124,None,,
Na,589.592 { 57},Y2R,ppm, 4.962026,.0570338,1.149405, 4.978731, 4.898504,
5.008841,None,,
Ni,231.604 {445},Y1,ppm, .0064880,.0002728,4.205393, .0063682, .0068002,
.0062955,None,,
P,177.495 {490},Y1,ppm, .0097476,.0100812,103.4223, .0077854, .0206658,
.0007918,None,,
Pb,220.353 {453},Y1,ppm, .0122498,.0020948,17.10042, .0102040, .0143903,
.0121550,None,,
S,182.034 {485},Y1,ppm, .4010269,.0098282,2.450752, .4080324, .4052563,
.3897921,None,,
Sb,206.833 {463},Y1,ppm, .0030583,.0068397,223.6456, -.004780, .0078153,
.0061396,None,,
Se,196.090 {472},Y1,ppm, -.008600,.0134038,155.8574, .0031209, -.023214,
-.005707,None,,
Si,251.611 {134},Y2R,ppm, 5.006966,.1755471,3.506057, 5.113029, 4.804336,
5.103533,None,,
Sn,189.989 {477},Y1,ppm, -.000207,.0027189,1313.676, .0016762, -.003324,
.0010269,None,,
Sr,421.552 { 80},Y2A,ppm, .2931477,.0010225,.3488061, .2925750, .2925399,
.2943282,None,,
Th,283.730 {119},Y2R,ppm, -.116066,.1061689,91.47310, -.138134, -.209466,
-.000597,None,,
Ti,334.941 {101},Y2A,ppm, .0019967,.0001116,5.588272, .0021255, .0019304,
.0019341,None,,
Tl,190.856 {477},Y1,ppm, .0056863,.0083496,146.8376, .0077208, .0128306,
-.003493,None,,
V,292.402 {115},Y2A,ppm, -.000100,.0005204,518.8070, .0000607, .0003205,
-.000682,None,,
W,207.911 {462},Y1,ppm, .0011297,.0004835,42.79520, .0007024, .0010323,
.0016545,None,,
Zn,213.856 {458},Y1,ppm, -.005884,.0004440,7.544937, -.006320, -.005433,
-.005900,None,,
Zr,339.198 { 99},Y2R,ppm, .0046288,.0060019,129.6635, .0112463, .0031032,

-.000463,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 2271.707,27.96122,1.230846,2298.175,2242.460,2274.485,None,,
Y2A,371.030 { 91}2,Cts/S,
213785.7,2522.014,1.179693,215670.7,210920.8,214765.6,None,,
Y2R,371.030 { 91}3,Cts/S,
3205.357,44.35683,1.383834,3156.357,3242.771,3216.943,None,,

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=410-10696-n-3-a
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 15:37:34
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, -.006427,.0009897,15.39883, -.007346, -.005380,
-.006555,None,,
Al,308.215 {109}2,Y2A,ppm, .1390632,.0065490,4.709355, .1463711, .1337254,
.1370932,None,,
As,189.042 {478},Y1,ppm, .0200337,.0102037,50.93265, .0261585, .0256881,
.0082546,None,,
B,249.773 {135},Y2A,ppm, .0240483,.0006866,2.855217, .0232647, .0243357,
.0245445,None,,
Ba,455.403 { 74},Y2A,ppm, .2503645,.0006890,.2752088, .2504548, .2510039,
.2496348,None,,
Be,313.042 {108},Y2A,ppm, .0000957,.0000310,32.36427, .0001165, .0001105,
.0000601,None,,
Ca,317.933 {106},Y2R,ppm, 50.28659,.2350586,.4674379, 50.53874, 50.07353,
50.24750,None,,
Cd,226.502 {449},Y1,ppm, -.000537,.0001541,28.67712, -.000479, -.000712,
-.000421,None,,
Co,228.616 {447},Y1,ppm, .0057190,.0003685,6.443705, .0054906, .0061442,
.0055223,None,,
Cr,267.716 {126},Y2A,ppm, .0035894,.0005469,15.23591, .0037955, .0029694,
.0040033,None,,
Cu,327.396 {103},Y2A,ppm, .0074568,.0018136,24.32164, .0091719, .0055586,
.0076398,None,,
Fe,261.187 {129},Y2R,ppm, 24.59783,.0275875,.1121543, 24.61776, 24.60939,
24.56635,None,,
K,766.490 { 44},Y2R,ppm, .1411196,.0520858,36.90898, .0915535, .1954040,
.1364014,None,,
Li,670.784 { 50},Y2R,ppm, -.002350,.0042667,181.5695, -.003351, .0023282,
-.006027,None,,
Mg,285.213 {118},Y2R,ppm, 27.08011,.1113472,.4111772, 27.20671, 26.99737,
27.03625,None,,
Mn,257.610 {131},Y2A,ppm, 3.121574,.0122289,.3917541, 3.127708, 3.129522,
3.107493,None,,
Mo,202.030 {467},Y1,ppm, -.000963,.0011491,119.2951, -.000822, .0001085,
-.002177,None,,
Na,589.592 { 57},Y2R,ppm, 53.30843,.2377145,.4459228, 53.56250, 53.09142,
53.27137,None,,
Ni,231.604 {445},Y1,ppm, .0062880,.0006720,10.68736, .0056759, .0070071,

.0061809,None,,
P,177.495 {490},Y1,ppm, .1629452,.0060507,3.713310, .1680794, .1562744,
.1644818,None,,
Pb,220.353 {453},Y1,ppm, .0058229,.0009559,16.41626, .0053945, .0069181,
.0051562,None,,
S,182.034 {485},Y1,ppm, 1.256460,.0335356,2.669055, 1.243913, 1.231007,
1.294460,None,,
Sb,206.833 {463},Y1,ppm, .0118575,.0092159,77.72158, .0124367, .0023657,
.0207701,None,,
Se,196.090 {472},Y1,ppm, -.022392,.0254759,113.7726, -.044877, .0052775,
-.027577,None,,
Si,251.611 {134},Y2R,ppm, 8.526944,.1710436,2.005919, 8.717146, 8.477921,
8.385764,None,,
Sn,189.989 {477},Y1,ppm, .0030078,.0047104,156.6091, .0045471, -.002280,
.0067560,None,,
Sr,421.552 { 80},Y2A,ppm, .4195211,.0044378,1.057827, .4159187, .4244784,
.4181662,None,,
Th,283.730 {119},Y2R,ppm, -.192485,.0836954,43.48149, -.275589, -.108211,
-.193655,None,,
Ti,334.941 {101},Y2A,ppm, .0044419,.0003950,8.892686, .0048863, .0041308,
.0043086,None,,
Tl,190.856 {477},Y1,ppm, .0058952,.0087315,148.1124, .0014812, .0159525,
.0002519,None,,
V,292.402 {115},Y2A,ppm, -.000047,.0002256,481.5805, -.000236, .0002029,
-.000108,None,,
W,207.911 {462},Y1,ppm, .0024460,.0014876,60.81779, .0013078, .0019009,
.0041293,None,,
Zn,213.856 {458},Y1,ppm, -.001611,.0004703,29.18714, -.002154, -.001326,
-.001354,None,,
Zr,339.198 { 99},Y2R,ppm, .0055475,.0089088,160.5911, .0107399, -.004739,
.0106421,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 2255.687,3.985895,.1767043,2259.875,2255.245,2251.940,None,,
Y2A,371.030 { 91}2,Cts/S,
212097.1,489.1904,.2306445,211791.4,211838.6,212661.3,None,,
Y2R,371.030 { 91}3,Cts/S,
3164.251,58.83280,1.859297,3097.813,3209.752,3185.187,None,,

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=410-10696-n-6-a
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 15:40:50
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, -.002602,.0007362,28.29215, -.002595, -.001869,
-.003342,None,,
Al,308.215 {109}2,Y2A,ppm, .0322764,.0061043,18.91246, .0315238, .0265833,
.0387220,None,,
As,189.042 {478},Y1,ppm, .0094982,.0243827,256.7090, -.013554, .0070260,
.0350228,None,,
B,249.773 {135},Y2A,ppm, .0400003,.0013882,3.470412, .0384104, .0409720,

```
.0406185,None,,
Ba,455.403 { 74},Y2A,ppm, .3458129,.0019855,.5741554, .3466662, .3435433,
.3472290,None,,
Be,313.042 {108},Y2A,ppm, .0000696,.0000153,21.95183, .0000856, .0000552,
.0000680,None,,
Ca,317.933 {106},Y2R,ppm, 59.42804,.3353611,.5643145, 59.53648, 59.05188,
59.69577,None,,
Cd,226.502 {449},Y1,ppm, .0010346,.0022342,215.9494, -.000372, -.000134,
.0036108,None,,
Co,228.616 {447},Y1,ppm, .0093477,.0056736,60.69504, .0062243, .0059222,
.0158968,None,,
Cr,267.716 {126},Y2A,ppm, .0042748,.0002778,6.498981, .0039946, .0042797,
.0045501,None,,
Cu,327.396 {103},Y2A,ppm, .0049720,.0018194,36.59327, .0036906, .0041708,
.0070545,None,,
Fe,261.187 {129},Y2R,ppm, 1.386874,.0750157,5.408978, 1.454229, 1.306028,
1.400365,None,,
K,766.490 { 44},Y2R,ppm, .5099004,.1742978,34.18270, .6041583, .6167725,
.3087705,None,,
Li,670.784 { 50},Y2R,ppm, -.000598,.0014837,247.9862, -.002267, .0005722,
-.000100,None,,
Mg,285.213 {118},Y2R,ppm, 32.42949,.3960925,1.221396, 32.40080, 32.04851,
32.83914,None,,
Mn,257.610 {131},Y2A,ppm, 4.871383,.0206939,.4248064, 4.878545, 4.848059,
4.887544,None,,
Mo,202.030 {467},Y1,ppm, .0069196,.0038181,55.17840, .0049624, .0044770,
.0113195,None,,
Na,589.592 { 57},Y2R,ppm, 25.08499,.1436093,.5724907, 25.10953, 24.93070,
25.21476,None,,
Ni,231.604 {445},Y1,ppm, .0126779,.0051063,40.27739, .0088650, .0106894,
.0184793,None,,
P,177.495 {490},Y1,ppm, .0027832,.0017300,62.16036, .0024866, .0012206,
.0046424,None,,
Pb,220.353 {453},Y1,ppm, .0050882,.0065499,128.7270, .0075674, -.002339,
.0100366,None,,
S,182.034 {485},Y1,ppm, 1.213841,.0381465,3.142627, 1.223136, 1.171906,
1.246481,None,,
Sb,206.833 {463},Y1,ppm, .0136544,.0043966,32.19890, .0185771, .0101185,
.0122675,None,,
Se,196.090 {472},Y1,ppm, -.012672,.0117525,92.74579, -.015244, -.022925,
.0001538,None,,
Si,251.611 {134},Y2R,ppm, 7.979663,.0257030,.3221058, 8.009335, 7.965388,
7.964265,None,,
Sn,189.989 {477},Y1,ppm, -.000689,.0063890,927.0916, .0002358, -.007490,
.0051869,None,,
Sr,421.552 { 80},Y2A,ppm, .4922397,.0036377,.7390096, .4887131, .4920268,
.4959792,None,,
Th,283.730 {119},Y2R,ppm, -.117320,.0806359,68.73137, -.092467, -.052037,
-.207457,None,,
Ti,334.941 {101},Y2A,ppm, .0028080,.0001538,5.478338, .0029792, .0026814,
.0027634,None,,
Tl,190.856 {477},Y1,ppm, -.005911,.0024541,41.51905, -.004328, -.004666,
-.008738,None,,
V,292.402 {115},Y2A,ppm, -.000351,.0004610,131.1925, -.000340, -.000818,
.0001039,None,,
W,207.911 {462},Y1,ppm, .0035261,.0051585,146.2977, -.002429, .0063965,
.0066109,None,,
Zn,213.856 {458},Y1,ppm, .0160038,.0017649,11.02823, .0147421, .0152486,
.0180206,None,,
Zr,339.198 { 99},Y2R,ppm, .0125469,.0073135,58.28968, .0041026, .0168625,
.0166755,None,,

[Internal Standards]
```

Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Y1,224.306 {450},Cts/S, 2262.922,26.16917,1.156433,2249.075,2246.585,2293.105,None,,
Y2A,371.030 { 91}2,Cts/S,
210087.4,589.7957,.2807383,209740.0,209753.7,210768.4,None,,
Y2R,371.030 { 91}3,Cts/S,
2977.722,52.15669,1.751563,3029.096,2979.254,2924.816,None,,

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=CCV 392869
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 15:44:05
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm,F -.0017,.0002,11.51, -.0018, -.0015, -.0019,Chk
Fail,.5000,-10.00%
Al,308.215 {109}2,Y2A,ppm,F -.1011,.0018,1.763, -.1013, -.0993, -.1028,Chk
Fail,25.00,-10.00%
As,189.042 {478},Y1,ppm,F .0783,.0541,69.03, .0173, .0974, .1202,Chk
Fail,.5000,-10.00%
B,249.773 {135},Y2A,ppm,F .0005,.0010,206.1, -.0006, .0011, .0009,Chk
Fail,.5000,-10.00%
Ba,455.403 { 74},Y2A,ppm,F .0001,.0002,199.1, -.0000, .0003, -.0000,Chk
Fail,.5000,-10.00%
Be,313.042 {108},Y2A,ppm,F -.00010,.00000,1.1629, -.00010, -.00010, -.00010,Chk
Fail,.50000,-10.000%
Ca,317.933 {106},Y2R,ppm,F .0112,.0029,25.48, .0098, .0145, .0094,Chk
Fail,25.00,-10.00%
Cd,226.502 {449},Y1,ppm,F .0858,.0646,75.23, .0123, .1120, .1332,Chk
Fail,.5000,-10.00%
Co,228.616 {447},Y1,ppm,F .0884,.0666,75.33, .0126, .1150, .1375,Chk
Fail,.5000,-10.00%
Cr,267.716 {126},Y2A,ppm,F -.0005,.0001,28.65, -.0004, -.0004, -.0006,Chk
Fail,.5000,-10.00%
Cu,327.396 {103},Y2A,ppm,F .0032,.0004,11.96, .0037, .0029, .0031,Chk
Fail,.5000,-10.00%
Fe,261.187 {129},Y2R,ppm,F -.0482,.0130,26.93, -.0548, -.0567, -.0333,Chk
Fail,25.00,-10.00%
K,766.490 { 44},Y2R,ppm,F -.0593,.0489,82.47, -.0077, -.1050, -.0651,Chk
Fail,25.00,-10.00%
Li,670.784 { 50},Y2R,ppm,F -.0132,.0013,9.707, -.0147, -.0125, -.0124,Chk
Fail,.5000,-10.00%
Mg,285.213 {118},Y2R,ppm,F .0031,.0006,19.03, .0028, .0027, .0038,Chk
Fail,25.00,-10.00%
Mn,257.610 {131},Y2A,ppm,F .00125,.00223,178.05, -.00006, .00383, -.00001,Chk
Fail,.50000,-10.000%
Mo,202.030 {467},Y1,ppm,F .0895,.0684,76.45, .0115, .1178, .1392,Chk
Fail,.5000,-10.00%
Na,589.592 { 57},Y2R,ppm,F .0437,.0087,19.87, .0337, .0479, .0496,Chk
Fail,25.00,-10.00%
Ni,231.604 {445},Y1,ppm,F .0905,.0654,72.25, .0162, .1162, .1391,Chk
Fail,.5000,-10.00%
P,177.495 {490},Y1,ppm,F .0676,.0673,99.55, -.0087, .0928, .1186,Chk
Fail,.5000,-10.00%

Pb,220.353 {453},Y1,ppm,F .0861,.0632,73.38, .0138, .1141, .1304,Chk Fail,.5000,-10.00%
S,182.034 {485},Y1,ppm,F 3.785,2.882,76.14, .5040, 4.945, 5.906,Chk Fail,25.00,-10.00%
Sb,206.833 {463},Y1,ppm,F .0819,.0613,74.79, .0116, .1101, .1240,Chk Fail,.5000,-10.00%
Se,196.090 {472},Y1,ppm,F .0678,.0644,95.06, -.0047, .0895, .1186,Chk Fail,.5000,-10.00%
Si,251.611 {134},Y2R,ppm,F -.02328,.02633,113.12, .00625, -.03176, -.04433,Chk Fail,25.000,-10.000%
Sn,189.989 {477},Y1,ppm,F .0828,.0688,83.11, .0047, .1095, .1344,Chk Fail,.5000,-10.00%
Sr,421.552 { 80},Y2A,ppm,F .0001,.0003,293.4, -.0001, .0004, -.0001,Chk Fail,.5000,-10.00%
Th,283.730 {119},Y2R,ppm,F -.0405,.0105,25.83, -.0478, -.0285, -.0452,Chk Fail,.5000,-10.00%
Ti,334.941 {101},Y2A,ppm,F -.0002,.0001,27.69, -.0003, -.0002, -.0003,Chk Fail,.5000,-10.00%
Tl,190.856 {477},Y1,ppm,F .0848,.0643,75.91, .0138, .1012, .1393,Chk Fail,.5000,-10.00%
V,292.402 {115},Y2A,ppm,F .0007,.0010,152.6, -.0005, .0012, .0013,Chk Fail,.5000,-10.00%
W,207.911 {462},Y1,ppm,F .0964,.0711,73.70, .0148, .1301, .1444,Chk Fail,.5000,-10.00%
Zn,213.856 {458},Y1,ppm,F .0815,.0616,75.59, .0113, .1066, .1265,Chk Fail,.5000,-10.00%
Zr,339.198 { 99},Y2R,ppm,F -.0091,.0007,8.178, -.0096, -.0083, -.0095,Chk Fail,.5000,-10.00%

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 3291.1,497.77,15.125,2758.9,3745.3,3369.0
Y2A,371.030 { 91}2,Cts/S, 607180.,2938.2,.48392,604660.,606470.,610400.
Y2R,371.030 { 91}3,Cts/S, 7893.5,30.207,.38268,7923.3,7862.9,7894.2

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=CCB 412912

Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 15:47:23
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, -.0018,.0010,53.04, -.0028, -.0009, -.0018,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .0059,.0101,171.7, .0172, -.0019, .0022,Chk Pass,,
As,189.042 {478},Y1,ppm, -.0002,.0033,1456., -.0007, -.0033, .0033,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0016,.0007,44.59, .0024, .0011, .0013,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0001,.0001,162.5, .0000, .0002, -.0000,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00004,.00002,46.320, .00003, .00006, .00003,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, -.0017,.0105,609.5, .0015, .0068, -.0134,Chk Pass,,
Cd,226.502 {449},Y1,ppm, -.0000,.0003,3694., -.0001, .0003, -.0003,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0001,.0004,460.8, -.0001, -.0002, .0006,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, -.0002,.0003,175.3, -.0005, -.0001, .0001,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0025,.0036,144.1, .0066, -.0000, .0009,Chk Pass,,

Fe,261.187 {129},Y2R,ppm, -.0423,.0630,148.9, -.0857, -.0710, .0299,Chk Pass,,
K,766.490 { 44},Y2R,ppm, -.0435,.0230,52.91, -.0351, -.0696, -.0259,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, -.0010,.0046,465.0, -.0000, -.0059, .0030,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, -.0005,.0079,1545., .0033, -.0096, .0048,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .00055,.00107,193.49, -.00020, .00178, .00008,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.0012,.0007,64.56, -.0017, -.0003, -.0015,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, -.0024,.0100,416.8, -.0112, -.0044, .0084,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0031,.0005,16.36, .0035, .0031, .0025,Chk Pass,,
P,177.495 {490},Y1,ppm, -.0035,.0063,181.0, -.0012, .0013, -.0107,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .0026,.0028,109.9, .0053, .0027, -.0003,Chk Pass,,
S,182.034 {485},Y1,ppm, -.0068,.0097,143.4, .0035, -.0159, -.0079,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .0104,.0061,58.69, .0093, .0170, .0049,Chk Pass,,
Se,196.090 {472},Y1,ppm, -.0044,.0185,420.0, -.0242, .0125, -.0015,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .02223,.06248,281.02, -.01041, -.01717, .09428,Chk Pass,,
Sn,189.989 {477},Y1,ppm, -.0016,.0054,333.1, -.0063, .0043, -.0029,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0000,.0001,171.3, .0000, .0001, -.0000,Chk Pass,,
Th,283.730 {119},Y2R,ppm, -.0777,.1411,181.6, -.2205, .0618, -.0745,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0002,.0002,99.17, -.0000, .0004, .0003,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0055,.0066,120.9, .0129, .0002, .0033,Chk Pass,,
V,292.402 {115},Y2A,ppm, -.0003,.0004,116.0, .0000, -.0007, -.0003,Chk Pass,,
W,207.911 {462},Y1,ppm, -.0029,.0007,23.35, -.0037, -.0024, -.0027,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .0002,.0005,246.4, -.0004, .0004, .0006,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.0025,.0073,291.7, -.0037, -.0091, .0053,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 2265.2,14.380,.63484,2277.5,2249.4,2268.8
Y2A,371.030 { 91}2,Cts/S, 213590.,3158.1,1.4785,216900.,210610.,213270.
Y2R,371.030 { 91}3,Cts/S, 3186.1,42.889,1.3461,3221.2,3198.9,3138.3

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=CRI 409665
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 15:50:32
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0101,.0006,6.191, .0108, .0095, .0101,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .2110,.0062,2.957, .2073, .2182, .2076,Chk Pass,,
As,189.042 {478},Y1,ppm, .0315,.0067,21.21, .0315, .0381, .0247,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0302,.0008,2.776, .0309, .0293, .0304,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0053,.0000,.8848, .0053, .0053, .0052,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00476,.00004,.79961, .00475, .00480, .00473,Chk Pass,,
Ca,317.933 {106},Y2R,ppm,W .2736,.0571,20.88, .3357, .2232, .2620,Chk
Warn,.2000,20.00%
Cd,226.502 {449},Y1,ppm, .0050,.0001,2.068, .0050, .0051, .0049,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0050,.0006,12.09, .0044, .0051, .0056,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0145,.0004,2.762, .0150, .0142, .0144,Chk Pass,,
Cu,327.396 {103},Y2A,ppm,W .0255,.0029,11.59, .0229, .0287, .0247,Chk
Warn,.0200,20.00%
Fe,261.187 {129},Y2R,ppm,W .2440,.0384,15.73, .2660, .2664, .1997,Chk
Warn,.2000,20.00%
K,766.490 { 44},Y2R,ppm, .2633,.1356,51.49, .1478, .4126, .2295,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0461,.0022,4.845, .0480, .0437, .0467,Chk Pass,,

Mg,285.213 {118},Y2R,ppm, .1103,.0410,37.20, .1573, .0921, .0815,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .01081,.00010,.95001, .01084, .01070, .01090,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0099,.0009,9.573, .0089, .0100, .0108,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 1.015,.0340,3.354, 1.054, .9910, 1.000,Chk Pass,,
Ni,231.604 {445},Y1,ppm,W .0128,.0012,8.968, .0141, .0118, .0126,Chk
Warn,.0100,20.00%
P,177.495 {490},Y1,ppm, .0998,.0043,4.338, .1007, .0951, .1036,Chk Pass,,
Pb,220.353 {453},Y1,ppm,W .0197,.0029,14.79, .0164, .0210, .0218,Chk
Warn,.0150,20.00%
S,182.034 {485},Y1,ppm, .4820,.0316,6.556, .4458, .4960, .5042,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .0567,.0029,5.082, .0534, .0581, .0587,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0468,.0069,14.82, .0418, .0548, .0439,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .54954,.03624,6.5953, .50804, .56565, .57494,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0455,.0020,4.333, .0453, .0475, .0436,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0050,.0000,.5347, .0050, .0050, .0050,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .4571,.0949,20.77, .5175, .3477, .5060,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0102,.0002,1.883, .0100, .0104, .0103,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0336,.0149,44.37, .0191, .0330, .0489,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0101,.0005,4.563, .0107, .0099, .0099,Chk Pass,,
W,207.911 {462},Y1,ppm, .0311,.0028,9.077, .0314, .0337, .0281,Chk Pass,,
Zn,213.856 {458},Y1,ppm,W .0292,.0005,1.627, .0288, .0292, .0297,Chk
Warn,.0200,20.00%
Zr,339.198 { 99},Y2R,ppm, .0472,.0073,15.44, .0415, .0554, .0447,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 2245.5,8.9280,.39759,2237.1,2244.7,2254.9
Y2A,371.030 { 91}2,Cts/S, 212280.,55.119,.02597,212290.,212220.,212330.
Y2R,371.030 { 91}3,Cts/S, 3070.5,49.328,1.6065,3120.8,3068.6,3022.2

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=CCV 401630
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 16:02:59
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .4843,.0071,1.474, .4777, .4833, .4919,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 24.47,.4203,1.717, 24.08, 24.42, 24.92,Chk Pass,,
As,189.042 {478},Y1,ppm, .4784,.0196,4.094, .4948, .4567, .4836,Chk Pass,,
B,249.773 {135},Y2A,ppm, .4871,.0098,2.017, .4791, .4842, .4981,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .4886,.0086,1.768, .4800, .4886, .4972,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .47357,.00842,1.7776, .46528, .47332, .48211,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 25.10,.2907,1.158, 25.10, 25.39, 24.81,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .4944,.0022,.4454, .4966, .4945, .4922,Chk Pass,,
Co,228.616 {447},Y1,ppm, .4918,.0010,.1955, .4923, .4923, .4907,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .4869,.0074,1.519, .4803, .4856, .4949,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .5010,.0089,1.782, .4937, .4983, .5109,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 25.07,.2937,1.172, 24.84, 25.40, 24.97,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 25.15,.2654,1.055, 25.28, 25.32, 24.84,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .4987,.0055,1.095, .4943, .5048, .4968,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 25.31,.2628,1.038, 25.37, 25.54, 25.02,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .50241,.00897,1.7848, .49352, .50226, .51145,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .4907,.0030,.6174, .4942, .4893, .4887,Chk Pass,,

Na,589.592 { 57},Y2R,ppm, 25.22,.1837,.7284, 25.19, 25.42, 25.06,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .4893,.0009,.1936, .4903, .4885, .4889,Chk Pass,,
P,177.495 {490},Y1,ppm, .4931,.0136,2.748, .4780, .4973, .5041,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .4924,.0032,.6443, .4928, .4954, .4891,Chk Pass,,
S,182.034 {485},Y1,ppm, 24.83,.0718,.2891, 24.78, 24.79, 24.91,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .4909,.0064,1.296, .4848, .4905, .4975,Chk Pass,,
Se,196.090 {472},Y1,ppm, .4957,.0301,6.075, .5233, .4636, .5002,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 25.001,.34357,1.3742, 24.932, 25.374, 24.698,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .4794,.0041,.8583, .4757, .4788, .4838,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .5025,.0064,1.281, .4961, .5024, .5090,Chk Pass,,
Th,283.730 {119},Y2R,ppm,F .4103,.0450,10.96, .3918, .4616, .3776,Chk
Fail,.5000,-10.00%
Ti,334.941 {101},Y2A,ppm, .5016,.0088,1.745, .4934, .5006, .5108,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .4876,.0102,2.097, .4976, .4880, .4772,Chk Pass,,
V,292.402 {115},Y2A,ppm, .4991,.0093,1.868, .4919, .4957, .5096,Chk Pass,,
W,207.911 {462},Y1,ppm, .4960,.0034,.6846, .4971, .4988, .4923,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .4846,.0012,.2470, .4858, .4844, .4834,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .5092,.0063,1.247, .5116, .5139, .5019,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 2256.6,11.410,.50563,2247.3,2253.3,2269.4
Y2A,371.030 { 91}2,Cts/S, 208780.,3160.7,1.5139,212430.,206980.,206940.
Y2R,371.030 { 91}3,Cts/S, 3029.2,86.047,2.8406,3020.0,2948.2,3119.5

[Sample Header]
Method=New TRACE Fast(v1474)
SampleName=CCB 412912

Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=9/10/2020 16:06:14
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, -.0021,.0006,27.23, -.0014, -.0024, -.0023,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .0026,.0049,187.5, -.0030, .0052, .0057,Chk Pass,,
As,189.042 {478},Y1,ppm, .0049,.0138,283.5, .0169, .0078, -.0102,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0017,.0003,19.74, .0018, .0014, .0020,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0000,.0000,34.41, .0000, .0000, .0000,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00005,.00002,48.423, .00005, .00008, .00003,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .0152,.0085,56.02, .0134, .0078, .0245,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0001,.0002,130.1, .0003, -.0000, .0002,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0004,.0004,103.1, .0007, -.0001, .0005,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, -.0005,.0002,47.76, -.0004, -.0004, -.0008,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0039,.0018,47.01, .0019, .0044, .0054,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, -.0713,.0692,97.10, -.0402, -.1505, -.0230,Chk Pass,,
K,766.490 { 44},Y2R,ppm, -.1390,.0588,42.27, -.2039, -.1236, -.0895,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, -.0004,.0079,2088., -.0017, .0081, -.0075,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, -.0092,.0044,48.23, -.0054, -.0081, -.0141,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, -.00002,.00003,132.54, -.00006, .00000, -.00001,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.0013,.0011,83.37, -.0002, -.0024, -.0013,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, -.0275,.0167,60.91, -.0217, -.0463, -.0144,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0024,.0008,34.50, .0019, .0033, .0019,Chk Pass,,
P,177.495 {490},Y1,ppm, -.0030,.0046,153.4, .0014, -.0077, -.0026,Chk Pass,,
Pb,220.353 {453},Y1,ppm, -.0018,.0031,175.6, -.0022, -.0047, .0016,Chk Pass,,

S,182.034 {485},Y1,ppm, -.0316,.0048,15.15, -.0335, -.0262, -.0352,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .0009,.0007,74.36, .0001, .0014, .0013,Chk Pass,,
Se,196.090 {472},Y1,ppm, -.0083,.0159,192.0, .0093, -.0217, -.0124,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .05654,.04847,85.728, .03248, .02481, .11234,Chk Pass,,
Sn,189.989 {477},Y1,ppm, -.0014,.0026,190.5, .0005, -.0044, -.0003,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, -.0000,.0000,169.2, -.0000, .0000, -.0000,Chk Pass,,
Th,283.730 {119},Y2R,ppm, -.0963,.0663,68.79, -.0208, -.1445, -.1237,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0001,.0001,129.0, -.0000, .0002, .0002,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0002,.0085,4555., .0000, -.0083, .0088,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0002,.0001,83.61, .0002, .0003, .0000,Chk Pass,,
W,207.911 {462},Y1,ppm, .0022,.0005,21.21, .0017, .0026, .0023,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .0007,.0001,10.89, .0008, .0007, .0006,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.0003,.0033,1081., -.0041, .0011, .0021,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 2255.6,14.472,.64161,2269.5,2256.8,2240.6
Y2A,371.030 { 91}2,Cts/S, 214530.,7.4153,.00346,214540.,214530.,214520.
Y2R,371.030 { 91}3,Cts/S, 3061.4,10.214,.33364,3053.2,3072.9,3058.3

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=Matrix_Rinse
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 5:47:30
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0021,.0013,59.20, .0022, .0008, .0033,None,,
Al,308.215 {109}2,Y2A,ppm, -.0551,.0228,41.38, -.0672, -.0288, -.0694,None,,
As,189.042 {478},Y1,ppm, -.0007,.0079,1125., .0058, -.0094, .0015,None,,
B,249.773 {135},Y2A,ppm, -.0009,.0006,63.96, -.0005, -.0006, -.0016,None,,
Ba,455.403 { 74},Y2A,ppm, .0000,.0000,347.5, .0000, -.0000, .0000,None,,
Be,313.042 {108},Y2A,ppm, .00001,.00002,104.97, .00001, .00003, .00000,None,,
Ca,317.933 {106},Y2R,ppm, .0117,.0127,108.1, .0078, .0015, .0259,None,,
Cd,226.502 {449},Y1,ppm, .0003,.0004,116.4, .0003, .0007, -.0000,None,,
Co,228.616 {447},Y1,ppm, .0010,.0003,31.49, .0008, .0008, .0013,None,,
Cr,267.716 {126},Y2A,ppm, -.0008,.0009,115.6, -.0015, -.0011, .0002,None,,
Cu,327.396 {103},Y2A,ppm, -.0007,.0015,213.9, -.0020, .0010, -.0011,None,,
Fe,261.187 {129},Y2R,ppm, .0082,.0088,107.6, .0028, .0034, .0184,None,,
K,766.490 { 44},Y2R,ppm, .0124,.0493,397.0, .0325, -.0437, .0484,None,,
Li,670.784 { 50},Y2R,ppm, .0032,.0024,74.59, .0056, .0030, .0009,None,,
Mg,285.213 {118},Y2R,ppm, .0023,.0035,148.8, .0025, -.0012, .0057,None,,
Mn,257.610 {131},Y2A,ppm, .00007,.00001,19.577, .00006, .00009, .00008,None,,
Mo,202.030 {467},Y1,ppm, .0003,.0017,506.7, .0022, -.0003, -.0010,None,,
Na,589.592 { 57},Y2R,ppm, .0125,.0127,102.3, .0025, .0268, .0080,None,,
Ni,231.604 {445},Y1,ppm, -.0015,.0003,18.56, -.0015, -.0013, -.0018,None,,
P,177.495 {490},Y1,ppm, .0101,.0011,11.20, .0114, .0095, .0094,None,,
Pb,220.353 {453},Y1,ppm, .0068,.0025,37.27, .0086, .0039, .0079,None,,
S,182.034 {485},Y1,ppm, .0203,.0335,164.7, .0028, .0590, -.0008,None,,
Sb,206.833 {463},Y1,ppm, .0019,.0087,454.1, -.0040, .0119, -.0022,None,,
Se,196.090 {472},Y1,ppm, .0069,.0063,91.01, .0139, .0018, .0050,None,,
Si,251.611 {134},Y2R,ppm, .00460,.00424,92.195, .00667, .00741, -.00028,None,,
Sn,189.989 {477},Y1,ppm, .0024,.0023,98.15, -.0003, .0037, .0037,None,,
Sr,421.552 { 80},Y2A,ppm, .0000,.0000,84.97, .0000, .0001, .0000,None,,
Th,283.730 {119},Y2R,ppm, .0430,.0353,82.21, .0770, .0064, .0455,None,,
Ti,334.941 {101},Y2A,ppm, .0001,.0002,178.9, .0001, .0002, -.0001,None,,
Tl,190.856 {477},Y1,ppm, .0060,.0026,42.96, .0037, .0055, .0088,None,,
V,292.402 {115},Y2A,ppm, .0008,.0007,92.47, .0002, .0006, .0016,None,,
W,207.911 {462},Y1,ppm, .0036,.0005,13.32, .0039, .0031, .0039,None,,
Zn,213.856 {458},Y1,ppm, .0021,.0001,4.600, .0020, .0022, .0021,None,,
Zr,339.198 { 99},Y2R,ppm, -.0003,.0016,607.4, -.0010, -.0014, .0016,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1891.3,3.9428,.20847,1891.7,1895.0,1887.2
Y2A,371.030 { 91}2,Cts/S, 132350.,3291.6,2.4870,129960.,136110.,130990.
Y2R,371.030 { 91}3,Cts/S, 6605.9,28.164,.42634,6594.2,6638.1,6585.6

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=S0
Username=dept 22
Comment=

Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 5:50:36
Sample Type=ReSlope
Mode=IR
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Ag,328.068 {103},Y2A,Cts/S, -.0052,.0014,27.64, -.0065, -.0037, -.0053
Al,308.215 {109}2,Y2A,Cts/S, .0067,.0025,36.69, .0067, .0092, .0043
As,189.042 {478},Y1,Cts/S, .0251,.0160,63.78, .0179, .0435, .0139
B,249.773 {135},Y2A,Cts/S, .0000,.0000,105.9, .0000, -.0000, .0000
Ba,455.403 { 74},Y2A,Cts/S, .0006,.0001,16.88, .0007, .0007, .0005
Be,313.042 {108},Y2A,Cts/S, .02617,.00359,13.704, .02776, .02869, .02207
Ca,317.933 {106},Y2R,Cts/S, .0012,.0002,14.42, .0012, .0013, .0010
Cd,226.502 {449},Y1,Cts/S, -.0424,.0187,44.05, -.0627, -.0384, -.0260
Co,228.616 {447},Y1,Cts/S, .0464,.0169,36.31, .0279, .0610, .0504
Cr,267.716 {126},Y2A,Cts/S, -.0001,.0000,17.86, -.0001, -.0001, -.0001
Cu,327.396 {103},Y2A,Cts/S, .0018,.0013,73.61, .0003, .0028, .0023
Fe,261.187 {129},Y2R,Cts/S, .0001,.0002,216.0, -.0001, .0001, .0003
K,766.490 { 44},Y2R,Cts/S, 1.147,.1431,12.48, 1.123, 1.300, 1.017
Li,670.784 { 50},Y2R,Cts/S, -.0013,.0049,375.8, .0041, -.0055, -.0026
Mg,285.213 {118},Y2R,Cts/S, -.0001,.0004,304.0, .0003, -.0002, -.0005
Mn,257.610 {131},Y2A,Cts/S, .00037,.00009,24.095, .00039, .00044, .00027
Mo,202.030 {467},Y1,Cts/S, -.0038,.0250,665.2, -.0031, -.0290, .0209
Na,589.592 { 57},Y2R,Cts/S, .0214,.0035,16.45, .0174, .0241, .0226
Ni,231.604 {445},Y1,Cts/S, .0461,.0196,42.44, .0617, .0525, .0241
P,177.495 {490},Y1,Cts/S, .0009,.0002,20.20, .0009, .0011, .0007
Pb,220.353 {453},Y1,Cts/S, .0026,.0333,1278., .0347, -.0318, .0049
S,182.034 {485},Y1,Cts/S, .0027,.0005,17.70, .0027, .0022, .0031
Sb,206.833 {463},Y1,Cts/S, .0002,.0003,196.7, -.0002, .0005, .0003
Se,196.090 {472},Y1,Cts/S, .0073,.0305,417.3, -.0161, .0418, -.0038
Si,251.611 {134},Y2R,Cts/S, .00002,.00048,2411.0, .00056, -.00036, -.00014
Sn,189.989 {477},Y1,Cts/S, .0036,.0084,235.7, -.0061, .0095, .0072
Sr,421.552 { 80},Y2A,Cts/S, -.0004,.0001,18.15, -.0005, -.0003, -.0004
Th,283.730 {119},Y2R,Cts/S, -.0000,.0003,544.9, -.0004, .0001, .0001
Ti,334.941 {101},Y2A,Cts/S, .0016,.0014,88.88, .0016, .0031, .0002
Tl,190.856 {477},Y1,Cts/S, .0139,.0149,107.5, .0103, .0302, .0011
V,292.402 {115},Y2A,Cts/S, -.0057,.0012,20.70, -.0044, -.0066, -.0062
W,207.911 {462},Y1,Cts/S, .0018,.0003,15.79, .0020, .0015, .0018
Zn,213.856 {458},Y1,Cts/S, .0177,.0232,130.8, -.0090, .0292, .0330
Zr,339.198 { 99},Y2R,Cts/S, .0007,.0007,95.07, .0005, .0002, .0015

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1882.4,16.927,.89927,1896.8,1886.6,1863.7
Y2A,371.030 { 91}2,Cts/S, 129280.,370.24,.28638,128890.,129330.,129620.
Y2R,371.030 { 91}3,Cts/S, 6451.0,73.846,1.1447,6445.5,6380.1,6527.5

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=S1
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 5:53:45
Sample Type=ReSlope
Mode=IR

CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Al,308.215 {109}2,Y2A,Cts/S, 18.71,.1228,.6563, 18.65, 18.63, 18.85
Ca,317.933 {106},Y2R,Cts/S, 3.605,.0293,.8133, 3.621, 3.623, 3.571
Fe,261.187 {129},Y2R,Cts/S, 1.203,.0081,.6697, 1.208, 1.207, 1.193
K,766.490 { 44},Y2R,Cts/S, 123.0,1.136,.9241, 123.4, 123.9, 121.7
Mg,285.213 {118},Y2R,Cts/S, 5.609,.0274,.4883, 5.639, 5.601, 5.586
Na,589.592 { 57},Y2R,Cts/S, 6.731,.0212,.3154, 6.752, 6.731, 6.709
S,182.034 {485},Y1,Cts/S, .5876,.0013,.2167, .5891, .5868, .5869
Si,251.611 {134},Y2R,Cts/S, .91294,.00321,.35151, .91521, .91433, .90927

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1812.3,5.6482,.31166,1818.8,1809.5,1808.6
Y2A,371.030 { 91}2,Cts/S, 121260.,325.84,.26871,121020.,121630.,121120.
Y2R,371.030 { 91}3,Cts/S, 6319.9,79.703,1.2611,6228.4,6356.9,6374.3

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=S2
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 5:56:50
Sample Type=ReSlope
Mode=IR
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Ag,328.068 {103},Y2A,Cts/S, 3.716,.0103,.2763, 3.723, 3.704, 3.721
As,189.042 {478},Y1,Cts/S, 1.093,.0189,1.732, 1.105, 1.104, 1.072
B,249.773 {135},Y2A,Cts/S, .0284,.0000,.1622, .0284, .0284, .0285
Ba,455.403 { 74},Y2A,Cts/S, 3.140,.0249,.7920, 3.168, 3.123, 3.128
Be,313.042 {108},Y2A,Cts/S, 94.181,.51927,.55135, 94.778, 93.932, 93.834
Cd,226.502 {449},Y1,Cts/S, 109.9,.3331,.3030, 110.2, 110.0, 109.6
Co,228.616 {447},Y1,Cts/S, 27.24,.0661,.2426, 27.22, 27.31, 27.18
Cu,327.396 {103},Y2A,Cts/S, 2.215,.0030,.1365, 2.217, 2.216, 2.211
Li,670.784 { 50},Y2R,Cts/S, .8094,.0044,.5387, .8143, .8059, .8079
Mn,257.610 {131},Y2A,Cts/S, 13.033,.05200,.39900, 13.079, 12.977, 13.045
Ni,231.604 {445},Y1,Cts/S, 13.68,.0548,.4009, 13.74, 13.65, 13.65
P,177.495 {490},Y1,Cts/S, .0391,.0005,1.223, .0385, .0394, .0393
Pb,220.353 {453},Y1,Cts/S, 8.321,.0087,.1040, 8.331, 8.317, 8.315
Se,196.090 {472},Y1,Cts/S, 1.400,.0032,.2260, 1.396, 1.401, 1.401
Sr,421.552 { 80},Y2A,Cts/S, 3.427,.0151,.4406, 3.442, 3.412, 3.426
Th,283.730 {119},Y2R,Cts/S, .0140,.0003,1.911, .0137, .0140, .0142
Tl,190.856 {477},Y1,Cts/S, 2.116,.0192,.9078, 2.137, 2.110, 2.100
W,207.911 {462},Y1,Cts/S, .1046,.0003,.3235, .1044, .1050, .1044
Zn,213.856 {458},Y1,Cts/S, 68.43,.1524,.2228, 68.46, 68.56, 68.26

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1849.9,7.3575,.39772,1852.2,1841.7,1855.9
Y2A,371.030 { 91}2,Cts/S, 124890.,634.13,.50776,125460.,124200.,125000.
Y2R,371.030 { 91}3,Cts/S, 6347.9,55.984,.88193,6354.4,6400.3,6288.9

[Sample Header]

Method=New TRACE Fast w axial Al(v353)
SampleName=S3
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 6:00:15
Sample Type=ReSlope
Mode=IR
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Cr,267.716 {126},Y2A,Cts/S, .0479,.0002,.3402, .0477, .0480, .0480
Mo,202.030 {467},Y1,Cts/S, 14.04,.0773,.5505, 14.11, 13.95, 14.05
Sb,206.833 {463},Y1,Cts/S, .0544,.0007,1.281, .0548, .0548, .0536
Sn,189.989 {477},Y1,Cts/S, 1.845,.0151,.8164, 1.862, 1.837, 1.835
Ti,334.941 {101},Y2A,Cts/S, 13.70,.0255,.1863, 13.69, 13.68, 13.73
V,292.402 {115},Y2A,Cts/S, 2.629,.0111,.4226, 2.628, 2.618, 2.640
Zr,339.198 { 99},Y2R,Cts/S, .1339,.0001,.0962, .1340, .1338, .1338

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1948.2,8.7842,.45089,1938.5,1955.5,1950.7
Y2A,371.030 { 91}2,Cts/S, 133940.,849.51,.63425,134890.,133260.,133670.
Y2R,371.030 { 91}3,Cts/S, 6789.4,11.338,.16699,6776.4,6795.3,6796.7

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=ICV 292467
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 6:03:22
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .6171,.0033,.5309, .6198, .6135, .6181,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 30.08,.0721,.2397, 30.01, 30.15, 30.07,Chk Pass,,
As,189.042 {478},Y1,ppm,W .6435,.0179,2.775, .6288, .6385, .6634,Chk
Warn,.6000,5.000%
B,249.773 {135},Y2A,ppm,W .5536,.0051,.9277, .5490, .5528, .5591,Chk
Warn,.6000,-5.000%
Ba,455.403 { 74},Y2A,ppm, .6025,.0062,1.025, .5972, .6093, .6011,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .58238,.00240,.41208, .57986, .58262, .58465,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 29.79,.2066,.6934, 29.62, 30.02, 29.74,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .6105,.0017,.2771, .6123, .6104, .6089,Chk Pass,,
Co,228.616 {447},Y1,ppm, .6132,.0024,.3872, .6153, .6138, .6106,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .5752,.0031,.5360, .5746, .5724, .5785,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .6279,.0035,.5496, .6304, .6240, .6293,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 29.66,.1016,.3427, 29.56, 29.76, 29.66,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 29.64,.0570,.1921, 29.59, 29.71, 29.63,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .6138,.0027,.4426, .6107, .6159, .6149,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 30.00,.0378,.1260, 29.96, 30.03, 30.01,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .60803,.00200,.32961, .60693, .60682, .61034,Chk Pass,,

Mo,202.030 {467},Y1,ppm, .5814,.0006,.1005, .5820, .5808, .5812,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 29.42,.0508,.1727, 29.39, 29.48, 29.40,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .6109,.0034,.5533, .6143, .6109, .6075,Chk Pass,,
P,177.495 {490},Y1,ppm, .6201,.0109,1.751, .6152, .6127, .6326,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .6033,.0071,1.182, .6114, .6005, .5980,Chk Pass,,
S,182.034 {485},Y1,ppm, 30.38,.0508,.1672, 30.32, 30.43, 30.38,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .5952,.0101,1.702, .6061, .5933, .5861,Chk Pass,,
Se,196.090 {472},Y1,ppm, .6238,.0083,1.338, .6334, .6179, .6202,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 30.030,.13091,.43592, 29.879, 30.111, 30.099,None,,
Sn,189.989 {477},Y1,ppm, .5776,.0012,.2157, .5777, .5788, .5763,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .5994,.0044,.7356, .5966, .6045, .5971,Chk Pass,,
Th,283.730 {119},Y2R,ppm,W .6523,.0519,7.964, .6525, .6003, .7042,Chk
Warn,.6000,5.000%
Ti,334.941 {101},Y2A,ppm, .5941,.0021,.3458, .5921, .5941, .5962,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .6242,.0088,1.410, .6166, .6222, .6338,Chk Pass,,
V,292.402 {115},Y2A,ppm, .5861,.0048,.8263, .5828, .5839, .5917,Chk Pass,,
W,207.911 {462},Y1,ppm,F .2503,.0122,4.855, .2643, .2448, .2420,Chk
Fail,.6000,-10.00%
Zn,213.856 {458},Y1,ppm, .6090,.0015,.2446, .6106, .6085, .6077,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .5923,.0046,.7850, .5873, .5965, .5932,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1886.9,21.285,1.1280,1863.7,1891.7,1905.4
Y2A,371.030 { 91}2,Cts/S, 127990.,1577.1,1.2322,129410.,128280.,126290.
Y2R,371.030 { 91}3,Cts/S, 6648.6,5.5309,.08319,6647.8,6654.6,6643.6

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=ICB 330200
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 6:06:37
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0007,.0004,57.81, .0010, .0008, .0003,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .0044,.0075,170.4, .0089, -.0043, .0087,Chk Pass,,
As,189.042 {478},Y1,ppm, -.0065,.0149,228.2, -.0232, .0055, -.0019,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0014,.0013,95.54, -.0001, .0024, .0017,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0000,.0000,184.6, -.0000, .0001, .0000,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00000,.00002,3770.6, .00001, .00000, -.00002,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .0016,.0093,567.5, -.0091, .0074, .0066,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0001,.0002,263.7, .0003, .0002, -.0002,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0002,.0002,113.0, -.0000, .0002, .0004,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, -.0011,.0003,28.97, -.0010, -.0009, -.0015,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, -.0007,.0016,218.0, .0001, .0002, -.0025,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .0136,.0058,42.87, .0084, .0124, .0199,Chk Pass,,
K,766.490 { 44},Y2R,ppm, -.0097,.0295,303.8, .0239, -.0316, -.0214,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0059,.0035,59.76, .0081, .0018, .0077,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .0083,.0108,130.9, .0038, .0004, .0206,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .00004,.00003,86.054, .00001, .00003, .00007,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0002,.0008,336.0, .0007, .0006, -.0007,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .0222,.0197,88.70, .0067, .0155, .0444,Chk Pass,,
Ni,231.604 {445},Y1,ppm, -.0011,.0034,301.3, .0009, .0007, -.0051,Chk Pass,,
P,177.495 {490},Y1,ppm, -.0064,.0099,155.7, .0044, -.0150, -.0084,Chk Pass,,

Pb,220.353 {453},Y1,ppm, -.0012,.0007,62.18, -.0016, -.0016, -.0003,Chk Pass,,
S,182.034 {485},Y1,ppm, -.0136,.0216,158.9, -.0086, .0050, -.0372,Chk Pass,,
Sb,206.833 {463},Y1,ppm, -.0052,.0034,65.20, -.0088, -.0022, -.0044,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0146,.0081,55.45, .0232, .0134, .0071,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .01216,.01168,96.077, .01421, .02267, -.00042,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0038,.0105,280.4, .0157, -.0003, -.0042,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0000,.0000,58.57, .0000, .0000, .0000,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0347,.0077,22.03, .0269, .0421, .0352,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0005,.0001,23.48, .0006, .0006, .0004,Chk Pass,,
Tl,190.856 {477},Y1,ppm, -.0047,.0032,68.62, -.0041, -.0082, -.0018,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0007,.0010,134.7, .0018, -.0001, .0005,Chk Pass,,
W,207.911 {462},Y1,ppm,F .0186,.0007,3.901, .0184, .0195, .0181,Chk
Fail,.0150,-.0150
Zn,213.856 {458},Y1,ppm, .0009,.0004,43.55, .0014, .0007, .0007,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0002,.0050,2923., -.0032, -.0022, .0059,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1936.1,10.296,.53181,1924.9,1938.1,1945.2
Y2A,371.030 { 91}2,Cts/S, 132530.,525.86,.39677,132560.,132000.,133050.
Y2R,371.030 { 91}3,Cts/S, 6686.7,6.5839,.09846,6694.2,6682.0,6683.9

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=CRI 383953
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 6:09:46
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0112,.0005,4.178, .0111, .0118, .0109,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .1940,.0079,4.057, .2029, .1879, .1912,Chk Pass,,
As,189.042 {478},Y1,ppm,W .0229,.0114,49.91, .0147, .0180, .0359,Chk
Warn,.0300,-20.00%
B,249.773 {135},Y2A,ppm, .0292,.0004,1.364, .0293, .0287, .0295,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0053,.0000,.4554, .0053, .0053, .0053,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00494,.00002,.44180, .00492, .00495, .00496,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .1821,.0171,9.417, .1628, .1878, .1956,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0055,.0003,4.620, .0052, .0055, .0057,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0046,.0005,10.84, .0046, .0042, .0052,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0129,.0007,5.789, .0135, .0121, .0130,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0226,.0001,.6020, .0227, .0225, .0226,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .2125,.0039,1.828, .2169, .2109, .2097,Chk Pass,,
K,766.490 { 44},Y2R,ppm, .2677,.0242,9.055, .2591, .2950, .2489,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0541,.0030,5.616, .0526, .0576, .0520,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .1044,.0021,1.965, .1067, .1030, .1034,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .01033,.00003,.33368, .01032, .01037, .01031,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0081,.0005,6.587, .0087, .0077, .0079,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 1.013,.0274,2.699, 1.030, 1.028, .9816,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0096,.0009,9.200, .0105, .0087, .0097,Chk Pass,,
P,177.495 {490},Y1,ppm, .0991,.0083,8.375, .1053, .1024, .0897,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .0151,.0031,20.37, .0177, .0159, .0117,Chk Pass,,
S,182.034 {485},Y1,ppm, .4942,.0208,4.200, .5109, .5008, .4710,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .0534,.0028,5.299, .0555, .0502, .0546,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0521,.0178,34.16, .0700, .0521, .0344,Chk Pass,,

Si,251.611 {134},Y2R,ppm, .49692,.01014,2.0400, .50219, .50333, .48523,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0437,.0072,16.50, .0440, .0507, .0363,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0052,.0000,.3271, .0051, .0052, .0052,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .5171,.0304,5.885, .5000, .4992, .5523,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0100,.0001,.9773, .0100, .0100, .0099,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0301,.0059,19.55, .0309, .0238, .0355,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0109,.0004,3.804, .0107, .0113, .0106,Chk Pass,,
W,207.911 {462},Y1,ppm, .0241,.0027,11.01, .0251, .0261, .0211,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .0231,.0004,1.595, .0235, .0229, .0229,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0403,.0027,6.660, .0417, .0421, .0373,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1910.9,2.4142,.12634,1909.2,1913.6,1909.8
Y2A,371.030 { 91}2,Cts/S, 130140.,573.42,.44061,129590.,130100.,130730.
Y2R,371.030 { 91}3,Cts/S, 6579.4,35.735,.54313,6568.8,6550.2,6619.3

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=ICSA 288648
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 6:12:54
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0027,.0009,35.42, .0036, .0017, .0027,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 479.1,3.050,.6366, 477.2, 477.4, 482.6,Chk Pass,,
As,189.042 {478},Y1,ppm, -.0147,.0054,36.57, -.0186, -.0169, -.0085,Chk Pass,,
B,249.773 {135},Y2A,ppm,F -.2548,.0013,.5193, -.2533, -.2558, -.2553,Chk
Fail,.1000,-.1000
Ba,455.403 { 74},Y2A,ppm, .0022,.0000,1.086, .0022, .0021, .0022,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00017,.00005,30.829, .00017, .00012, .00023,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 474.8,.9219,.1942, 475.2, 473.7, 475.4,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0029,.0005,16.57, .0033, .0031, .0024,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0007,.0004,52.92, .0006, .0011, .0004,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, -.0031,.0008,25.15, -.0039, -.0028, -.0024,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0017,.0006,35.04, .0012, .0024, .0016,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 190.8,.4571,.2395, 191.0, 191.2, 190.3,Chk Pass,,
K,766.490 { 44},Y2R,ppm, -.1553,.0267,17.21, -.1680, -.1245, -.1733,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, -.0049,.0045,93.43, -.0028, -.0017, -.0101,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 456.0,7.099,1.557, 456.6, 448.5, 462.7,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .00281,.00002,.88278, .00279, .00284, .00280,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.0026,.0020,75.26, -.0049, -.0018, -.0012,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .0617,.0130,21.00, .0507, .0585, .0760,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0061,.0012,20.40, .0048, .0073, .0061,Chk Pass,,
P,177.495 {490},Y1,ppm, .0213,.0077,36.37, .0287, .0132, .0219,Chk Pass,,
Pb,220.353 {453},Y1,ppm, -.0025,.0017,69.09, -.0024, -.0008, -.0042,Chk Pass,,
S,182.034 {485},Y1,ppm, -.1664,.0504,30.29, -.1492, -.1269, -.2232,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .0085,.0115,135.3, .0029, .0009, .0217,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0076,.0097,128.8, .0033, .0187, .0007,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .02204,.00367,16.674, .01900, .02613, .02099,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0016,.0164,1023., .0110, -.0174, .0112,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm,W -.0080,.0000,.1390, -.0080, -.0080, -.0080,Chk
Warn,.0050,-.0050
Th,283.730 {119},Y2R,ppm, .1812,.0051,2.838, .1753, .1848, .1835,Chk Pass,,

Ti,334.941 {101},Y2A,ppm, -.0019,.0003,15.21, -.0018, -.0017, -.0023,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0084,.0051,60.60, .0064, .0046, .0142,Chk Pass,,
V,292.402 {115},Y2A,ppm, -.0005,.0004,85.87, -.0002, -.0002, -.0009,Chk Pass,,
W,207.911 {462},Y1,ppm, .0146,.0023,15.83, .0150, .0122, .0167,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .0094,.0004,3.936, .0098, .0093, .0091,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.0015,.0035,232.7, -.0052, -.0011, .0018,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1707.3,8.6275,.50534,1716.2,1706.6,1699.0
Y2A,371.030 { 91}2,Cts/S, 111280.,340.39,.30590,110910.,111330.,111590.
Y2R,371.030 { 91}3,Cts/S, 6194.5,82.743,1.3357,6157.9,6289.2,6136.3

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=ICSAB 293007
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 6:16:18
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .2235,.0006,.2608, .2241, .2230, .2235,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 482.5,6.669,1.382, 484.7, 487.9, 475.0,Chk Pass,,
As,189.042 {478},Y1,ppm, .0860,.0289,33.66, .1185, .0763, .0631,Chk Pass,,
B,249.773 {135},Y2A,ppm,F -.2530,.0011,.4313, -.2525, -.2542, -.2522,Chk
Fail,.1000,-.1000
Ba,455.403 { 74},Y2A,ppm, .5093,.0016,.3214, .5098, .5075, .5106,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .51451,.00345,.67119, .51759, .51077, .51516,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 473.6,1.668,.3522, 474.8, 474.4, 471.7,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .9513,.0017,.1756, .9532, .9500, .9507,Chk Pass,,
Co,228.616 {447},Y1,ppm, .4720,.0012,.2461, .4733, .4710, .4716,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .4724,.0033,.7088, .4692, .4721, .4759,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .5350,.0030,.5560, .5317, .5374, .5358,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 191.4,.3405,.1779, 191.5, 191.6, 191.0,Chk Pass,,
K,766.490 { 44},Y2R,ppm, -.2101,.0213,10.16, -.2022, -.2343, -.1938,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, -.0077,.0046,59.99, -.0120, -.0083, -.0028,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 446.0,1.473,.3302, 447.2, 444.4, 446.4,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .49948,.00232,.46532, .50167, .49704, .49972,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.0042,.0017,39.63, -.0052, -.0052, -.0023,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .0818,.0230,28.14, .0584, .0825, .1044,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .9235,.0037,.3998, .9277, .9214, .9213,Chk Pass,,
P,177.495 {490},Y1,ppm, .0117,.0102,86.74, .0066, .0234, .0052,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .5052,.0032,.6236, .5044, .5025, .5087,Chk Pass,,
S,182.034 {485},Y1,ppm, -.1371,.0343,25.03, -.1663, -.1458, -.0993,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .6054,.0097,1.597, .6165, .6012, .5985,Chk Pass,,
Se,196.090 {472},Y1,ppm, .5573,.0213,3.827, .5360, .5571, .5787,Chk Pass,,
Si,251.611 {134},Y2R,ppm,F .00818,.00762,93.148, .00668, .01643, .00142,Chk
Fail,1.0000,1.0000
Sn,189.989 {477},Y1,ppm, .0013,.0103,796.8, .0056, -.0105, .0087,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm,W -.0079,.0001,.9929, -.0080, -.0080, -.0079,Chk
Warn,.0050,-.0050
Th,283.730 {119},Y2R,ppm, .1976,.0248,12.56, .1860, .1807, .2261,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, -.0013,.0003,21.00, -.0010, -.0014, -.0016,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .1050,.0050,4.805, .1076, .0991, .1081,Chk Pass,,
V,292.402 {115},Y2A,ppm, .4910,.0009,.1848, .4910, .4901, .4920,Chk Pass,,

W,207.911 {462},Y1,ppm,F .0078,.0038,49.24, .0058, .0054, .0122,Chk Fail,-.0600,-.0600
Zn,213.856 {458},Y1,ppm, 1.029,.0033,.3175, 1.033, 1.029, 1.026,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.0047,.0044,94.46, -.0098, -.0018, -.0024,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1685.8,2.7879,.16538,1684.4,1689.0,1684.0
Y2A,371.030 { 91}2,Cts/S, 111030.,518.83,.46730,110470.,111110.,111500.
Y2R,371.030 { 91}3,Cts/S, 6291.5,25.261,.40151,6309.3,6302.6,6262.6

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=CCS
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 6:19:38
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0016,.0004,23.23, .0014, .0013, .0020,None,,
Al,308.215 {109}2,Y2A,ppm, .0133,.0032,24.10, .0157, .0097, .0145,None,,
As,189.042 {478},Y1,ppm, -.0001,.0174,15700., -.0082, .0198, -.0119,None,,
B,249.773 {135},Y2A,ppm, -.0008,.0003,39.39, -.0005, -.0012, -.0008,None,,
Ba,455.403 { 74},Y2A,ppm, .0001,.0000,21.96, .0000, .0001, .0001,None,,
Be,313.042 {108},Y2A,ppm, .00003,.00003,116.33, -.00000, .00006, .00002,None,,
Ca,317.933 {106},Y2R,ppm, .0221,.0213,96.46, .0257, .0414, -.0008,None,,
Cd,226.502 {449},Y1,ppm, .0003,.0001,38.78, .0002, .0002, .0004,None,,
Co,228.616 {447},Y1,ppm, .0003,.0006,195.2, .0004, -.0003, .0008,None,,
Cr,267.716 {126},Y2A,ppm, -.0010,.0008,75.71, -.0017, -.0011, -.0002,None,,
Cu,327.396 {103},Y2A,ppm, -.0012,.0015,119.6, .0001, -.0010, -.0028,None,,
Fe,261.187 {129},Y2R,ppm, .0216,.0166,76.94, .0057, .0388, .0203,None,,
K,766.490 { 44},Y2R,ppm, .0093,.0455,491.5, -.0229, -.0107, .0614,None,,
Li,670.784 { 50},Y2R,ppm, .0037,.0033,88.54, .0040, .0068, .0003,None,,
Mg,285.213 {118},Y2R,ppm, .0301,.0334,110.9, .0103, .0687, .0114,None,,
Mn,257.610 {131},Y2A,ppm, -.00001,.00013,1239.3, -.00010, -.00007, .00014,None,,
Mo,202.030 {467},Y1,ppm, -.0009,.0003,34.92, -.0012, -.0006, -.0011,None,,
Na,589.592 { 57},Y2R,ppm, .0265,.0261,98.62, .0490, -.0021, .0325,None,,
Ni,231.604 {445},Y1,ppm, -.0020,.0024,119.1, -.0039, .0007, -.0027,None,,
P,177.495 {490},Y1,ppm, .0000,.0066,15100., .0076, -.0028, -.0047,None,,
Pb,220.353 {453},Y1,ppm, .0006,.0038,615.6, .0048, -.0006, -.0024,None,,
S,182.034 {485},Y1,ppm, .0150,.0197,131.4, .0295, -.0074, .0229,None,,
Sb,206.833 {463},Y1,ppm, .0015,.0070,457.1, .0075, .0032, -.0061,None,,
Se,196.090 {472},Y1,ppm, .0188,.0033,17.61, .0224, .0180, .0159,None,,
Si,251.611 {134},Y2R,ppm, -.00327,.01085,332.13, .00893, -.00689, -.01184,None,,
Sn,189.989 {477},Y1,ppm, .0043,.0115,267.0, -.0012, -.0034, .0175,None,,
Sr,421.552 { 80},Y2A,ppm, .0000,.0000,115.5, .0000, .0000, .0000,None,,
Th,283.730 {119},Y2R,ppm, .0533,.0157,29.41, .0430, .0456, .0713,None,,
Ti,334.941 {101},Y2A,ppm, .0002,.0001,35.64, .0002, .0003, .0002,None,,
Tl,190.856 {477},Y1,ppm, -.0036,.0081,229.2, -.0113, -.0043, .0050,None,,
V,292.402 {115},Y2A,ppm, .0004,.0005,121.3, -.0001, .0008, .0005,None,,
W,207.911 {462},Y1,ppm, .0008,.0013,159.1, .0022, -.0003, .0005,None,,
Zn,213.856 {458},Y1,ppm, .0007,.0006,91.04, .0006, .0001, .0014,None,,
Zr,339.198 { 99},Y2R,ppm, -.0027,.0033,123.1, -.0064, .0000, -.0017,None,,

[Internal Standards]

Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1905.2,14.052,.73757,1890.4,1906.9,1918.3
Y2A,371.030 { 91}2,Cts/S, 127780.,374.37,.29299,128210.,127520.,127610.
Y2R,371.030 { 91}3,Cts/S, 6503.7,59.670,.91748,6437.6,6553.6,6519.8

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=CCV 383770
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 6:22:46
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .5105,.0018,.3499, .5085, .5115, .5116,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 25.28,.0984,.3890, 25.17, 25.33, 25.35,Chk Pass,,
As,189.042 {478},Y1,ppm, .4992,.0130,2.602, .5098, .5032, .4847,Chk Pass,,
B,249.773 {135},Y2A,ppm, .4666,.0013,.2733, .4656, .4662, .4681,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .5090,.0022,.4391, .5066, .5093, .5110,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .48506,.00296,.61060, .48165, .48656, .48697,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 24.77,.0709,.2863, 24.72, 24.75, 24.85,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .5065,.0017,.3358, .5074, .5075, .5045,Chk Pass,,
Co,228.616 {447},Y1,ppm, .5080,.0018,.3572, .5094, .5086, .5060,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .4947,.0022,.4454, .4928, .4942, .4971,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .5214,.0024,.4636, .5207, .5194, .5241,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 25.07,.0823,.3282, 25.04, 25.01, 25.17,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 25.12,.1767,.7037, 24.96, 25.08, 25.31,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .5084,.0037,.7372, .5070, .5056, .5127,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 24.72,.0600,.2426, 24.73, 24.77, 24.65,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .50999,.00223,.43645, .50747, .51081, .51169,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .4893,.0020,.4059, .4913, .4893, .4873,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 24.72,.0564,.2280, 24.71, 24.78, 24.67,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .5100,.0013,.2626, .5115, .5096, .5088,Chk Pass,,
P,177.495 {490},Y1,ppm, .5010,.0104,2.069, .4925, .5125, .4978,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .4952,.0095,1.910, .4891, .5061, .4905,Chk Pass,,
S,182.034 {485},Y1,ppm, 24.55,.0689,.2805, 24.55, 24.62, 24.49,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .4828,.0035,.7162, .4849, .4847, .4788,Chk Pass,,
Se,196.090 {472},Y1,ppm, .5050,.0121,2.388, .4982, .5189, .4978,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 24.658,.08481,.34394, 24.560, 24.709, 24.705,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .4931,.0023,.4627, .4934, .4907, .4952,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .5092,.0053,1.041, .5039, .5091, .5145,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .4794,.0083,1.726, .4841, .4843, .4699,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .5082,.0021,.4101, .5058, .5092, .5096,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .5293,.0063,1.194, .5305, .5350, .5225,Chk Pass,,
V,292.402 {115},Y2A,ppm, .5056,.0010,.1909, .5048, .5067, .5053,Chk Pass,,
W,207.911 {462},Y1,ppm, .5019,.0039,.7798, .5027, .5054, .4977,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .4991,.0024,.4824, .4986, .5017, .4970,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .4955,.0074,1.487, .4975, .4874, .5017,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1864.7,16.860,.90421,1854.2,1855.7,1884.1
Y2A,371.030 { 91}2,Cts/S, 123620.,781.92,.63254,124520.,123170.,123160.
Y2R,371.030 { 91}3,Cts/S, 6553.0,33.382,.50942,6591.5,6534.1,6533.3

[Sample Header]

Method=New TRACE Fast w axial Al(v353)
SampleName=CCB 330200
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 6:25:49
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0017,.0007,43.07, .0020, .0022, .0009,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .0009,.0045,517.5, -.0032, .0002, .0056,Chk Pass,,
As,189.042 {478},Y1,ppm, -.0114,.0304,265.2, -.0461, .0103, .0015,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0009,.0007,80.18, .0012, .0014, .0001,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0000,.0001,147.7, -.0000, .0000, .0001,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00001,.00002,283.76, -.00000, .00003, -.00001,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .0144,.0362,251.9, -.0116, -.0010, .0557,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0009,.0010,111.6, .0004, .0021, .0002,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0011,.0020,188.7, -.0004, .0034, .0002,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, -.0008,.0004,57.10, -.0008, -.0003, -.0012,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, -.0008,.0018,225.2, -.0006, .0009, -.0027,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .0138,.0227,164.3, -.0073, .0110, .0378,Chk Pass,,
K,766.490 { 44},Y2R,ppm, .0416,.0235,56.56, .0194, .0392, .0662,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0035,.0025,71.70, .0026, .0064, .0016,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .0228,.0363,159.2, .0015, .0022, .0647,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .00010,.00008,82.785, .00004, .00019, .00006,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0002,.0014,822.2, -.0014, .0008, .0011,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .0033,.0119,365.7, .0171, -.0040, -.0032,Chk Pass,,
Ni,231.604 {445},Y1,ppm, -.0003,.0018,615.2, -.0023, .0009, .0005,Chk Pass,,
P,177.495 {490},Y1,ppm, -.0003,.0050,1925., .0045, -.0055, .0002,Chk Pass,,
Pb,220.353 {453},Y1,ppm, -.0025,.0035,143.4, .0016, -.0038, -.0051,Chk Pass,,
S,182.034 {485},Y1,ppm, .0021,.0116,556.4, -.0082, .0146, -.0002,Chk Pass,,
Sb,206.833 {463},Y1,ppm, -.0037,.0080,213.1, -.0129, .0004, .0013,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0121,.0083,68.72, .0216, .0081, .0065,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .02925,.00422,14.438, .03393, .02810, .02572,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0012,.0101,877.5, -.0057, -.0036, .0127,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0000,.0000,88.77, .0000, .0000, .0000,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0472,.0230,48.86, .0658, .0544, .0214,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0003,.0002,70.84, .0001, .0004, .0005,Chk Pass,,
Tl,190.856 {477},Y1,ppm, -.0011,.0066,581.3, -.0042, -.0056, .0064,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0011,.0011,107.6, .0022, .0011, -.0001,Chk Pass,,
W,207.911 {462},Y1,ppm, .0002,.0037,2465., -.0001, .0040, -.0034,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .0016,.0008,53.18, .0016, .0025, .0008,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.0025,.0026,107.0, -.0054, -.0005, -.0014,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1912.9,27.923,1.4597,1890.1,1944.0,1904.6
Y2A,371.030 { 91}2,Cts/S, 129720.,1086.1,.83726,130890.,129530.,128740.
Y2R,371.030 { 91}3,Cts/S, 6619.6,71.768,1.0842,6546.5,6622.5,6689.9

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=LRC 349074
Username=dept 22
Comment=LRS2
Custom ID1=
Custom ID2=

Custom ID3=
Run Time=8/31/2020 6:28:58
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, 1.697,.0108,.6365, 1.693, 1.709, 1.689,None,,
Al,308.215 {109}2,Y2A,ppm, 1.581,.0981,6.204, 1.534, 1.694, 1.515,None,,
As,189.042 {478},Y1,ppm, 21.51,.1982,.9212, 21.69, 21.55, 21.30,None,,
B,249.773 {135},Y2A,ppm, 5.109,.0145,.2846, 5.125, 5.097, 5.103,None,,
Ba,455.403 { 74},Y2A,ppm, 4.796,.0124,.2590, 4.802, 4.804, 4.782,None,,
Be,313.042 {108},Y2A,ppm, 4.7843,.00415,.08675, 4.7795, 4.7865, 4.7868,None,,
Ca,317.933 {106},Y2R,ppm, -.3041,.0030,.9862, -.3065, -.3052, -.3007,None,,
Cd,226.502 {449},Y1,ppm, 20.30,.1078,.5313, 20.34, 20.38, 20.17,None,,
Co,228.616 {447},Y1,ppm, 21.15,.1352,.6394, 21.22, 21.23, 20.99,None,,
Cr,267.716 {126},Y2A,ppm, 19.19,.1140,.5940, 19.32, 19.13, 19.11,None,,
Cu,327.396 {103},Y2A,ppm, 20.75,.1256,.6055, 20.89, 20.67, 20.68,None,,
Fe,261.187 {129},Y2R,ppm, -.0054,.0078,146.0, -.0069, .0031, -.0123,None,,
K,766.490 { 44},Y2R,ppm, -.0293,.0277,94.47, -.0356, -.0532, .0010,None,,
Li,670.784 { 50},Y2R,ppm, 19.62,.0849,.4328, 19.70, 19.62, 19.53,None,,
Mg,285.213 {118},Y2R,ppm, -.0423,.0025,5.911, -.0422, -.0449, -.0399,None,,
Mn,257.610 {131},Y2A,ppm, 19.337,.03989,.20626, 19.382, 19.324, 19.306,None,,
Mo,202.030 {467},Y1,ppm, 19.60,.1623,.8280, 19.71, 19.67, 19.41,None,,
Na,589.592 { 57},Y2R,ppm, .0733,.0054,7.412, .0795, .0694, .0710,None,,
Ni,231.604 {445},Y1,ppm, 20.90,.1410,.6746, 20.96, 21.00, 20.73,None,,
P,177.495 {490},Y1,ppm, 20.26,.1337,.6599, 20.33, 20.35, 20.11,None,,
Pb,220.353 {453},Y1,ppm, 20.76,.0889,.4281, 20.77, 20.84, 20.67,None,,
S,182.034 {485},Y1,ppm, .2251,.0342,15.19, .2465, .2431, .1856,None,,
Sb,206.833 {463},Y1,ppm, 20.16,.1026,.5092, 20.19, 20.24, 20.04,None,,
Se,196.090 {472},Y1,ppm, 20.26,.1233,.6088, 20.36, 20.29, 20.12,None,,
Si,251.611 {134},Y2R,ppm, 3.1208,.33802,10.831, 2.7672, 3.1545, 3.4407,None,,
Sn,189.989 {477},Y1,ppm, 19.62,.0584,.2975, 19.63, 19.67, 19.56,None,,
Sr,421.552 { 80},Y2A,ppm, 4.788,.0126,.2630, 4.774, 4.798, 4.792,None,,
Th,283.730 {119},Y2R,ppm, 4.549,.0086,.1901, 4.559, 4.544, 4.544,None,,
Ti,334.941 {101},Y2A,ppm, 19.13,.0420,.2193, 19.17, 19.09, 19.15,None,,
Tl,190.856 {477},Y1,ppm, 21.51,.0375,.1744, 21.49, 21.56, 21.50,None,,
V,292.402 {115},Y2A,ppm, 19.42,.0789,.4060, 19.51, 19.35, 19.42,None,,
W,207.911 {462},Y1,ppm, 20.86,.1148,.5502, 20.91, 20.95, 20.73,None,,
Zn,213.856 {458},Y1,ppm, 10.10,.0647,.6403, 10.13, 10.15, 10.03,None,,
Zr,339.198 { 99},Y2R,ppm, 18.94,.1169,.6173, 19.06, 18.92, 18.83,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1793.8,5.1893,.28929,1799.2,1788.8,1793.3
Y2A,371.030 { 91}2,Cts/S, 125920.,501.41,.39821,125640.,126490.,125610.
Y2R,371.030 { 91}3,Cts/S, 6622.5,73.995,1.1173,6566.2,6594.9,6706.3

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=LRC 349190
Username=dept 22
Comment=LRS4
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 6:32:28
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0055,.0013,24.15, .0050, .0070, .0045,None,,
Al,308.215 {109}2,Y2A,ppm, 471.3,6.683,1.418, 476.7, 473.4, 463.8,None,,
As,189.042 {478},Y1,ppm, -.0273,.0125,45.77, -.0147, -.0276, -.0397,None,,
B,249.773 {135},Y2A,ppm, -.3508,.0053,1.513, -.3559, -.3453, -.3513,None,,
Ba,455.403 { 74},Y2A,ppm, .0005,.0003,56.37, .0004, .0003, .0009,None,,
Be,313.042 {108},Y2A,ppm, .00042,.00024,56.584, .00029, .00028, .00069,None,,
Ca,317.933 {106},Y2R,ppm, 473.2,4.920,1.040, 478.9, 470.6, 470.1,None,,
Cd,226.502 {449},Y1,ppm, .0049,.0007,14.80, .0047, .0056, .0042,None,,
Co,228.616 {447},Y1,ppm, .0171,.0010,5.971, .0174, .0180, .0160,None,,
Cr,267.716 {126},Y2A,ppm, -.0052,.0018,35.73, -.0063, -.0062, -.0030,None,,
Cu,327.396 {103},Y2A,ppm, -.0011,.0011,102.0, -.0014, -.0020, .0001,None,,
Fe,261.187 {129},Y2R,ppm, 286.6,1.946,.6791, 288.8, 285.1, 285.8,None,,
K,766.490 { 44},Y2R,ppm, 493.4,6.426,1.302, 500.8, 490.1, 489.3,None,,
Li,670.784 { 50},Y2R,ppm, .0019,.0053,271.1, -.0020, .0079, -.0001,None,,
Mg,285.213 {118},Y2R,ppm, 446.5,8.982,2.012, 456.0, 438.2, 445.2,None,,
Mn,257.610 {131},Y2A,ppm, -.02342,.00103,4.3919, -.02431, -.02366, -.02229,None,,
Mo,202.030 {467},Y1,ppm, .0072,.0018,25.52, .0074, .0089, .0053,None,,
Na,589.592 { 57},Y2R,ppm, 468.0,13.10,2.799, 482.7, 457.7, 463.5,None,,
Ni,231.604 {445},Y1,ppm, .0272,.0020,7.511, .0264, .0296, .0257,None,,
P,177.495 {490},Y1,ppm, .0172,.0177,102.7, -.0030, .0299, .0246,None,,
Pb,220.353 {453},Y1,ppm, -.0100,.0069,69.52, -.0173, -.0035, -.0092,None,,
S,182.034 {485},Y1,ppm, 206.3,.8057,.3906, 206.4, 207.0, 205.4,None,,
Sb,206.833 {463},Y1,ppm, .0085,.0177,208.1, .0288, -.0042, .0010,None,,
Se,196.090 {472},Y1,ppm, .0140,.0162,115.7, .0059, .0327, .0035,None,,
Si,251.611 {134},Y2R,ppm, 191.70,1.4667,.76508, 193.26, 190.35, 191.49,None,,
Sn,189.989 {477},Y1,ppm, .0068,.0121,178.0, -.0056, .0186, .0074,None,,
Sr,421.552 { 80},Y2A,ppm, -.0083,.0004,4.385, -.0087, -.0084, -.0079,None,,
Th,283.730 {119},Y2R,ppm, .3082,.0335,10.87, .3252, .3299, .2696,None,,
Ti,334.941 {101},Y2A,ppm, -.0004,.0012,275.9, -.0010, -.0013, .0010,None,,
Tl,190.856 {477},Y1,ppm, .0198,.0113,57.32, .0092, .0317, .0185,None,,
V,292.402 {115},Y2A,ppm, .0006,.0020,351.9, .0002, -.0012, .0027,None,,
W,207.911 {462},Y1,ppm, .0062,.0030,48.00, .0086, .0072, .0029,None,,
Zn,213.856 {458},Y1,ppm, -.0169,.0006,3.382, -.0175, -.0165, -.0166,None,,
Zr,339.198 { 99},Y2R,ppm, -.0053,.0028,52.82, -.0021, -.0069, -.0070,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1627.3,5.1887,.31885,1632.7,1622.3,1626.9
Y2A,371.030 { 91}2,Cts/S, 106780.,574.80,.53830,106610.,106310.,107420.
Y2R,371.030 { 91}3,Cts/S, 6111.8,89.516,1.4646,6012.8,6187.0,6135.6

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=LRC 349134
Username=dept 22
Comment=LRS3
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 6:35:57
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, 1.917,.0227,1.187, 1.909, 1.899, 1.942,None,,
Al,308.215 {109}2,Y2A,ppm, .3712,.0409,11.01, .3609, .4163, .3365,None,,
As,189.042 {478},Y1,ppm, 10.74,.0474,.4416, 10.79, 10.70, 10.73,None,,

B,249.773 {135},Y2A,ppm, 2.605,.0039,.1509, 2.604, 2.609, 2.601,None,,
Ba,455.403 { 74},Y2A,ppm, 2.545,.0178,.6977, 2.561, 2.549, 2.526,None,,
Be,313.042 {108},Y2A,ppm, 2.4441,.01492,.61057, 2.4422, 2.4302, 2.4599,None,,
Ca,317.933 {106},Y2R,ppm, -.4665,.0105,2.252, -.4675, -.4764, -.4555,None,,
Cd,226.502 {449},Y1,ppm, 10.35,.0122,.1181, 10.36, 10.34, 10.36,None,,
Co,228.616 {447},Y1,ppm, 10.72,.0109,.1021, 10.73, 10.71, 10.71,None,,
Cr,267.716 {126},Y2A,ppm, 9.670,.0305,.3157, 9.638, 9.698, 9.674,None,,
Cu,327.396 {103},Y2A,ppm, 10.46,.0327,.3125, 10.44, 10.50, 10.45,None,,
Fe,261.187 {129},Y2R,ppm, .0124,.0071,57.26, .0060, .0113, .0201,None,,
K,766.490 { 44},Y2R,ppm, .2486,.0788,31.71, .3080, .2786, .1591,None,,
Li,670.784 { 50},Y2R,ppm, 10.03,.0257,.2562, 10.02, 10.01, 10.06,None,,
Mg,285.213 {118},Y2R,ppm, -.0063,.0104,165.1, -.0087, -.0154, .0051,None,,
Mn,257.610 {131},Y2A,ppm, 10.052,.07372,.73335, 9.9687, 10.108, 10.079,None,,
Mo,202.030 {467},Y1,ppm, 9.842,.0204,.2071, 9.863, 9.839, 9.823,None,,
Na,589.592 { 57},Y2R,ppm, .1316,.0117,8.892, .1444, .1214, .1290,None,,
Ni,231.604 {445},Y1,ppm, 10.61,.0042,.0398, 10.61, 10.60, 10.61,None,,
P,177.495 {490},Y1,ppm, 10.16,.0511,.5027, 10.14, 10.22, 10.13,None,,
Pb,220.353 {453},Y1,ppm, 10.60,.0366,.3455, 10.64, 10.59, 10.56,None,,
S,182.034 {485},Y1,ppm, .0331,.0312,94.27, .0676, .0069, .0247,None,,
Sb,206.833 {463},Y1,ppm, 10.03,.0435,.4340, 10.08, 10.01, 10.00,None,,
Se,196.090 {472},Y1,ppm, 10.13,.0350,.3455, 10.16, 10.13, 10.09,None,,
Si,251.611 {134},Y2R,ppm, 2.2192,.05736,2.5849, 2.1661, 2.2114, 2.2800,None,,
Sn,189.989 {477},Y1,ppm, 9.869,.0203,.2052, 9.873, 9.887, 9.847,None,,
Sr,421.552 { 80},Y2A,ppm, 2.503,.0260,1.039, 2.494, 2.483, 2.533,None,,
Th,283.730 {119},Y2R,ppm, 9.132,.0822,.9002, 9.123, 9.055, 9.219,None,,
Ti,334.941 {101},Y2A,ppm, 9.628,.0821,.8528, 9.688, 9.534, 9.661,None,,
Tl,190.856 {477},Y1,ppm, 11.04,.0198,.1792, 11.04, 11.06, 11.02,None,,
V,292.402 {115},Y2A,ppm, 9.758,.0190,.1947, 9.775, 9.762, 9.737,None,,
W,207.911 {462},Y1,ppm, 10.39,.0236,.2268, 10.41, 10.40, 10.37,None,,
Zn,213.856 {458},Y1,ppm, 5.135,.0045,.0885, 5.140, 5.132, 5.132,None,,
Zr,339.198 { 99},Y2R,ppm, 9.563,.0221,.2306, 9.549, 9.552, 9.588,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1808.1,6.9691,.38544,1813.1,1811.1,1800.1
Y2A,371.030 { 91}2,Cts/S, 126490.,128.33,.10145,126570.,126340.,126560.
Y2R,371.030 { 91}3,Cts/S, 6570.4,53.422,.81307,6509.2,6607.5,6594.5

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=LRC 349232
Username=dept 22
Comment=LRS5
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 6:39:28
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0037,.0003,9.417, .0034, .0036, .0041,None,,
Al,308.215 {109}2,Y2A,ppm, 247.5,.2310,.0933, 247.7, 247.2, 247.5,None,,
As,189.042 {478},Y1,ppm, -.0149,.0174,116.9, -.0292, .0045, -.0198,None,,
B,249.773 {135},Y2A,ppm, -.1731,.0018,1.021, -.1749, -.1713, -.1732,None,,
Ba,455.403 { 74},Y2A,ppm, .0002,.0001,39.11, .0003, .0003, .0001,None,,
Be,313.042 {108},Y2A,ppm, .00021,.00008,38.923, .00015, .00030, .00018,None,,
Ca,317.933 {106},Y2R,ppm, 243.9,1.971,.8081, 246.2, 242.6, 242.9,None,,
Cd,226.502 {449},Y1,ppm, .0023,.0003,14.29, .0023, .0026, .0020,None,,
Co,228.616 {447},Y1,ppm, .0091,.0017,19.09, .0071, .0105, .0097,None,,

Cr,267.716 {126},Y2A,ppm, -.0028,.0004,14.52, -.0028, -.0024, -.0032,None,,
Cu,327.396 {103},Y2A,ppm, -.0009,.0011,115.4, -.0001, -.0005, -.0021,None,,
Fe,261.187 {129},Y2R,ppm, 146.6,.9346,.6377, 147.6, 146.0, 146.0,None,,
K,766.490 { 44},Y2R,ppm, 248.9,2.405,.9664, 251.7, 247.8, 247.3,None,,
Li,670.784 { 50},Y2R,ppm, .0028,.0002,8.557, .0031, .0028, .0026,None,,
Mg,285.213 {118},Y2R,ppm, 242.3,2.081,.8590, 244.7, 241.0, 241.2,None,,
Mn,257.610 {131},Y2A,ppm, -.01188,.00034,2.8575, -.01197, -.01150, -.01216,None,,
Mo,202.030 {467},Y1,ppm, .0056,.0003,5.267, .0056, .0060, .0054,None,,
Na,589.592 { 57},Y2R,ppm, 243.1,1.984,.8159, 245.4, 242.3, 241.7,None,,
Ni,231.604 {445},Y1,ppm, .0161,.0027,16.69, .0149, .0192, .0143,None,,
P,177.495 {490},Y1,ppm, .0075,.0032,42.55, .0101, .0084, .0039,None,,
Pb,220.353 {453},Y1,ppm, -.0070,.0024,34.37, -.0049, -.0096, -.0065,None,,
S,182.034 {485},Y1,ppm, 103.4,.0943,.0912, 103.3, 103.5, 103.4,None,,
Sb,206.833 {463},Y1,ppm, .0131,.0076,58.14, .0074, .0101, .0217,None,,
Se,196.090 {472},Y1,ppm, .0209,.0118,56.55, .0330, .0203, .0094,None,,
Si,251.611 {134},Y2R,ppm, 97.831,.75956,.77640, 98.708, 97.392, 97.393,None,,
Sn,189.989 {477},Y1,ppm, -.0022,.0106,473.1, .0092, -.0041, -.0118,None,,
Sr,421.552 { 80},Y2A,ppm, -.0043,.0001,3.113, -.0044, -.0042, -.0044,None,,
Th,283.730 {119},Y2R,ppm, .1587,.0120,7.543, .1593, .1464, .1704,None,,
Ti,334.941 {101},Y2A,ppm, .0027,.0006,20.32, .0024, .0034, .0025,None,,
Tl,190.856 {477},Y1,ppm, .0065,.0104,160.5, .0144, -.0053, .0105,None,,
V,292.402 {115},Y2A,ppm, -.0000,.0006,1265., .0002, .0004, -.0007,None,,
W,207.911 {462},Y1,ppm, -.0022,.0040,181.2, -.0040, -.0051, .0024,None,,
Zn,213.856 {458},Y1,ppm, -.0079,.0002,2.211, -.0081, -.0078, -.0079,None,,
Zr,339.198 { 99},Y2R,ppm, .0002,.0048,3010., -.0040, .0054, -.0009,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1739.6,4.5589,.26206,1734.8,1743.9,1740.2
Y2A,371.030 { 91}2,Cts/S, 110960.,116.70,.10517,110830.,111060.,110980.
Y2R,371.030 { 91}3,Cts/S, 6164.2,89.157,1.4464,6072.5,6250.6,6169.6

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=CCS
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 6:42:32
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0032,.0018,55.28, .0014, .0049, .0034,None,,
Al,308.215 {109}2,Y2A,ppm, .0020,.0068,340.3, .0086, .0024, -.0050,None,,
As,189.042 {478},Y1,ppm, -.0191,.0252,131.9, -.0365, -.0306, .0098,None,,
B,249.773 {135},Y2A,ppm, .0038,.0006,15.83, .0042, .0040, .0031,None,,
Ba,455.403 { 74},Y2A,ppm, -.0000,.0000,805.5, .0000, -.0000, -.0000,None,,
Be,313.042 {108},Y2A,ppm, .00002,.00001,70.109, .00002, .00000, .00003,None,,
Ca,317.933 {106},Y2R,ppm, -.0002,.0055,2625., .0049, .0005, -.0060,None,,
Cd,226.502 {449},Y1,ppm, .0000,.0001,1309., .0001, -.0001, .0001,None,,
Co,228.616 {447},Y1,ppm, .0002,.0002,77.04, .0004, .0000, .0002,None,,
Cr,267.716 {126},Y2A,ppm, -.0005,.0005,97.01, .0001, -.0008, -.0007,None,,
Cu,327.396 {103},Y2A,ppm, -.0004,.0006,155.5, -.0002, .0001, -.0010,None,,
Fe,261.187 {129},Y2R,ppm, .0059,.0112,190.7, .0184, .0025, -.0032,None,,
K,766.490 { 44},Y2R,ppm, .3934,.0300,7.633, .4183, .4018, .3601,None,,
Li,670.784 { 50},Y2R,ppm, .0078,.0020,25.26, .0098, .0076, .0059,None,,
Mg,285.213 {118},Y2R,ppm, .0081,.0028,34.41, .0080, .0110, .0054,None,,

Mn,257.610 {131},Y2A,ppm, .00017,.00006,37.793, .00019, .00010, .00022,None,,
Mo,202.030 {467},Y1,ppm, .0008,.0005,60.35, .0006, .0005, .0014,None,,
Na,589.592 { 57},Y2R,ppm, .0942,.0146,15.48, .0779, .0985, .1061,None,,
Ni,231.604 {445},Y1,ppm, .0000,.0015,6333., -.0010, -.0006, .0017,None,,
P,177.495 {490},Y1,ppm, -.0057,.0019,33.28, -.0036, -.0063, -.0072,None,,
Pb,220.353 {453},Y1,ppm, .0005,.0020,408.9, .0021, -.0018, .0011,None,,
S,182.034 {485},Y1,ppm, -.0023,.0071,310.4, -.0102, .0035, -.0001,None,,
Sb,206.833 {463},Y1,ppm, .0023,.0099,436.7, -.0007, .0133, -.0058,None,,
Se,196.090 {472},Y1,ppm, .0240,.0073,30.39, .0313, .0167, .0240,None,,
Si,251.611 {134},Y2R,ppm, .09626,.03026,31.434, .13116, .08011, .07750,None,,
Sn,189.989 {477},Y1,ppm, -.0081,.0072,88.16, -.0085, -.0008, -.0151,None,,
Sr,421.552 { 80},Y2A,ppm, .0000,.0000,44.68, .0000, .0000, .0000,None,,
Th,283.730 {119},Y2R,ppm, .0411,.0282,68.48, .0190, .0316, .0728,None,,
Ti,334.941 {101},Y2A,ppm, .0002,.0001,40.35, .0003, .0003, .0001,None,,
Tl,190.856 {477},Y1,ppm, -.0019,.0088,474.4, -.0071, -.0068, .0083,None,,
V,292.402 {115},Y2A,ppm, .0010,.0003,32.82, .0007, .0013, .0008,None,,
W,207.911 {462},Y1,ppm, -.0031,.0039,125.4, -.0018, -.0074, -.0000,None,,
Zn,213.856 {458},Y1,ppm, .0009,.0002,20.11, .0011, .0007, .0008,None,,
Zr,339.198 { 99},Y2R,ppm, .0001,.0018,1748., -.0005, -.0013, .0021,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1917.4,3.2799,.17106,1918.7,1919.8,1913.6
Y2A,371.030 { 91}2,Cts/S, 130980.,438.56,.33484,130970.,131420.,130540.
Y2R,371.030 { 91}3,Cts/S, 6513.7,4.4424,.06820,6517.5,6508.8,6514.8

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=CCV 383770
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 6:45:41
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .5078,.0023,.4512, .5079, .5055, .5101,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 25.12,.1816,.7230, 25.22, 24.91, 25.23,Chk Pass,,
As,189.042 {478},Y1,ppm, .4943,.0240,4.859, .4711, .4929, .5190,Chk Pass,,
B,249.773 {135},Y2A,ppm, .4719,.0037,.7921, .4741, .4676, .4740,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .5056,.0031,.6073, .5083, .5023, .5063,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .48038,.00147,.30513, .48126, .47868, .48118,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 24.78,.0331,.1335, 24.81, 24.74, 24.77,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .5053,.0012,.2446, .5065, .5041, .5052,Chk Pass,,
Co,228.616 {447},Y1,ppm, .5049,.0009,.1764, .5057, .5040, .5051,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .4925,.0024,.4809, .4952, .4907, .4915,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .5223,.0020,.3905, .5241, .5201, .5227,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 24.86,.0470,.1889, 24.87, 24.91, 24.81,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 24.93,.0644,.2585, 25.00, 24.93, 24.87,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .5062,.0053,1.046, .5088, .5098, .5001,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 24.72,.0944,.3817, 24.69, 24.64, 24.82,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .50680,.00166,.32733, .50770, .50488, .50781,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .4880,.0017,.3466, .4896, .4882, .4862,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 24.55,.0690,.2810, 24.53, 24.50, 24.63,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .5054,.0013,.2540, .5058, .5064, .5040,Chk Pass,,
P,177.495 {490},Y1,ppm, .5088,.0061,1.195, .5020, .5136, .5108,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .4948,.0054,1.093, .4967, .4990, .4887,Chk Pass,,

S,182.034 {485},Y1,ppm, 24.61,.1167,.4743, 24.74, 24.54, 24.54,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .5026,.0056,1.110, .4988, .5000, .5090,Chk Pass,,
Se,196.090 {472},Y1,ppm, .5089,.0096,1.877, .5194, .5006, .5067,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 24.473,.05339,.21817, 24.469, 24.529, 24.422,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .4920,.0105,2.144, .5033, .4904, .4824,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .5009,.0051,1.018, .4987, .4972, .5067,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .5199,.0118,2.270, .5314, .5204, .5078,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .5044,.0012,.2378, .5054, .5030, .5047,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .5356,.0016,.2918, .5348, .5374, .5345,Chk Pass,,
V,292.402 {115},Y2A,ppm, .5030,.0014,.2855, .5045, .5016, .5029,Chk Pass,,
W,207.911 {462},Y1,ppm, .4942,.0040,.8102, .4896, .4961, .4969,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .5008,.0003,.0613, .5011, .5005, .5009,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .4867,.0051,1.045, .4840, .4835, .4926,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1876.0,6.0935,.32481,1882.8,1874.4,1871.0
Y2A,371.030 { 91}2,Cts/S, 126550.,807.82,.63835,126340.,127440.,125860.
Y2R,371.030 { 91}3,Cts/S, 6682.6,11.830,.17703,6675.4,6696.3,6676.3

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=CCB 330200

Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 6:48:50
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0021,.0010,45.81, .0019, .0013, .0032,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .0032,.0031,98.21, .0021, .0067, .0008,Chk Pass,,
As,189.042 {478},Y1,ppm, -.0122,.0083,68.07, -.0143, -.0030, -.0192,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0034,.0010,29.92, .0038, .0023, .0043,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0001,.0001,114.1, .0001, .0000, .0000,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00002,.00004,164.70, .00007, -.00001, .00001,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .0013,.0112,895.2, -.0109, .0113, .0034,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0015,.0021,139.1, .0039, .0005, .0001,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0007,.0016,237.7, .0022, .0010, -.0011,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, -.0003,.0008,237.2, -.0001, -.0013, .0004,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, -.0028,.0018,64.03, -.0008, -.0033, -.0044,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .0074,.0055,75.26, .0136, .0031, .0053,Chk Pass,,
K,766.490 { 44},Y2R,ppm, .1608,.0446,27.73, .1202, .1536, .2086,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0047,.0022,46.26, .0071, .0031, .0038,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .0045,.0046,101.1, .0092, .0043, .0000,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .00005,.00009,182.70, .00002, .00015, -.00002,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0008,.0018,230.8, .0028, -.0003, -.0002,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .0284,.0298,105.2, .0549, .0341, -.0039,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0002,.0025,1558., .0017, -.0028, .0016,Chk Pass,,
P,177.495 {490},Y1,ppm, .0035,.0028,80.63, .0060, .0040, .0004,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .0012,.0005,46.09, .0014, .0005, .0015,Chk Pass,,
S,182.034 {485},Y1,ppm, .0049,.0702,1430., .0804, -.0583, -.0074,Chk Pass,,
Sb,206.833 {463},Y1,ppm, -.0015,.0058,396.4, -.0056, -.0039, .0051,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0088,.0070,79.36, .0073, .0027, .0163,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .03513,.00584,16.635, .03000, .04149, .03390,Chk Pass,,
Sn,189.989 {477},Y1,ppm, -.0019,.0131,703.5, .0066, .0047, -.0169,Chk Pass,,

Sr,421.552 { 80},Y2A,ppm, .0000,.0000,384.3, .0001, .0000, -.0000,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0599,.0280,46.76, .0417, .0459, .0922,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0004,.0001,28.13, .0004, .0003, .0005,Chk Pass,,
Tl,190.856 {477},Y1,ppm, -.0018,.0061,337.8, .0029, .0004, -.0087,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0013,.0005,38.13, .0008, .0014, .0017,Chk Pass,,
W,207.911 {462},Y1,ppm, -.0046,.0032,69.42, -.0020, -.0037, -.0082,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .0015,.0009,57.48, .0025, .0012, .0008,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.0001,.0018,1594., .0006, .0012, -.0021,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1908.6,7.3467,.38494,1903.6,1917.0,1905.1
Y2A,371.030 { 91}2,Cts/S, 128900.,451.71,.35044,129370.,128850.,128470.
Y2R,371.030 { 91}3,Cts/S, 6502.6,13.372,.20565,6490.4,6516.9,6500.5

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=ICSA 288648
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 14:06:42
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0036,.0009,23.96, .0026, .0039, .0043,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 469.5,4.932,1.050, 464.3, 474.1, 470.1,Chk Pass,,
As,189.042 {478},Y1,ppm, -.0146,.0067,46.06, -.0220, -.0088, -.0129,Chk Pass,,
B,249.773 {135},Y2A,ppm,F -.2454,.0071,2.912, -.2408, -.2536, -.2417,Chk
Fail,.1000,-.1000
Ba,455.403 { 74},Y2A,ppm, .0021,.0000,1.013, .0021, .0021, .0021,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00018,.00001,6.3937, .00017, .00019, .00018,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 484.0,8.382,1.732, 477.9, 493.6, 480.6,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0036,.0009,24.70, .0037, .0027, .0045,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0033,.0016,49.20, .0027, .0020, .0051,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, -.0031,.0004,13.21, -.0035, -.0032, -.0027,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0025,.0020,79.77, .0018, .0047, .0009,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 187.7,3.259,1.736, 185.3, 191.4, 186.3,Chk Pass,,
K,766.490 { 44},Y2R,ppm, -.1383,.0052,3.760, -.1416, -.1323, -.1411,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, -.0029,.0021,72.46, -.0030, -.0008, -.0050,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 467.8,5.235,1.119, 468.3, 472.7, 462.3,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .00331,.00038,11.449, .00346, .00288, .00359,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.0035,.0011,32.15, -.0024, -.0047, -.0035,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .0921,.0202,21.94, .0705, .0952, .1105,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0028,.0021,75.65, .0038, .0004, .0042,Chk Pass,,
P,177.495 {490},Y1,ppm, .0057,.0065,113.3, .0110, -.0015, .0077,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .0023,.0113,492.1, -.0053, .0152, -.0030,Chk Pass,,
S,182.034 {485},Y1,ppm, -.1160,.0053,4.594, -.1099, -.1195, -.1186,Chk Pass,,
Sb,206.833 {463},Y1,ppm, -.0095,.0079,83.77, -.0115, -.0162, -.0007,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0089,.0150,168.3, .0113, .0226, -.0071,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .01540,.00540,35.051, .00938, .01981, .01701,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0032,.0126,388.6, .0175, -.0063, -.0015,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm,W -.0084,.0002,2.856, -.0082, -.0087, -.0083,Chk
Warn,.0050,-.0050
Th,283.730 {119},Y2R,ppm, .1858,.0300,16.17, .1666, .1704, .2204,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, -.0016,.0000,2.207, -.0017, -.0016, -.0017,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0031,.0101,324.3, .0110, -.0082, .0065,Chk Pass,,

V,292.402 {115},Y2A,ppm, -.0005,.0012,264.3, .0004, -.0018, .0001,Chk Pass,,
W,207.911 {462},Y1,ppm, .0018,.0007,39.08, .0011, .0025, .0019,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .0112,.0012,10.87, .0125, .0100, .0111,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.0065,.0063,96.89, -.0030, -.0028, -.0138,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1669.0,12.197,.73081,1658.7,1665.8,1682.5
Y2A,371.030 { 91}2,Cts/S, 111290.,1288.7,1.1579,112730.,110900.,110250.
Y2R,371.030 { 91}3,Cts/S, 6088.0,81.940,1.3459,6133.3,5993.4,6137.2

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=ICSAB 293007
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 14:10:04
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .2229,.0006,.2762, .2222, .2232, .2233,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 479.4,1.449,.3023, 480.7, 479.8, 477.9,Chk Pass,,
As,189.042 {478},Y1,ppm, .1034,.0229,22.11, .0813, .1020, .1270,Chk Pass,,
B,249.773 {135},Y2A,ppm,F -.2509,.0075,2.986, -.2518, -.2578, -.2430,Chk
Fail,.1000,-.1000
Ba,455.403 { 74},Y2A,ppm, .5000,.0001,.0242, .4999, .5000, .5002,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .50650,.00148,.29303, .50546, .50584, .50820,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 488.6,9.030,1.848, 487.0, 498.4, 480.5,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .9471,.0187,1.978, .9468, .9659, .9284,Chk Pass,,
Co,228.616 {447},Y1,ppm, .4700,.0098,2.091, .4700, .4798, .4601,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .4666,.0015,.3211, .4660, .4683, .4655,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .5340,.0023,.4299, .5315, .5359, .5348,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 190.5,3.298,1.731, 190.6, 193.7, 187.1,Chk Pass,,
K,766.490 { 44},Y2R,ppm, -.2239,.0353,15.76, -.1972, -.2639, -.2107,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, -.0069,.0026,37.33, -.0096, -.0046, -.0063,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 453.9,8.581,1.890, 455.0, 461.8, 444.8,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .50180,.00187,.37172, .50089, .50057, .50395,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.0025,.0014,58.42, -.0008, -.0035, -.0031,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .1082,.0020,1.892, .1058, .1096, .1091,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .9333,.0171,1.828, .9351, .9494, .9154,Chk Pass,,
P,177.495 {490},Y1,ppm, .0156,.0069,44.48, .0161, .0222, .0084,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .5083,.0162,3.183, .4955, .5265, .5028,Chk Pass,,
S,182.034 {485},Y1,ppm, -.1371,.0094,6.832, -.1289, -.1473, -.1351,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .5745,.0232,4.034, .5742, .5978, .5514,Chk Pass,,
Se,196.090 {472},Y1,ppm, .5550,.0070,1.260, .5615, .5476, .5559,Chk Pass,,
Si,251.611 {134},Y2R,ppm,F -.00077,.01448,1880.7, .01351, -.00037, -.01544,Chk
Fail,1.0000,1.0000
Sn,189.989 {477},Y1,ppm, .0073,.0072,98.22, .0053, .0154, .0014,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm,W -.0085,.0003,2.984, -.0084, -.0087, -.0082,Chk
Warn,.0050,-.0050
Th,283.730 {119},Y2R,ppm, .2083,.0049,2.374, .2110, .2025, .2112,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, -.0014,.0001,9.375, -.0012, -.0013, -.0015,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .1010,.0054,5.321, .1070, .0967, .0993,Chk Pass,,
V,292.402 {115},Y2A,ppm, .4867,.0019,.3998, .4844, .4880, .4876,Chk Pass,,
W,207.911 {462},Y1,ppm,F -.0023,.0039,166.7, -.0001, -.0001, -.0069,Chk
Fail,-.0600,-.0600

Zn,213.856 {458},Y1,ppm, 1.038,.0220,2.125, 1.037, 1.060, 1.016,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.0052,.0031,59.05, -.0051, -.0022, -.0083,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1685.0,31.603,1.8756,1697.3,1649.0,1708.5
Y2A,371.030 { 91}2,Cts/S, 112090.,372.96,.33272,112130.,112440.,111700.
Y2R,371.030 { 91}3,Cts/S, 6163.9,121.02,1.9634,6149.4,6050.8,6291.6

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=CCS
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 14:13:21
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0016,.0005,31.03, .0013, .0014, .0022,None,,
Al,308.215 {109}2,Y2A,ppm, .0150,.0086,57.51, .0098, .0250, .0102,None,,
As,189.042 {478},Y1,ppm, -.0087,.0084,96.70, -.0162, -.0103, .0004,None,,
B,249.773 {135},Y2A,ppm, -.0009,.0011,125.7, -.0008, -.0021, .0002,None,,
Ba,455.403 { 74},Y2A,ppm, .0000,.0000,24.41, .0001, .0000, .0000,None,,
Be,313.042 {108},Y2A,ppm, .00001,.00003,202.37, -.00001, .00005, .00001,None,,
Ca,317.933 {106},Y2R,ppm, .0267,.0010,3.839, .0273, .0274, .0256,None,,
Cd,226.502 {449},Y1,ppm, .0006,.0003,39.84, .0009, .0006, .0004,None,,
Co,228.616 {447},Y1,ppm, -.0006,.0005,72.39, -.0008, -.0001, -.0010,None,,
Cr,267.716 {126},Y2A,ppm, -.0009,.0006,68.05, -.0017, -.0007, -.0005,None,,
Cu,327.396 {103},Y2A,ppm, -.0016,.0011,69.43, -.0008, -.0029, -.0011,None,,
Fe,261.187 {129},Y2R,ppm, .0062,.0227,369.4, .0129, .0248, -.0192,None,,
K,766.490 { 44},Y2R,ppm, .0421,.0444,105.4, .0915, .0290, .0057,None,,
Li,670.784 { 50},Y2R,ppm, .0080,.0026,32.82, .0098, .0050, .0093,None,,
Mg,285.213 {118},Y2R,ppm, .0252,.0045,17.95, .0262, .0292, .0203,None,,
Mn,257.610 {131},Y2A,ppm, .00008,.00005,60.054, .00009, .00002, .00011,None,,
Mo,202.030 {467},Y1,ppm, -.0005,.0007,147.8, -.0001, -.0001, -.0014,None,,
Na,589.592 { 57},Y2R,ppm, .0419,.0012,2.837, .0433, .0413, .0412,None,,
Ni,231.604 {445},Y1,ppm, .0003,.0012,440.3, .0012, .0007, -.0011,None,,
P,177.495 {490},Y1,ppm, .0067,.0012,17.76, .0060, .0081, .0060,None,,
Pb,220.353 {453},Y1,ppm, .0003,.0041,1265., -.0042, .0040, .0012,None,,
S,182.034 {485},Y1,ppm, .0139,.0144,104.2, .0066, .0305, .0044,None,,
Sb,206.833 {463},Y1,ppm, -.0007,.0025,369.0, .0000, .0014, -.0035,None,,
Se,196.090 {472},Y1,ppm, .0152,.0165,108.9, -.0014, .0317, .0152,None,,
Si,251.611 {134},Y2R,ppm, .01100,.00932,84.754, .02173, .00641, .00486,None,,
Sn,189.989 {477},Y1,ppm, .0000,.0020,10230., -.0011, -.0012, .0024,None,,
Sr,421.552 { 80},Y2A,ppm, .0000,.0000,243.2, .0000, .0000, -.0000,None,,
Th,283.730 {119},Y2R,ppm, .0542,.0155,28.56, .0697, .0542, .0387,None,,
Ti,334.941 {101},Y2A,ppm, .0002,.0003,122.8, .0001, .0006, .0001,None,,
Tl,190.856 {477},Y1,ppm, -.0084,.0101,120.5, -.0096, -.0177, .0023,None,,
V,292.402 {115},Y2A,ppm, .0007,.0004,64.75, .0010, .0008, .0002,None,,
W,207.911 {462},Y1,ppm, -.0071,.0016,22.34, -.0053, -.0082, -.0076,None,,
Zn,213.856 {458},Y1,ppm, .0010,.0003,25.73, .0009, .0014, .0009,None,,
Zr,339.198 { 99},Y2R,ppm, -.0020,.0018,91.48, -.0011, -.0008, -.0041,None,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1914.6,36.762,1.9201,1884.4,1903.9,1955.5

Y2A,371.030 { 91}2,Cts/S, 132100.,2954.1,2.2362,134490.,133030.,128800.
Y2R,371.030 { 91}3,Cts/S, 6392.7,25.625,.40084,6364.0,6400.9,6413.3

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=CCV 383770
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 14:16:30
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .4982,.0014,.2725, .4984, .4995, .4968,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 24.39,.0399,.1635, 24.36, 24.44, 24.37,Chk Pass,,
As,189.042 {478},Y1,ppm, .4943,.0049,.9875, .4988, .4949, .4891,Chk Pass,,
B,249.773 {135},Y2A,ppm,W .4557,.0015,.3302, .4566, .4540, .4566,Chk
Warn,.5000,-8.000%
Ba,455.403 { 74},Y2A,ppm, .4877,.0028,.5661, .4883, .4847, .4901,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .46845,.00094,.20137, .46816, .46768, .46950,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 24.89,.4538,1.823, 24.37, 25.19, 25.11,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .5038,.0055,1.101, .4982, .5093, .5041,Chk Pass,,
Co,228.616 {447},Y1,ppm, .5046,.0042,.8265, .5005, .5088, .5045,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .4763,.0035,.7449, .4763, .4727, .4798,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .5074,.0009,.1746, .5070, .5068, .5084,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 24.29,.4749,1.955, 23.75, 24.64, 24.47,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 25.14,.5442,2.165, 24.52, 25.51, 25.40,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .5104,.0110,2.156, .4980, .5141, .5190,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 24.53,.4070,1.659, 24.06, 24.77, 24.77,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .49896,.00106,.21151, .49796, .49885, .50006,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .4901,.0080,1.629, .4813, .4967, .4924,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 24.93,.4469,1.792, 24.42, 25.21, 25.17,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .5086,.0044,.8613, .5036, .5115, .5107,Chk Pass,,
P,177.495 {490},Y1,ppm, .5185,.0105,2.024, .5105, .5304, .5146,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .4891,.0070,1.430, .4813, .4914, .4947,Chk Pass,,
S,182.034 {485},Y1,ppm, 24.50,.2270,.9268, 24.25, 24.69, 24.55,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .4908,.0099,2.011, .4826, .5018, .4882,Chk Pass,,
Se,196.090 {472},Y1,ppm, .4970,.0296,5.964, .4739, .5304, .4866,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 23.846,.43416,1.8207, 23.356, 24.183, 24.000,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .4890,.0075,1.529, .4842, .4851, .4976,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .4858,.0058,1.201, .4890, .4790, .4893,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .5230,.0121,2.313, .5364, .5128, .5200,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .4901,.0007,.1471, .4904, .4893, .4907,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .5307,.0092,1.739, .5206, .5386, .5330,Chk Pass,,
V,292.402 {115},Y2A,ppm, .4872,.0014,.2953, .4862, .4889, .4866,Chk Pass,,
W,207.911 {462},Y1,ppm, .4929,.0094,1.916, .4821, .4997, .4968,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .5015,.0058,1.165, .4947, .5048, .5049,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .4894,.0098,2.007, .4782, .4963, .4937,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1826.4,17.357,.95035,1846.3,1814.4,1818.6
Y2A,371.030 { 91}2,Cts/S, 125780.,1369.2,1.0886,126590.,126550.,124200.
Y2R,371.030 { 91}3,Cts/S, 6342.3,78.971,1.2452,6432.1,6283.6,6311.1

[Sample Header]
Method=New TRACE Fast w axial Al(v353)

SampleName=CCB 330200

Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 14:19:31
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0013,.0005,40.52, .0016, .0007, .0014,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, -.0054,.0032,60.55, -.0064, -.0079, -.0017,Chk Pass,,
As,189.042 {478},Y1,ppm, -.0050,.0130,257.9, -.0181, .0079, -.0049,Chk Pass,,
B,249.773 {135},Y2A,ppm, -.0002,.0008,432.8, -.0001, -.0010, .0006,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0001,.0000,27.02, .0001, .0001, .0001,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00004,.00003,89.008, .00005, -.00000, .00006,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, -.0015,.0053,350.9, -.0068, .0039, -.0017,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0000,.0001,375.1, -.0001, .0002, .0001,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0003,.0008,273.4, -.0005, .0011, .0003,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, -.0010,.0008,82.50, -.0018, -.0009, -.0002,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, -.0019,.0013,65.18, -.0006, -.0031, -.0021,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, -.0000,.0077,582100., .0070, -.0082, .0012,Chk Pass,,
K,766.490 { 44},Y2R,ppm, .0328,.0177,53.85, .0404, .0126, .0454,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0052,.0011,20.46, .0041, .0051, .0062,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .0028,.0022,77.20, .0042, .0040, .0003,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .00003,.00011,378.60, .00012, .00007, -.00010,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.0005,.0006,113.3, -.0012, -.0002, -.0002,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .0106,.0160,150.9, .0236, -.0073, .0156,Chk Pass,,
Ni,231.604 {445},Y1,ppm, -.0004,.0019,493.8, -.0020, -.0009, .0017,Chk Pass,,
P,177.495 {490},Y1,ppm, .0026,.0056,216.2, -.0033, .0079, .0032,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .0021,.0019,88.49, .0036, .0027, .0000,Chk Pass,,
S,182.034 {485},Y1,ppm, .0453,.0077,16.99, .0538, .0432, .0389,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .0011,.0082,730.9, .0104, -.0054, -.0016,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0167,.0038,22.53, .0142, .0210, .0148,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .01652,.00304,18.422, .01450, .02002, .01504,Chk Pass,,
Sn,189.989 {477},Y1,ppm, -.0001,.0033,2352., .0032, -.0002, -.0034,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0000,.0000,84.16, .0000, .0000, .0000,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0554,.0111,20.05, .0450, .0542, .0671,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0003,.0002,55.90, .0002, .0001, .0004,Chk Pass,,
Tl,190.856 {477},Y1,ppm, -.0014,.0043,308.9, -.0054, -.0019, .0032,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0011,.0005,48.76, .0017, .0007, .0009,Chk Pass,,
W,207.911 {462},Y1,ppm, -.0057,.0017,29.31, -.0075, -.0051, -.0043,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .0009,.0001,12.36, .0009, .0011, .0008,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0008,.0035,423.0, -.0017, .0049, -.0007,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1883.6,21.493,1.1410,1864.7,1879.1,1907.0
Y2A,371.030 { 91}2,Cts/S, 129130.,3084.3,2.3886,132480.,128510.,126400.
Y2R,371.030 { 91}3,Cts/S, 6371.2,56.921,.89341,6309.3,6421.2,6383.2

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=CCV 383770
Username=dept 22
Comment=
Custom ID1=
Custom ID2=

Custom ID3=
Run Time=8/31/2020 16:31:45
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .4965,.0058,1.167, .5025, .4909, .4960,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 24.29,.2515,1.035, 24.55, 24.05, 24.27,Chk Pass,,
As,189.042 {478},Y1,ppm, .4901,.0168,3.428, .4901, .4733, .5069,Chk Pass,,
B,249.773 {135},Y2A,ppm,W .4555,.0069,1.523, .4624, .4486, .4555,Chk
Warn,.5000,-8.000%
Ba,455.403 { 74},Y2A,ppm, .4868,.0066,1.362, .4924, .4795, .4884,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .46514,.00500,1.0741, .47007, .46008, .46526,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 25.07,.1488,.5936, 24.93, 25.07, 25.23,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .5008,.0031,.6134, .5041, .5004, .4980,Chk Pass,,
Co,228.616 {447},Y1,ppm, .5020,.0009,.1743, .5029, .5019, .5011,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .4776,.0068,1.430, .4829, .4699, .4799,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .5045,.0082,1.623, .5119, .4957, .5059,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 23.93,.2213,.9249, 23.78, 23.83, 24.18,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 25.35,.2295,.9051, 25.33, 25.13, 25.59,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .5202,.0054,1.042, .5204, .5147, .5255,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 24.60,.1080,.4391, 24.52, 24.56, 24.72,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .49909,.00571,1.1446, .50512, .49376, .49839,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .4896,.0039,.7922, .4933, .4898, .4856,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 25.06,.1467,.5853, 24.94, 25.03, 25.22,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .5085,.0036,.7031, .5116, .5093, .5046,Chk Pass,,
P,177.495 {490},Y1,ppm, .5097,.0057,1.113, .5053, .5077, .5161,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .4968,.0037,.7480, .4935, .5008, .4961,Chk Pass,,
S,182.034 {485},Y1,ppm, 24.44,.2587,1.058, 24.71, 24.42, 24.20,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .4776,.0060,1.265, .4816, .4805, .4706,Chk Pass,,
Se,196.090 {472},Y1,ppm, .4942,.0081,1.633, .4887, .5035, .4905,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 23.195,.23056,.99402, 23.034, 23.092, 23.459,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .4826,.0074,1.544, .4905, .4757, .4816,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .4874,.0105,2.161, .4994, .4797, .4830,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .5204,.0391,7.517, .5219, .5588, .4806,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .4876,.0063,1.283, .4940, .4815, .4872,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .5261,.0061,1.167, .5193, .5277, .5312,Chk Pass,,
V,292.402 {115},Y2A,ppm, .4861,.0064,1.326, .4934, .4813, .4836,Chk Pass,,
W,207.911 {462},Y1,ppm, .4924,.0069,1.409, .4924, .4993, .4854,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .4993,.0024,.4851, .5007, .5008, .4965,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .4879,.0052,1.070, .4883, .4825, .4929,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1836.3,12.960,.70573,1824.3,1834.7,1850.0
Y2A,371.030 { 91}2,Cts/S, 125050.,1078.4,.86238,124340.,126290.,124530.
Y2R,371.030 { 91}3,Cts/S, 6137.6,28.644,.46670,6153.2,6155.0,6104.5

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=CCB 330200

Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 16:34:48
Sample Type=QC
Mode=CONC

```
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0013,.0008,62.01, .0009, .0023, .0008,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, -.0025,.0096,390.5, .0053, -.0132, .0005,Chk Pass,,
As,189.042 {478},Y1,ppm, -.0126,.0101,80.22, -.0242, -.0056, -.0080,Chk Pass,,
B,249.773 {135},Y2A,ppm, -.0004,.0007,152.2, -.0011, .0002, -.0005,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0000,.0001,178.1, .0001, .0000, -.0000,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00006,.00002,39.023, .00009, .00006, .00004,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .0006,.0056,928.7, .0030, -.0058, .0047,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0002,.0000,13.42, .0002, .0002, .0002,Chk Pass,,
Co,228.616 {447},Y1,ppm, -.0004,.0007,167.2, .0003, -.0011, -.0005,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, -.0002,.0003,116.0, -.0005, -.0001, -.0000,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, -.0021,.0015,71.12, -.0018, -.0037, -.0008,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, -.0054,.0117,218.2, -.0162, -.0070, .0071,Chk Pass,,
K,766.490 { 44},Y2R,ppm, .0310,.0345,111.5, -.0078, .0585, .0421,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0078,.0023,29.80, .0077, .0102, .0056,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .0022,.0008,35.16, .0022, .0029, .0014,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .00006,.00010,170.54, .00015, .00009, -.00006,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.0003,.0004,119.0, .0001, -.0007, -.0004,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .0872,.0339,38.88, .1118, .1012, .0485,Chk Pass,,
Ni,231.604 {445},Y1,ppm, -.0010,.0007,72.88, -.0017, -.0004, -.0008,Chk Pass,,
P,177.495 {490},Y1,ppm, .0015,.0042,289.2, .0024, .0052, -.0031,Chk Pass,,
Pb,220.353 {453},Y1,ppm, -.0011,.0046,427.7, -.0043, .0042, -.0032,Chk Pass,,
S,182.034 {485},Y1,ppm, .0203,.0165,81.20, .0013, .0293, .0303,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .0031,.0067,215.2, .0028, -.0034, .0099,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0071,.0033,46.87, .0106, .0039, .0069,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .00709,.01621,228.71, .02260, -.00975, .00842,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0049,.0107,219.0, -.0035, .0012, .0170,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0001,.0001,98.21, .0001, .0000, .0000,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0417,.0182,43.68, .0398, .0608, .0245,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0003,.0001,32.64, .0003, .0004, .0002,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0011,.0058,541.6, -.0012, .0076, -.0033,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0008,.0010,125.3, .0017, -.0003, .0012,Chk Pass,,
W,207.911 {462},Y1,ppm, -.0074,.0036,47.73, -.0096, -.0033, -.0094,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .0008,.0003,42.05, .0011, .0008, .0004,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.0001,.0045,4227., .0050, -.0036, -.0017,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1875.1,9.7855,.52188,1884.7,1875.2,1865.2
Y2A,371.030 { 91}2,Cts/S, 131720.,922.14,.70005,131170.,132790.,131210.
Y2R,371.030 { 91}3,Cts/S, 6218.6,106.77,1.7170,6138.4,6339.8,6177.7

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=MB 410-37214/1-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 16:37:59
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0010784,.0005502,51.02005, .0011733, .0004869,
```

.0015749,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .0022459,.0080204,357.1187, .0044803, .0089121,
-.006655,Chk Pass,,
As,189.042 {478},Y1,ppm, .0023716,.0158139,666.7898, .0179318, -.013684,
.0028674,Chk Pass,,
B,249.773 {135},Y2A,ppm, -.001070,.0004252,39.74491, -.001510, -.000661,
-.001038,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0000302,.0000472,156.4794, .0000789, -.000015,
.0000270,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .0000124,.0000289,232.4259, .0000381, -.000019,
.0000179,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .0065668,.0049352,75.15458, .0009251, .0100842,
.0086911,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0000755,.0001106,146.3435, -.000015, .0000429,
.0001987,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0012480,.0013812,110.6700, .0010390, .0027218,
-.000017,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, -.000903,.0008772,97.15045, -.001053, -.001696,
.0000395,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, -.001427,.0006413,44.95120, -.001388, -.002086,
-.000806,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .0035784,.0129093,360.7567, .0044081, .0160529,
-.009726,Chk Pass,,
K,766.490 { 44},Y2R,ppm, .0800688,.0567922,70.92930, .1214410, .0153190,
.1034463,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0080727,.0040926,50.69691, .0034588, .0112646,
.0094948,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .0031204,.0006367,20.40563, .0031454, .0024716,
.0037444,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .0000590,.0000720,121.9673, -.000008, .0000492,
.0001354,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.000934,.0005187,55.55904, -.001106, -.001344,
-.000351,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .0946187,.0037523,3.965682, .0913460, .0987141,
.0937960,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0002383,.0000322,13.51132, .0002656, .0002028,
.0002466,Chk Pass,,
P,177.495 {490},Y1,ppm, -.000295,.0037874,1285.371, .0010221, .0026587, -.004565,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, .0004038,.0037558,930.0757, -.003926, .0023502,
.0027869,Chk Pass,,
S,182.034 {485},Y1,ppm, .0027280,.0154348,565.7925, .0186045, .0018029, -.012223,Chk
Pass,,
Sb,206.833 {463},Y1,ppm, -.005417,.0117332,216.6074, -.013433, .0080504,
-.010868,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0197336,.0135160,68.49220, .0080748, .0165777,
.0345483,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .0025238,.0169798,672.7750, -.011859, .0212548,
-.001824,Chk Pass,,
Sn,189.989 {477},Y1,ppm, -.002851,.0065855,230.9867, -.004541, -.008427,
.0044147,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0000210,.0000051,24.33009, .0000155, .0000217,
.0000257,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0407309,.0252870,62.08319, .0540235, .0115698,
.0565993,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0004929,.0001500,30.43087, .0004569, .0006576,
.0003641,Chk Pass,,
Tl,190.856 {477},Y1,ppm, -.010439,.0033327,31.92471, -.012558, -.012162,
-.006598,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0012596,.0005729,45.48377, .0007795, .0011056,
.0018938,Chk Pass,,
W,207.911 {462},Y1,ppm, -.009516,.0002197,2.308358, -.009770, -.009404, -.009376,Chk
Pass,,

Zn,213.856 {458},Y1,ppm, .0007838,.0001774,22.63731, .0009625, .0006077,
.0007811,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.001753,.0044386,253.2646, -.003411, .0032766,
-.005123,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1881.522,2.298069,.1221388,1880.387,1884.167,1880.012
Y2A,371.030 { 91}2,Cts/S, 130084.5,3052.335,2.346424,127355.7,133380.8,129517.2
Y2R,371.030 { 91}3,Cts/S, 6189.717,35.20050,.5686932,6189.500,6225.025,6154.625

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=LCS 410-37214/2-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 16:41:11
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0215202,.0007546,3.506492, .0215053, .0222821,
.0207731,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .4084909,.0066906,1.637887, .4007655, .4122991,
.4124082,Chk Pass,,
As,189.042 {478},Y1,ppm, .0528557,.0173001,32.73088, .0519407, .0360312,
.0705951,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0565898,.0009803,1.732240, .0560141, .0577217,
.0560337,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0104846,.0001443,1.375940, .0104112, .0106508,
.0103918,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .0095302,.0001741,1.827119, .0093721, .0097169,
.0095016,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .4152648,.0166675,4.013706, .4193827, .3969244,
.4294875,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0104649,.0001581,1.510956, .0102952, .0104914,
.0106081,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0121339,.0008302,6.842330, .0113357, .0129928,
.0120730,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0285577,.0003124,1.093975, .0282098, .0288143,
.0286489,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0420948,.0012665,3.008643, .0410480, .0435026,
.0417338,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .4077637,.0227631,5.582433, .3974502, .3919828,
.4338581,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 5.807051,.1941599,3.343519, 5.754987, 5.644231,
6.021935,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .1158982,.0028645,2.471525, .1188225, .1130976,
.1157743,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .2077281,.0068637,3.304175, .2122778, .1998331,
.2110732,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .0211388,.0004470,2.114431, .0207740, .0216374,
.0210049,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0185020,.0005421,2.929976, .0189144, .0187035,
.0178880,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 2.151449,.0765862,3.559749, 2.160520, 2.070732,
2.223096,Chk Pass,,

Ni,231.604 {445},Y1,ppm, 2.161466,.0023196,.1073159, 2.158882, 2.163369,
2.162148,Chk Pass,,
P,177.495 {490},Y1,ppm, .2032864,.0034008,1.672897, .2015567, .2072043, .2010981,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, .0322120,.0018285,5.676462, .0302175, .0338092,
.0326091,Chk Pass,,
S,182.034 {485},Y1,ppm, .9920769,.0248131,2.501132, .9634916, 1.008059, 1.004680,Chk
Pass,,
Sb,206.833 {463},Y1,ppm, .1085659,.0035785,3.296183, .1051608, .1082413,
.1122957,Chk Pass,,
Se,196.090 {472},Y1,ppm, .1050831,.0110675,10.53214, .1104217, .0923583,
.1124694,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .9518765,.0457762,4.809044, .9572923, .9036334,
.9947039,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0994899,.0048798,4.904772, .1002128, .1039679,
.0942890,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0103592,.0001367,1.319705, .0102533, .0105135,
.0103107,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0491973,.0236149,48.00033, .0544540, .0233970,
.0697409,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0200084,.0004052,2.025042, .0196376, .0204408,
.0199467,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0630013,.0092619,14.70111, .0615909, .0728875,
.0545255,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0211011,.0004705,2.229507, .0207240, .0216282,
.0209510,Chk Pass,,
W,207.911 {462},Y1,ppm, .0509134,.0010810,2.123136, .0508906, .0498440, .0520055,Chk
Pass,,
Zn,213.856 {458},Y1,ppm, .4538149,.0001418,.0312551, .4538235, .4539522,
.4536689,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0972839,.0023275,2.392465, .0988487, .0983936,
.0946092,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1933.092,4.957500,.2564545,1927.367,1935.956,1935.951
Y2A,371.030 { 91}2,Cts/S, 134724.3,2068.861,1.535625,136600.2,132505.4,135067.3
Y2R,371.030 { 91}3,Cts/S, 6644.892,185.7186,2.794908,6656.150,6824.725,6453.800

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=410-11427-H-1-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 16:44:19
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0014659,.0007633,52.07119, .0010745, .0009776,
.0023455,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .3380303,.0052475,1.552381, .3322726, .3425440,
.3392743,Chk Pass,,
As,189.042 {478},Y1,ppm, .0266538,.0073593,27.61052, .0315306, .0302421,
.0181887,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0251880,.0006285,2.495025, .0249303, .0247293,
.0259043,Chk Pass,,

Ba,455.403 { 74},Y2A,ppm, .0425302,.0000684,.1607496, .0426092, .0424907,
.0424908,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .0002511,.0000158,6.285533, .0002667, .0002516,
.0002352,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 9.022797,.0545203,.6042510, 8.974720, 9.011636,
9.082034,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0003422,.0000544,15.89402, .0003603, .0002810,
.0003851,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0006837,.0006837,99.99941, .0007173, -.000016,
.0013501,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0016068,.0003522,21.91798, .0012501, .0016161,
.0019543,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, -.000805,.0008722,108.3470, -.001740, -.000013,
-.000662,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 1.808240,.0076561,.4233990, 1.799475, 1.811621,
1.813623,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 1.094816,.0617265,5.638074, 1.075136, 1.045329,
1.163983,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0101516,.0015690,15.45567, .0093687, .0119580,
.0091282,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .7454874,.0041136,.5517990, .7410350, .7462805,
.7491467,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .0489898,.0002149,.4386357, .0492102, .0489782,
.0487809,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.000655,.0014761,225.4237, -.001608, -.001402,
.0010455,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 3.634312,.0421655,1.160206, 3.585666, 3.660414,
3.656854,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0006027,.0001299,21.54704, .0004540, .0006936,
.0006606,Chk Pass,,
P,177.495 {490},Y1,ppm, .0206630,.0089345,43.23939, .0174779, .0137574, .0307536,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, -.000104,.0053949,5168.079, -.001313, .0057922,
-.004793,Chk Pass,,
S,182.034 {485},Y1,ppm, 2.571215,.0488176,1.898620, 2.567825, 2.524181, 2.621639,Chk
Pass,,
Sb,206.833 {463},Y1,ppm, .0003309,.0070746,2138.032, .0038860, -.007816,
.0049229,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0129257,.0100614,77.84007, .0098753, .0047425,
.0241593,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 5.128764,.0355423,.6930000, 5.156775, 5.140736,
5.088782,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0053500,.0021653,40.47275, .0030060, .0072755,
.0057684,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0490566,.0003034,.6185163, .0494023, .0488342,
.0489334,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0502555,.0276314,54.98189, .0451047, .0255619,
.0800999,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0027834,.0003117,11.19726, .0025011, .0031179,
.0027312,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0060228,.0109479,181.7764, .0038617, -.003684,
.0178900,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0106780,.0009662,9.048425, .0102783, .0099758,
.0117799,Chk Pass,,
W,207.911 {462},Y1,ppm, -.008544,.0025256,29.55937, -.007590, -.011408, -.006635,Chk
Pass,,
Zn,213.856 {458},Y1,ppm, .0226060,.0001736,.7678595, .0227710, .0224249,
.0226221,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0012838,.0047738,371.8583, .0038696, .0042068,
-.004225,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3

Y1,224.306 {450},Cts/S, 1912.895,9.770253,.5107573,1921.288,1915.228,1902.170
Y2A,371.030 { 91}2,Cts/S, 132121.2,531.3733,.4021862,131525.0,132544.9,132293.6
Y2R,371.030 { 91}3,Cts/S, 6333.950,18.60818,.2937848,6340.625,6312.925,6348.300

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=410-11427-H-1-A PDS
Username=dept 22
Comment=UP
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 16:47:31
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0210074,.0006793,3.233645, .0202991, .0216534,
.0210697,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 1.341534,.0068527,.5108079, 1.334297, 1.342384,
1.347923,Chk Pass,,
As,189.042 {478},Y1,ppm, .5495830,.0106108,1.930706, .5373474, .5551448,
.5562566,Chk Pass,,
B,249.773 {135},Y2A,ppm, .2136670,.0025505,1.193662, .2109571, .2140234,
.2160205,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0909861,.0007282,.8002861, .0905067, .0918240,
.0906275,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .0189526,.0002506,1.322124, .0186645, .0191200,
.0190733,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 9.797668,.0664868,.6785980, 9.819108, 9.723107,
9.850790,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0490892,.0006902,1.406013, .0489235, .0498472,
.0484969,Chk Pass,,
Co,228.616 {447},Y1,ppm, .1022658,.0007986,.7809364, .1028339, .1026107,
.1013526,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .1903242,.0002972,.1561612, .1903394, .1900196,
.1906134,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .5113147,.0039235,.7673338, .5072135, .5150323,
.5116982,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 2.230151,.0358415,1.607132, 2.249700, 2.188785,
2.251967,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 3.061614,.0279726,.9136568, 3.038698, 3.053358,
3.092785,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, 1.030134,.0072731,.7060385, 1.032187, 1.022055,
1.036159,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 1.715765,.0163084,.9505051, 1.706039, 1.706663,
1.734593,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .1089071,.0011517,1.057529, .1075789, .1095133,
.1096291,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .1830548,.0040384,2.206100, .1808541, .1877155,
.1805948,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 5.569711,.0349137,.6268490, 5.553475, 5.545873,
5.609786,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .1531055,.0023009,1.502795, .1540884, .1547517,
.1504765,Chk Pass,,
P,177.495 {490},Y1,ppm, .9865292,.0075922,.7695892, .9816275, .9952746, .9826854,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, .4942311,.0079966,1.617984, .4930369, .5027576,
.4868988,Chk Pass,,
S,182.034 {485},Y1,ppm, 3.515547,.0212610,.6047699, 3.515779, 3.536691, 3.494171,Chk

```
Pass,,
Sb,206.833 {463},Y1,ppm, .3760544,.0039372,1.046974, .3802404, .3754974,
.3724254,Chk Pass,,
Se,196.090 {472},Y1,ppm, .7710851,.0113682,1.474308, .7637267, .7841784,
.7653501,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 5.968669,.0598315,1.002427, 6.034092, 5.916730,
5.955184,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .5547952,.0042747,.7705002, .5534918, .5595699,
.5513240,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0679760,.0005142,.7564905, .0673985, .0683843,
.0681452,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0579660,.0146257,25.23151, .0450332, .0550268,
.0738382,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0990793,.0011546,1.165378, .0978041, .0993796,
.1000541,Chk Pass,,
Tl,190.856 {477},Y1,ppm, 1.038554,.0118765,1.143565, 1.033358, 1.052143,
1.030161,Chk Pass,,
V,292.402 {115},Y2A,ppm, .1044347,.0021110,2.021374, .1031396, .1032938,
.1068707,Chk Pass,,
W,207.911 {462},Y1,ppm, .0872667,.0035694,4.090223, .0906768, .0875662, .0835569,Chk
Pass,,
Zn,213.856 {458},Y1,ppm, .1417468,.0020475,1.444452, .1425350, .1432830,
.1394224,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .9633173,.0042768,.4439705, .9668528, .9585635,
.9645356,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1942.326,24.62526,1.267824,1936.666,1921.023,1969.288
Y2A,371.030 { 91}2,Cts/S, 131467.0,576.6268,.4386096,132011.7,130863.0,131526.3
Y2R,371.030 { 91}3,Cts/S, 6336.683,10.43379,.1646570,6325.175,6339.350,6345.525

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=410-11427-E-1-A DU
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 16:50:37
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0016181,.0006681,41.29319, .0023885, .0012678,
.0011979,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .3269201,.0131811,4.031896, .3127625, .3388375,
.3291602,Chk Pass,,
As,189.042 {478},Y1,ppm, .0325026,.0046988,14.45669, .0270915, .0355522,
.0348642,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0246888,.0002298,.9309096, .0246472, .0244826,
.0249366,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0413981,.0009743,2.353583, .0406716, .0425053,
.0410175,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .0002505,.0000289,11.52661, .0002249, .0002818,
.0002446,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 8.601104,.0739593,.8598816, 8.530287, 8.595175,
8.677849,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0003479,.0001731,49.75097, .0002569, .0002393,
```

.0005475,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0005236,.0007877,150.4498, .0014305, .0001300,
.0000102,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0017895,.0001914,10.69793, .0016328, .0017328,
.0020028,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, -.001467,.0014900,101.5753, -.002465, .0002457,
-.002181,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 1.716857,.0067003,.3902659, 1.713554, 1.724567,
1.712449,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 1.048869,.0193497,1.844820, 1.037806, 1.071212,
1.037589,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0102125,.0003907,3.825977, .0106345, .0098633,
.0101397,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .7058920,.0064195,.9094118, .6989101, .7072270,
.7115391,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .0474833,.0014839,3.125042, .0461413, .0490769,
.0472318,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.001127,.0006801,60.33887, -.001090, -.000466,
-.001825,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 3.469583,.0240425,.6929513, 3.441886, 3.481781,
3.485081,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0024786,.0004515,18.21704, .0028735, .0019863,
.0025759,Chk Pass,,
P,177.495 {490},Y1,ppm, .0270506,.0041911,15.49366, .0223297, .0284892, .0303330,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, .0049590,.0035134,70.85003, .0074486, .0064883,
.0009401,Chk Pass,,
S,182.034 {485},Y1,ppm, 2.466003,.0017698,.0717681, 2.468024, 2.464729, 2.465256,Chk
Pass,,
Sb,206.833 {463},Y1,ppm, -.000472,.0071078,1504.753, -.006897, -.001683,
.0071630,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0158988,.0079247,49.84477, .0073767, .0172734,
.0230464,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 4.864716,.0538490,1.106929, 4.833861, 4.833392,
4.926895,Chk Pass,,
Sn,189.989 {477},Y1,ppm, -.003714,.0033840,91.11985, -.001102, -.002503,
-.007537,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0476749,.0011506,2.413333, .0466214, .0489026,
.0475006,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0667586,.0110766,16.59209, .0793691, .0623035,
.0586031,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0024588,.0000669,2.721671, .0024819, .0025112,
.0023834,Chk Pass,,
Tl,190.856 {477},Y1,ppm, -.005786,.0044867,77.54079, -.004113, -.002377,
-.010869,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0102110,.0005529,5.415125, .0096200, .0102972,
.0107158,Chk Pass,,
W,207.911 {462},Y1,ppm, -.008927,.0011181,12.52384, -.008812, -.007871, -.010099,Chk
Pass,,
Zn,213.856 {458},Y1,ppm, .0219013,.0003780,1.726028, .0223372, .0217024,
.0216642,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.000567,.0023630,416.9224, -.002433, .0020900,
-.001357,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1939.056,4.193827,.2162819,1941.626,1934.217,1941.326
Y2A,371.030 { 91}2,Cts/S, 132975.9,2574.944,1.936399,135089.0,130107.9,133730.8
Y2R,371.030 { 91}3,Cts/S, 6574.617,50.96387,.7751611,6613.225,6593.775,6516.850

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=410-11427-H-1-B MS

Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 16:53:46
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0223793,.0003989,1.782530, .0225636, .0219215,
.0226527,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .8363170,.0207813,2.484859, .8557406, .8144025,
.8388078,Chk Pass,,
As,189.042 {478},Y1,ppm, .0981119,.0054826,5.588116, .1034755, .0983426,
.0925175,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0841814,.0023992,2.850056, .0840648, .0818426,
.0866367,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0506065,.0013137,2.595874, .0517072, .0491522,
.0509601,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .0097637,.0001925,1.971672, .0098887, .0095420,
.0098603,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 9.072490,.0367277,.4048248, 9.030089, 9.092937,
9.094443,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0103769,.0002689,2.591224, .0103929, .0106374,
.0101003,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0122687,.0004843,3.947873, .0125131, .0117109,
.0125821,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0306748,.0015210,4.958508, .0314407, .0289231,
.0316606,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0418090,.0005854,1.400174, .0421515, .0411331,
.0421424,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 2.159553,.0107125,.4960506, 2.153215, 2.171921,
2.153523,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 6.795070,.0053928,.0793636, 6.793750, 6.790459,
6.801000,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .1154582,.0025581,2.215602, .1161789, .1126171,
.1175786,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .9125242,.0024013,.2631457, .9100446, .9148386,
.9126895,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .0687015,.0009885,1.438876, .0694319, .0675767,
.0690959,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0187368,.0009726,5.190855, .0191531, .0194321,
.0176254,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 5.565630,.0233212,.4190222, 5.539192, 5.574416,
5.583283,Chk Pass,,
Ni,231.604 {445},Y1,ppm, 2.108229,.0451744,2.142764, 2.068469, 2.157350,
2.098867,Chk Pass,,
P,177.495 {490},Y1,ppm, .2235285,.0075602,3.382202, .2171575, .2318826, .2215455,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, .0317131,.0020883,6.584940, .0294090, .0334810,
.0322494,Chk Pass,,
S,182.034 {485},Y1,ppm, 3.418511,.0663897,1.942066, 3.346101, 3.476515, 3.432916,Chk
Pass,,
Sb,206.833 {463},Y1,ppm, .1028096,.0066184,6.437567, .0959467, .1091530,
.1033292,Chk Pass,,
Se,196.090 {472},Y1,ppm, .1191595,.0085822,7.202309, .1096293, .1262775,
.1215717,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 5.969610,.0339692,.5690356, 5.930387, 5.989374,
5.989071,Chk Pass,,

Sn,189.989 {477},Y1,ppm, .1036219,.0022352,2.157113, .1015863, .1060140,
.1032655,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0573379,.0013457,2.346907, .0583996, .0558245,
.0577896,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0747485,.0160623,21.48852, .0571715, .0886640,
.0784099,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0224918,.0005167,2.297066, .0228702, .0219032,
.0227020,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0692962,.0046584,6.722526, .0701900, .0734430,
.0642556,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0286084,.0002332,.8150372, .0283435, .0286988,
.0287827,Chk Pass,,
W,207.911 {462},Y1,ppm, .0524151,.0020631,3.936135, .0507930, .0547372, .0517153,Chk
Pass,,
Zn,213.856 {458},Y1,ppm, .4751183,.0104571,2.200944, .4657199, .4863828,
.4732521,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0944683,.0007287,.7713419, .0943741, .0937914,
.0952396,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1953.911,33.07339,1.692676,1980.492,1916.873,1964.369
Y2A,371.030 { 91}2,Cts/S, 133398.1,2145.925,1.608662,131572.8,135762.0,132859.6
Y2R,371.030 { 91}3,Cts/S, 6526.675,37.01631,.5671542,6552.225,6484.225,6543.575

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=410-11427-H-1-C MSD
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 16:56:52
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0223099,.0006826,3.059798, .0223516, .0216074,
.0229708,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .7941802,.0079484,1.000832, .7868602, .8026351,
.7930454,Chk Pass,,
As,189.042 {478},Y1,ppm, .0784299,.0111954,14.27439, .0699217, .0911129,
.0742553,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0832608,.0005804,.6970499, .0831403, .0838920,
.0827502,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0516368,.0006286,1.217383, .0509205, .0518932,
.0520967,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .0099897,.0000767,.7676311, .0099044, .0100116,
.0100530,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 8.990799,.1279640,1.423278, 9.127241, 8.971695,
8.873461,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0105844,.0003456,3.265555, .0109254, .0102343,
.0105934,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0121338,.0016860,13.89546, .0131762, .0130366,
.0101886,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0312779,.0007873,2.517027, .0307196, .0321784,
.0309358,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0412293,.0008133,1.972721, .0403905, .0412827,
.0420146,Chk Pass,,

Fe,261.187 {129},Y2R,ppm, 2.141980,.0052648,.2457894, 2.147935, 2.140058,
2.137945,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 6.942143,.0523490,.7540756, 6.949808, 6.990236,
6.886383,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .1135937,.0034235,3.013769, .1162933, .1097431,
.1147446,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .9202633,.0066677,.7245437, .9246715, .9235259,
.9125926,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .0684822,.0004408,.6435927, .0680007, .0688658,
.0685802,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0189370,.0018441,9.738032, .0193339, .0169268,
.0205504,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 5.587896,.0334334,.5983181, 5.591777, 5.619219,
5.552691,Chk Pass,,
Ni,231.604 {445},Y1,ppm, 2.150223,.0264522,1.230205, 2.180745, 2.133952,
2.135972,Chk Pass,,
P,177.495 {490},Y1,ppm, .2326453,.0098399,4.229565, .2428380, .2318970, .2232010,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, .0300745,.0036476,12.12851, .0310367, .0260423,
.0331446,Chk Pass,,
S,182.034 {485},Y1,ppm, 3.488662,.0343256,.9839183, 3.528294, 3.468324, 3.469370,Chk
Pass,,
Sb,206.833 {463},Y1,ppm, .0980282,.0032641,3.329761, .0978073, .0948802,
.1013972,Chk Pass,,
Se,196.090 {472},Y1,ppm, .1038695,.0062348,6.002523, .1105125, .1029512,
.0981448,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 5.998299,.0247825,.4131586, 6.007217, 6.017389,
5.970292,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0975672,.0050355,5.161020, .1018059, .0920010,
.0988946,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0571475,.0004273,.7477641, .0566663, .0572936,
.0574826,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0750658,.0218840,29.15315, .0965191, .0527751,
.0759031,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0242038,.0002755,1.138053, .0238890, .0243222,
.0244003,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0592717,.0043899,7.406408, .0633764, .0597951,
.0546435,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0290734,.0003712,1.276725, .0292200, .0293488,
.0286513,Chk Pass,,
W,207.911 {462},Y1,ppm, .0520762,.0018494,3.551259, .0523966, .0537445, .0500876,Chk
Pass,,
Zn,213.856 {458},Y1,ppm, .4756653,.0045059,.9472758, .4808315, .4725474,
.4736171,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0963685,.0045694,4.741578, .0911826, .0998033,
.0981197,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1878.335,21.72979,1.156864,1855.889,1899.270,1879.847
Y2A,371.030 { 91}2,Cts/S, 129485.5,1397.938,1.079609,130912.4,129425.8,128118.5
Y2R,371.030 { 91}3,Cts/S, 6337.067,90.13024,1.422271,6278.450,6291.900,6440.850

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=410-11427-H-1-A SD@5
Username=dept 22
Comment=UL
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 17:00:00
Sample Type=Unk

Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0011918,.0011107,93.19530, .0019059, -.000088,
.0017573,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .0715686,.0025695,3.590319, .0713374, .0742459,
.0691224,Chk Pass,,
As,189.042 {478},Y1,ppm, -.006098,.0007105,11.65164, -.006251, -.006720,
-.005323,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0042934,.0007255,16.89742, .0049334, .0044415,
.0035053,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0086466,.0000630,.7282212, .0085764, .0086654,
.0086980,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .0000658,.0000133,20.16133, .0000765, .0000509,
.0000700,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 1.759298,.0651496,3.703156, 1.828034, 1.698454,
1.751405,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0001777,.0000588,33.09328, .0001389, .0002453,
.0001488,Chk Pass,,
Co,228.616 {447},Y1,ppm, -.000127,.0007015,551.9696, -.000182, -.000800,
.0006002,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, -.000516,.0009765,189.2899, -.001634, .0001678,
-.000081,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, -.001748,.0028676,164.0444, -.004644, .0010898,
-.001690,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .3697829,.0106870,2.890079, .3810060, .3686146,
.3597280,Chk Pass,,
K,766.490 { 44},Y2R,ppm, .2959103,.0734646,24.82665, .3690328, .2221082,
.2965899,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0112193,.0051852,46.21664, .0169609, .0098186,
.0068783,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .1489997,.0073907,4.960190, .1571204, .1426673,
.1472114,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .0099028,.0000552,.5578417, .0098491, .0099594,
.0098998,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.000523,.0008306,158.9381, -.000864, -.001128,
.0004243,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .7809210,.0275955,3.533714, .8001689, .7493050,
.7932891,Chk Pass,,
Ni,231.604 {445},Y1,ppm, -.000141,.0014442,1021.397, .0015116, -.001159,
-.000777,Chk Pass,,
P,177.495 {490},Y1,ppm, .0018261,.0019993,109.4860, .0039700, .0014956, .0000126,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, .0023653,.0013464,56.92172, .0031151, .0031699,
.0008110,Chk Pass,,
S,182.034 {485},Y1,ppm, .4755925,.0066743,1.403359, .4718587, .4716207, .4832981,Chk
Pass,,
Sb,206.833 {463},Y1,ppm, -.002765,.0036819,133.1670, -.003262, .0011401,
-.006173,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0137736,.0099864,72.50382, .0241096, .0041779,
.0130334,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 1.016062,.0501332,4.934076, 1.072810, .9777858,
.9975887,Chk Pass,,
Sn,189.989 {477},Y1,ppm, -.000111,.0116354,10453.12, -.011468, .0117844,
-.000651,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0098602,.0001463,1.483944, .0097034, .0098841,
.0099931,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0507554,.0193531,38.13004, .0681570, .0299126,
.0541966,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0008607,.0002647,30.75379, .0006728, .0007459,

.0011635,Chk Pass,,
Tl,190.856 {477},Y1,ppm, -.000210,.0040609,1934.789, -.004228, -.000294,
.0038922,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0030340,.0008334,27.46782, .0039918, .0026363,
.0024740,Chk Pass,,
W,207.911 {462},Y1,ppm, -.011342,.0003185,2.808343, -.010978, -.011475, -.011572,Chk
Pass,,
Zn,213.856 {458},Y1,ppm, .0052850,.0002296,4.344601, .0052305, .0050875,
.0055369,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0007402,.0089681,1211.639, .0071013, .0046363,
-.009517,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1923.836,25.81358,1.341777,1938.471,1939.006,1894.031
Y2A,371.030 { 91}2,Cts/S, 130650.5,1658.000,1.269035,132555.2,129865.5,129530.8
Y2R,371.030 { 91}3,Cts/S, 6432.850,44.04052,.6846191,6407.950,6483.700,6406.900

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=410-11427-H-2-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 17:03:12
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0011730,.0003601,30.69656, .0015857, .0009228,
.0010105,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .0031580,.0072392,229.2355, -.002368, .0113525,
.0004899,Chk Pass,,
As,189.042 {478},Y1,ppm, -.018862,.0114179,60.53438, -.018999, -.030210,
-.007376,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0041919,.0016066,38.32556, .0029193, .0036593,
.0059972,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0429098,.0001691,.3941957, .0430391, .0429719,
.0427184,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .0000523,.0000121,23.10188, .0000595, .0000384,
.0000591,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 4.673562,.0203360,.4351289, 4.665365, 4.696717,
4.658603,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0000491,.0000435,88.72301, .0000880, .0000572,
.0000020,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0010557,.0006205,58.77469, .0009395, .0017261,
.0005015,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0030369,.0003409,11.22619, .0032910, .0031702,
.0026494,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, -.001629,.0017151,105.2698, -.001800, .0001647,
-.003253,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .8388877,.0185540,2.211744, .8571977, .8200989,
.8393666,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 1.246626,.0421095,3.377875, 1.234777, 1.293391,
1.211711,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0060948,.0025829,42.37910, .0035330, .0060532,
.0086983,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 1.546078,.0100311,.6488073, 1.557579, 1.541517,

1.539137,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .0932962,.0005324,.5707084, .0936175, .0935896,
.0926816,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.001747,.0011715,67.03990, -.003067, -.000830,
-.001345,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 5.036715,.0253822,.5039445, 5.058139, 5.043322,
5.008682,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0011701,.0014669,125.3640, .0019503, -.000522,
.0020820,Chk Pass,,
P,177.495 {490},Y1,ppm, .0062563,.0039188,62.63775, .0068867, .0020605, .0098218,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, .0014235,.0025234,177.2683, .0012997, .0040065,
-.001036,Chk Pass,,
S,182.034 {485},Y1,ppm, .7028875,.0245613,3.494345, .7171393, .7169966, .6745267,Chk
Pass,,
Sb,206.833 {463},Y1,ppm, .0029626,.0015145,51.12097, .0029773, .0014408,
.0044696,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0133158,.0070148,52.68013, .0151769, .0055582,
.0192124,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 6.607589,.0137860,.2086396, 6.622894, 6.603729,
6.596145,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0081544,.0089707,110.0102, .0166305, .0090729,
-.001240,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0527088,.0002100,.3984538, .0529285, .0526878,
.0525101,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0548972,.0187463,34.14807, .0633549, .0334122,
.0679245,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0009298,.0001029,11.06865, .0008143, .0009633,
.0010117,Chk Pass,,
Tl,190.856 {477},Y1,ppm, -.008894,.0021954,24.68391, -.009864, -.006381,
-.010438,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0006964,.0006682,95.94932, .0003110, .0014680,
.0003103,Chk Pass,,
W,207.911 {462},Y1,ppm, -.011539,.0027022,23.41776, -.010777, -.014541, -.009300,Chk
Pass,,
Zn,213.856 {458},Y1,ppm, .0058386,.0001846,3.160801, .0059327, .0056260,
.0059572,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.003849,.0014624,37.99022, -.005504, -.003312,
-.002732,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1933.540,16.44437,.8504797,1915.588,1947.875,1937.156
Y2A,371.030 { 91}2,Cts/S, 133655.8,739.3793,.5531965,132871.5,133755.9,134340.1
Y2R,371.030 { 91}3,Cts/S, 6648.742,37.18380,.5592608,6621.725,6633.350,6691.150

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=410-11427-H-3-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 17:06:22
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0014244,.0006304,44.26232, .0007055, .0016842,

.0018834,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .6786664,.0203408,2.997166, .6753787, .7004508,
.6601698,Chk Pass,,
As,189.042 {478},Y1,ppm, .0045130,.0151150,334.9211, .0010005, .0210750,
-.008536,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0052862,.0007648,14.46821, .0059399, .0054737,
.0044451,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0172943,.0002728,1.577331, .0172281, .0175940,
.0170606,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .0000473,.0000221,46.67654, .0000324, .0000726,
.0000368,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 5.456875,.0981802,1.799203, 5.527281, 5.344720,
5.498624,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0004458,.0002889,64.80551, .0001215, .0005403,
.0006757,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0011692,.0006093,52.11206, .0018202, .0010747,
.0006127,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, -.000177,.0007327,414.1260, .0006107, -.000303,
-.000838,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, -.001245,.0008695,69.83820, -.000257, -.001585,
-.001893,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .2839459,.0050672,1.784572, .2857761, .2782178,
.2878437,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 1.426163,.0818043,5.735970, 1.469465, 1.331809,
1.477214,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0086453,.0015963,18.46480, .0070062, .0087345,
.0101951,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .8389562,.0208383,2.483838, .8462890, .8154426,
.8551368,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .0226483,.0006087,2.687776, .0224035, .0233414,
.0222002,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.001367,.0013054,95.46843, -.000901, -.002842,
-.000359,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 2.479328,.0842810,3.399349, 2.532939, 2.382183,
2.522863,Chk Pass,,
Ni,231.604 {445},Y1,ppm, -.001423,.0025634,180.1349, .0009621, -.004134,
-.001098,Chk Pass,,
P,177.495 {490},Y1,ppm, .0938797,.0070538,7.513634, .1006767, .0865945, .0943681,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, -.000915,.0043178,471.9472, .0040265, -.003961,
-.002810,Chk Pass,,
S,182.034 {485},Y1,ppm, .2590737,.0160754,6.204964, .2425642, .2746767, .2599801,Chk
Pass,,
Sb,206.833 {463},Y1,ppm, -.002394,.0049160,205.3455, -.003226, -.006841,
.0028851,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0216601,.0032456,14.98415, .0182309, .0220655,
.0246839,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 5.534653,.1145417,2.069537, 5.588120, 5.403154,
5.612684,Chk Pass,,
Sn,189.989 {477},Y1,ppm, -.005942,.0074619,125.5687, -.012048, .0023754,
-.008155,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0298331,.0007002,2.347019, .0297980, .0305502,
.0291512,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0576930,.0118960,20.61949, .0441276, .0626048,
.0663466,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0074436,.0003083,4.141539, .0072775, .0077993,
.0072539,Chk Pass,,
Tl,190.856 {477},Y1,ppm, -.001312,.0060272,459.4978, -.008271, .0021472,
.0021890,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0045477,.0012396,27.25725, .0050266, .0031401,
.0054764,Chk Pass,,
W,207.911 {462},Y1,ppm, -.010442,.0027282,26.12687, -.012089, -.011945, -.007293,Chk
Pass,,

Zn,213.856 {458},Y1,ppm, .0147411,.0002110,1.431308, .0149771, .0146755,
.0145706,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.004487,.0076968,171.5431, -.008945, .0044007,
-.008916,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1950.563,16.08466,.8246162,1934.597,1950.330,1966.763
Y2A,371.030 { 91}2,Cts/S, 135906.7,1900.489,1.398378,135972.1,133974.3,137773.6
Y2R,371.030 { 91}3,Cts/S, 6650.142,99.54257,1.496849,6573.975,6762.775,6613.675

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=CCV 383770
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 17:09:30
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .4998,.0017,.3498, .4996, .5015, .4981,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 24.47,.1305,.5334, 24.55, 24.55, 24.32,Chk Pass,,
As,189.042 {478},Y1,ppm, .4951,.0122,2.461, .4961, .4825, .5068,Chk Pass,,
B,249.773 {135},Y2A,ppm,W .4585,.0017,.3651, .4571, .4579, .4604,Chk
Warn,.5000,-8.000%
Ba,455.403 { 74},Y2A,ppm, .4933,.0034,.6802, .4924, .4970, .4905,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .46922,.00133,.28437, .47043, .46944, .46779,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 24.78,.7060,2.849, 25.57, 24.21, 24.56,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .4948,.0071,1.440, .4991, .4866, .4987,Chk Pass,,
Co,228.616 {447},Y1,ppm, .4961,.0066,1.333, .4984, .4886, .5012,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .4819,.0038,.7905, .4837, .4844, .4775,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .5129,.0053,1.038, .5099, .5191, .5098,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 23.88,.7414,3.104, 24.72, 23.30, 23.63,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 25.47,.7659,3.007, 26.35, 25.01, 25.04,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .5170,.0166,3.213, .5346, .5015, .5150,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 24.22,.6103,2.520, 24.92, 23.79, 23.96,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .50151,.00095,.18960, .50214, .50197, .50041,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .4802,.0086,1.786, .4842, .4703, .4860,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 24.84,.6213,2.501, 25.55, 24.41, 24.56,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .4982,.0069,1.393, .5030, .4902, .5014,Chk Pass,,
P,177.495 {490},Y1,ppm, .5055,.0106,2.105, .5010, .4979, .5177,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .4766,.0081,1.698, .4848, .4686, .4765,Chk Pass,,
S,182.034 {485},Y1,ppm, 24.00,.3961,1.650, 24.14, 23.55, 24.30,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .4801,.0161,3.344, .4869, .4618, .4917,Chk Pass,,
Se,196.090 {472},Y1,ppm, .4855,.0090,1.854, .4959, .4808, .4797,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 23.244,.60239,2.5916, 23.935, 22.830, 22.968,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .4769,.0162,3.396, .4826, .4586, .4894,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .4873,.0037,.7531, .4855, .4915, .4848,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .5251,.0253,4.818, .5425, .4961, .5368,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .4931,.0017,.3390, .4924, .4950, .4918,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .5150,.0175,3.403, .5246, .4948, .5256,Chk Pass,,
V,292.402 {115},Y2A,ppm, .4900,.0003,.0629, .4902, .4901, .4896,Chk Pass,,
W,207.911 {462},Y1,ppm, .4843,.0086,1.774, .4885, .4745, .4901,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .4925,.0068,1.389, .4966, .4846, .4962,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .4895,.0176,3.605, .5095, .4762, .4828,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1897.5,21.738,1.1456,1882.5,1922.4,1887.5
Y2A,371.030 { 91}2,Cts/S, 127990.,565.01,.44145,127500.,127860.,128610.
Y2R,371.030 { 91}3,Cts/S, 6298.4,97.715,1.5514,6186.6,6341.5,6367.2

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=CCB 330200
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 17:12:37
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0004,.0002,59.26, .0004, .0001, .0005,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, -.0029,.0043,150.7, -.0053, .0021, -.0055,Chk Pass,,
As,189.042 {478},Y1,ppm, -.0064,.0162,251.9, -.0247, -.0009, .0063,Chk Pass,,
B,249.773 {135},Y2A,ppm, -.0008,.0001,13.17, -.0007, -.0008, -.0009,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0000,.0000,763.0, .0000, -.0000, .0000,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00004,.00001,34.239, .00003, .00004, .00006,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .0093,.0226,244.5, -.0020, -.0055, .0353,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0003,.0001,21.17, .0002, .0003, .0002,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0001,.0004,393.4, -.0002, -.0001, .0006,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, -.0004,.0004,112.2, -.0004, -.0007, .0001,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, -.0030,.0004,12.11, -.0029, -.0034, -.0027,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .0127,.0185,146.4, .0009, .0031, .0340,Chk Pass,,
K,766.490 { 44},Y2R,ppm, .0165,.0254,153.3, .0283, -.0126, .0339,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0085,.0020,24.17, .0061, .0092, .0100,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .0104,.0160,153.4, .0019, .0005, .0288,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .00005,.00012,244.78, .00010, .00013, -.00009,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.0007,.0012,160.9, .0006, -.0014, -.0014,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .0514,.0238,46.28, .0505, .0280, .0755,Chk Pass,,
Ni,231.604 {445},Y1,ppm, -.0013,.0018,136.3, .0007, -.0027, -.0020,Chk Pass,,
P,177.495 {490},Y1,ppm, .0012,.0037,311.2, .0028, .0038, -.0030,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .0016,.0010,61.48, .0005, .0024, .0019,Chk Pass,,
S,182.034 {485},Y1,ppm, -.0012,.0085,705.3, -.0079, -.0041, .0084,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .0002,.0054,2930., -.0033, -.0025, .0063,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0166,.0040,24.07, .0172, .0123, .0202,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .01696,.02621,154.61, .01613, -.00884, .04357,Chk Pass,,
Sn,189.989 {477},Y1,ppm, -.0064,.0044,68.15, -.0014, -.0091, -.0089,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0000,.0000,371.3, .0000, -.0000, -.0000,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0538,.0054,10.01, .0569, .0475, .0568,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0002,.0003,138.9, .0000, .0005, .0001,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0044,.0019,42.92, .0022, .0057, .0052,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0009,.0011,121.2, .0021, .0003, .0002,Chk Pass,,
W,207.911 {462},Y1,ppm, -.0083,.0013,16.14, -.0096, -.0083, -.0069,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .0010,.0004,39.57, .0014, .0009, .0007,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.0021,.0035,165.0, -.0062, .0005, -.0007,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1912.2,10.676,.55832,1916.8,1900.0,1919.9
Y2A,371.030 { 91}2,Cts/S, 132870.,2449.4,1.8434,135330.,130430.,132860.
Y2R,371.030 { 91}3,Cts/S, 6430.2,9.8319,.15290,6441.2,6422.3,6427.1

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=410-11427-H-4-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 17:15:48
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0018608,.0003248,17.45357, .0014900, .0020949,
.0019976,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .3501499,.0068897,1.967632, .3575280, .3438840,
.3490378,Chk Pass,,
As,189.042 {478},Y1,ppm, .0413359,.0173488,41.97033, .0254681, .0598595,
.0386801,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0255400,.0009944,3.893557, .0264232, .0244629,
.0257339,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0424442,.0005439,1.281385, .0423999, .0419238,
.0430088,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .0002941,.0000250,8.491295, .0003101, .0002653,
.0003068,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 8.677019,.1320524,1.521863, 8.720666, 8.781723,
8.528669,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0001605,.0002497,155.5944, -.000127, .0003175,
.0002915,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0008562,.0006001,70.09497, .0004474, .0015452,
.0005760,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0015906,.0009247,58.13809, .0018466, .0023604,
.0005648,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, -.001510,.0027441,181.7572, .0013792, -.004081,
-.001827,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 1.794797,.0075288,.4194786, 1.801648, 1.796006,
1.786737,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 1.030734,.0594525,5.767981, .9623385, 1.070049,
1.059813,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0067577,.0036451,53.93963, .0078248, .0026982,
.0097502,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .7342212,.0052330,.7127338, .7322861, .7401462,
.7302313,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .0486302,.0009415,1.936107, .0484536, .0477894,
.0496475,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.001609,.0013241,82.28079, -.000446, -.001331,
-.003050,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 3.594624,.0144277,.4013687, 3.598634, 3.606623,
3.578616,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0012373,.0006521,52.70392, .0015531, .0004874,
.0016715,Chk Pass,,
P,177.495 {490},Y1,ppm, .0216241,.0032931,15.22901, .0251539, .0186344, .0210841,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, .0005306,.0015879,299.2521, -.001301, .0015109,
.0013825,Chk Pass,,
S,182.034 {485},Y1,ppm, 2.490412,.0227569,.9137816, 2.479248, 2.516595, 2.475393,Chk
Pass,,
Sb,206.833 {463},Y1,ppm, -.005060,.0016299,32.21128, -.006401, -.003246,
-.005533,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0220369,.0057748,26.20496, .0195070, .0286448,

.0179589,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 5.109012,.0595987,1.166541, 5.162298, 5.120086,
5.044654,Chk Pass,,
Sn,189.989 {477},Y1,ppm, -.004306,.0041391,96.13324, -.004451, -.000096,
-.008370,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0482796,.0006222,1.288631, .0481332, .0477436,
.0489618,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0670362,.0402855,60.09508, .0208010, .0857216,
.0945861,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0025964,.0000389,1.499424, .0026248, .0025520,
.0026124,Chk Pass,,
Tl,190.856 {477},Y1,ppm, -.003450,.0054657,158.4175, -.003496, .0020384,
-.008893,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0109147,.0001065,.9757694, .0109972, .0107945,
.0109525,Chk Pass,,
W,207.911 {462},Y1,ppm, -.009492,.0036821,38.79271, -.011525, -.011709, -.005241,Chk
Pass,,
Zn,213.856 {458},Y1,ppm, .0238422,.0004754,1.993951, .0233516, .0243008,
.0238742,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.000596,.0031512,528.4469, .0027116, -.000938,
-.003563,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1934.607,18.81730,.9726682,1947.640,1913.034,1943.146
Y2A,371.030 { 91}2,Cts/S, 131690.2,1065.551,.8091344,131434.7,132860.3,130775.6
Y2R,371.030 { 91}3,Cts/S, 6465.733,74.34052,1.149762,6432.075,6414.175,6550.950

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=410-11802-L-4-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 17:18:57
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0009260,.0002250,24.29924, .0008980, .0007163,
.0011637,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .0046698,.0060981,130.5856, .0083692, .0080089,
-.002369,Chk Pass,,
As,189.042 {478},Y1,ppm,F -.038351,.0178943,46.65920, -.059011, -.028281,
-.027760,Chk Fail,18.00000,-.030000
B,249.773 {135},Y2A,ppm, .5149306,.0011857,.2302632, .5158851, .5153034,
.5136033,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0123673,.0000761,.6152342, .0124419, .0123701,
.0122898,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .0001132,.0000313,27.62881, .0001481, .0000877,
.0001037,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 219.5474,4.444619,2.024446, 224.6791, 217.0487,
216.9146,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0000173,.0001176,678.4361, -.000069, -.000030,
.0001512,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0020905,.0007897,37.77814, .0029307, .0019774,
.0013634,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0024188,.0005697,23.55124, .0017940, .0025530,

.0029093,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0027381,.0021779,79.54178, .0006994, .0024823,
.0050326,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .0077354,.0051199,66.18747, .0074819, .0129774,
.0027470,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 5.255717,.0437249,.8319491, 5.306187, 5.229280,
5.231684,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0795319,.0044792,5.632021, .0846613, .0775421,
.0763922,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 174.7248,4.504306,2.577943, 179.9079, 171.7585,
172.5080,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .0120388,.0000972,.8071948, .0119362, .0121294,
.0120508,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.000271,.0021854,805.4847, -.002784, .0007837,
.0011863,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 371.0993,9.445425,2.545255, 382.0026, 365.8808,
365.4145,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0010440,.0025137,240.7610, -.001106, .0038076,
.0004307,Chk Pass,,
P,177.495 {490},Y1,ppm, .0169571,.0088375,52.11716, .0074680, .0249528, .0184506,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, .0039239,.0051560,131.4005, .0065028, .0072817,
-.002013,Chk Pass,,
S,182.034 {485},Y1,ppm,F 544.9610,5.144452,.9440038, 550.7824, 541.0262,
543.0744,Chk Fail,180.0000,-.500000
Sb,206.833 {463},Y1,ppm, .0069929,.0046094,65.91484, .0107009, .0018322,
.0084458,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0308905,.0122376,39.61611, .0357738, .0399325,
.0169652,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 7.182189,.1610962,2.242996, 7.350300, 7.029169,
7.167100,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0035067,.0065018,185.4141, .0032729, .0101222,
-.002875,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, 3.331804,.0124450,.3735226, 3.346129, 3.323652,
3.325633,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0478008,.0111409,23.30682, .0427471, .0400826,
.0605729,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0022571,.0002008,8.895373, .0020337, .0023150,
.0024225,Chk Pass,,
Tl,190.856 {477},Y1,ppm, -.003385,.0059774,176.6041, -.009488, -.003125,
.0024588,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0003189,.0006611,207.3303, .0005202, .0008558,
-.000420,Chk Pass,,
W,207.911 {462},Y1,ppm, -.007908,.0008635,10.91879, -.007220, -.008877, -.007628,Chk
Pass,,
Zn,213.856 {458},Y1,ppm, .0020224,.0002528,12.50256, .0019163, .0018399,
.0023110,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.001894,.0016859,89.02278, -.001709, -.003664,
-.000308,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1729.815,12.71553,.7350802,1716.199,1731.863,1741.381
Y2A,371.030 { 91}2,Cts/S, 116860.0,655.6483,.5610546,116829.2,116220.2,117530.4
Y2R,371.030 { 91}3,Cts/S, 6189.731,101.9855,1.647656,6073.681,6265.086,6230.426

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=410-11802-L-5-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=

Custom ID3=
Run Time=8/31/2020 17:22:21
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0015535,.0006712,43.20572, .0016730, .0021569,
.0008306,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .0052122,.0055525,106.5283, .0069387, -.000998,
.0096963,Chk Pass,,
As,189.042 {478},Y1,ppm, -.012569,.0162757,129.4940, .0044397, -.014149,
-.027996,Chk Pass,,
B,249.773 {135},Y2A,ppm, .2580352,.0014804,.5737359, .2582163, .2564726,
.2594168,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0443390,.0002450,.5526395, .0446149, .0442552,
.0441468,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .0000510,.0000415,81.49196, .0000144, .0000961,
.0000425,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 84.62211,1.622565,1.917424, 83.20344, 84.27161,
86.39128,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0000731,.0002134,291.9053, -.000147, .0002795,
.0000865,Chk Pass,,
Co,228.616 {447},Y1,ppm, -.000020,.0008192,4193.219, -.000260, .0008930,
-.000692,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0030495,.0011972,39.25921, .0042235, .0018303,
.0030948,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, -.000240,.0004036,168.4544, .0002257, -.000450,
-.000494,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .0029653,.0051408,173.3657, .0088968, .0002012,
-.000202,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 2.555106,.0363334,1.421991, 2.526814, 2.542423,
2.596080,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0272657,.0015477,5.676346, .0269388, .0259076,
.0289508,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 40.55462,.9684075,2.387910, 39.87366, 40.12696,
41.66323,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .0030396,.0001266,4.163921, .0029847, .0029498,
.0031844,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0021746,.0007065,32.49045, .0027861, .0023365,
.0014012,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 114.7914,2.528653,2.202824, 112.9834, 113.7100,
117.6810,Chk Pass,,
Ni,231.604 {445},Y1,ppm, -.000036,.0008295,2297.810, -.000992, .0004973,
.0003862,Chk Pass,,
P,177.495 {490},Y1,ppm, .0089486,.0063741,71.22994, .0049753, .0163007, .0055697,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, -.003261,.0044948,137.8178, .0009160, -.008018,
-.002683,Chk Pass,,
S,182.034 {485},Y1,ppm, 124.7775,.4914335,.3938477, 124.7215, 125.2946, 124.3165,Chk
Pass,,
Sb,206.833 {463},Y1,ppm, .0025797,.0048344,187.4004, -.000310, .0081608,
-.000111,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0201948,.0071784,35.54581, .0136746, .0190227,
.0278871,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 5.676201,.1150685,2.027210, 5.579953, 5.644998,
5.803654,Chk Pass,,
Sn,189.989 {477},Y1,ppm, -.006102,.0099392,162.8735, -.013207, -.010356,
.0052557,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .5551483,.0016037,.2888799, .5544385, .5540219,
.5569844,Chk Pass,,

Th,283.730 {119},Y2R,ppm, .0521200,.0150143,28.80721, .0563632, .0645560,
.0354407,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0032693,.0001292,3.951488, .0031251, .0033746,
.0033081,Chk Pass,,
Tl,190.856 {477},Y1,ppm, -.002254,.0010195,45.23032, -.003276, -.002248,
-.001237,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0010766,.0003449,32.03852, .0006804, .0012394,
.0013099,Chk Pass,,
W,207.911 {462},Y1,ppm, -.010070,.0014533,14.43251, -.011577, -.009955, -.008677,Chk
Pass,,
Zn,213.856 {458},Y1,ppm, .0017362,.0002275,13.10043, .0019702, .0015160,
.0017224,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.001210,.0026705,220.7319, -.003698, -.001542,
.0016113,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1840.186,8.503891,.4621213,1832.012,1839.561,1848.985
Y2A,371.030 { 91}2,Cts/S, 125242.0,1051.857,.8398594,124499.4,126445.7,124781.0
Y2R,371.030 { 91}3,Cts/S, 6378.033,77.68394,1.217992,6434.279,6410.425,6289.395

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=410-11802-L-6-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 17:25:37
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0009340,.0011021,117.9975, .0005007, .0021869,
.0001144,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, -.003612,.0088168,244.0869, .0025967, .0002708,
-.013704,Chk Pass,,
As,189.042 {478},Y1,ppm, -.026097,.0244085,93.53086, -.007934, -.016514,
-.053842,Chk Pass,,
B,249.773 {135},Y2A,ppm, .7619672,.0027794,.3647700, .7639868, .7587972,
.7631174,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0089417,.0000130,.1453366, .0089351, .0089567,
.0089334,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .0001932,.0000234,12.12636, .0001700, .0002169,
.0001928,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 271.8945,.4499999,.1655054, 271.4194, 271.9495,
272.3144,Chk Pass,,
Cd,226.502 {449},Y1,ppm, -.000080,.0002594,325.2067, -.000021, -.000363,
.0001455,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0048707,.0014758,30.30014, .0064359, .0035044,
.0046719,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0021045,.0004980,23.66483, .0026197, .0016256,
.0020681,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0014736,.0003715,25.20972, .0011925, .0018947,
.0013334,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 3.463954,.0046269,.1335728, 3.466653, 3.458611,
3.466597,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 11.16492,.0436963,.3913716, 11.18128, 11.11540,
11.19807,Chk Pass,,

Li,670.784 { 50},Y2R,ppm, .1279261,.0003139,.2453690, .1280625, .1275670,
.1281486,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 306.8415,2.056133,.6700960, 309.1942, 305.9415,
305.3889,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .2293993,.0002633,.1147932, .2296364, .2294456,
.2291159,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0005811,.0006506,111.9700, .0013176, .0003410,
.0000846,Chk Pass,,
Na,589.592 { 57},Y2R,ppm,F 998.3181,6.291330,.6301930, 1005.302, 993.0933,
996.5593,Chk Fail,450.0000,-1.00000
Ni,231.604 {445},Y1,ppm, .0052213,.0016008,30.65998, .0066609, .0034973,
.0055056,Chk Pass,,
P,177.495 {490},Y1,ppm, .0673172,.0140714,20.90306, .0615646, .0833534, .0570336,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, .0033822,.0032504,96.10547, .0056289, .0048626,
-.000345,Chk Pass,,
S,182.034 {485},Y1,ppm,F 1208.272,18.55935,1.536024, 1229.568, 1195.544,
1199.706,Chk Fail,180.0000,-.500000
Sb,206.833 {463},Y1,ppm, .0035989,.0136140,378.2773, -.004161, -.004361,
.0193186,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0079127,.0128681,162.6273, -.006637, .0177999,
.0125747,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 5.570201,.0413584,.7424932, 5.576104, 5.526208,
5.608290,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0000863,.0032994,3824.870, -.002447, -.001111,
.0038171,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, 3.637800,.0123766,.3402213, 3.625021, 3.638648,
3.649731,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0745751,.0181796,24.37756, .0635238, .0646444,
.0955571,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0014417,.0002684,18.61729, .0013713, .0017383,
.0012155,Chk Pass,,
Tl,190.856 {477},Y1,ppm, -.002960,.0122165,412.7355, -.016195, -.000569,
.0078845,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0009983,.0006779,67.90865, .0005446, .0017777,
.0006727,Chk Pass,,
W,207.911 {462},Y1,ppm, -.009582,.0035120,36.65275, -.012675, -.010306, -.005764,Chk
Pass,,
Zn,213.856 {458},Y1,ppm, .0021695,.0002577,11.87791, .0019112, .0024266,
.0021706,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.004648,.0018830,40.51035, -.003428, -.003700,
-.006817,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1631.126,20.90586,1.281683,1608.385,1635.482,1649.510
Y2A,371.030 { 91}2,Cts/S, 108259.1,293.0412,.2706852,108064.9,108596.1,108116.2
Y2R,371.030 { 91}3,Cts/S, 6107.287,22.67550,.3712860,6097.771,6133.170,6090.920

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=410-11802-L-7-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 17:29:01
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0005152,.0008310,161.3048, .0003867, .0014029,
-.000244,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .0554977,.0028429,5.122499, .0536362, .0540869,
.0587700,Chk Pass,,
As,189.042 {478},Y1,ppm, -.013479,.0194759,144.4874, -.022206, -.027065,
.0088339,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0008613,.0006483,75.27687, .0013262, .0011370,
.0001206,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0023093,.0000348,1.508567, .0023495, .0022881,
.0022903,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .0000055,.0000057,103.4331, .0000082, .0000092,
-.000001,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .5197863,.0070419,1.354767, .5273538, .5185789,
.5134262,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0001070,.0002571,240.3224, .0002456, -.000190,
.0002650,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0000027,.0012605,46766.75, -.000965, .0014280,
-.000455,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0025218,.0007172,28.43846, .0022198, .0033406,
.0020050,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, -.001061,.0029689,279.6913, -.000416, -.004300,
.0015314,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .0366369,.0070887,19.34861, .0447573, .0316855,
.0334679,Chk Pass,,
K,766.490 { 44},Y2R,ppm, .0835680,.0347651,41.60092, .1236818, .0621793,
.0648430,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0058999,.0018449,31.27055, .0070579, .0068694,
.0037723,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .0511331,.0058549,11.45028, .0577955, .0487967,
.0468072,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .0005709,.0000229,4.005307, .0005593, .0005972,
.0005561,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.000650,.0008709,133.9429, -.000463, .0001122,
-.001599,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 1.398058,.0146919,1.050881, 1.410671, 1.401576,
1.381926,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0008049,.0017134,212.8729, -.001162, .0019766,
.0015996,Chk Pass,,
P,177.495 {490},Y1,ppm, .0044459,.0065870,148.1606, .0067413, .0095781, -.002982,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, .0036877,.0006697,18.16194, .0034897, .0031392,
.0044341,Chk Pass,,
S,182.034 {485},Y1,ppm, .6009737,.6184650,102.9105, 1.314510, .2187389, .2696724,Chk
Pass,,
Sb,206.833 {463},Y1,ppm, -.003166,.0057013,180.0925, -.006062, -.006838,
.0034022,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0036494,.0011940,32.71800, .0022710, .0043653,
.0043120,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 1.986762,.0062137,.3127561, 1.990913, 1.979618,
1.989755,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0036262,.0100705,277.7154, -.005059, .0012723,
.0146651,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0014635,.0005287,36.12425, .0020740, .0011622,
.0011543,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0591491,.0185068,31.28837, .0605290, .0769273,
.0399910,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0022706,.0000364,1.602346, .0023097, .0022378,
.0022642,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0015082,.0021260,140.9650, -.000694, .0016700,
.0035487,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0013107,.0004217,32.17146, .0017714, .0012169,

.0009439,Chk Pass,,
W,207.911 {462},Y1,ppm, -.009827,.0025159,25.60274, -.010103, -.007184, -.012193,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .0013017,.0003877,29.78644, .0009385, .0017100, .0012566,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.003088,.0096105,311.1852, .0071788, -.011869, -.004575,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1924.459,16.75003,.8703762,1916.298,1943.726,1913.354
Y2A,371.030 { 91}2,Cts/S, 130939.3,959.8780,.7330709,130142.8,130670.1,132005.1
Y2R,371.030 { 91}3,Cts/S, 6490.592,55.20317,.8505106,6466.300,6451.700,6553.775

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=410-11802-L-8-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 17:32:12
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0013614,.0004264,31.32366, .0009507, .0018020, .0013315,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .0030292,.0083820,276.7028, .0012701, -.004334, .0121512,Chk Pass,,
As,189.042 {478},Y1,ppm, -.017232,.0022854,13.26278, -.019859, -.015705, -.016132,Chk Pass,,
B,249.773 {135},Y2A,ppm, .2582548,.0018194,.7045109, .2587084, .2562515, .2598045,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0443847,.0004112,.9265220, .0446942, .0439181, .0445418,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .0000461,.0000103,22.35305, .0000388, .0000417, .0000579,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 82.56266,.2465707,.2986467, 82.80842, 82.56428, 82.31528,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0000729,.0002267,310.8932, .0001807, -.000188, .0002256,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0002697,.0009612,356.4612, .0012847, -.000627, .0001510,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0022676,.0000910,4.011045, .0023521, .0022795, .0021713,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0002541,.0011470,451.3350, -.000664, -.000113, .0015398,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .0143261,.0062260,43.45942, .0092415, .0124668, .0212699,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 2.572744,.0245112,.9527258, 2.558690, 2.558494, 2.601046,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0300542,.0011983,3.987200, .0289775, .0313452, .0298398,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 39.42159,.1061534,.2692772, 39.54215, 39.38044, 39.34217,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .0025100,.0001604,6.389096, .0025488, .0023338, .0026474,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0007789,.0003881,49.82844, .0005403, .0012267,

.0005696,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 112.2801,.3984648,.3548845, 112.7247, 112.1605,
111.9552,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0001503,.0017423,1159.214, .0007744, -.001818,
.0014945,Chk Pass,,
P,177.495 {490},Y1,ppm, .0157850,.0061727,39.10484, .0221487, .0098229, .0153835,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, .0034729,.0049466,142.4329, -.002225, .0066721,
.0059712,Chk Pass,,
S,182.034 {485},Y1,ppm, 124.4961,.4408996,.3541474, 124.3355, 124.1580, 124.9948,Chk
Pass,,
Sb,206.833 {463},Y1,ppm, .0027159,.0058569,215.6522, .0004827, .0093609,
-.001696,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0256724,.0093697,36.49703, .0161649, .0259544,
.0348978,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 5.581238,.0194159,.3478775, 5.560837, 5.599490,
5.583387,Chk Pass,,
Sn,189.989 {477},Y1,ppm, -.002551,.0109830,430.4933, -.006474, .0098544,
-.011035,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .5550274,.0047951,.8639463, .5597757, .5501868,
.5551196,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0618604,.0057790,9.341952, .0681620, .0568086,
.0606107,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0030934,.0002043,6.604029, .0029733, .0029777,
.0033293,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0012885,.0037456,290.6951, .0034787, -.003036,
.0034232,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0006612,.0007719,116.7531, .0011420, .0010708,
-.000229,Chk Pass,,
W,207.911 {462},Y1,ppm, -.009826,.0015642,15.91918, -.011331, -.008209, -.009937,Chk
Pass,,
Zn,213.856 {458},Y1,ppm, .0020280,.0002956,14.57792, .0021888, .0016868,
.0022085,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.000998,.0031631,316.9480, -.003508, .0025549,
-.002041,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1840.334,17.91859,.9736596,1857.449,1841.846,1821.708
Y2A,371.030 { 91}2,Cts/S, 125143.6,1262.643,1.008955,124216.5,126581.7,124632.8
Y2R,371.030 { 91}3,Cts/S, 6431.950,43.95197,.6833381,6405.413,6407.754,6482.684

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=410-11811-B-6-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 17:35:27
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0013042,.0012686,97.27009, .0027593, .0007218,
.0004313,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .1077411,.0058102,5.392735, .1137389, .1021387,
.1073457,Chk Pass,,
As,189.042 {478},Y1,ppm, -.013020,.0173340,133.1383, -.005932, -.032774,

-.000352,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0606399,.0009245,1.524620, .0596995, .0615477,
.0606726,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .1321068,.0005225,.3955034, .1322992, .1325057,
.1315153,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .0000886,.0000178,20.07232, .0000681, .0000999,
.0000978,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .8664832,.0017162,.1980706, .8647015, .8666227,
.8681254,Chk Pass,,
Cd,226.502 {449},Y1,ppm, -.000006,.0002440,3943.027, -.000088, -.000198,
.0002683,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0016392,.0006851,41.79590, .0010657, .0014540,
.0023978,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0005478,.0004424,80.76439, .0004869, .0010175,
.0001389,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, -.000067,.0023822,3563.596, .0005091, -.002684,
.0019745,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .0204215,.0040027,19.60061, .0173078, .0190202,
.0249364,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 1.955004,.1326292,6.784091, 1.880784, 2.108127,
1.876100,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0086780,.0013311,15.33861, .0099465, .0087952,
.0072921,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 1.135505,.0170007,1.497191, 1.115904, 1.144367,
1.146244,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .0371761,.0001068,.2872589, .0372716, .0370608,
.0371958,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0000072,.0003448,4812.453, .0004021, -.000147,
-.000234,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 3.803879,.0443298,1.165384, 3.755375, 3.842296,
3.813967,Chk Pass,,
Ni,231.604 {445},Y1,ppm, -.000088,.0013825,1577.762, -.001289, .0014236,
-.000398,Chk Pass,,
P,177.495 {490},Y1,ppm, .0176955,.0060149,33.99115, .0107979, .0204394, .0218491,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, .0009147,.0061165,668.6602, .0000534, -.004725,
.0074163,Chk Pass,,
S,182.034 {485},Y1,ppm, .5579589,.5846020,104.7751, .2128420, 1.232942, .2280930,Chk
Pass,,
Sb,206.833 {463},Y1,ppm, -.001210,.0048439,400.3698, .0042598, -.002932,
-.004957,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0179948,.0064859,36.04300, .0128938, .0157965,
.0252942,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 5.061311,.0588799,1.163334, 4.993323, 5.095078,
5.095533,Chk Pass,,
Sn,189.989 {477},Y1,ppm, -.002600,.0110343,424.3319, -.012912, .0090368,
-.003926,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0600455,.0001837,.3059405, .0602569, .0599547,
.0599249,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0211783,.0423099,199.7800, .0232589, .0624095,
-.022134,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0010023,.0000489,4.875919, .0010094, .0009502,
.0010472,Chk Pass,,
Tl,190.856 {477},Y1,ppm, -.001882,.0065143,346.1480, .0045306, -.001683,
-.008493,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0010006,.0004847,48.44285, .0013606, .0011917,
.0004495,Chk Pass,,
W,207.911 {462},Y1,ppm, -.011388,.0001643,1.442942, -.011210, -.011535, -.011420,Chk
Pass,,
Zn,213.856 {458},Y1,ppm, .0063311,.0003893,6.148761, .0059064, .0064157,
.0066711,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0026730,.0048208,180.3478, .0073236, -.002302,
.0029971,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1908.824,24.85993,1.302369,1881.262,1929.552,1915.658
Y2A,371.030 { 91}2,Cts/S, 128642.9,242.2310,.1882971,128438.9,128910.6,128579.3
Y2R,371.030 { 91}3,Cts/S, 6415.383,39.36187,.6135544,6417.350,6375.075,6453.725

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=410-11811-B-7-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 17:38:37
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0014988,.0007855,52.40932, .0010879, .0024046,
.0010040,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 31.23914,.2853524,.9134450, 31.56631, 31.10939,
31.04172,Chk Pass,,
As,189.042 {478},Y1,ppm, .0537682,.0014050,2.613019, .0553739, .0527647,
.0531660,Chk Pass,,
B,249.773 {135},Y2A,ppm, .1181173,.0010064,.8520567, .1185907, .1169614,
.1187997,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0131615,.0001199,.9108598, .0132955, .0131249,
.0130642,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .0029082,.0000442,1.518772, .0029444, .0028590,
.0029212,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 77.97425,.3305418,.4239115, 77.64830, 78.30920,
77.96525,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0008916,.0001636,18.34394, .0007225, .0010490,
.0009035,Chk Pass,,
Co,228.616 {447},Y1,ppm, .2291825,.0007251,.3163993, .2295550, .2296456,
.2283468,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .9495923,.0041696,.4390982, .9500389, .9452174,
.9535207,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .6056075,.0087073,1.437787, .6148157, .5975070,
.6045000,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .1252747,.0043659,3.485023, .1276315, .1202369,
.1279556,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 7.792237,.0880360,1.129791, 7.710773, 7.780311,
7.885629,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0238955,.0006445,2.697034, .0233600, .0246108,
.0237158,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 3.321253,.0286208,.8617477, 3.288497, 3.341432,
3.333829,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, 11.84345,.0958878,.8096269, 11.95318, 11.80141,
11.77577,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.000124,.0003541,286.6221, .0000838, -.000532,
.0000780,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 2.878531,.0244454,.8492317, 2.850306, 2.892957,
2.892330,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .1216258,.0005095,.4188674, .1221419, .1211232,
.1216123,Chk Pass,,
P,177.495 {490},Y1,ppm, .0048591,.0058130,119.6323, .0085695, .0078480, -.001840,Chk
Pass,,

Pb,220.353 {453},Y1,ppm, .0184869,.0037065,20.04919, .0142223, .0209321,
.0203064,Chk Pass,,
S,182.034 {485},Y1,ppm, 135.0842,.4183509,.3096964, 134.6577, 135.4939, 135.1010,Chk
Pass,,
Sb,206.833 {463},Y1,ppm, -.004816,.0022774,47.29215, -.007285, -.002798,
-.004364,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0144884,.0041854,28.88810, .0104843, .0188342,
.0141468,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 7.350552,.0239258,.3254960, 7.332236, 7.341798,
7.377622,Chk Pass,,
Sn,189.989 {477},Y1,ppm, -.002695,.0058483,217.0430, .0030660, -.002523,
-.008627,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0460310,.0003857,.8378670, .0464638, .0459051,
.0457239,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0530873,.0129828,24.45567, .0455890, .0680786,
.0455942,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0026052,.0000924,3.548678, .0025384, .0025665,
.0027107,Chk Pass,,
Tl,190.856 {477},Y1,ppm,F -.051709,.0045604,8.819451, -.046443, -.054325,
-.054359,Chk Fail,18.00000,-.030000
V,292.402 {115},Y2A,ppm, .0012302,.0004251,34.55094, .0013774, .0015622,
.0007512,Chk Pass,,
W,207.911 {462},Y1,ppm, -.013732,.0020739,15.10272, -.014510, -.015305, -.011382,Chk
Pass,,
Zn,213.856 {458},Y1,ppm, .3403053,.0011282,.3315362, .3398599, .3415883,
.3394678,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0044342,.0018944,42.72260, .0066203, .0034085,
.0032738,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 3270.965,18.10059,.5533717,3254.200,3268.538,3290.156
Y2A,371.030 { 91}2,Cts/S, 216998.8,1315.240,.6061046,215705.8,218335.2,216955.4
Y2R,371.030 { 91}3,Cts/S, 11146.59,113.0473,1.014187,11267.13,11042.93,11129.71

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=410-11811-B-8-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 17:41:57
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0011416,.0003459,30.30331, .0008625, .0010337,
.0015286,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .0743647,.0057034,7.669539, .0806373, .0729659,
.0694907,Chk Pass,,
As,189.042 {478},Y1,ppm, -.010665,.0136660,128.1343, -.018537, .0051147,
-.018574,Chk Pass,,
B,249.773 {135},Y2A,ppm, .1788004,.0030298,1.694508, .1753107, .1803311,
.1807594,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .3718087,.0037393,1.005720, .3677115, .3750374,
.3726772,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .0002915,.0000126,4.308154, .0002770, .0002983,
.0002991,Chk Pass,,

Ca,317.933 {106},Y2R,ppm, 1.113212,.0082136,.7378290, 1.104310, 1.120496,
1.114830,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0002639,.0001589,60.19827, .0001641, .0004471,
.0001805,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0015035,.0005385,35.81345, .0019880, .0009238,
.0015988,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, -.000879,.0002073,23.58953, -.000665, -.001079,
-.000892,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, -.001109,.0002726,24.59144, -.000813, -.001351,
-.001162,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .0100002,.0177450,177.4460, .0175930, -.010278,
.0226856,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 3.034116,.0701677,2.312625, 2.953944, 3.084344,
3.064060,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0121533,.0016905,13.91016, .0104224, .0122370,
.0138004,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 2.220729,.0145609,.6556829, 2.203918, 2.229407,
2.228862,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .0620136,.0008483,1.367969, .0610629, .0622845,
.0626933,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0000583,.0002214,379.7152, -.000183, .0002513,
.0001070,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 9.817244,.0412061,.4197323, 9.786328, 9.864024,
9.801379,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0008404,.0015188,180.7131, .0013528, -.000868,
.0020368,Chk Pass,,
P,177.495 {490},Y1,ppm, -.000571,.0037067,649.2431, .0011786, -.004829, .0019372,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, .0035461,.0047862,134.9713, .0038603, .0081676,
-.001389,Chk Pass,,
S,182.034 {485},Y1,ppm, .1188156,.0125569,10.56838, .1270488, .1250352, .1043629,Chk
Pass,,
Sb,206.833 {463},Y1,ppm, -.004240,.0073016,172.2114, .0018489, -.012335,
-.002234,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0145034,.0080952,55.81570, .0070431, .0231111,
.0133561,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 3.772051,.0408843,1.083873, 3.727762, 3.808352,
3.780040,Chk Pass,,
Sn,189.989 {477},Y1,ppm, -.000607,.0042203,695.1529, -.004292, .0039973,
-.001527,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .1549142,.0011711,.7559425, .1536308, .1559247,
.1551871,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0513720,.0256601,49.94949, .0225748, .0718103,
.0597310,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0007364,.0001502,20.40402, .0008266, .0005630,
.0008196,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0007446,.0026341,353.7602, -.001073, -.000458,
.0037655,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0017165,.0002287,13.32400, .0015164, .0019658,
.0016673,Chk Pass,,
W,207.911 {462},Y1,ppm, -.012135,.0011191,9.222114, -.013032, -.010881, -.012492,Chk
Pass,,
Zn,213.856 {458},Y1,ppm, .0067532,.0001922,2.846584, .0067756, .0069333,
.0065508,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.000563,.0035312,627.5221, -.004512, .0005318,
.0022917,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1950.765,26.08280,1.337055,1964.209,1920.703,1967.383
Y2A,371.030 { 91}2,Cts/S, 132007.2,833.3493,.6312908,132941.6,131738.8,131341.1
Y2R,371.030 { 91}3,Cts/S, 6538.669,45.15342,.6905598,6579.214,6490.008,6546.785

```
[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=410-11811-B-9-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 17:45:05
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0013069,.0005572,42.63934, .0016159, .0006636,
.0016411,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm,F -.239573,.0059407,2.479726, -.244511, -.241227,
-.232980,Chk Fail,450.0000,-.200000
As,189.042 {478},Y1,ppm, -.013555,.0203029,149.7845, -.019490, .0090545,
-.030228,Chk Pass,,
B,249.773 {135},Y2A,ppm,F 10.28600,.0604366,.5875614, 10.34455, 10.22384,
10.28962,Chk Fail,4.500000,-.030000
Ba,455.403 { 74},Y2A,ppm, .0739496,.0007224,.9768900, .0747050, .0732654,
.0738785,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .0000624,.0000115,18.46628, .0000714, .0000665,
.0000494,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 33.45273,.2432683,.7272000, 33.22143, 33.70642,
33.43036,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0003163,.0001196,37.83044, .0002816, .0002178,
.0004494,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0005975,.0005277,88.31150, .0001101, .0005245,
.0011580,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0907832,.0012936,1.424964, .0918889, .0893605,
.0911001,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, -.000655,.0012519,191.2462, -.001341, -.001413,
.0007903,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, -.000989,.0017270,174.5815, -.000908, -.002756,
.0006957,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 6.398178,.1132858,1.770594, 6.269360, 6.482286,
6.442889,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0149594,.0014484,9.682235, .0156885, .0132913,
.0158983,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 6.693167,.0954860,1.426619, 6.590928, 6.780036,
6.708537,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .0525897,.0005002,.9511562, .0528782, .0520121,
.0528788,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.001530,.0006623,43.28692, -.001808, -.000774,
-.002008,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 32.33920,.3919838,1.212101, 31.91214, 32.68259,
32.42287,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0026001,.0007728,29.72431, .0019437, .0034519,
.0024047,Chk Pass,,
P,177.495 {490},Y1,ppm, .1623881,.0039646,2.441409, .1669082, .1607554, .1595005,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, -.001327,.0011508,86.74856, -.000328, -.002585,
-.001067,Chk Pass,,
S,182.034 {485},Y1,ppm, 47.52533,.2729403,.5743048, 47.39199, 47.83931, 47.34469,Chk
Pass,,
Sb,206.833 {463},Y1,ppm, .0008095,.0061190,755.9197, -.003175, -.002251,
.0078549,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0338906,.0060244,17.77591, .0408467, .0304656,
```

.0303595,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 15.51570,.1485624,.9574972, 15.36415, 15.66109,
15.52187,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0005138,.0099878,1944.051, -.006738, .0119058,
-.003626,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, 1.771595,.0170264,.9610787, 1.785212, 1.752505,
1.777068,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0363041,.0166417,45.83984, .0380167, .0520232,
.0188722,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0025137,.0001853,7.371394, .0026996, .0025124,
.0023290,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0005784,.0054083,935.0793, .0067802, -.001888,
-.003157,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0018367,.0009264,50.43636, .0010730, .0028672,
.0015700,Chk Pass,,
W,207.911 {462},Y1,ppm, -.009537,.0024587,25.78174, -.012361, -.008378, -.007872,Chk
Pass,,
Zn,213.856 {458},Y1,ppm, .0028616,.0003547,12.39582, .0026304, .0032700,
.0026845,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.002278,.0009714,42.64471, -.001344, -.002206,
-.003283,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1926.839,6.093635,.3162503,1924.838,1921.998,1933.682
Y2A,371.030 { 91}2,Cts/S, 132277.6,550.3216,.4160354,131910.2,132910.3,132012.3
Y2R,371.030 { 91}3,Cts/S, 6678.392,49.02849,.7341361,6650.815,6649.362,6734.999

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=CCV 383770
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 17:48:18
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .5003,.0035,.6925, .5004, .5037, .4968,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 24.63,.2034,.8257, 24.73, 24.76, 24.40,Chk Pass,,
As,189.042 {478},Y1,ppm, .4955,.0271,5.475, .4888, .5254, .4724,Chk Pass,,
B,249.773 {135},Y2A,ppm, .4742,.0041,.8655, .4770, .4761, .4695,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .4917,.0045,.9155, .4964, .4913, .4875,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .47231,.00295,.62470, .47437, .47363, .46893,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 24.63,.0531,.2155, 24.58, 24.68, 24.63,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .5036,.0045,.8931, .5087, .5019, .5002,Chk Pass,,
Co,228.616 {447},Y1,ppm, .5025,.0052,1.038, .5082, .5013, .4979,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .4834,.0060,1.233, .4847, .4886, .4769,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .5140,.0072,1.401, .5157, .5201, .5061,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 23.83,.0999,.4193, 23.72, 23.91, 23.86,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 25.46,.1020,.4008, 25.36, 25.56, 25.45,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .5235,.0032,.6106, .5204, .5232, .5268,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 24.22,.0424,.1750, 24.20, 24.27, 24.19,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .49930,.00431,.86365, .50230, .50124, .49436,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .4863,.0052,1.079, .4922, .4823, .4844,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 24.97,.0426,.1705, 24.94, 25.02, 24.97,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .5053,.0058,1.145, .5113, .4997, .5048,Chk Pass,,

P,177.495 {490},Y1,ppm, .4994,.0088,1.758, .5075, .5006, .4900,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .4900,.0039,.7860, .4945, .4876, .4880,Chk Pass,,
S,182.034 {485},Y1,ppm, 24.51,.1236,.5041, 24.65, 24.48, 24.40,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .4863,.0031,.6430, .4829, .4890, .4870,Chk Pass,,
Se,196.090 {472},Y1,ppm, .5038,.0155,3.085, .4869, .5072, .5174,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 23.269,.14634,.62887, 23.115, 23.286, 23.407,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .4782,.0143,2.990, .4923, .4637, .4786,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .4940,.0009,.1800, .4932, .4950, .4937,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .4919,.0105,2.143, .4807, .4934, .5016,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .4947,.0032,.6489, .4965, .4967, .4910,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .5170,.0113,2.194, .5041, .5253, .5215,Chk Pass,,
V,292.402 {115},Y2A,ppm, .4972,.0058,1.157, .4985, .5022, .4909,Chk Pass,,
W,207.911 {462},Y1,ppm, .4882,.0046,.9463, .4935, .4857, .4853,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .4990,.0038,.7695, .5033, .4980, .4958,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .4882,.0100,2.042, .4852, .4801, .4994,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1870.8,4.5933,.24553,1865.5,1873.3,1873.6
Y2A,371.030 { 91}2,Cts/S, 128500.,422.04,.32844,128130.,128420.,128960.
Y2R,371.030 { 91}3,Cts/S, 6396.3,45.230,.70713,6427.6,6344.4,6416.8

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=CCB 330200
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 17:51:33
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0017,.0014,84.54, .0003, .0016, .0032,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .0810,.1604,198.1, -.0060, -.0171, .2661,Chk Pass,,
As,189.042 {478},Y1,ppm, -.0097,.0156,160.9, .0048, -.0077, -.0262,Chk Pass,,
B,249.773 {135},Y2A,ppm,W .0192,.0243,126.6, .0055, .0049, .0472,Chk
Warn,.0188,-.0188
Ba,455.403 { 74},Y2A,ppm, .0013,.0023,170.2, -.0000, .0001, .0040,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00074,.00120,161.01, .00001, .00010, .00213,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, -.0005,.0084,1597., -.0000, .0076, -.0091,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0001,.0002,176.6, .0001, -.0001, .0002,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0006,.0003,48.06, .0006, .0003, .0009,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0019,.0047,248.6, -.0010, -.0006, .0073,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, -.0003,.0044,1624., -.0026, -.0031, .0048,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .0094,.0034,36.53, .0132, .0066, .0083,Chk Pass,,
K,766.490 { 44},Y2R,ppm, .0451,.0480,106.3, .0962, .0382, .0010,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0081,.0022,27.55, .0061, .0076, .0105,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .0027,.0015,55.97, .0014, .0043, .0024,Chk Pass,,
Mn,257.610 {131},Y2A,ppm,F .02122,.03663,172.62, .00019, -.00005, .06351,Chk
Fail,.00500,-.00500
Mo,202.030 {467},Y1,ppm, -.0015,.0003,18.55, -.0013, -.0018, -.0013,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .0739,.0083,11.17, .0644, .0774, .0798,Chk Pass,,
Ni,231.604 {445},Y1,ppm, -.0007,.0015,212.4, -.0016, .0010, -.0016,Chk Pass,,
P,177.495 {490},Y1,ppm, -.0010,.0108,1054., .0002, .0091, -.0124,Chk Pass,,
Pb,220.353 {453},Y1,ppm, -.0001,.0022,1693., .0023, -.0017, -.0010,Chk Pass,,
S,182.034 {485},Y1,ppm, .0294,.0078,26.64, .0353, .0325, .0205,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .0091,.0024,26.87, .0102, .0108, .0063,Chk Pass,,

Se,196.090 {472},Y1,ppm, .0098,.0047,47.67, .0046, .0136, .0112,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .02976,.01357,45.611, .04172, .01501, .03255,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0046,.0091,195.4, -.0045, .0048, .0136,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm,F .0033,.0057,172.3, .0000, -.0000, .0098,Chk
Fail,.0025,-.0025
Th,283.730 {119},Y2R,ppm, .0619,.0366,59.21, .0493, .1032, .0332,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0011,.0015,134.0, .0001, .0004, .0028,Chk Pass,,
Tl,190.856 {477},Y1,ppm, -.0032,.0016,49.82, -.0047, -.0033, -.0015,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0014,.0016,115.1, .0002, .0007, .0032,Chk Pass,,
W,207.911 {462},Y1,ppm, -.0100,.0006,5.692, -.0101, -.0104, -.0093,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .0007,.0002,29.95, .0009, .0005, .0006,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0015,.0017,110.9, .0028, -.0004, .0022,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1884.1,2.9166,.15480,1887.3,1881.7,1883.2
Y2A,371.030 { 91}2,Cts/S, 131720.,1279.3,.97124,131010.,130960.,133200.
Y2R,371.030 { 91}3,Cts/S, 6407.8,55.218,.86174,6344.1,6442.9,6436.4

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=410-11811-G-13-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 17:54:42
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0014061,.0009322,66.29747, .0023567, .0013679,
.0004935,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .0034916,.0080130,229.4919, .0126343, -.002312,
.0001523,Chk Pass,,
As,189.042 {478},Y1,ppm, -.020095,.0059966,29.84181, -.026641, -.014866,
-.018777,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0038729,.0006107,15.76929, .0042241, .0031677,
.0042268,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0003250,.0001480,45.53663, .0004943, .0002601,
.0002206,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .0001018,.0001354,132.9709, .0002579, .0000318,
.0000158,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .0243069,.0065709,27.03292, .0316266, .0223769,
.0189171,Chk Pass,,
Cd,226.502 {449},Y1,ppm, -.000224,.0002614,116.8074, .0000646, -.000291,
-.000445,Chk Pass,,
Co,228.616 {447},Y1,ppm, -.000044,.0005837,1335.610, -.000706, .0003946,
.0001807,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, -.000065,.0006899,1056.868, .0004472, -.000850,
.0002066,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, -.001235,.0014477,117.2100, -.002670, -.001260,
.0002249,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, -.001761,.0032284,183.2824, -.005381, .0008193,
-.000722,Chk Pass,,
K,766.490 { 44},Y2R,ppm, .0376614,.0191321,50.80022, .0583171, .0205480,
.0341192,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0076815,.0013685,17.81558, .0090895, .0063562,
.0075990,Chk Pass,,

Mg,285.213 {118},Y2R,ppm, .0051154,.0034994,68.40962, .0091066, .0036665,
.0025732,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .0003731,.0005875,157.4583, .0010513, .0000182,
.0000499,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.000560,.0005667,101.1991, .0000885, -.000808,
-.000960,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .1182350,.0190718,16.13039, .1325511, .0965849,
.1255690,Chk Pass,,
Ni,231.604 {445},Y1,ppm, -.001722,.0015002,87.12051, -.003358, -.001396,
-.000411,Chk Pass,,
P,177.495 {490},Y1,ppm, .0058141,.0033232,57.15748, .0076715, .0019775, .0077934,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, -.000653,.0032334,495.1916, -.004031, -.000341,
.0024129,Chk Pass,,
S,182.034 {485},Y1,ppm, .0310989,.0055747,17.92582, .0364221, .0315717, .0253028,Chk
Pass,,
Sb,206.833 {463},Y1,ppm, .0041701,.0094592,226.8330, .0061101, -.006109,
.0125089,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0086877,.0137030,157.7280, .0200846, .0124947,
-.006516,Chk Pass,,
Si,251.611 {134},Y2R,ppm, .0243203,.0060261,24.77808, .0303670, .0183150,
.0242790,Chk Pass,,
Sn,189.989 {477},Y1,ppm, -.001190,.0016346,137.3571, -.000108, -.003070,
-.000391,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0002810,.0003349,119.1779, .0006677, .0000792,
.0000962,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0691827,.0249095,36.00543, .0920864, .0727991,
.0426626,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0003189,.0002115,66.33755, .0005567, .0002481,
.0001518,Chk Pass,,
Tl,190.856 {477},Y1,ppm, -.001896,.0055982,295.2570, .0044244, -.006231,
-.003882,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0007556,.0006003,79.44687, .0013031, .0001137,
.0008499,Chk Pass,,
W,207.911 {462},Y1,ppm, -.009988,.0025817,25.84790, -.007017, -.011264, -.011683,Chk
Pass,,
Zn,213.856 {458},Y1,ppm, .0009093,.0001541,16.94908, .0007377, .0010358,
.0009546,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.002950,.0015615,52.93588, -.001347, -.003035,
-.004467,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1925.841,1.816273,.0943107,1926.392,1923.813,1927.317
Y2A,371.030 { 91}2,Cts/S, 132119.2,301.3977,.2281256,131870.9,132032.2,132454.5
Y2R,371.030 { 91}3,Cts/S, 6399.433,69.29907,1.082894,6353.550,6365.600,6479.150

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=410-10600-F-1-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 17:57:52
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High

Ag,328.068 {103},Y2A,ppm, .0015573,.0012071,77.51000, .0018234, .0002394,
.0026091,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 1.609576,.0081187,.5043993, 1.614588, 1.613931,
1.600209,Chk Pass,,
As,189.042 {478},Y1,ppm, -.009120,.0145068,159.0746, -.022284, -.011508,
.0064335,Chk Pass,,
B,249.773 {135},Y2A,ppm, .1630476,.0013448,.8247852, .1636910, .1615020,
.1639499,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0524263,.0003379,.6445455, .0526107, .0520363,
.0526319,Chk Pass,,
Be,313.042 {108},Y2A,ppm, -.000183,.0000341,18.68401, -.000161, -.000222,
-.000165,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 62.56976,.1693071,.2705894, 62.42420, 62.75556,
62.52950,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0034969,.0003998,11.43435, .0039464, .0033631,
.0031810,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0008430,.0006225,73.84477, .0005352, .0015594,
.0004343,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0001969,.0010268,521.3896, .0013816, -.000437,
-.000353,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .3731651,.0013564,.3634826, .3717033, .3734088,
.3743831,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 1.313864,.0082320,.6265492, 1.305168, 1.321536,
1.314887,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 1.838209,.0396456,2.156748, 1.795446, 1.845439,
1.873743,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0227983,.0036967,16.21473, .0187177, .0259235,
.0237536,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 18.07819,.0256301,.1417735, 18.07662, 18.10457,
18.05338,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .0260642,.0000905,.3471152, .0261189, .0261138,
.0259598,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0020052,.0007172,35.76631, .0012603, .0026910,
.0020642,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 71.13776,.1550691,.2179842, 71.13582, 71.29379,
70.98367,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0083268,.0024046,28.87732, .0084651, .0058560,
.0106591,Chk Pass,,
P,177.495 {490},Y1,ppm, .4734225,.0042180,.8909646, .4782341, .4703623, .4716712,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, .0024933,.0031501,126.3404, .0005092, .0008452,
.0061256,Chk Pass,,
S,182.034 {485},Y1,ppm, 38.43199,.3080586,.8015682, 38.07704, 38.58913, 38.62978,Chk
Pass,,
Sb,206.833 {463},Y1,ppm, .0073515,.0040225,54.71726, .0027070, .0097220,
.0096254,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0234230,.0129764,55.40029, .0231217, .0105999,
.0365475,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 15.04911,.1170487,.7777785, 14.93504, 15.04335,
15.16893,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0026817,.0063843,238.0693, -.002379, .0098544,
.0005699,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .3307703,.0008252,.2494686, .3314840, .3298668,
.3309601,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0624069,.0325918,52.22459, .0780128, .0249465,
.0842615,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0963237,.0001203,.1248787, .0964364, .0961970,
.0963378,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0129095,.0094505,73.20550, .0187467, .0020061,
.0179756,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0071104,.0003724,5.238030, .0066952, .0074149,
.0072213,Chk Pass,,
W,207.911 {462},Y1,ppm, -.009437,.0017351,18.38644, -.010224, -.007448, -.010639,Chk

```
Pass,,
Zn,213.856 {458},Y1,ppm, .0397824,.0003320,.8344412, .0394168, .0400650,
.0398654,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.000496,.0064729,1305.179, -.004099, .0069767,
-.004365,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1846.842,11.60171,.6281918,1860.104,1841.851,1838.571
Y2A,371.030 { 91}2,Cts/S, 123714.8,145.1014,.1172871,123567.9,123858.0,123718.4
Y2R,371.030 { 91}3,Cts/S, 6343.710,14.78079,.2329992,6334.240,6360.742,6336.149

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=410-10696-A-3-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 18:00:56
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0017806,.0009244,51.91533, .0014682, .0028207,
.0010528,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 2.784293,.0221189,.7944161, 2.768046, 2.809483,
2.775350,Chk Pass,,
As,189.042 {478},Y1,ppm, .0152688,.0322295,211.0802, -.021376, .0392148,
.0279673,Chk Pass,,
B,249.773 {135},Y2A,ppm, -.004473,.0013145,29.38979, -.005436, -.005007,
-.002975,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .2729363,.0005859,.2146526, .2724220, .2735741,
.2728128,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .0001037,.0000184,17.72714, .0000963, .0001246,
.0000902,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 51.43276,.3441493,.6691246, 51.80753, 51.35981,
51.13093,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0010241,.0002246,21.93071, .0007735, .0012072,
.0010917,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0081048,.0004043,4.988660, .0081738, .0084701,
.0076704,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0056175,.0001679,2.989624, .0054868, .0058069,
.0055587,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0006667,.0013022,195.3210, .0008525, -.000718,
.0018660,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 27.12812,.1756365,.6474332, 27.21424, 27.24409,
26.92605,Chk Pass,,
K,766.490 { 44},Y2R,ppm, .8455282,.0271095,3.206219, .8762639, .8250212,
.8352995,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0078484,.0013501,17.20188, .0073414, .0093787,
.0068253,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 27.13632,.1517333,.5591521, 27.23206, 27.21553,
26.96137,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, 3.361595,.0110175,.3277452, 3.349112, 3.365710,
3.369962,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.001350,.0003802,28.16353, -.000936, -.001684,
-.001430,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 55.85237,.3177757,.5689565, 56.01306, 56.05770,
```

55.48634,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0063960,.0019381,30.30193, .0086129, .0055528,
.0050223,Chk Pass,,
P,177.495 {490},Y1,ppm, .2093828,.0007264,.3469210, .2095639, .2100015, .2085830,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, .0084698,.0016860,19.90613, .0067381, .0101061,
.0085653,Chk Pass,,
S,182.034 {485},Y1,ppm, 1.264556,.0412916,3.265302, 1.311246, 1.232841, 1.249581,Chk
Pass,,
Sb,206.833 {463},Y1,ppm, -.002822,.0037137,131.6163, .0006109, -.002312,
-.006764,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0133286,.0082806,62.12646, .0071357, .0101160,
.0227340,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 12.56896,.0932672,.7420437, 12.61747, 12.62797,
12.46144,Chk Pass,,
Sn,189.989 {477},Y1,ppm, -.003059,.0026893,87.92594, -.001650, -.006160,
-.001366,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .4420988,.0027874,.6304972, .4392790, .4448526,
.4421647,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0893694,.0310747,34.77107, .0764365, .1248219,
.0668498,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0445055,.0001500,.3371412, .0443431, .0445341,
.0446391,Chk Pass,,
Tl,190.856 {477},Y1,ppm, -.008390,.0099790,118.9336, .0028326, -.011740,
-.016263,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0052644,.0007756,14.73240, .0053196, .0060110,
.0044628,Chk Pass,,
W,207.911 {462},Y1,ppm, -.010460,.0027225,26.02839, -.010417, -.013204, -.007759,Chk
Pass,,
Zn,213.856 {458},Y1,ppm, .0031813,.0003432,10.78694, .0033600, .0027857,
.0033982,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.001595,.0050394,315.8637, .0004945, -.007344,
.0020627,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1874.176,12.42348,.6628770,1867.063,1866.943,1888.521
Y2A,371.030 { 91}2,Cts/S, 127134.3,455.6998,.3584397,127660.5,126866.5,126875.9
Y2R,371.030 { 91}3,Cts/S, 6511.804,123.2476,1.892680,6372.454,6556.457,6606.501

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=410-10696-A-6-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 18:04:06
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0018460,.0009165,49.64977, .0028819, .0015158,
.0011403,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 27.13061,.2936116,1.082215, 26.81299, 27.18672,
27.39211,Chk Pass,,
As,189.042 {478},Y1,ppm, -.004577,.0180225,393.7834, -.021714, -.006234,
.0142170,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0156832,.0018934,12.07247, .0134973, .0167455,

.0168069,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .6056857,.0116741,1.927423, .5925683, .6149342,
.6095547,Chk Pass,,
Be,313.042 {108},Y2A,ppm, -.000511,.0000548,10.74047, -.000523, -.000450,
-.000558,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 64.72289,1.028774,1.589505, 65.77510, 63.71928,
64.67429,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0011113,.0003146,28.31345, .0008075, .0014357,
.0010906,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0248455,.0003159,1.271532, .0250742, .0244851,
.0249773,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0691130,.0008831,1.277689, .0688265, .0684088,
.0701037,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0457193,.0009225,2.017844, .0449062, .0455300,
.0467219,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 35.00749,.5814272,1.660865, 35.59240, 34.42962,
35.00044,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 5.052634,.0859160,1.700421, 5.151724, 4.998924,
5.007253,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0274830,.0038147,13.88009, .0271188, .0238635,
.0314667,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 35.64779,.4307836,1.208444, 36.14263, 35.35648,
35.44427,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, 5.903800,.0643811,1.090504, 5.829699, 5.935685,
5.946016,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0109091,.0007386,6.770858, .0116659, .0108712,
.0101901,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 27.25844,.3247760,1.191470, 27.63329, 27.06120,
27.08083,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0458826,.0002994,.6526385, .0455454, .0459848,
.0461175,Chk Pass,,
P,177.495 {490},Y1,ppm, .2932110,.0078961,2.692966, .2951459, .2845273, .2999597,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, .0410861,.0044380,10.80170, .0409373, .0455966,
.0367244,Chk Pass,,
S,182.034 {485},Y1,ppm, 1.349233,.0343170,2.543445, 1.375719, 1.310465, 1.361516,Chk
Pass,,
Sb,206.833 {463},Y1,ppm, .0014753,.0017402,117.9571, .0009962, .0034048,
.0000248,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0199471,.0271091,135.9052, .0062957, .0023774,
.0511682,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 37.73773,.5772633,1.529671, 38.34111, 37.19072,
37.68137,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0009700,.0042831,441.5721, -.003962, .0031182,
.0037537,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .5599743,.0052786,.9426569, .5565370, .5573338,
.5660522,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0862484,.0290326,33.66167, .1197620, .0687689,
.0702142,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .6062426,.0084804,1.398843, .5965585, .6098277,
.6123417,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0046004,.0068598,149.1115, -.001594, .0119726,
.0034231,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0608830,.0010554,1.733469, .0597025, .0617351,
.0612114,Chk Pass,,
W,207.911 {462},Y1,ppm, -.009760,.0030660,31.41419, -.006231, -.011767, -.011282,Chk
Pass,,
Zn,213.856 {458},Y1,ppm, .2338038,.0015584,.6665505, .2321685, .2352718,
.2339710,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0150315,.0034295,22.81506, .0146036, .0186549,
.0118361,Chk Pass,,

[Internal Standards]

Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1873.259,11.73923,.6266739,1881.307,1878.682,1859.789
Y2A,371.030 { 91}2,Cts/S, 126164.2,1037.038,.8219749,127352.2,125700.9,125439.7
Y2R,371.030 { 91}3,Cts/S, 6439.075,66.21623,1.028350,6413.986,6514.169,6389.069

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=410-10696-A-1-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 18:07:27
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0013359,.0008557,64.04812, .0023230, .0008042,
.0008807,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .2624766,.0066930,2.549927, .2682559, .2551434,
.2640306,Chk Pass,,
As,189.042 {478},Y1,ppm, .0185975,.0083435,44.86330, .0206691, .0094134,
.0257100,Chk Pass,,
B,249.773 {135},Y2A,ppm,F -.038249,.0017795,4.652459, -.036269, -.038764,
-.039714,Chk Fail,4.500000,-.030000
Ba,455.403 { 74},Y2A,ppm, .3471612,.0022679,.6532661, .3497793, .3458029,
.3459014,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .0000641,.0000317,49.51083, .0000669, .0000944,
.0000311,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 30.54525,.4301474,1.408230, 30.07300, 30.91464,
30.64811,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0016292,.0001437,8.818314, .0017753, .0016243,
.0014881,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0105573,.0011600,10.98724, .0109953, .0092421,
.0114345,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0019001,.0009051,47.63444, .0010255, .0018420,
.0028329,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, -.001449,.0017829,123.0354, -.000455, -.003507,
-.000385,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 48.82069,.9359618,1.917142, 47.77105, 49.56850,
49.12251,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 1.691351,.0861082,5.091094, 1.598561, 1.768684,
1.706807,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0052155,.0028738,55.10115, .0068216, .0018977,
.0069271,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 14.09055,.1070649,.7598347, 13.98960, 14.20283,
14.07923,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .7923349,.0036735,.4636352, .7949092, .7939674,
.7881280,Chk Pass,,
Mo,202.030 {467},Y1,ppm, -.000342,.0005409,158.2039, .0001753, -.000904,
-.000297,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 5.301437,.1347356,2.541492, 5.453143, 5.255464,
5.195705,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0045724,.0005047,11.03735, .0050924, .0040846,
.0045402,Chk Pass,,
P,177.495 {490},Y1,ppm, .0213744,.0127817,59.79907, .0069149, .0311661, .0260423,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, -.000002,.0016999,70761.78, -.000012, .0017024,
-.001697,Chk Pass,,

S,182.034 {485},Y1,ppm, .4980456,.0414884,8.330246, .5303266, .5125603, .4512499,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .0050980,.0097593,191.4346, .0145842, .0056229, -.004913,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0103074,.0100941,97.93142, -.000526, .0194486, .0119992,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 5.216990,.0355005,.6804784, 5.209786, 5.185644, 5.255540,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0006994,.0044296,633.3161, -.004060, .0047018, .0014563,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .3015194,.0017167,.5693488, .3034745, .3008254, .3002584,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0936371,.0183160,19.56061, .1114598, .0945866, .0748648,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0077711,.0002867,3.688796, .0074607, .0078268, .0080259,Chk Pass,,
Tl,190.856 {477},Y1,ppm, -.007892,.0081848,103.7066, -.010340, .0012372, -.014574,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0015968,.0008067,50.51671, .0016398, .0023811, .0007695,Chk Pass,,
W,207.911 {462},Y1,ppm, -.010340,.0030814,29.80066, -.013791, -.007864, -.009364,Chk Pass,,
Zn,213.856 {458},Y1,ppm, -.000893,.0000587,6.576498, -.000919, -.000826, -.000935,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.001059,.0017126,161.7824, .0001404, -.000296, -.003020,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1920.811,2.192977,.1141693,1922.648,1921.403,1918.383
Y2A,371.030 { 91}2,Cts/S, 129981.3,1130.359,.8696317,129097.7,129591.2,131255.1
Y2R,371.030 { 91}3,Cts/S, 6610.409,136.7605,2.068866,6768.128,6524.701,6538.396

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=410-10706-A-3-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 18:10:33
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0030332,.0006751,22.25773, .0033303, .0022604, .0035087,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 22.61340,.1842376,.8147277, 22.42204, 22.78957, 22.62858,Chk Pass,,
As,189.042 {478},Y1,ppm, .0113852,.0088798,77.99390, .0213971, .0044629, .0082956,Chk Pass,,
B,249.773 {135},Y2A,ppm,F -.061767,.0018410,2.980567, -.063621, -.059939, -.061741,Chk Fail,4.500000,-.030000
Ba,455.403 { 74},Y2A,ppm, .5955385,.0046660,.7834948, .5911034, .6004055, .5951067,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .0000157,.0000250,158.7840, -.000008, .0000416, .0000138,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 70.77330,.3739294,.5283481, 70.56532, 70.54961, 71.20498,Chk Pass,,

Cd,226.502 {449},Y1,ppm, .0018241,.0001773,9.717281, .0019728, .0018716,
.0016280,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0155099,.0008003,5.160022, .0162553, .0146642,
.0156101,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0208436,.0008129,3.900176, .0205146, .0217694,
.0202467,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0154851,.0011340,7.323140, .0147508, .0167911,
.0149132,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 82.91365,.4105598,.4951655, 82.59667, 82.76684,
83.37743,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 3.556422,.0398910,1.121661, 3.510360, 3.579472,
3.579434,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0245429,.0011387,4.639720, .0234930, .0257534,
.0243824,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 38.29189,.2919742,.7624963, 38.12867, 38.11801,
38.62897,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, 1.841349,.0152835,.8300170, 1.824413, 1.854114,
1.845520,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0002219,.0016681,751.8489, -.001215, -.000170,
.0020511,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 78.90871,.5334410,.6760230, 78.65491, 78.54956,
79.52166,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0198254,.0018574,9.368718, .0216546, .0198805,
.0179410,Chk Pass,,
P,177.495 {490},Y1,ppm, .2123359,.0060448,2.846795, .2053591, .2160063, .2156421,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, .0181843,.0031348,17.23914, .0200745, .0145657,
.0199126,Chk Pass,,
S,182.034 {485},Y1,ppm, 1.266367,.0135931,1.073392, 1.280290, 1.253129, 1.265683,Chk
Pass,,
Sb,206.833 {463},Y1,ppm, -.002059,.0051438,249.7737, .0027143, -.001386,
-.007507,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0168190,.0096453,57.34748, .0279559, .0113465,
.0111547,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 30.66909,.2449419,.7986605, 30.49854, 30.55896,
30.94976,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0078652,.0019514,24.81121, .0074389, .0061621,
.0099945,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .6546718,.0074616,1.139749, .6483493, .6629021,
.6527639,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .1493423,.0150879,10.10289, .1511900, .1334156,
.1634212,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .3092994,.0017037,.5508366, .3073329, .3102336,
.3103317,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0032557,.0053112,163.1375, -.002809, .0054989,
.0070773,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0375311,.0007418,1.976538, .0376366, .0382146,
.0367422,Chk Pass,,
W,207.911 {462},Y1,ppm, -.010551,.0015383,14.57907, -.008775, -.011459, -.011420,Chk
Pass,,
Zn,213.856 {458},Y1,ppm, .0240164,.0008955,3.728583, .0244366, .0229881,
.0246246,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0077396,.0053818,69.53538, .0138351, .0036443,
.0057395,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1863.075,34.37100,1.844853,1823.968,1876.772,1888.486
Y2A,371.030 { 91}2,Cts/S, 123777.3,1391.489,1.124188,125208.9,122429.7,123693.3
Y2R,371.030 { 91}3,Cts/S, 6430.053,84.48538,1.313914,6502.472,6450.450,6337.236

[Sample Header]
Method=New TRACE Fast w axial Al(v353)

SampleName=410-10881-H-1-A
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 18:13:54
Sample Type=Unk
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0045889,.0007745,16.87828, .0040055, .0054676,
.0042934,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 113.5553,.4657948,.4101920, 114.0929, 113.2710,
113.3021,Chk Pass,,
As,189.042 {478},Y1,ppm, .0309166,.0038003,12.29210, .0265574, .0326598,
.0335325,Chk Pass,,
B,249.773 {135},Y2A,ppm,F -.215548,.0050170,2.327538, -.217450, -.219336,
-.209858,Chk Fail,4.500000,-.030000
Ba,455.403 { 74},Y2A,ppm, .4254711,.0040063,.9416196, .4300757, .4227830,
.4235546,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .0025521,.0000159,.6247002, .0025627, .0025599,
.0025338,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 27.67481,.2138158,.7726010, 27.66141, 27.89501,
27.46800,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0067994,.0004778,7.026884, .0072814, .0063260,
.0067907,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0346001,.0006636,1.917843, .0348243, .0351225,
.0338534,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .1616486,.0011497,.7112049, .1629592, .1608106,
.1611759,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .1043438,.0008327,.7979990, .1050617, .1034309,
.1045387,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 266.9338,2.305383,.8636535, 267.8348, 268.6525,
264.3139,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 15.83900,.1711458,1.080534, 15.96445, 15.90852,
15.64403,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0875940,.0003708,.4232982, .0872803, .0874986,
.0880032,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 29.11885,.2298371,.7893070, 29.00841, 29.38306,
28.96508,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .8544028,.0012636,.1478874, .8557746, .8532866,
.8541470,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0138971,.0013108,9.432099, .0147909, .0145081,
.0123924,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 33.47921,.2412315,.7205412, 33.39673, 33.75086,
33.29003,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0878675,.0007655,.8712235, .0880075, .0885533,
.0870416,Chk Pass,,
P,177.495 {490},Y1,ppm, .7389614,.0083172,1.125518, .7308476, .7474679, .7385687,Chk
Pass,,
Pb,220.353 {453},Y1,ppm, .0323144,.0016415,5.079893, .0341566, .0310069,
.0317795,Chk Pass,,
S,182.034 {485},Y1,ppm, 6.467029,.0368937,.5704893, 6.438443, 6.508676, 6.453966,Chk
Pass,,
Sb,206.833 {463},Y1,ppm, .0098016,.0050872,51.90215, .0153613, .0053796,
.0086638,Chk Pass,,
Se,196.090 {472},Y1,ppm, .0108194,.0245035,226.4776, -.017438, .0236972,
.0261988,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 60.57169,.5034196,.8311137, 60.66405, 61.02253,

60.02848,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0051242,.0086465,168.7387, -.004190, .0128952,
.0066673,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .2778829,.0011608,.4177201, .2792232, .2772071,
.2772183,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .3158214,.0442326,14.00557, .2867584, .3667263,
.2939794,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, 1.146879,.0025932,.2261059, 1.149510, 1.144325,
1.146803,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0532857,.0064920,12.18342, .0461848, .0589168,
.0547555,Chk Pass,,
V,292.402 {115},Y2A,ppm, .2467711,.0017814,.7218912, .2469801, .2484388,
.2448944,Chk Pass,,
W,207.911 {462},Y1,ppm, -.010987,.0031426,28.60259, -.013016, -.012578, -.007367,Chk
Pass,,
Zn,213.856 {458},Y1,ppm, .1134469,.0004168,.3674239, .1133524, .1130855,
.1139029,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .0789815,.0044658,5.654184, .0838590, .0750934,
.0779921,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1926.179,5.353196,.2779179,1932.202,1921.963,1924.373
Y2A,371.030 { 91}2,Cts/S, 129718.4,1083.331,.8351401,128491.0,130540.9,130123.5
Y2R,371.030 { 91}3,Cts/S, 6688.216,28.72414,.4294739,6679.812,6664.631,6720.205

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=CCV 383770
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 18:16:56
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .4993,.0014,.2772, .5008, .4992, .4980,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, 24.70,.1189,.4813, 24.83, 24.60, 24.66,Chk Pass,,
As,189.042 {478},Y1,ppm, .4960,.0246,4.965, .5244, .4809, .4827,Chk Pass,,
B,249.773 {135},Y2A,ppm, .4643,.0018,.3831, .4629, .4663, .4637,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .4911,.0026,.5286, .4939, .4908, .4887,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .47429,.00161,.33984, .47613, .47359, .47314,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, 24.80,.0549,.2215, 24.75, 24.85, 24.80,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .5016,.0009,.1866, .5022, .5021, .5006,Chk Pass,,
Co,228.616 {447},Y1,ppm, .5017,.0032,.6355, .4999, .5054, .4998,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .4853,.0015,.3085, .4840, .4849, .4869,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .5098,.0032,.6183, .5067, .5130, .5096,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, 23.80,.1459,.6132, 23.66, 23.95, 23.79,Chk Pass,,
K,766.490 { 44},Y2R,ppm, 25.64,.1971,.7688, 25.42, 25.79, 25.72,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .5217,.0060,1.152, .5183, .5286, .5181,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, 24.57,.1269,.5165, 24.42, 24.61, 24.66,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .50302,.00148,.29392, .50415, .50355, .50134,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .4877,.0024,.4867, .4904, .4858, .4870,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 25.37,.1264,.4982, 25.24, 25.36, 25.50,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .5047,.0029,.5766, .5074, .5017, .5052,Chk Pass,,
P,177.495 {490},Y1,ppm, .5059,.0054,1.069, .5046, .5013, .5119,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .4911,.0057,1.169, .4928, .4957, .4847,Chk Pass,,

S,182.034 {485},Y1,ppm, 24.39,.0483,.1979, 24.43, 24.39, 24.34,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .4898,.0020,.4093, .4893, .4882, .4921,Chk Pass,,
Se,196.090 {472},Y1,ppm, .5071,.0080,1.580, .5163, .5032, .5017,Chk Pass,,
Si,251.611 {134},Y2R,ppm, 23.276,.14656,.62963, 23.111, 23.326, 23.392,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .4810,.0088,1.837, .4912, .4767, .4752,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .4899,.0027,.5522, .4930, .4879, .4889,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .5382,.0426,7.909, .4899, .5700, .5548,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .4960,.0005,.0948, .4965, .4958, .4957,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .5205,.0084,1.606, .5267, .5239, .5110,Chk Pass,,
V,292.402 {115},Y2A,ppm, .4983,.0012,.2344, .4970, .4986, .4992,Chk Pass,,
W,207.911 {462},Y1,ppm, .4849,.0022,.4555, .4831, .4874, .4841,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .4987,.0017,.3468, .5003, .4989, .4969,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, .4907,.0045,.9087, .4918, .4945, .4858,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1876.0,10.959,.58414,1886.7,1864.8,1876.6
Y2A,371.030 { 91}2,Cts/S, 126070.,1248.3,.99018,124740.,126240.,127220.
Y2R,371.030 { 91}3,Cts/S, 6330.7,123.90,1.9572,6473.6,6252.9,6265.7

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=CCB 330200
Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 18:20:05
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0011,.0009,83.66, .0021, .0002, .0011,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .0020,.0026,128.4, .0007, .0004, .0050,Chk Pass,,
As,189.042 {478},Y1,ppm, .0101,.0065,64.46, .0135, .0143, .0026,Chk Pass,,
B,249.773 {135},Y2A,ppm, .0013,.0017,131.0, .0013, -.0004, .0029,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0001,.0001,67.93, .0002, .0000, .0001,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00006,.00002,41.598, .00005, .00004, .00009,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .0121,.0202,167.4, -.0034, .0350, .0047,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0006,.0006,102.0, .0004, .0001, .0013,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0002,.0015,598.2, -.0010, -.0001, .0018,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, -.0009,.0007,83.76, -.0000, -.0014, -.0012,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, -.0013,.0024,188.2, -.0038, .0009, -.0009,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .0323,.0487,150.5, .0037, .0885, .0047,Chk Pass,,
K,766.490 { 44},Y2R,ppm, .0089,.0160,181.2, .0116, .0233, -.0084,Chk Pass,,
Li,670.784 { 50},Y2R,ppm, .0079,.0025,31.13, .0093, .0051, .0094,Chk Pass,,
Mg,285.213 {118},Y2R,ppm, .0063,.0102,161.2, -.0014, .0180, .0025,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .00021,.00024,115.16, .00041, -.00005, .00026,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0002,.0014,656.7, -.0007, -.0005, .0019,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, .0485,.0151,31.22, .0482, .0638, .0335,Chk Pass,,
Ni,231.604 {445},Y1,ppm, -.0004,.0012,301.9, -.0013, -.0008, .0009,Chk Pass,,
P,177.495 {490},Y1,ppm, .0010,.0092,907.2, -.0033, -.0053, .0116,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .0008,.0027,342.1, .0039, -.0007, -.0008,Chk Pass,,
S,182.034 {485},Y1,ppm, .0143,.0587,409.4, -.0137, -.0251, .0818,Chk Pass,,
Sb,206.833 {463},Y1,ppm, -.0012,.0092,794.2, -.0052, .0093, -.0076,Chk Pass,,
Se,196.090 {472},Y1,ppm,W .0198,.0098,49.85, .0260, .0084, .0249,Chk
Warn,.0188,-.0188
Si,251.611 {134},Y2R,ppm, .03129,.00878,28.066, .02892, .04101, .02393,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0058,.0033,57.00, .0086, .0022, .0065,Chk Pass,,

Sr,421.552 { 80},Y2A,ppm, .0001,.0001,59.47, .0001, .0000, .0001,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .0504,.0473,93.86, .1050, .0260, .0203,Chk Pass,,
Ti,334.941 {101},Y2A,ppm, .0004,.0002,47.74, .0006, .0003, .0004,Chk Pass,,
Tl,190.856 {477},Y1,ppm, -.0017,.0067,385.7, -.0052, -.0060, .0060,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0013,.0006,46.33, .0007, .0014, .0019,Chk Pass,,
W,207.911 {462},Y1,ppm, -.0111,.0031,27.95, -.0075, -.0130, -.0129,Chk Pass,,
Zn,213.856 {458},Y1,ppm, .0012,.0013,111.3, .0005, .0003, .0027,Chk Pass,,
Zr,339.198 { 99},Y2R,ppm, -.0028,.0029,102.5, -.0039, .0004, -.0051,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1916.2,16.495,.86084,1901.8,1912.5,1934.2
Y2A,371.030 { 91}2,Cts/S, 130520.,315.09,.24141,130880.,130420.,130270.
Y2R,371.030 { 91}3,Cts/S, 6315.4,51.163,.81012,6270.5,6304.7,6371.1

[Sample Header]
Method=New TRACE Fast w axial Al(v353)
SampleName=CRI 383953

Username=dept 22
Comment=
Custom ID1=
Custom ID2=
Custom ID3=
Run Time=8/31/2020 18:23:15
Sample Type=QC
Mode=CONC
CorrFactor=1.000
Repeats=3

[Results]
Elem,WL,ISRef,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3,chk_Pass/Fail,chk_Low,chk_High
Ag,328.068 {103},Y2A,ppm, .0105,.0009,8.298, .0112, .0095, .0109,Chk Pass,,
Al,308.215 {109}2,Y2A,ppm, .1949,.0132,6.786, .1819, .2083, .1946,Chk Pass,,
As,189.042 {478},Y1,ppm,F .0096,.0102,106.0, -.0014, .0116, .0187,Chk
Fail,.0300,-50.00%
B,249.773 {135},Y2A,ppm, .0297,.0014,4.739, .0286, .0313, .0291,Chk Pass,,
Ba,455.403 { 74},Y2A,ppm, .0052,.0001,1.583, .0051, .0052, .0052,Chk Pass,,
Be,313.042 {108},Y2A,ppm, .00497,.00009,1.8233, .00487, .00504, .00499,Chk Pass,,
Ca,317.933 {106},Y2R,ppm, .1991,.0139,6.970, .2142, .1869, .1962,Chk Pass,,
Cd,226.502 {449},Y1,ppm, .0055,.0000,.7822, .0054, .0055, .0055,Chk Pass,,
Co,228.616 {447},Y1,ppm, .0056,.0015,26.42, .0071, .0056, .0042,Chk Pass,,
Cr,267.716 {126},Y2A,ppm, .0137,.0010,7.203, .0130, .0148, .0133,Chk Pass,,
Cu,327.396 {103},Y2A,ppm, .0215,.0014,6.700, .0199, .0225, .0223,Chk Pass,,
Fe,261.187 {129},Y2R,ppm, .1859,.0119,6.385, .1790, .1791, .1996,Chk Pass,,
K,766.490 { 44},Y2R,ppm, .2821,.0364,12.89, .2614, .3241, .2609,Chk Pass,,
Li,670.784 { 50},Y2R,ppm,W .0604,.0052,8.601, .0646, .0546, .0619,Chk
Warn,.0500,20.00%
Mg,285.213 {118},Y2R,ppm, .1035,.0017,1.603, .1016, .1047, .1043,Chk Pass,,
Mn,257.610 {131},Y2A,ppm, .01116,.00017,1.5046, .01099, .01133, .01116,Chk Pass,,
Mo,202.030 {467},Y1,ppm, .0088,.0011,12.38, .0101, .0082, .0082,Chk Pass,,
Na,589.592 { 57},Y2R,ppm, 1.087,.0062,.5728, 1.082, 1.085, 1.094,Chk Pass,,
Ni,231.604 {445},Y1,ppm, .0110,.0006,5.737, .0117, .0107, .0106,Chk Pass,,
P,177.495 {490},Y1,ppm, .1029,.0035,3.443, .1067, .0997, .1024,Chk Pass,,
Pb,220.353 {453},Y1,ppm, .0160,.0043,27.07, .0159, .0204, .0117,Chk Pass,,
S,182.034 {485},Y1,ppm, .5010,.0348,6.941, .5371, .4677, .4981,Chk Pass,,
Sb,206.833 {463},Y1,ppm, .0469,.0047,9.993, .0514, .0472, .0421,Chk Pass,,
Se,196.090 {472},Y1,ppm,W .0691,.0084,12.19, .0596, .0719, .0757,Chk
Warn,.0500,20.00%
Si,251.611 {134},Y2R,ppm, .46714,.00699,1.4963, .46102, .47475, .46565,Chk Pass,,
Sn,189.989 {477},Y1,ppm, .0474,.0070,14.77, .0397, .0494, .0532,Chk Pass,,
Sr,421.552 { 80},Y2A,ppm, .0052,.0001,1.689, .0051, .0052, .0052,Chk Pass,,
Th,283.730 {119},Y2R,ppm, .5025,.0529,10.52, .5566, .4510, .5000,Chk Pass,,

Ti,334.941 {101},Y2A,ppm, .0102,.0002,1.754, .0100, .0104, .0102,Chk Pass,,
Tl,190.856 {477},Y1,ppm, .0306,.0109,35.61, .0421, .0292, .0205,Chk Pass,,
V,292.402 {115},Y2A,ppm, .0113,.0010,8.690, .0103, .0123, .0113,Chk Pass,,
W,207.911 {462},Y1,ppm,F .0142,.0019,13.58, .0158, .0121, .0147,Chk Fail,.0300,-50.00%
Zn,213.856 {458},Y1,ppm,W .0258,.0007,2.782, .0266, .0252, .0255,Chk Warn,.0200,20.00%
Zr,339.198 { 99},Y2R,ppm, .0452,.0043,9.536, .0410, .0496, .0450,Chk Pass,,

[Internal Standards]
Elem,WL,Units,Avg,Stddev,RSD,Rep1,Rep2,Rep3
Y1,224.306 {450},Cts/S, 1982.0,44.070,2.2235,1932.7,1995.7,2017.6
Y2A,371.030 { 91}2,Cts/S, 132540.,2708.2,2.0433,135650.,130680.,131300.
Y2R,371.030 { 91}3,Cts/S, 6585.2,83.377,1.2661,6511.9,6675.9,6568.0

Quantitation Report

Data File Name	006CALB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 2:49:05 PM
Sample Name	ICIS 128746
Sample Type	CalBlk
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

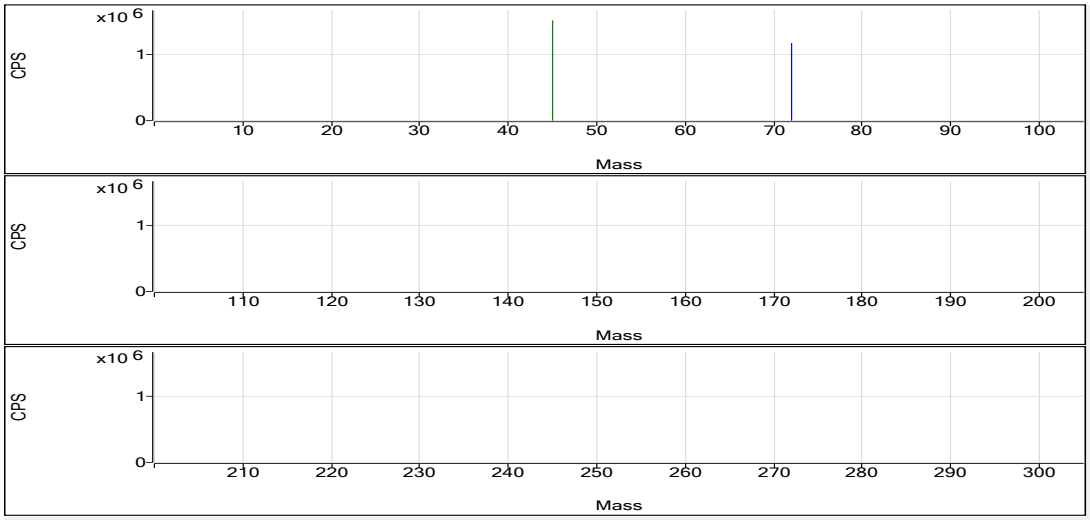
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.000	ppb	N/A	22.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	0.000	ppb	N/A	1453.41	0.0010	Pulse	0.5000	3
Se	78	115	H2	0.000	ppb	N/A	0.89	0.0000	Pulse	1.5000	3
Na	23	45	He	0.000	ppb	N/A	26510.83	0.6290	Pulse	0.1000	3
Mg	24	45	He	0.000	ppb	N/A	133.34	0.0032	Pulse	0.1000	3
Al	27	45	He	0.000	ppb	N/A	26.67	0.0006	Pulse	0.1000	3
K	39	45	He	0.000	ppb	N/A	20942.07	0.4969	Pulse	0.1000	3
Ca	44	45	He	0.000	ppb	N/A	86.67	0.0021	Pulse	0.1000	3
Ti	47	45	He	0.000	ppb	N/A	0.00	0.0000	Pulse	0.1000	3
V	51	45	He	0.000	ppb	N/A	393.35	0.0093	Pulse	0.1000	3
Cr	52	45	He	0.000	ppb	N/A	1033.41	0.0245	Pulse	0.1000	3
Mn	55	45	He	0.000	ppb	N/A	103.33	0.0025	Pulse	0.1000	3
Fe	57	45	He	0.000	ppb	N/A	123.34	0.0029	Pulse	0.1000	3
Co	59	72	He	0.000	ppb	N/A	33.33	0.0002	Pulse	0.1000	3
Ni	60	159	He	0.000	ppb	N/A	543.37	0.0022	Pulse	0.1000	3
Cu	63	115	He	0.000	ppb	N/A	703.38	0.0082	Pulse	0.1000	3
Zn	66	115	He	0.000	ppb	N/A	1066.74	0.0125	Pulse	0.1000	3
As	75	115	He	0.000	ppb	N/A	42.00	0.0005	Pulse	0.5000	3
Sr	88	115	He	0.000	ppb	N/A	66.67	0.0008	Pulse	0.1000	3
Mo	98	115	He	0.016	ppb	86.3	20.00	0.0002	Pulse	0.1000	3
Ag	107	115	He	0.000	ppb	N/A	50.00	0.0006	Pulse	0.1000	3
Cd	111	115	He	0.000	ppb	N/A	0.67	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.000	ppb	N/A	1203.44	0.0141	Pulse	0.1000	3
Sb	121	72	He	0.000	ppb	N/A	23.33	0.0002	Pulse	0.1000	3
Ba	137	115	He	0.000	ppb	N/A	23.33	0.0003	Pulse	0.1000	3
Tl	205	209	He	0.000	ppb	N/A	40.00	0.0002	Pulse	0.1000	3
Pb	208	209	He	0.000	ppb	N/A	240.01	0.0015	Pulse	0.1000	3
U	238	209	He	0.000	ppb	N/A	16.67	0.0001	Pulse	0.1000	3

Quantitation Report

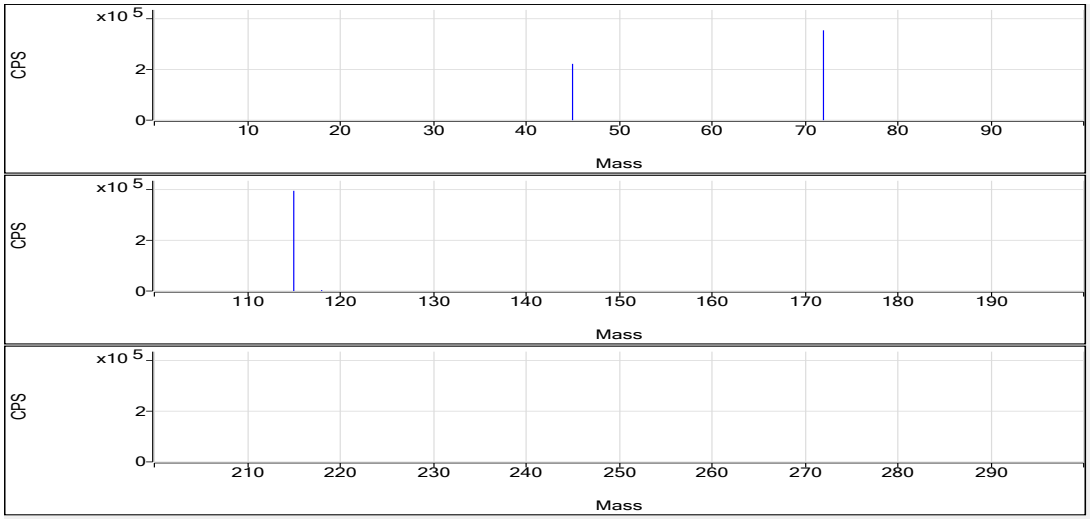
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1503401.75	0.2	100.0	Analog	0.1000	3
No Gas	Ge	72	1164423.45	0.3	100.0	Pulse	0.1000	3
H2	Sc	45	222621.84	1.4	100.0	Pulse	0.1000	3
H2	Ge	72	355327.13	0.9	100.0	Pulse	0.1000	3
H2	In	115	396342.72	1.4	100.0	Pulse	0.1000	3
He	Sc	45	42148.01	0.3	100.0	Pulse	0.1000	3
He	Ge	72	154774.54	1.3	100.0	Pulse	0.1000	3
He	In	115	85467.15	0.6	100.0	Pulse	0.1000	3
He	Tb	159	250250.28	0.6	100.0	Pulse	0.1000	3
He	Bi	209	163320.63	1.0	100.0	Pulse	0.1000	3

No Gas

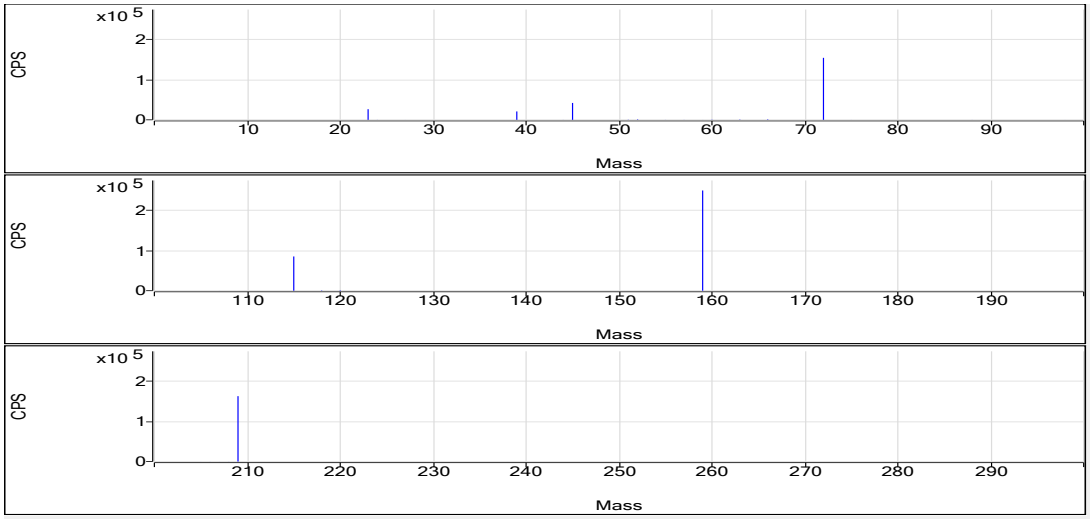


H2



Quantitation Report

He



Quantitation Report

Data File Name	007CALS.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 2:50:58 PM
Sample Name	STD1 281556
Sample Type	CalStd
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

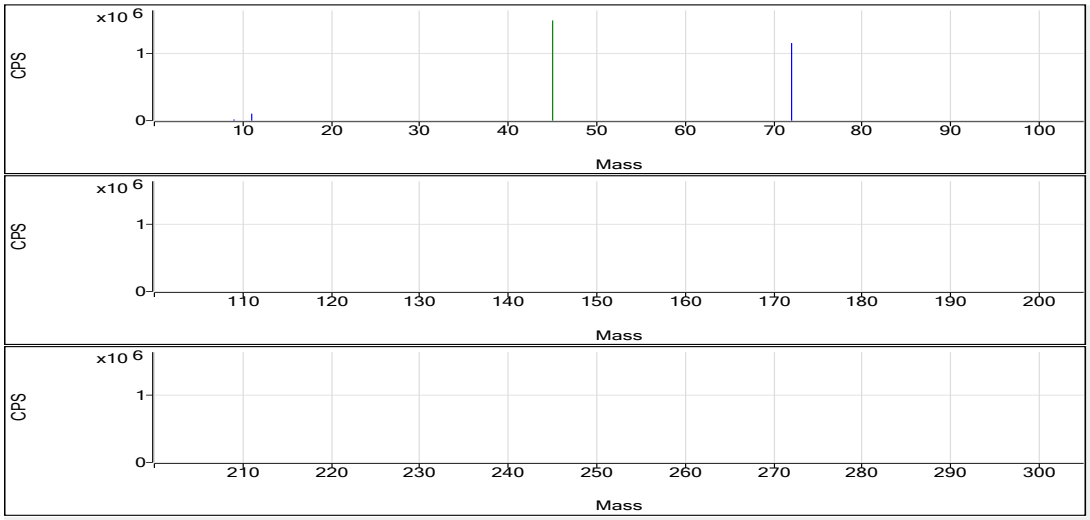
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	24.624	ppb	2.9	17827.90	0.0120	Pulse	0.5000	3
B	11	45	No Gas	243.345	ppb	2.8	103731.05	0.0696	Pulse	0.5000	3
Se	78	115	H2	24.063	ppb	0.8	2047.26	0.0051	Pulse	1.5000	3
Na	23	45	He	2458.252	ppb	2.8	239659.81	5.6282	Pulse	0.1000	3
Mg	24	45	He	2484.846	ppb	2.6	110993.50	2.6066	Pulse	0.1000	3
Al	27	45	He	2450.194	ppb	2.2	44765.25	1.0512	Pulse	0.1000	3
K	39	45	He	2449.805	ppb	1.9	166161.81	3.9018	Pulse	0.1000	3
Ca	44	45	He	2589.847	ppb	2.5	8479.40	0.1991	Pulse	0.1000	3
Ti	47	45	He	242.166	ppb	7.4	5384.51	0.1265	Pulse	0.1000	3
V	51	45	He	243.166	ppb	2.0	193208.64	4.5370	Pulse	0.1000	3
Cr	52	45	He	246.315	ppb	0.8	238243.58	5.5939	Pulse	0.1000	3
Mn	55	45	He	246.032	ppb	0.9	136859.15	3.2134	Pulse	0.1000	3
Fe	57	45	He	2442.902	ppb	1.7	49876.34	1.1712	Pulse	0.1000	3
Co	59	72	He	230.474	ppb	0.6	403775.75	2.5926	Pulse	0.1000	3
Ni	60	159	He	248.772	ppb	1.5	107147.36	0.4254	Pulse	0.1000	3
Cu	63	115	He	246.943	ppb	1.6	295193.04	3.4307	Pulse	0.1000	3
Zn	66	115	He	251.192	ppb	2.7	48585.77	0.5647	Pulse	0.1000	3
As	75	115	He	245.991	ppb	0.7	39517.93	0.4593	Pulse	0.5000	3
Sr	88	115	He	25.136	ppb	1.2	25316.47	0.2942	Pulse	0.1000	3
Mo	98	115	He	24.118	ppb	2.2	30784.40	0.3577	Pulse	0.1000	3
Ag	107	115	He	24.623	ppb	3.5	61428.50	0.7140	Pulse	0.1000	3
Cd	111	115	He	24.463	ppb	1.2	8790.11	0.1021	Pulse	0.5000	3
Sn	120	115	He	24.397	ppb	1.3	31586.68	0.3671	Pulse	0.1000	3
Sb	121	72	He	24.168	ppb	0.8	29054.30	0.1865	Pulse	0.1000	3
Ba	137	115	He	245.074	ppb	1.3	111121.98	1.2914	Pulse	0.1000	3
Tl	205	209	He	24.410	ppb	0.6	120617.28	0.7375	Pulse	0.1000	3
Pb	208	209	He	24.541	ppb	1.2	162462.65	0.9934	Pulse	0.1000	3
U	238	209	He	24.653	ppb	1.9	158885.33	0.9715	Pulse	0.1000	3

Quantitation Report

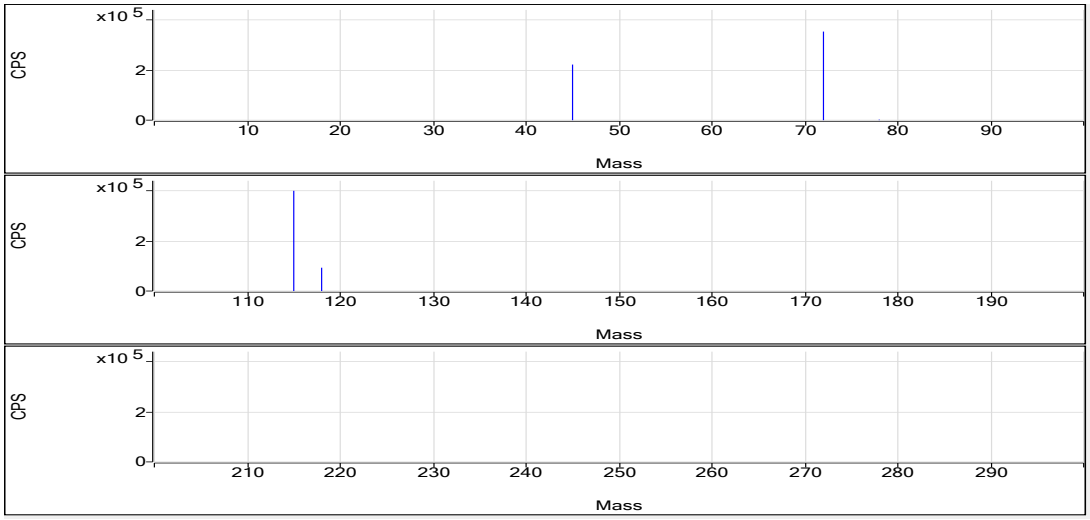
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1489824.56	1.8	99.1	Analog	0.1000	3
No Gas	Ge	72	1153120.06	1.0	99.0	Pulse	0.1000	3
H2	Sc	45	222678.58	1.0	100.0	Pulse	0.1000	3
H2	Ge	72	354811.94	1.6	99.9	Pulse	0.1000	3
H2	In	115	401451.24	1.2	101.3	Pulse	0.1000	3
He	Sc	45	42592.67	1.5	101.1	Pulse	0.1000	3
He	Ge	72	155745.74	0.8	100.6	Pulse	0.1000	3
He	In	115	86050.46	0.8	100.7	Pulse	0.1000	3
He	Tb	159	251900.26	0.2	100.7	Pulse	0.1000	3
He	Bi	209	163557.15	1.1	100.1	Pulse	0.1000	3

No Gas

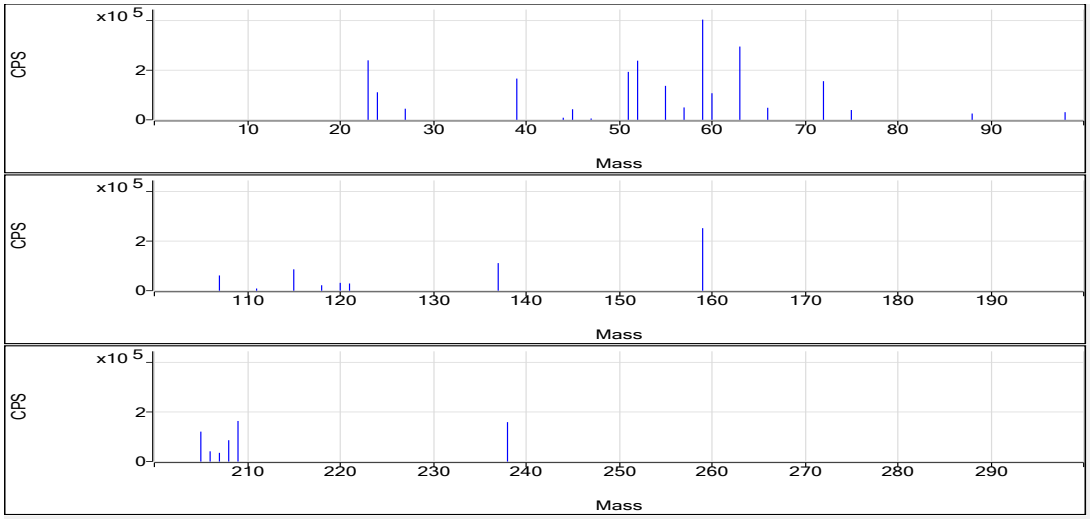


H2



Quantitation Report

He



Quantitation Report

Data File Name	008CALS.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 2:52:51 PM
Sample Name	STD2 281605
Sample Type	CalStd
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

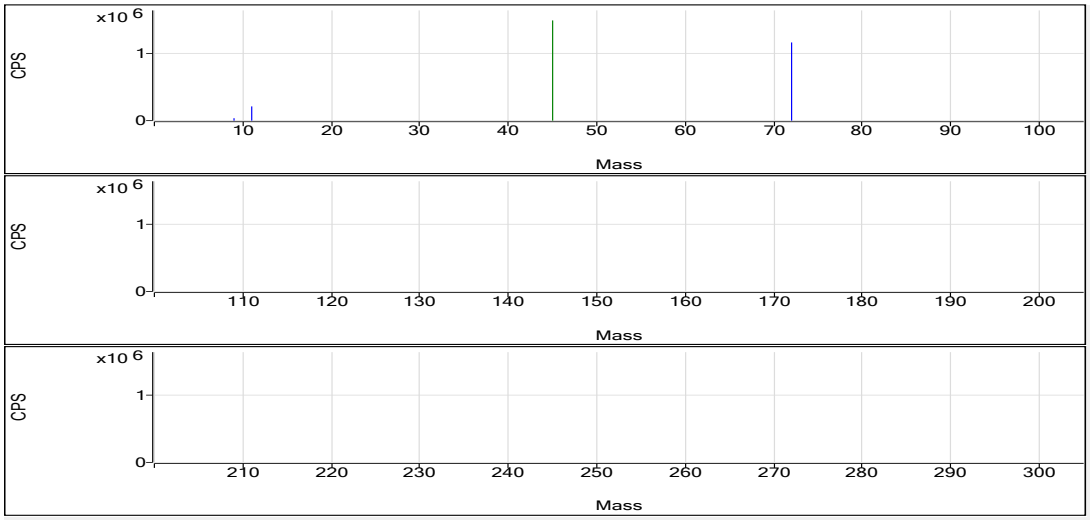
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	50.012	ppb	2.8	36232.02	0.0243	Pulse	0.5000	3
B	11	45	No Gas	499.544	ppb	2.2	211697.76	0.1420	Pulse	0.5000	3
Se	78	115	H2	50.226	ppb	1.6	4284.42	0.0106	Pulse	1.5000	3
Na	23	45	He	5036.853	ppb	4.0	465307.32	10.8722	Pulse	0.1000	3
Mg	24	45	He	4935.576	ppb	2.5	221501.50	5.1742	Pulse	0.1000	3
Al	27	45	He	4973.162	ppb	3.0	91304.31	2.1330	Pulse	0.1000	3
K	39	45	He	5009.837	ppb	3.0	319321.35	7.4600	Pulse	0.1000	3
Ca	44	45	He	4988.973	ppb	3.3	16332.95	0.3816	Pulse	0.1000	3
Ti	47	45	He	492.550	ppb	1.1	11017.86	0.2573	Pulse	0.1000	3
V	51	45	He	490.329	ppb	1.4	391284.36	9.1391	Pulse	0.1000	3
Cr	52	45	He	491.288	ppb	2.1	476597.94	11.1330	Pulse	0.1000	3
Mn	55	45	He	490.890	ppb	2.8	274340.02	6.4091	Pulse	0.1000	3
Fe	57	45	He	4998.766	ppb	1.9	102467.42	2.3935	Pulse	0.1000	3
Co	59	72	He	465.695	ppb	2.0	818470.22	5.2384	Pulse	0.1000	3
Ni	60	159	He	502.414	ppb	0.8	217622.90	0.8568	Pulse	0.1000	3
Cu	63	115	He	507.621	ppb	1.0	600223.70	7.0436	Pulse	0.1000	3
Zn	66	115	He	513.285	ppb	0.6	97216.18	1.1409	Pulse	0.1000	3
As	75	115	He	506.694	ppb	1.1	80559.20	0.9455	Pulse	0.5000	3
Sr	88	115	He	50.954	ppb	1.2	50747.84	0.5956	Pulse	0.1000	3
Mo	98	115	He	51.290	ppb	1.7	64815.55	0.7607	Pulse	0.1000	3
Ag	107	115	He	50.920	ppb	1.4	125758.55	1.4759	Pulse	0.1000	3
Cd	111	115	He	50.412	ppb	0.4	17936.79	0.2105	Pulse	0.5000	3
Sn	120	115	He	50.472	ppb	3.4	63418.21	0.7444	Pulse	0.1000	3
Sb	121	72	He	49.161	ppb	1.7	59266.66	0.3793	Pulse	0.1000	3
Ba	137	115	He	505.561	ppb	1.4	226982.25	2.6638	Pulse	0.1000	3
Tl	205	209	He	49.467	ppb	0.5	245468.53	1.4942	Pulse	0.1000	3
Pb	208	209	He	49.501	ppb	0.3	328905.98	2.0022	Pulse	0.1000	3
U	238	209	He	49.360	ppb	0.7	319533.55	1.9451	Pulse	0.1000	3

Quantitation Report

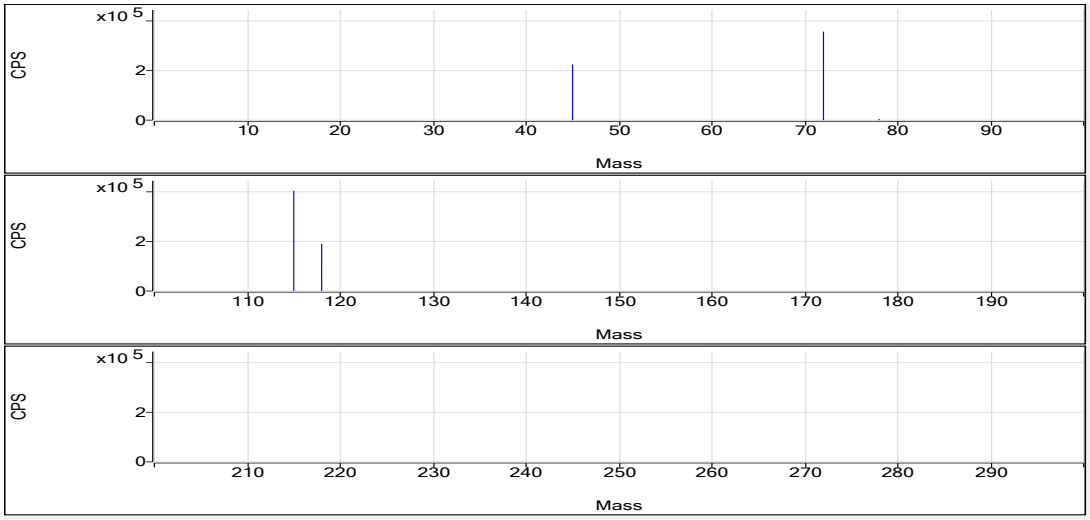
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1491490.96	0.9	99.2	Analog	0.1000	3
No Gas	Ge	72	1163635.32	1.2	99.9	Pulse	0.1000	3
H2	Sc	45	223743.73	1.3	100.5	Pulse	0.1000	3
H2	Ge	72	355662.23	2.1	100.1	Pulse	0.1000	3
H2	In	115	402517.45	2.0	101.6	Pulse	0.1000	3
He	Sc	45	42823.76	2.4	101.6	Pulse	0.1000	3
He	Ge	72	156278.79	1.7	101.0	Pulse	0.1000	3
He	In	115	85212.30	0.9	99.7	Pulse	0.1000	3
He	Tb	159	253981.07	1.0	101.5	Pulse	0.1000	3
He	Bi	209	164275.83	0.6	100.6	Pulse	0.1000	3

No Gas

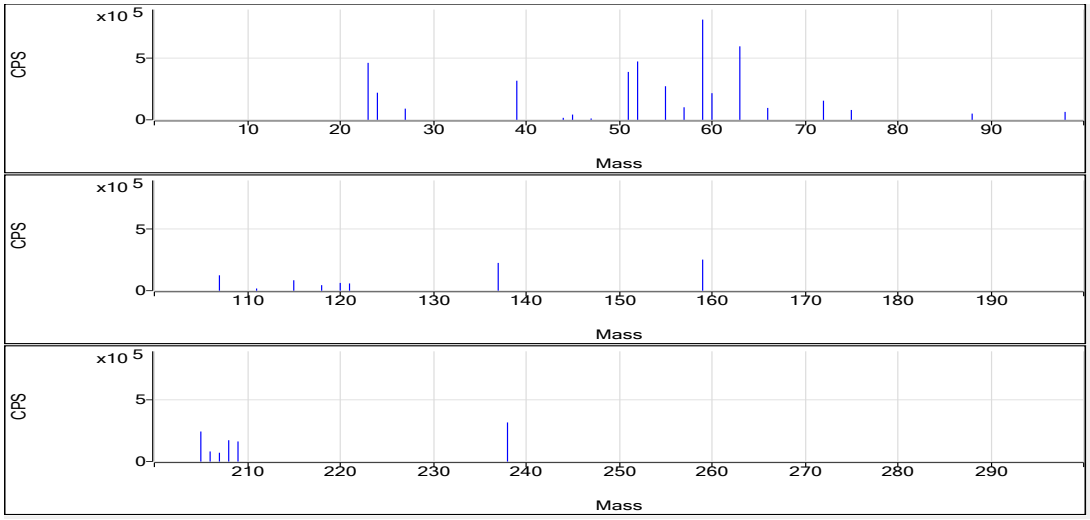


H2



Quantitation Report

He



Quantitation Report

Data File Name	009CALS.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 2:54:43 PM
Sample Name	STD3 272518
Sample Type	CalStd
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

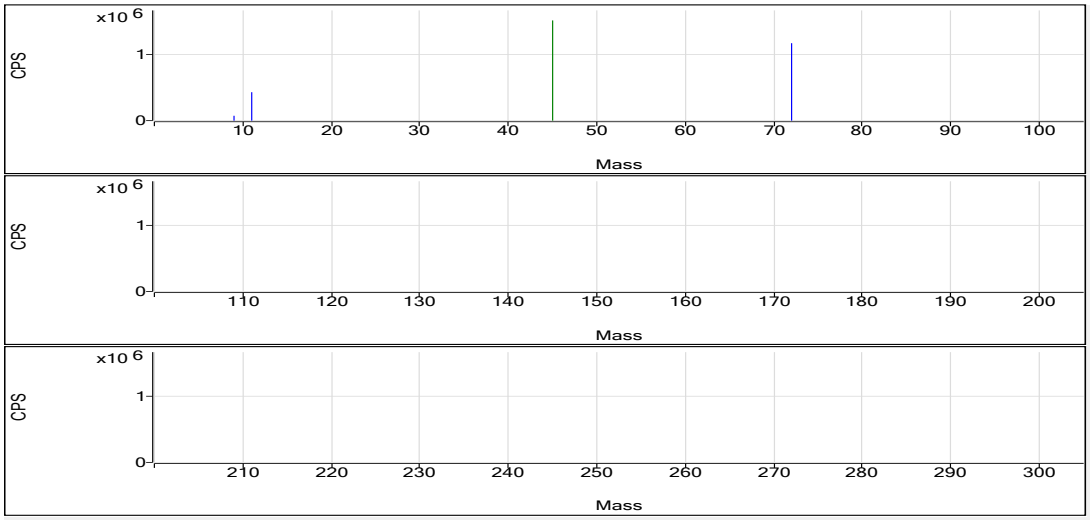
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	100.088	ppb	0.7	73335.70	0.0486	Pulse	0.5000	3
B	11	45	No Gas	1001.891	ppb	1.4	428065.10	0.2837	Pulse	0.5000	3
Se	78	115	H2	100.121	ppb	1.0	8557.43	0.0212	Pulse	1.5000	3
Na	23	45	He	9992.010	ppb	1.6	882248.63	20.9493	Pulse	0.1000	3
Mg	24	45	He	10036.001	ppb	2.0	442920.44	10.5180	Pulse	0.1000	3
Al	27	45	He	10025.870	ppb	2.7	181044.85	4.2995	Pulse	0.1000	3
K	39	45	He	10007.630	ppb	2.0	606671.88	14.4063	Pulse	0.1000	3
Ca	44	45	He	9983.052	ppb	2.9	32072.34	0.7615	Pulse	0.1000	3
Ti	47	45	He	1005.683	ppb	3.3	22120.68	0.5253	Pulse	0.1000	3
V	51	45	He	1006.544	ppb	2.1	789607.10	18.7509	Pulse	0.1000	3
Cr	52	45	He	1005.277	ppb	3.1	958109.33	22.7548	Pulse	0.1000	3
Mn	55	45	He	1005.547	ppb	2.8	552695.08	13.1259	Pulse	0.1000	3
Fe	57	45	He	10014.891	ppb	2.7	201794.54	4.7924	Pulse	0.1000	3
Co	59	72	He	1022.034	ppb	1.4	1775207.21	11.4961	Analog	0.1000	3
Ni	60	159	He	999.100	ppb	1.6	430836.73	1.7018	Pulse	0.1000	3
Cu	63	115	He	996.954	ppb	0.8	1193974.80	13.8255	Pulse	0.1000	3
Zn	66	115	He	993.060	ppb	2.1	189603.65	2.1956	Pulse	0.1000	3
As	75	115	He	997.655	ppb	1.4	160721.13	1.8611	Pulse	0.5000	3
Sr	88	115	He	99.489	ppb	0.2	100361.85	1.1621	Pulse	0.1000	3
Mo	98	115	He	99.576	ppb	0.8	127544.39	1.4769	Pulse	0.1000	3
Ag	107	115	He	99.634	ppb	0.8	249354.93	2.8874	Pulse	0.1000	3
Cd	111	115	He	99.928	ppb	1.0	36032.58	0.4172	Pulse	0.5000	3
Sn	120	115	He	99.915	ppb	2.4	126067.48	1.4597	Pulse	0.1000	3
Sb	121	72	He	100.627	ppb	0.6	119875.38	0.7762	Pulse	0.1000	3
Ba	137	115	He	998.451	ppb	1.9	454288.82	5.2606	Pulse	0.1000	3
Tl	205	209	He	100.414	ppb	0.8	495285.06	3.0330	Pulse	0.1000	3
Pb	208	209	He	100.364	ppb	0.7	662659.28	4.0580	Pulse	0.1000	3
U	238	209	He	100.407	ppb	0.9	646083.05	3.9565	Pulse	0.1000	3

Quantitation Report

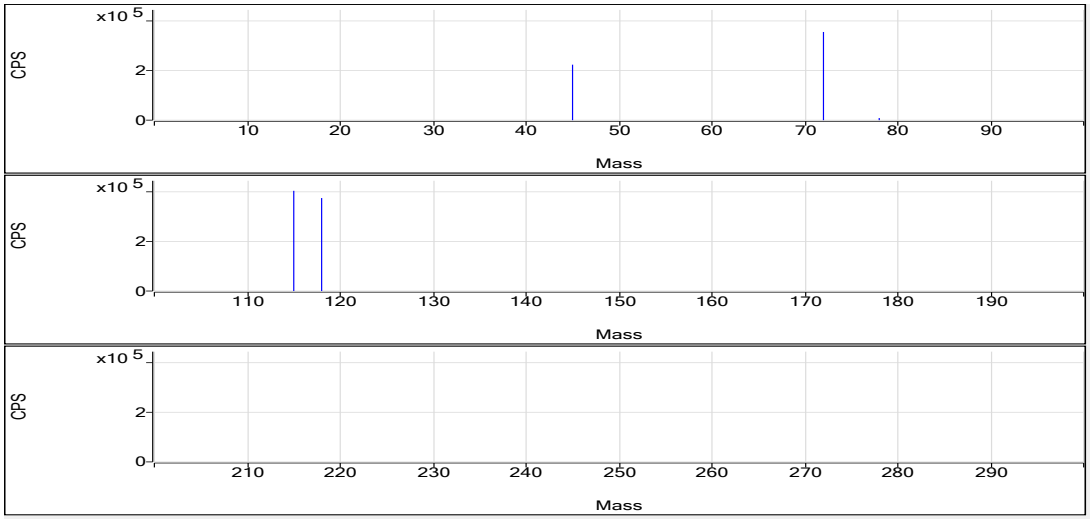
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1508766.80	1.2	100.4	Analog	0.1000	3
No Gas	Ge	72	1165876.70	0.9	100.1	Pulse	0.1000	3
H2	Sc	45	223340.74	0.6	100.3	Pulse	0.1000	3
H2	Ge	72	354949.21	0.5	99.9	Pulse	0.1000	3
H2	In	115	403437.47	0.8	101.8	Pulse	0.1000	3
He	Sc	45	42121.59	1.9	99.9	Pulse	0.1000	3
He	Ge	72	154434.68	1.2	99.8	Pulse	0.1000	3
He	In	115	86363.04	0.7	101.0	Pulse	0.1000	3
He	Tb	159	253216.68	1.8	101.2	Pulse	0.1000	3
He	Bi	209	163303.11	1.3	100.0	Pulse	0.1000	3

No Gas

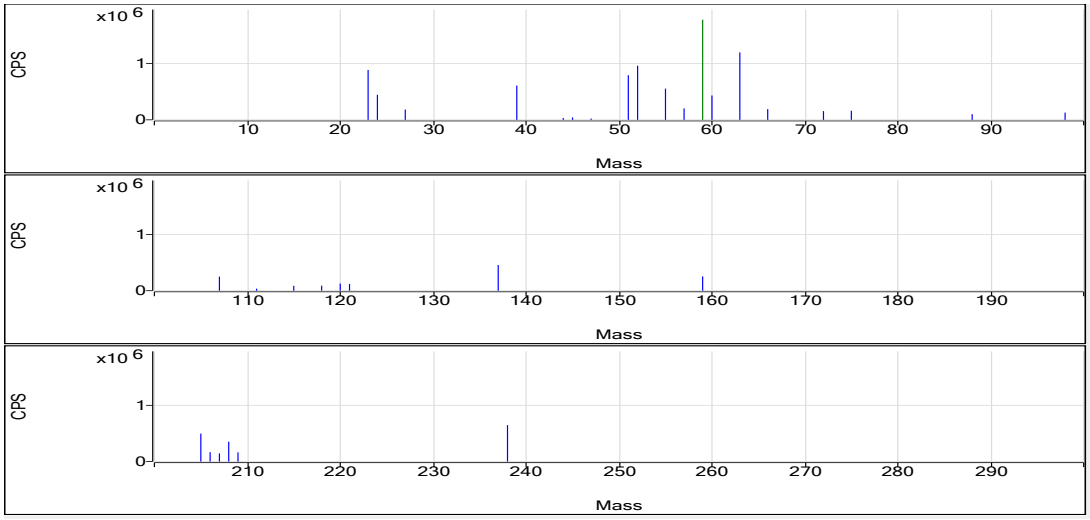


H2



Quantitation Report

He



Quantitation Report

Data File Name	010_ICV.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 2:56:36 PM
Sample Name	ICV 330048
Sample Type	ICV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

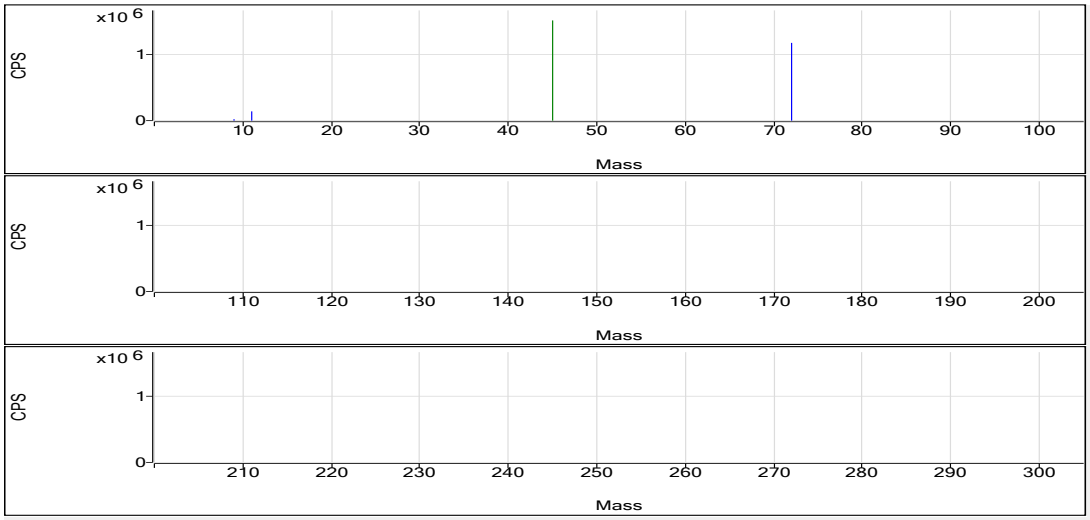
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	29.820	ppb	0.4	21791.08	0.0145	Pulse	0.5000	3
B	11	45	No Gas	324.791	ppb	1.4	139260.63	0.0926	Pulse	0.5000	3
Se	78	115	H2	29.833	ppb	1.6	2528.45	0.0063	Pulse	1.5000	3
Na	23	45	He	4955.084	ppb	2.0	447113.90	10.7059	Pulse	0.1000	3
Mg	24	45	He	5017.314	ppb	2.6	219649.44	5.2599	Pulse	0.1000	3
Al	27	45	He	4990.948	ppb	1.8	89403.61	2.1407	Pulse	0.1000	3
K	39	45	He	4993.144	ppb	1.5	310605.03	7.4368	Pulse	0.1000	3
Ca	44	45	He	5008.537	ppb	2.7	15999.24	0.3831	Pulse	0.1000	3
Ti	47	45	He	303.463	ppb	3.5	6618.41	0.1585	Pulse	0.1000	3
V	51	45	He	302.657	ppb	2.1	235740.16	5.6447	Pulse	0.1000	3
Cr	52	45	He	300.556	ppb	2.7	284811.22	6.8204	Pulse	0.1000	3
Mn	55	45	He	304.215	ppb	1.8	165923.59	3.9728	Pulse	0.1000	3
Fe	57	45	He	5076.610	ppb	2.8	101502.78	2.4307	Pulse	0.1000	3
Co	59	72	He	278.412	ppb	0.7	488629.56	3.1318	Pulse	0.1000	3
Ni	60	159	He	299.142	ppb	1.3	128792.13	0.5110	Pulse	0.1000	3
Cu	63	115	He	302.557	ppb	1.4	359085.68	4.2015	Pulse	0.1000	3
Zn	66	115	He	306.823	ppb	1.4	58719.48	0.6870	Pulse	0.1000	3
As	75	115	He	301.453	ppb	2.2	48086.43	0.5627	Pulse	0.5000	3
Sr	88	115	He	30.044	ppb	1.4	30045.75	0.3515	Pulse	0.1000	3
Mo	98	115	He	30.754	ppb	0.8	38987.95	0.4561	Pulse	0.1000	3
Ag	107	115	He	30.275	ppb	1.1	75020.75	0.8778	Pulse	0.1000	3
Cd	111	115	He	30.268	ppb	2.1	10800.85	0.1264	Pulse	0.5000	3
Sn	120	115	He	30.498	ppb	3.5	38909.29	0.4554	Pulse	0.1000	3
Sb	121	72	He	30.286	ppb	2.8	36461.96	0.2337	Pulse	0.1000	3
Ba	137	115	He	300.740	ppb	1.7	135433.32	1.5847	Pulse	0.1000	3
Tl	205	209	He	29.972	ppb	0.6	147614.10	0.9055	Pulse	0.1000	3
Pb	208	209	He	30.059	ppb	1.6	198284.82	1.2164	Pulse	0.1000	3
U	238	209	He	385.932	ppb	1.6	2479024.70	15.2072	Analog	0.1000	3

Quantitation Report

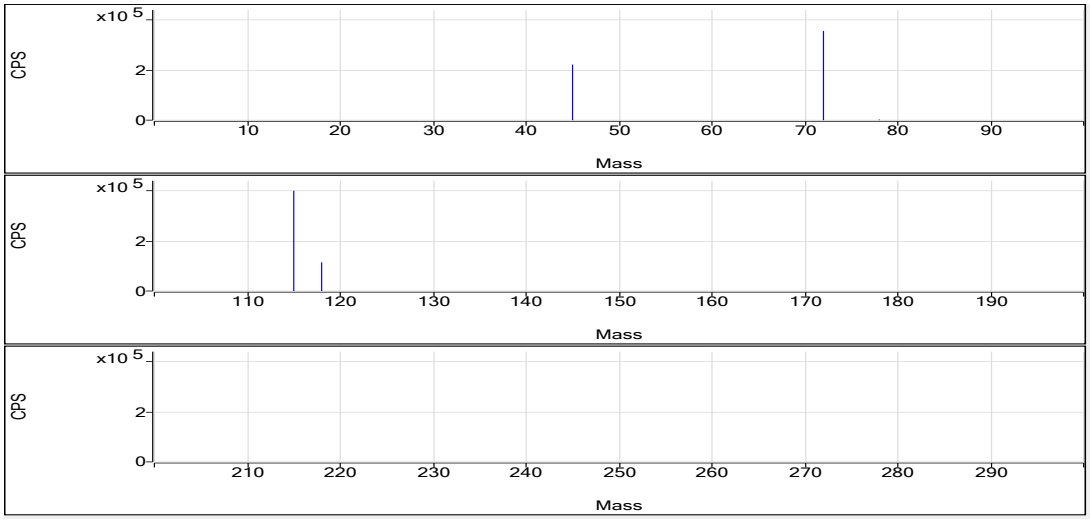
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1503622.11	2.0	100.0	Analog	0.1000	3
No Gas	Ge	72	1166732.59	1.1	100.2	Pulse	0.1000	3
H2	Sc	45	221786.70	0.9	99.6	Pulse	0.1000	3
H2	Ge	72	355940.45	0.6	100.2	Pulse	0.1000	3
H2	In	115	399930.57	0.9	100.9	Pulse	0.1000	3
He	Sc	45	41774.01	2.1	99.1	Pulse	0.1000	3
He	Ge	72	156028.55	1.2	100.8	Pulse	0.1000	3
He	In	115	85477.77	1.6	100.0	Pulse	0.1000	3
He	Tb	159	252020.16	0.2	100.7	Pulse	0.1000	3
He	Bi	209	163031.95	1.3	99.8	Pulse	0.1000	3

No Gas

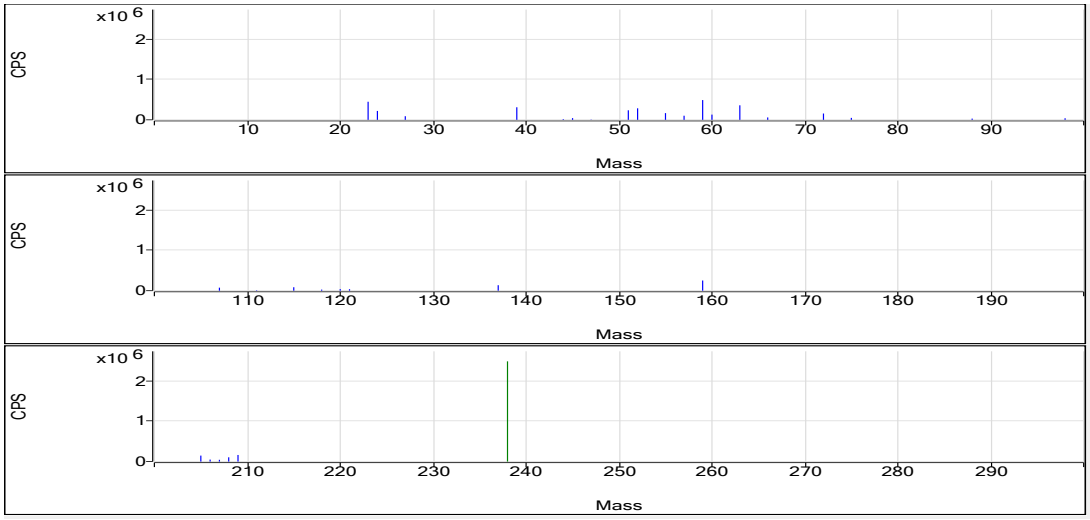


H2



Quantitation Report

He



Quantitation Report

Data File Name	011_ICB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 2:58:29 PM
Sample Name	ICB 226166
Sample Type	ICB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

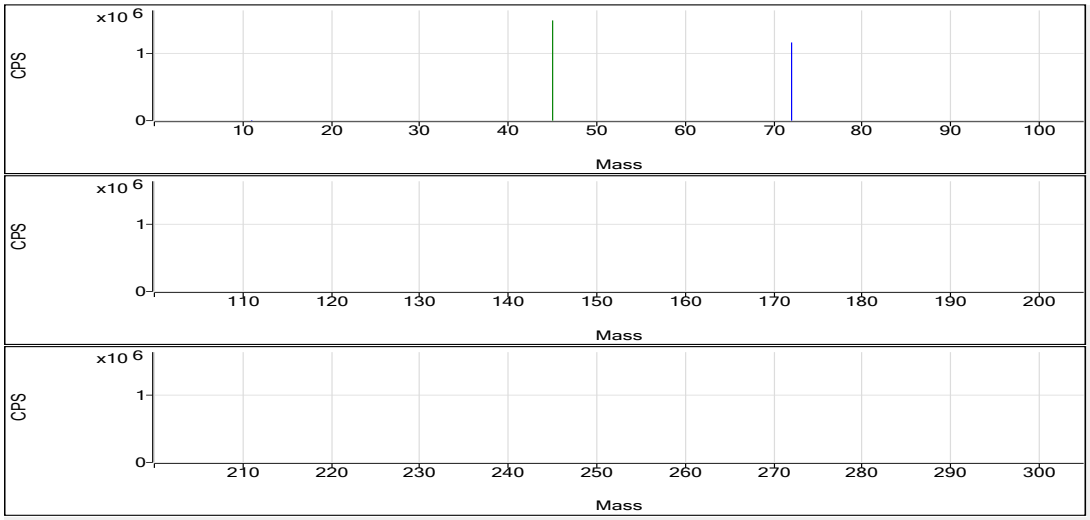
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.038	ppb	20.8	50.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	16.805	ppb	4.6	8552.47	0.0057	Pulse	0.5000	3
Se	78	115	H2	0.035	ppb	53.8	3.78	0.0000	Pulse	1.5000	3
Na	23	45	He	11.136	ppb	15.4	27108.62	0.6516	Pulse	0.1000	3
Mg	24	45	He	1.033	ppb	113.5	176.67	0.0042	Pulse	0.1000	3
Al	27	45	He	3.382	ppb	24.9	86.67	0.0021	Pulse	0.1000	3
K	39	45	He	11.377	ppb	146.7	21332.76	0.5127	Pulse	0.1000	3
Ca	44	45	He	-2.865	ppb	N/A	76.67	0.0018	Pulse	0.1000	3
Ti	47	45	He	0.307	ppb	86.6	6.67	0.0002	Pulse	0.1000	3
V	51	45	He	0.196	ppb	58.1	540.03	0.0130	Pulse	0.1000	3
Cr	52	45	He	0.386	ppb	40.9	1383.45	0.0332	Pulse	0.1000	3
Mn	55	45	He	0.266	ppb	28.5	246.68	0.0059	Pulse	0.1000	3
Fe	57	45	He	2.422	ppb	35.2	170.01	0.0041	Pulse	0.1000	3
Co	59	72	He	0.156	ppb	13.3	306.68	0.0020	Pulse	0.1000	3
Ni	60	159	He	0.119	ppb	135.9	593.36	0.0024	Pulse	0.1000	3
Cu	63	115	He	0.239	ppb	21.9	986.74	0.0115	Pulse	0.1000	3
Zn	66	115	He	-1.796	ppb	N/A	730.04	0.0085	Pulse	0.1000	3
As	75	115	He	0.268	ppb	23.4	84.67	0.0010	Pulse	0.5000	3
Sr	88	115	He	-0.037	ppb	N/A	30.00	0.0003	Pulse	0.1000	3
Mo	98	115	He	0.100	ppb	38.7	126.67	0.0015	Pulse	0.1000	3
Ag	107	115	He	0.031	ppb	96.7	126.67	0.0015	Pulse	0.1000	3
Cd	111	115	He	0.024	ppb	35.6	9.33	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.270	ppb	64.6	1536.81	0.0180	Pulse	0.1000	3
Sb	121	72	He	0.636	ppb	3.7	786.72	0.0051	Pulse	0.1000	3
Ba	137	115	He	0.163	ppb	27.3	96.67	0.0011	Pulse	0.1000	3
Tl	205	209	He	0.038	ppb	17.9	230.01	0.0014	Pulse	0.1000	3
Pb	208	209	He	0.001	ppb	83.0	246.68	0.0015	Pulse	0.1000	3
U	238	209	He	0.142	ppb	11.8	930.07	0.0057	Pulse	0.1000	3

Quantitation Report

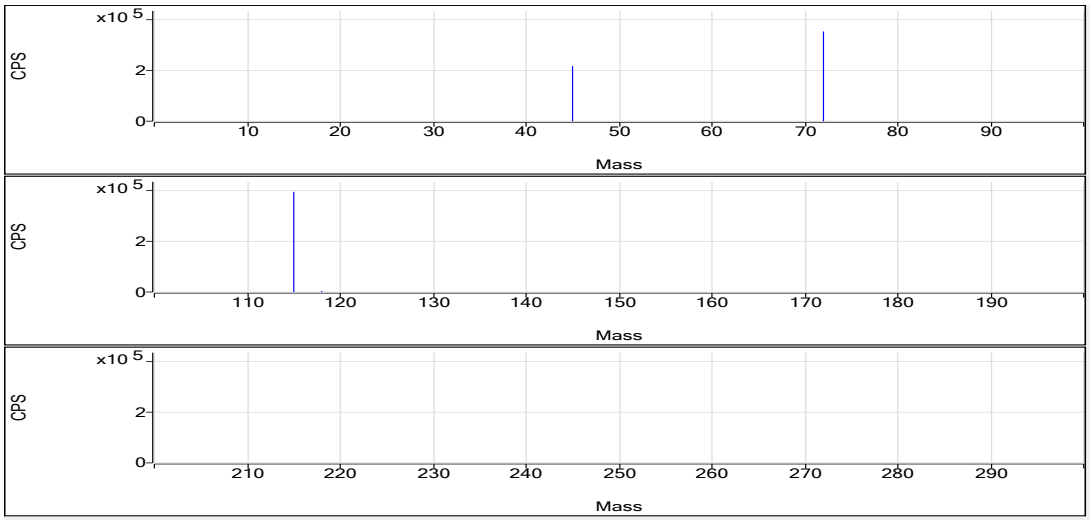
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1497908.10	2.4	99.6	Analog	0.1000	3
No Gas	Ge	72	1168479.93	0.5	100.3	Pulse	0.1000	3
H2	Sc	45	217451.52	3.3	97.7	Pulse	0.1000	3
H2	Ge	72	353966.32	1.7	99.6	Pulse	0.1000	3
H2	In	115	395421.87	1.7	99.8	Pulse	0.1000	3
He	Sc	45	41603.14	0.3	98.7	Pulse	0.1000	3
He	Ge	72	155573.41	1.7	100.5	Pulse	0.1000	3
He	In	115	85487.19	1.4	100.0	Pulse	0.1000	3
He	Tb	159	250005.10	0.8	99.9	Pulse	0.1000	3
He	Bi	209	163594.36	1.1	100.2	Pulse	0.1000	3

No Gas

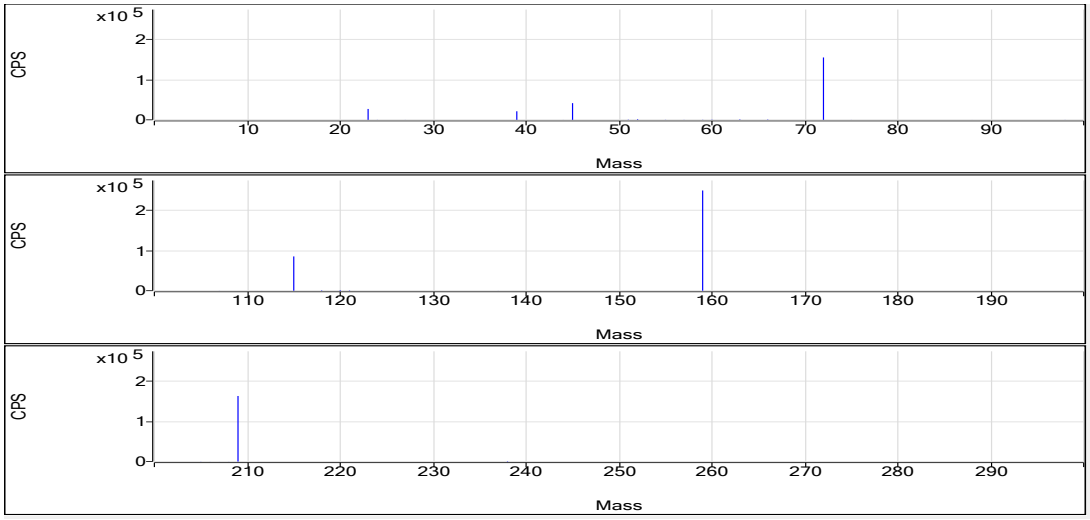


H2



Quantitation Report

He



Quantitation Report

Data File Name	012_LLC.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:00:23 PM
Sample Name	CRI 329983
Sample Type	LLC
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

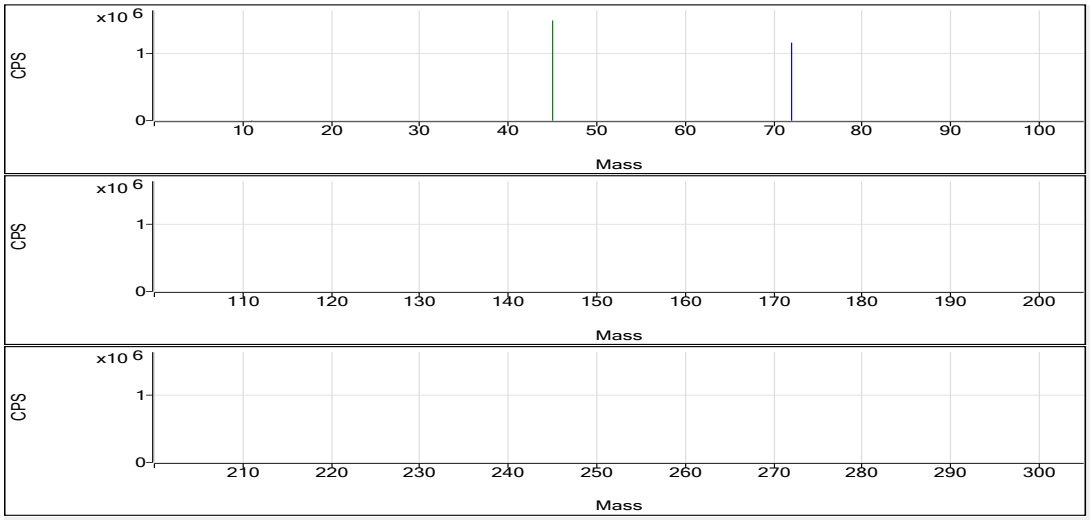
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.462	ppb	12.8	356.01	0.0002	Pulse	0.5000	3
B	11	45	No Gas	7.299	ppb	2.1	4502.70	0.0030	Pulse	0.5000	3
Se	78	115	H2	0.960	ppb	10.9	81.56	0.0002	Pulse	1.5000	3
Na	23	45	He	185.092	ppb	6.9	42641.71	1.0054	Pulse	0.1000	3
Mg	24	45	He	48.995	ppb	6.6	2313.60	0.0545	Pulse	0.1000	3
Al	27	45	He	24.144	ppb	24.4	466.70	0.0110	Pulse	0.1000	3
K	39	45	He	180.715	ppb	9.6	31738.21	0.7481	Pulse	0.1000	3
Ca	44	45	He	95.281	ppb	46.7	393.36	0.0093	Pulse	0.1000	3
Ti	47	45	He	9.785	ppb	8.2	216.68	0.0051	Pulse	0.1000	3
V	51	45	He	0.415	ppb	17.0	723.37	0.0171	Pulse	0.1000	3
Cr	52	45	He	1.896	ppb	5.3	2860.36	0.0674	Pulse	0.1000	3
Mn	55	45	He	2.190	ppb	3.6	1316.77	0.0310	Pulse	0.1000	3
Fe	57	45	He	46.604	ppb	7.1	1070.08	0.0252	Pulse	0.1000	3
Co	59	72	He	0.505	ppb	4.5	923.40	0.0059	Pulse	0.1000	3
Ni	60	159	He	0.933	ppb	26.3	950.06	0.0038	Pulse	0.1000	3
Cu	63	115	He	0.930	ppb	3.3	1823.51	0.0211	Pulse	0.1000	3
Zn	66	115	He	8.610	ppb	18.5	2713.69	0.0314	Pulse	0.1000	3
As	75	115	He	2.020	ppb	7.4	367.34	0.0043	Pulse	0.5000	3
Sr	88	115	He	0.880	ppb	14.9	953.40	0.0111	Pulse	0.1000	3
Mo	98	115	He	0.495	ppb	2.7	633.37	0.0073	Pulse	0.1000	3
Ag	107	115	He	0.468	ppb	1.8	1220.10	0.0141	Pulse	0.1000	3
Cd	111	115	He	0.459	ppb	10.4	166.00	0.0019	Pulse	0.5000	3
Sn	120	115	He	1.730	ppb	5.6	3377.18	0.0391	Pulse	0.1000	3
Sb	121	72	He	1.190	ppb	2.8	1460.13	0.0093	Pulse	0.1000	3
Ba	137	115	He	1.910	ppb	18.9	890.07	0.0103	Pulse	0.1000	3
Tl	205	209	He	0.535	ppb	6.7	2700.39	0.0164	Pulse	0.1000	3
Pb	208	209	He	0.473	ppb	2.3	3386.96	0.0206	Pulse	0.1000	3
U	238	209	He	0.957	ppb	2.4	6221.75	0.0378	Pulse	0.1000	3

Quantitation Report

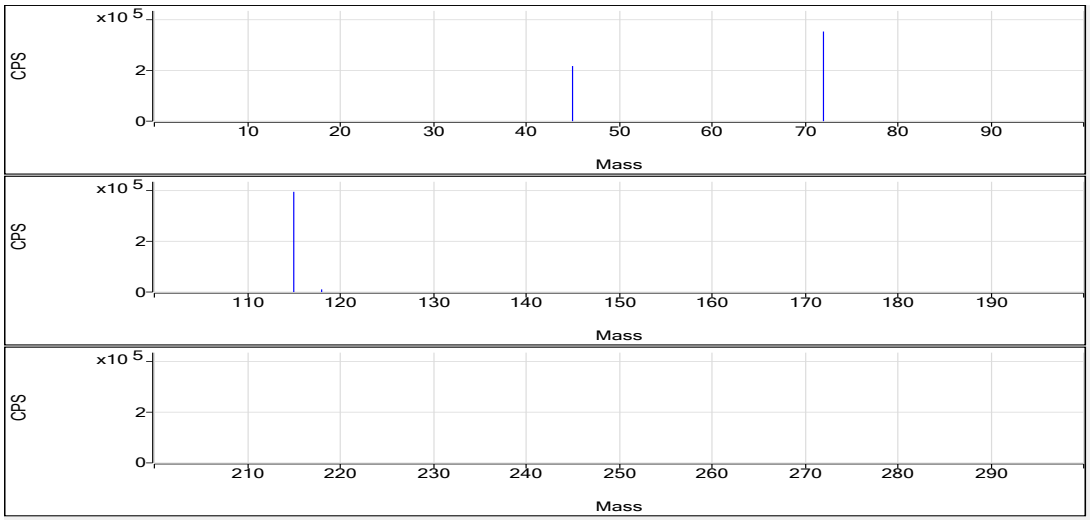
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1487761.02	1.6	99.0	Analog	0.1000	3
No Gas	Ge	72	1158534.02	0.2	99.5	Pulse	0.1000	3
H2	Sc	45	217886.04	1.9	97.9	Pulse	0.1000	3
H2	Ge	72	354307.78	1.2	99.7	Pulse	0.1000	3
H2	In	115	396145.10	2.3	100.0	Pulse	0.1000	3
He	Sc	45	42425.50	1.7	100.7	Pulse	0.1000	3
He	Ge	72	156571.28	0.6	101.2	Pulse	0.1000	3
He	In	115	86315.89	2.1	101.0	Pulse	0.1000	3
He	Tb	159	252601.54	0.9	100.9	Pulse	0.1000	3
He	Bi	209	164610.44	0.4	100.8	Pulse	0.1000	3

No Gas

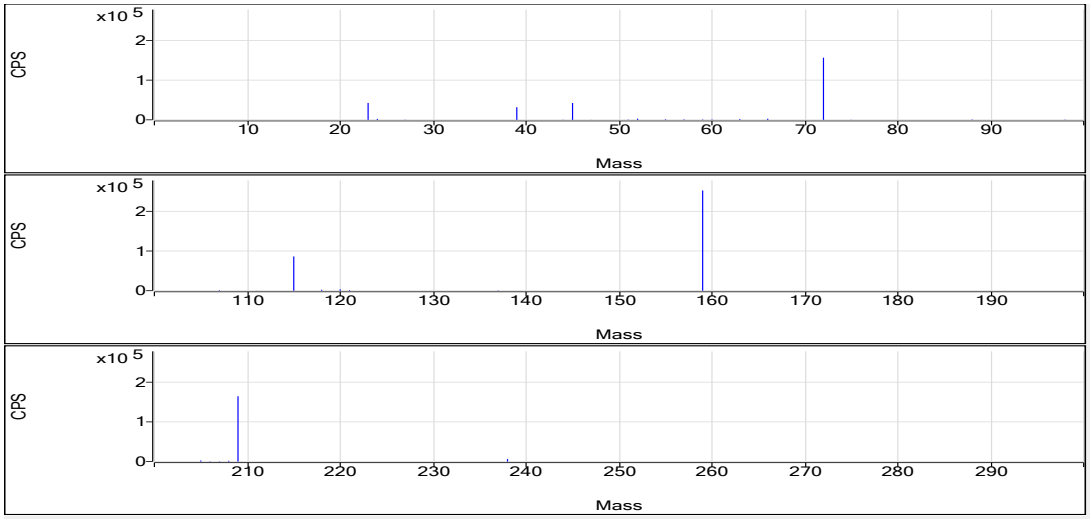


H2



Quantitation Report

He



Quantitation Report

Data File Name	013ICSA.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:02:15 PM
Sample Name	ICSA 289649
Sample Type	ICSA
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

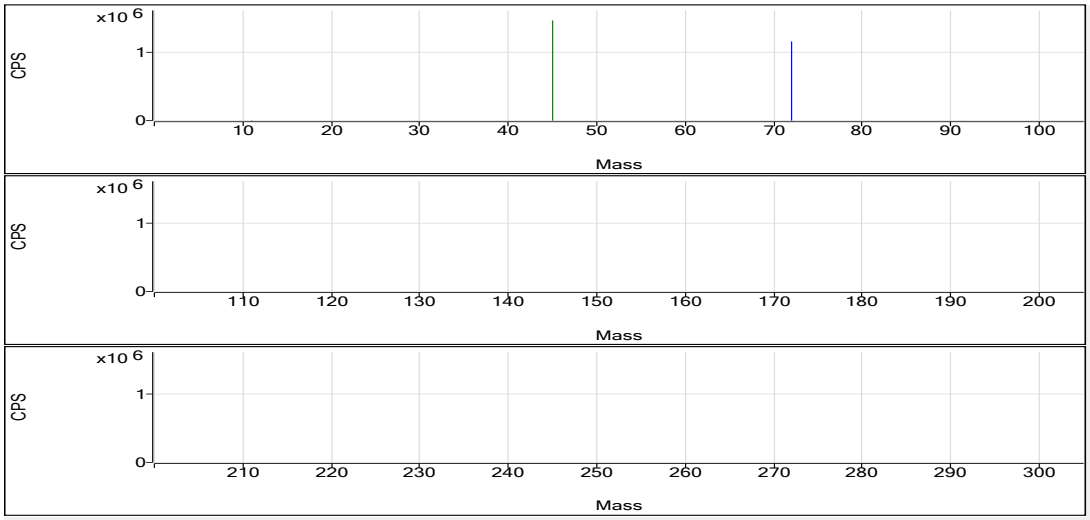
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.032	ppb	50.4	44.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	7.460	ppb	4.1	4514.04	0.0031	Pulse	0.5000	3
Se	78	115	H2	0.044	ppb	28.5	4.44	0.0000	Pulse	1.5000	3
Na	23	45	He	180424.400	ppb	2.5	15354190.60	367.5505	Analog	0.1000	3
Mg	24	45	He	73777.105	ppb	1.7	3229622.35	77.3003	Analog	0.1000	3
Al	27	45	He	78711.637	ppb	2.7	1409904.09	33.7507	Analog	0.1000	3
K	39	45	He	79533.019	ppb	2.2	4638798.89	111.0385	Analog	0.1000	3
Ca	44	45	He	220830.600	ppb	2.3	701917.59	16.8020	Pulse	0.1000	3
Ti	47	45	He	1543.032	ppb	1.8	33672.84	0.8059	Pulse	0.1000	3
V	51	45	He	0.056	ppb	109.4	433.35	0.0104	Pulse	0.1000	3
Cr	52	45	He	1.492	ppb	13.2	2437.07	0.0582	Pulse	0.1000	3
Mn	55	45	He	2.139	ppb	12.7	1266.76	0.0304	Pulse	0.1000	3
Fe	57	45	He	198495.659	ppb	2.1	3965933.90	94.9304	Analog	0.1000	3
Co	59	72	He	1.731	ppb	5.0	3030.42	0.0197	Pulse	0.1000	3
Ni	60	159	He	1.555	ppb	11.4	1196.76	0.0048	Pulse	0.1000	3
Cu	63	115	He	0.881	ppb	7.8	1683.49	0.0204	Pulse	0.1000	3
Zn	66	115	He	3.127	ppb	6.5	1593.48	0.0194	Pulse	0.1000	3
As	75	115	He	0.480	ppb	11.2	114.00	0.0014	Pulse	0.5000	3
Sr	88	115	He	1.814	ppb	5.6	1806.86	0.0220	Pulse	0.1000	3
Mo	98	115	He	1689.811	ppb	1.7	2063225.70	25.0626	Analog	0.1000	3
Ag	107	115	He	0.019	ppb	47.5	93.34	0.0011	Pulse	0.1000	3
Cd	111	115	He	0.252	ppb	15.2	87.33	0.0011	Pulse	0.5000	3
Sn	120	115	He	0.077	ppb	168.8	1250.11	0.0152	Pulse	0.1000	3
Sb	121	72	He	0.388	ppb	10.0	483.36	0.0031	Pulse	0.1000	3
Ba	137	115	He	0.463	ppb	21.5	223.34	0.0027	Pulse	0.1000	3
Tl	205	209	He	0.009	ppb	63.6	80.00	0.0005	Pulse	0.1000	3
Pb	208	209	He	0.335	ppb	7.8	2283.50	0.0150	Pulse	0.1000	3
U	238	209	He	0.060	ppb	18.0	376.69	0.0025	Pulse	0.1000	3

Quantitation Report

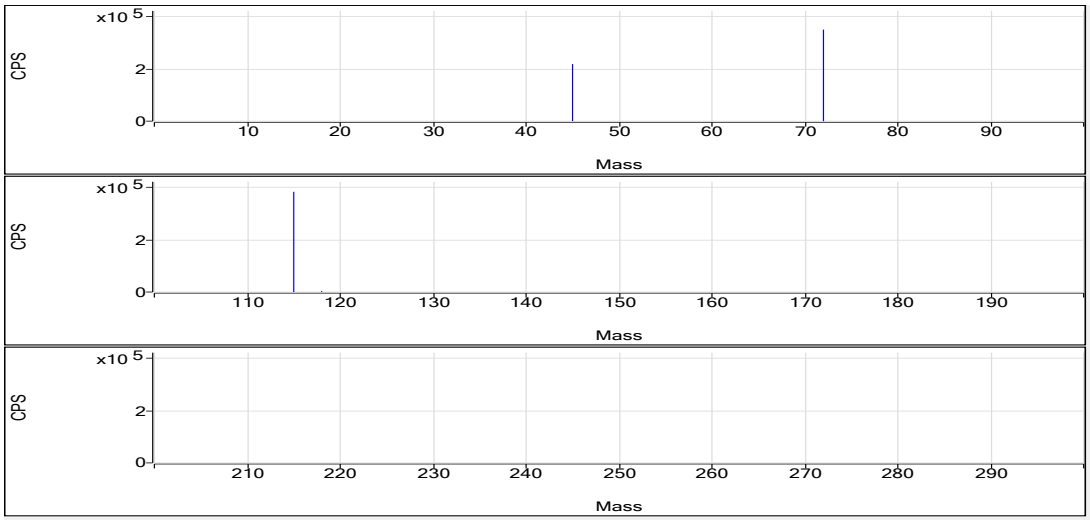
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1469290.86	1.3	97.7	Analog	0.1000	3
No Gas	Ge	72	1161101.29	1.1	99.7	Pulse	0.1000	3
H2	Sc	45	219034.65	1.0	98.4	Pulse	0.1000	3
H2	Ge	72	351429.97	0.7	98.9	Pulse	0.1000	3
H2	In	115	384692.39	0.1	97.1	Pulse	0.1000	3
He	Sc	45	41790.82	2.4	99.2	Pulse	0.1000	3
He	Ge	72	153879.44	0.2	99.4	Pulse	0.1000	3
He	In	115	82332.34	1.0	96.3	Pulse	0.1000	3
He	Tb	159	248369.83	0.7	99.2	Pulse	0.1000	3
He	Bi	209	152301.60	0.9	93.3	Pulse	0.1000	3

No Gas

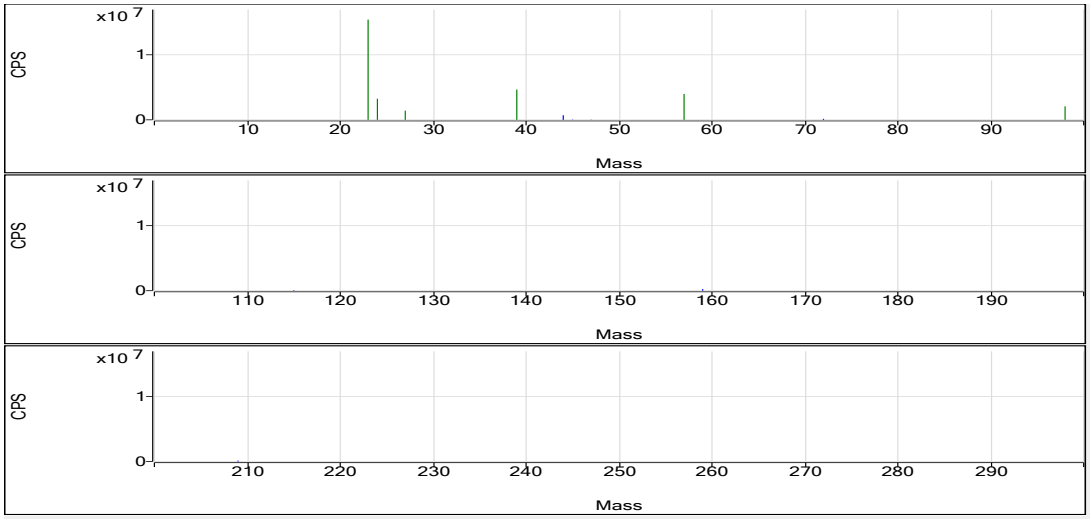


H2



Quantitation Report

He



Quantitation Report

Data File Name	014ICSB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:04:06 PM
Sample Name	ICSAB 289652
Sample Type	ICSAB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

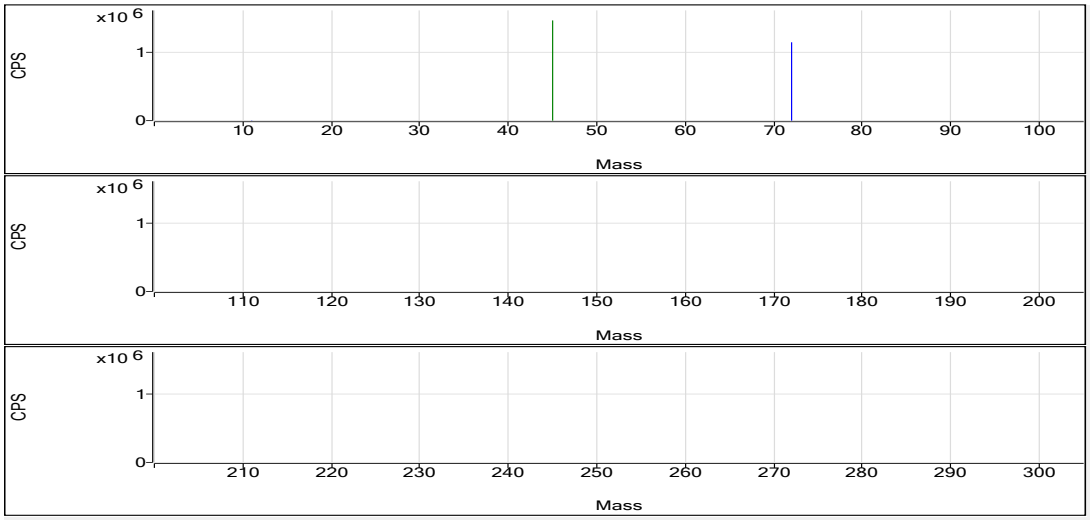
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.006	ppb	167.0	26.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	6.513	ppb	3.1	4118.59	0.0028	Pulse	0.5000	3
Se	78	115	H2	105.724	ppb	1.5	8521.86	0.0224	Pulse	1.5000	3
Na	23	45	He	222769.260	ppb	1.4	18975311.39	453.6654	Analog	0.1000	3
Mg	24	45	He	90092.575	ppb	2.5	3947902.86	94.3942	Analog	0.1000	3
Al	27	45	He	97459.884	ppb	1.3	1747941.33	41.7896	Analog	0.1000	3
K	39	45	He	97422.390	ppb	0.3	5684832.83	135.9026	Analog	0.1000	3
Ca	44	45	He	275513.025	ppb	0.6	876828.58	20.9621	Pulse	0.1000	3
Ti	47	45	He	1882.952	ppb	0.6	41141.95	0.9835	Pulse	0.1000	3
V	51	45	He	195.030	ppb	0.9	152288.31	3.6407	Pulse	0.1000	3
Cr	52	45	He	193.650	ppb	2.2	184158.54	4.4031	Pulse	0.1000	3
Mn	55	45	He	198.360	ppb	0.3	108392.85	2.5912	Pulse	0.1000	3
Fe	57	45	He	243635.760	ppb	2.9	4873067.95	116.5180	Analog	0.1000	3
Co	59	72	He	179.708	ppb	1.2	311185.60	2.0216	Pulse	0.1000	3
Ni	60	159	He	194.085	ppb	2.3	82176.49	0.3323	Pulse	0.1000	3
Cu	63	115	He	197.591	ppb	1.8	225136.35	2.7467	Pulse	0.1000	3
Zn	66	115	He	107.226	ppb	3.2	20341.61	0.2482	Pulse	0.1000	3
As	75	115	He	104.105	ppb	2.6	15952.88	0.1946	Pulse	0.5000	3
Sr	88	115	He	2.226	ppb	1.2	2193.58	0.0268	Pulse	0.1000	3
Mo	98	115	He	2099.626	ppb	1.5	2552507.04	31.1408	Analog	0.1000	3
Ag	107	115	He	48.433	ppb	1.6	115074.68	1.4039	Pulse	0.1000	3
Cd	111	115	He	100.812	ppb	1.3	34503.52	0.4209	Pulse	0.5000	3
Sn	120	115	He	0.018	ppb	921.3	1173.42	0.0143	Pulse	0.1000	3
Sb	121	72	He	0.483	ppb	19.6	596.70	0.0039	Pulse	0.1000	3
Ba	137	115	He	0.774	ppb	13.4	356.69	0.0044	Pulse	0.1000	3
Tl	205	209	He	0.008	ppb	111.5	73.33	0.0005	Pulse	0.1000	3
Pb	208	209	He	0.405	ppb	9.5	2693.55	0.0178	Pulse	0.1000	3
U	238	209	He	0.061	ppb	9.7	376.69	0.0025	Pulse	0.1000	3

Quantitation Report

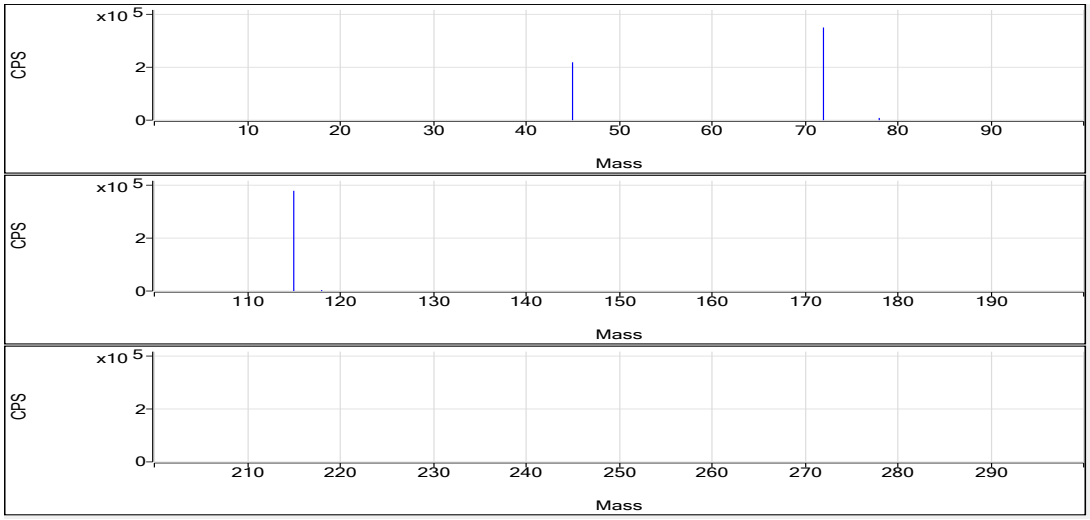
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1468289.14	0.3	97.7	Analog	0.1000	3
No Gas	Ge	72	1147914.31	0.8	98.6	Pulse	0.1000	3
H2	Sc	45	219665.74	1.3	98.7	Pulse	0.1000	3
H2	Ge	72	351782.00	2.1	99.0	Pulse	0.1000	3
H2	In	115	380479.17	0.6	96.0	Pulse	0.1000	3
He	Sc	45	41830.88	1.1	99.2	Pulse	0.1000	3
He	Ge	72	153940.07	0.8	99.5	Pulse	0.1000	3
He	In	115	81979.74	1.6	95.9	Pulse	0.1000	3
He	Tb	159	247287.61	0.5	98.8	Pulse	0.1000	3
He	Bi	209	151014.29	0.4	92.5	Pulse	0.1000	3

No Gas

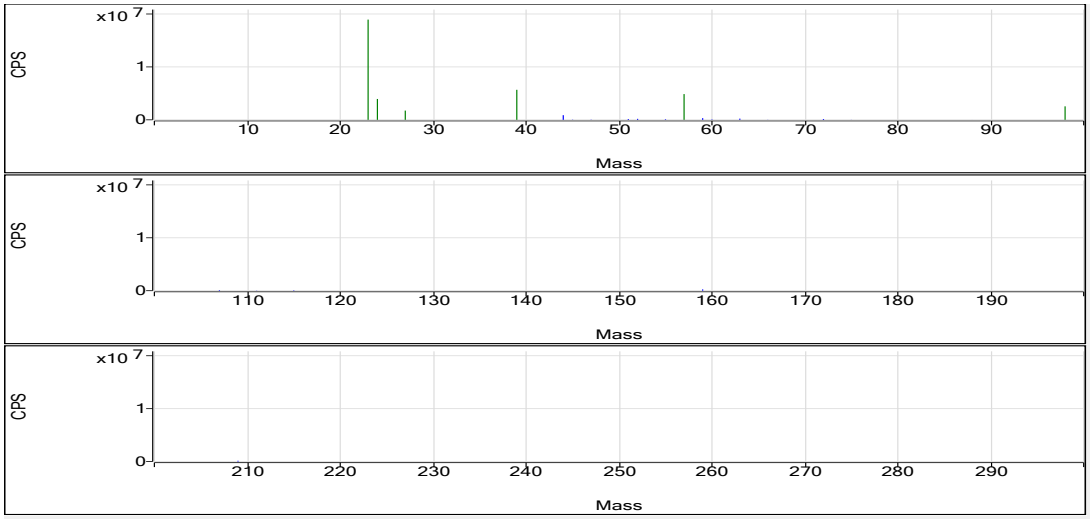


H2



Quantitation Report

He



Quantitation Report

Data File Name	015_LRC.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:05:58 PM
Sample Name	LRC 281491
Sample Type	LRC
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

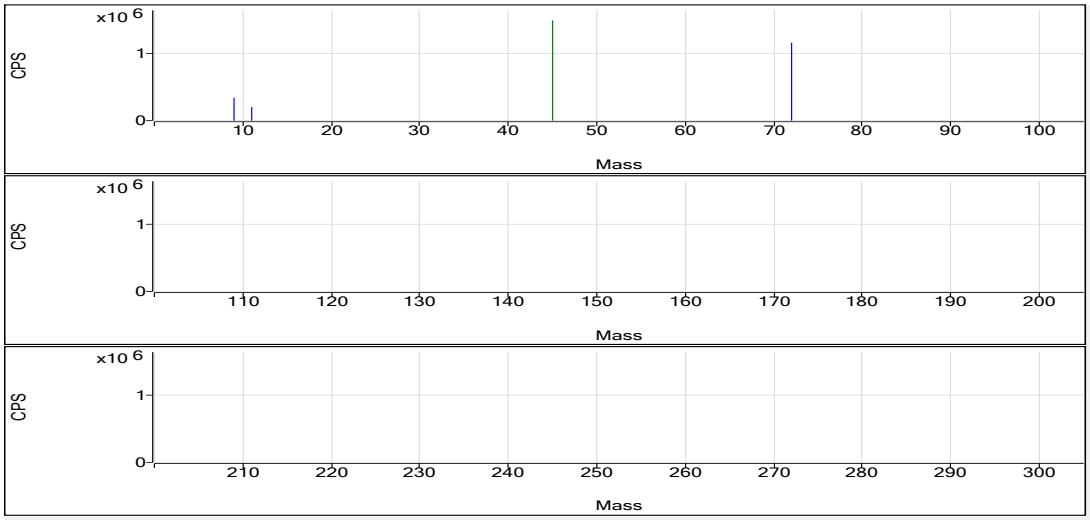
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	470.449	ppb	1.3	339726.76	0.2284	Pulse	0.5000	3
B	11	45	No Gas	476.081	ppb	1.2	201287.03	0.1353	Pulse	0.5000	3
Se	78	115	H2	464.425	ppb	0.9	41106.96	0.0984	Pulse	1.5000	3
Na	23	45	He	46080.412	ppb	1.5	4005618.69	94.3408	Analog	0.1000	3
Mg	24	45	He	47683.037	ppb	3.4	2120890.75	49.9612	Analog	0.1000	3
Al	27	45	He	46400.273	ppb	2.0	844717.64	19.8962	Pulse	0.1000	3
K	39	45	He	50842.670	ppb	2.8	3021061.83	71.1623	Analog	0.1000	3
Ca	44	45	He	47827.703	ppb	2.2	154565.40	3.6406	Pulse	0.1000	3
Ti	47	45	He	499.278	ppb	0.7	11074.53	0.2608	Pulse	0.1000	3
V	51	45	He	478.165	ppb	1.1	378439.25	8.9126	Pulse	0.1000	3
Cr	52	45	He	473.773	ppb	0.8	455916.52	10.7370	Pulse	0.1000	3
Mn	55	45	He	476.562	ppb	1.9	264173.38	6.2221	Pulse	0.1000	3
Fe	57	45	He	47345.827	ppb	1.4	961517.98	22.6453	Pulse	0.1000	3
Co	59	72	He	450.030	ppb	1.6	779262.02	5.0622	Pulse	0.1000	3
Ni	60	159	He	474.046	ppb	1.5	203825.03	0.8086	Pulse	0.1000	3
Cu	63	115	He	455.914	ppb	2.0	571304.47	6.3270	Pulse	0.1000	3
Zn	66	115	He	458.824	ppb	0.9	92233.87	1.0212	Pulse	0.1000	3
As	75	115	He	463.526	ppb	1.4	78106.04	0.8650	Pulse	0.5000	3
Sr	88	115	He	461.923	ppb	2.3	486928.74	5.3927	Pulse	0.1000	3
Mo	98	115	He	476.315	ppb	2.2	637892.74	7.0645	Pulse	0.1000	3
Ag	107	115	He	455.512	ppb	1.9	1191760.76	13.1985	Pulse	0.1000	3
Cd	111	115	He	458.363	ppb	2.3	172795.69	1.9138	Pulse	0.5000	3
Sn	120	115	He	462.157	ppb	1.4	605130.79	6.7010	Pulse	0.1000	3
Sb	121	72	He	484.745	ppb	0.5	575594.75	3.7388	Pulse	0.1000	3
Ba	137	115	He	460.987	ppb	2.0	219321.29	2.4290	Pulse	0.1000	3
Tl	205	209	He	516.944	ppb	2.9	2474436.42	15.6131	Analog	0.1000	3
Pb	208	209	He	492.552	ppb	0.8	3155268.44	19.9093	Mix	0.1000	3
U	238	209	He	554.657	ppb	0.6	3463737.34	21.8555	Analog	0.1000	3

Quantitation Report

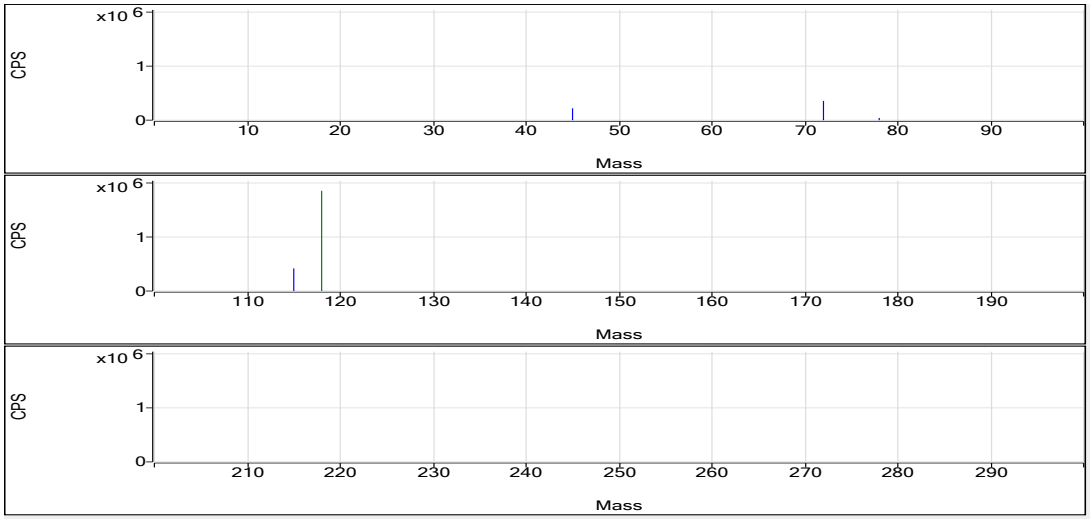
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1487382.95	1.6	98.9	Analog	0.1000	3
No Gas	Ge	72	1155496.15	0.4	99.2	Pulse	0.1000	3
H2	Sc	45	218847.77	0.5	98.3	Pulse	0.1000	3
H2	Ge	72	355430.78	0.4	100.0	Pulse	0.1000	3
H2	In	115	417829.15	0.5	105.4	Pulse	0.1000	3
He	Sc	45	42465.82	1.7	100.8	Pulse	0.1000	3
He	Ge	72	153959.93	1.5	99.5	Pulse	0.1000	3
He	In	115	90321.48	2.4	105.7	Pulse	0.1000	3
He	Tb	159	252126.14	2.5	100.7	Pulse	0.1000	3
He	Bi	209	158491.24	1.4	97.0	Pulse	0.1000	3

No Gas

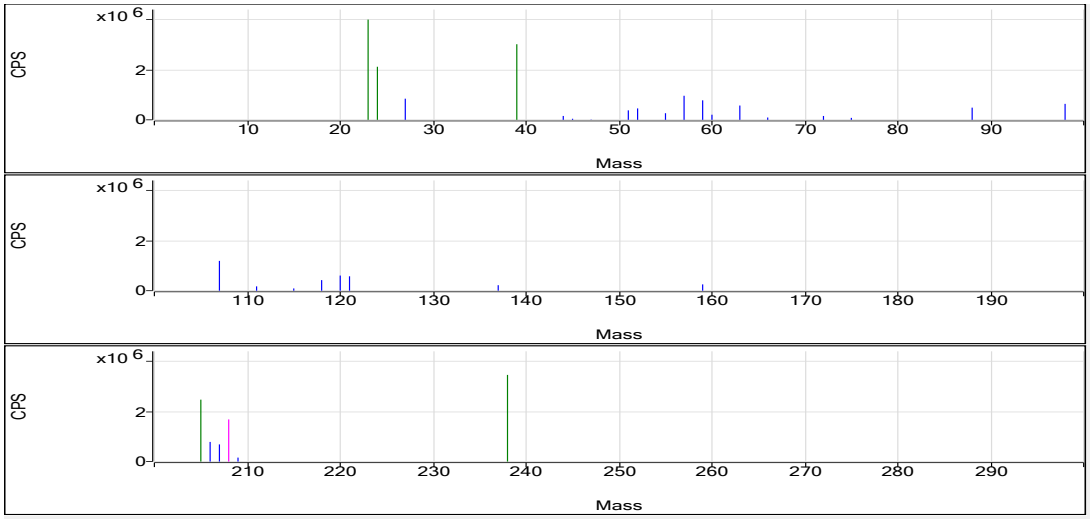


H2



Quantitation Report

He



Quantitation Report

Data File Name	016SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:07:49 PM
Sample Name	RINSE 226166
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

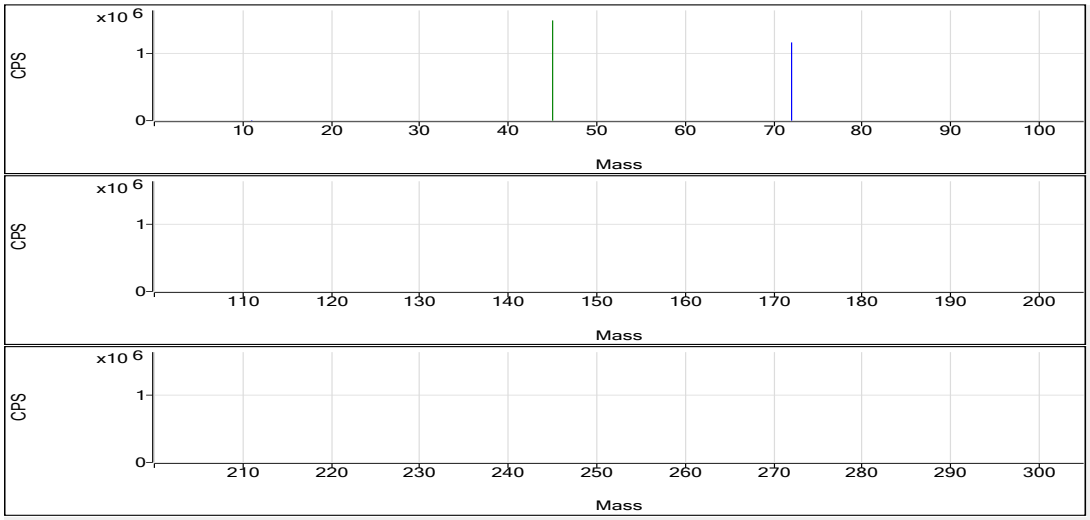
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.409	ppb	3.7	316.68	0.0002	Pulse	0.5000	3
B	11	45	No Gas	14.339	ppb	3.3	7429.87	0.0050	Pulse	0.5000	3
Se	78	115	H2	0.381	ppb	6.7	32.89	0.0001	Pulse	1.5000	3
Na	23	45	He	56.744	ppb	17.8	30197.84	0.7444	Pulse	0.1000	3
Mg	24	45	He	22.253	ppb	14.7	1073.41	0.0265	Pulse	0.1000	3
Al	27	45	He	19.790	ppb	7.5	370.02	0.0091	Pulse	0.1000	3
K	39	45	He	21.873	ppb	45.1	21392.74	0.5273	Pulse	0.1000	3
Ca	44	45	He	37.823	ppb	39.1	200.01	0.0049	Pulse	0.1000	3
Ti	47	45	He	0.467	ppb	99.1	10.00	0.0002	Pulse	0.1000	3
V	51	45	He	0.143	ppb	35.1	486.69	0.0120	Pulse	0.1000	3
Cr	52	45	He	0.463	ppb	30.3	1420.13	0.0350	Pulse	0.1000	3
Mn	55	45	He	0.190	ppb	19.5	200.01	0.0049	Pulse	0.1000	3
Fe	57	45	He	31.385	ppb	21.2	726.71	0.0179	Pulse	0.1000	3
Co	59	72	He	0.160	ppb	21.0	303.35	0.0020	Pulse	0.1000	3
Ni	60	159	He	0.169	ppb	36.6	616.70	0.0025	Pulse	0.1000	3
Cu	63	115	He	0.220	ppb	6.2	946.73	0.0113	Pulse	0.1000	3
Zn	66	115	He	-1.293	ppb	N/A	810.05	0.0096	Pulse	0.1000	3
As	75	115	He	0.171	ppb	38.0	68.00	0.0008	Pulse	0.5000	3
Sr	88	115	He	0.086	ppb	12.8	150.01	0.0018	Pulse	0.1000	3
Mo	98	115	He	1.678	ppb	18.9	2086.89	0.0249	Pulse	0.1000	3
Ag	107	115	He	0.194	ppb	32.7	520.03	0.0062	Pulse	0.1000	3
Cd	111	115	He	0.124	ppb	19.5	44.00	0.0005	Pulse	0.5000	3
Sn	120	115	He	2.694	ppb	10.3	4454.21	0.0531	Pulse	0.1000	3
Sb	121	72	He	3.886	ppb	9.8	4537.56	0.0301	Pulse	0.1000	3
Ba	137	115	He	0.091	ppb	12.8	63.33	0.0008	Pulse	0.1000	3
Tl	205	209	He	0.180	ppb	13.6	923.41	0.0057	Pulse	0.1000	3
Pb	208	209	He	0.116	ppb	13.0	1000.06	0.0062	Pulse	0.1000	3
U	238	209	He	0.215	ppb	7.8	1386.79	0.0086	Pulse	0.1000	3

Quantitation Report

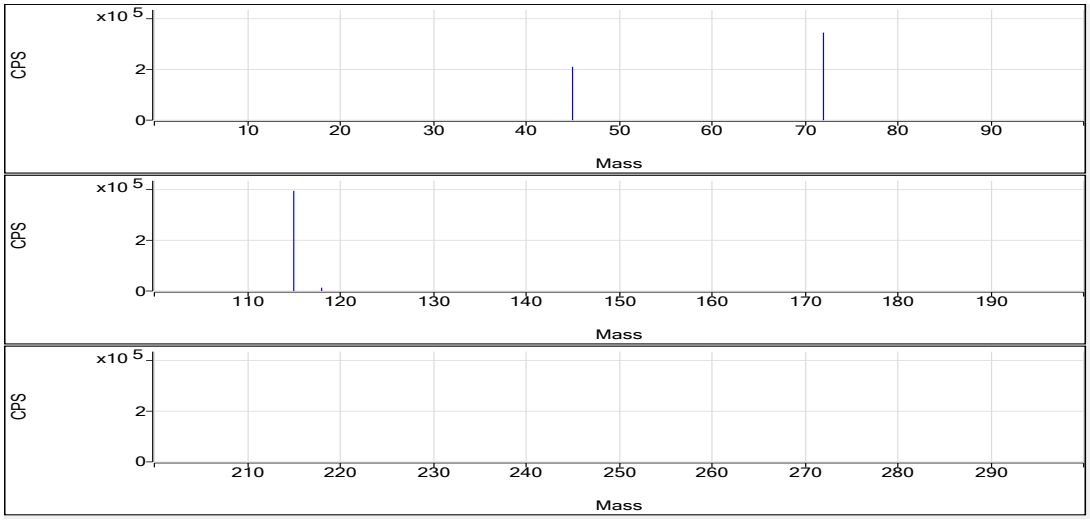
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1481806.07	0.6	98.6	Analog	0.1000	3
No Gas	Ge	72	1156373.21	1.1	99.3	Pulse	0.1000	3
H2	Sc	45	210747.21	1.6	94.7	Pulse	0.1000	3
H2	Ge	72	345911.52	1.2	97.4	Pulse	0.1000	3
H2	In	115	396034.45	1.4	99.9	Pulse	0.1000	3
He	Sc	45	40580.41	1.7	96.3	Pulse	0.1000	3
He	Ge	72	150641.53	0.9	97.3	Pulse	0.1000	3
He	In	115	83971.69	1.0	98.3	Pulse	0.1000	3
He	Tb	159	250749.15	1.7	100.2	Pulse	0.1000	3
He	Bi	209	162204.72	1.7	99.3	Pulse	0.1000	3

No Gas

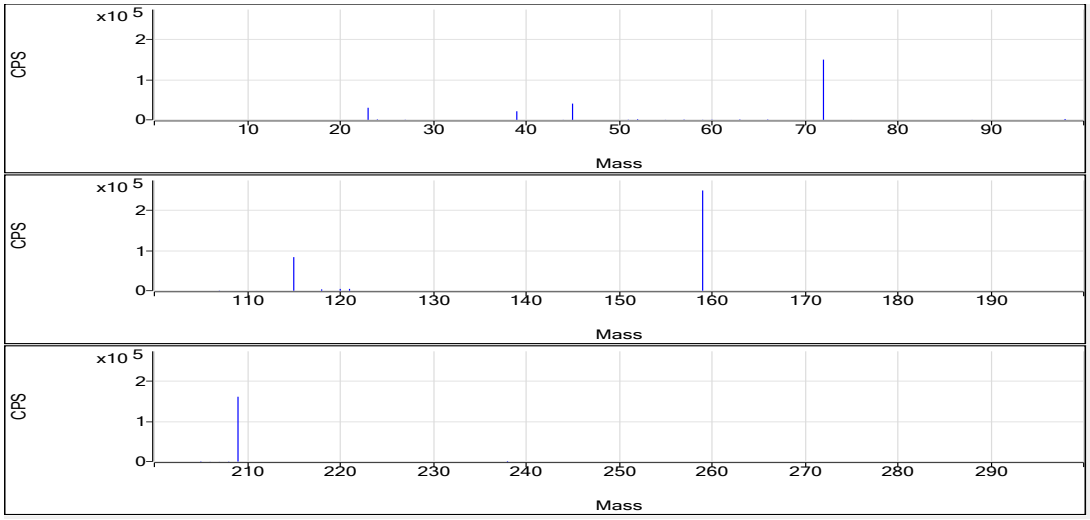


H2



Quantitation Report

He



Quantitation Report

Data File Name	017SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:09:43 PM
Sample Name	RINSE 226166
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

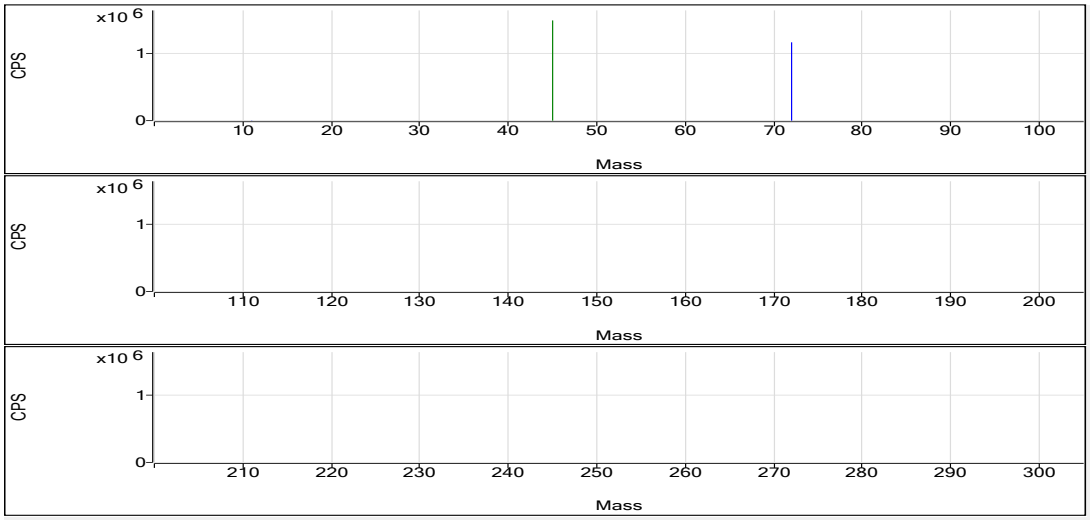
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.092	ppb	29.8	88.67	0.0001	Pulse	0.5000	3
B	11	45	No Gas	4.649	ppb	7.6	3388.40	0.0023	Pulse	0.5000	3
Se	78	115	H2	0.097	ppb	50.4	8.89	0.0000	Pulse	1.5000	3
Na	23	45	He	48.471	ppb	14.4	29246.05	0.7275	Pulse	0.1000	3
Mg	24	45	He	13.772	ppb	47.3	710.05	0.0176	Pulse	0.1000	3
Al	27	45	He	15.146	ppb	13.5	286.68	0.0071	Pulse	0.1000	3
K	39	45	He	3.755	ppb	433.6	20191.05	0.5021	Pulse	0.1000	3
Ca	44	45	He	27.425	ppb	23.4	166.68	0.0041	Pulse	0.1000	3
Ti	47	45	He	0.157	ppb	173.2	3.33	0.0001	Pulse	0.1000	3
V	51	45	He	0.149	ppb	27.6	486.69	0.0121	Pulse	0.1000	3
Cr	52	45	He	0.285	ppb	46.1	1243.44	0.0310	Pulse	0.1000	3
Mn	55	45	He	0.193	ppb	48.8	200.01	0.0050	Pulse	0.1000	3
Fe	57	45	He	25.753	ppb	33.1	613.37	0.0152	Pulse	0.1000	3
Co	59	72	He	0.090	ppb	64.3	186.67	0.0012	Pulse	0.1000	3
Ni	60	159	He	0.066	ppb	309.0	570.03	0.0023	Pulse	0.1000	3
Cu	63	115	He	0.067	ppb	43.2	773.38	0.0092	Pulse	0.1000	3
Zn	66	115	He	-1.429	ppb	N/A	790.05	0.0093	Pulse	0.1000	3
As	75	115	He	0.046	ppb	86.6	48.67	0.0006	Pulse	0.5000	3
Sr	88	115	He	0.057	ppb	111.1	123.34	0.0014	Pulse	0.1000	3
Mo	98	115	He	0.552	ppb	19.6	693.37	0.0082	Pulse	0.1000	3
Ag	107	115	He	0.094	ppb	8.1	280.01	0.0033	Pulse	0.1000	3
Cd	111	115	He	0.064	ppb	54.0	23.33	0.0003	Pulse	0.5000	3
Sn	120	115	He	0.600	ppb	17.5	1923.53	0.0228	Pulse	0.1000	3
Sb	121	72	He	0.892	ppb	13.3	1070.08	0.0070	Pulse	0.1000	3
Ba	137	115	He	0.067	ppb	71.9	53.33	0.0006	Pulse	0.1000	3
Tl	205	209	He	0.059	ppb	35.9	330.02	0.0020	Pulse	0.1000	3
Pb	208	209	He	0.029	ppb	47.7	433.35	0.0027	Pulse	0.1000	3
U	238	209	He	0.052	ppb	6.9	353.35	0.0022	Pulse	0.1000	3

Quantitation Report

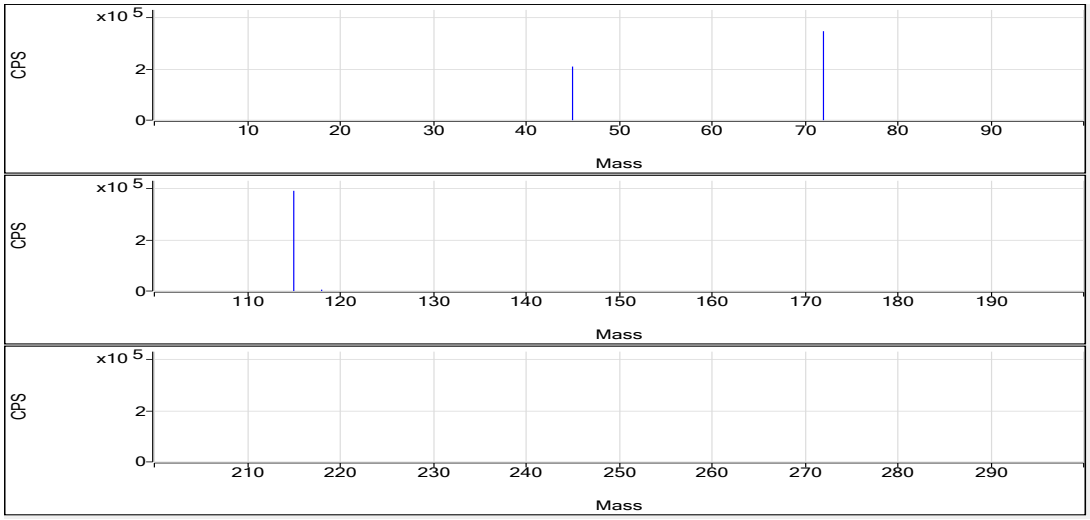
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1486985.29	0.5	98.9	Analog	0.1000	3
No Gas	Ge	72	1162013.78	0.6	99.8	Pulse	0.1000	3
H2	Sc	45	209697.29	1.8	94.2	Pulse	0.1000	3
H2	Ge	72	348024.11	1.8	97.9	Pulse	0.1000	3
H2	In	115	392037.94	1.0	98.9	Pulse	0.1000	3
He	Sc	45	40202.87	2.1	95.4	Pulse	0.1000	3
He	Ge	72	152177.91	0.7	98.3	Pulse	0.1000	3
He	In	115	84518.18	2.7	98.9	Pulse	0.1000	3
He	Tb	159	249513.56	0.4	99.7	Pulse	0.1000	3
He	Bi	209	163203.20	1.0	99.9	Pulse	0.1000	3

No Gas

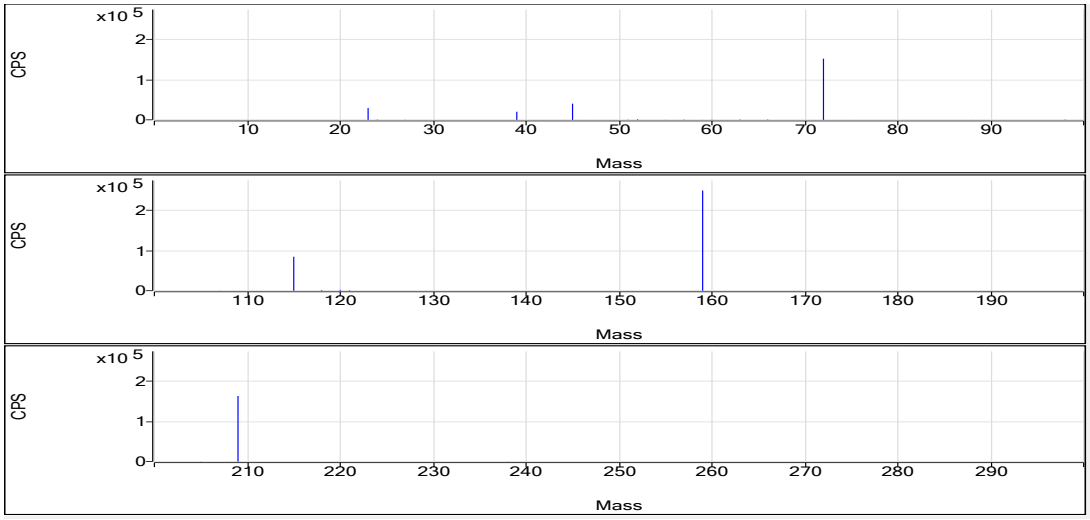


H2



Quantitation Report

He



Quantitation Report

Data File Name	018_CCV.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:11:35 PM
Sample Name	CCV 330252
Sample Type	CCV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

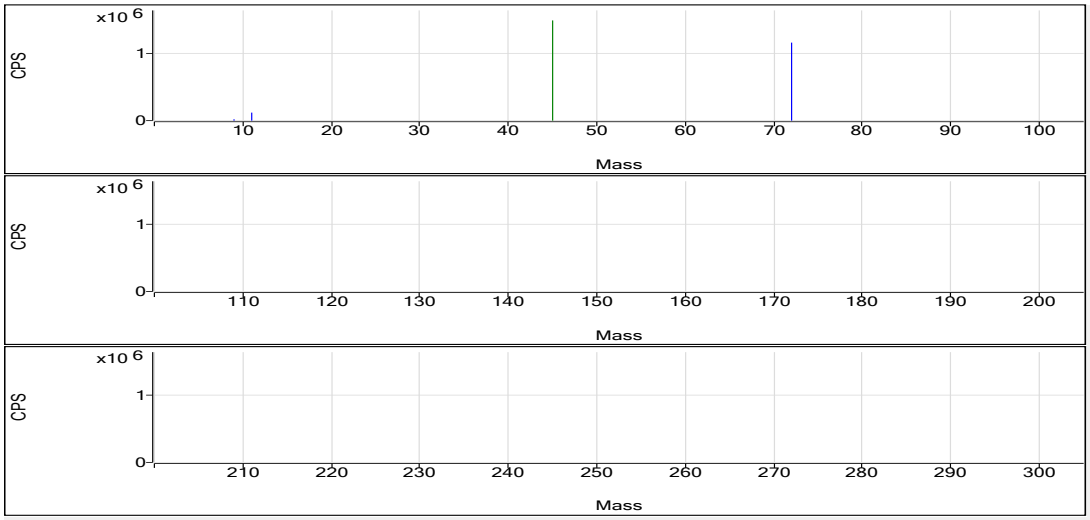
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	28.018	ppb	0.7	20309.06	0.0136	Pulse	0.5000	3
B	11	45	No Gas	280.390	ppb	1.6	119462.84	0.0801	Pulse	0.5000	3
Se	78	115	H2	29.512	ppb	2.3	2489.11	0.0063	Pulse	1.5000	3
Na	23	45	He	4694.469	ppb	2.1	417079.26	10.1759	Pulse	0.1000	3
Mg	24	45	He	4757.817	ppb	2.4	204432.08	4.9880	Pulse	0.1000	3
Al	27	45	He	4830.942	ppb	2.0	84927.07	2.0721	Pulse	0.1000	3
K	39	45	He	4869.630	ppb	2.9	297755.45	7.2651	Pulse	0.1000	3
Ca	44	45	He	4967.085	ppb	2.1	15572.07	0.3799	Pulse	0.1000	3
Ti	47	45	He	298.748	ppb	1.4	6398.29	0.1560	Pulse	0.1000	3
V	51	45	He	298.625	ppb	3.2	228250.89	5.5697	Pulse	0.1000	3
Cr	52	45	He	299.164	ppb	2.2	278250.93	6.7889	Pulse	0.1000	3
Mn	55	45	He	299.870	ppb	3.2	160480.22	3.9161	Pulse	0.1000	3
Fe	57	45	He	5056.140	ppb	2.4	99220.95	2.4209	Pulse	0.1000	3
Co	59	72	He	278.894	ppb	1.4	480546.36	3.1372	Pulse	0.1000	3
Ni	60	159	He	291.955	ppb	0.4	125509.72	0.4988	Pulse	0.1000	3
Cu	63	115	He	292.054	ppb	1.4	348853.26	4.0560	Pulse	0.1000	3
Zn	66	115	He	292.585	ppb	1.6	56397.36	0.6557	Pulse	0.1000	3
As	75	115	He	295.405	ppb	1.0	47427.04	0.5514	Pulse	0.5000	3
Sr	88	115	He	30.245	ppb	0.8	30433.22	0.3538	Pulse	0.1000	3
Mo	98	115	He	30.042	ppb	0.4	38326.16	0.4456	Pulse	0.1000	3
Ag	107	115	He	29.961	ppb	0.6	74716.24	0.8687	Pulse	0.1000	3
Cd	111	115	He	30.294	ppb	1.8	10879.57	0.1265	Pulse	0.5000	3
Sn	120	115	He	30.393	ppb	1.3	39035.43	0.4538	Pulse	0.1000	3
Sb	121	72	He	29.694	ppb	2.4	35098.31	0.2292	Pulse	0.1000	3
Ba	137	115	He	302.916	ppb	2.0	137281.32	1.5962	Pulse	0.1000	3
Tl	205	209	He	29.674	ppb	0.8	146094.26	0.8965	Pulse	0.1000	3
Pb	208	209	He	30.161	ppb	0.8	198910.83	1.2205	Pulse	0.1000	3
U	238	209	He	48.737	ppb	1.9	312946.45	1.9205	Pulse	0.1000	3

Quantitation Report

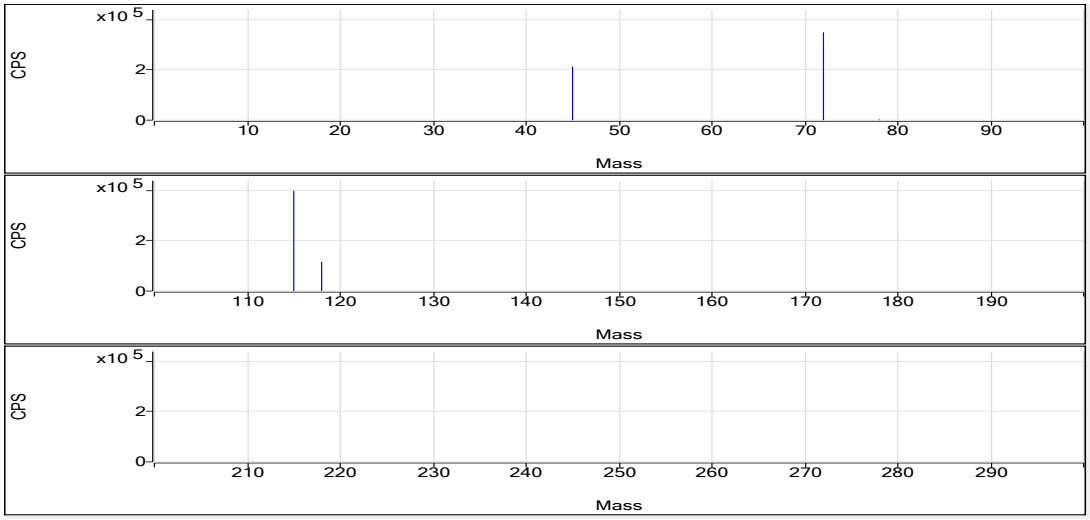
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1491294.04	0.7	99.2	Analog	0.1000	3
No Gas	Ge	72	1161039.05	0.4	99.7	Pulse	0.1000	3
H2	Sc	45	212887.33	2.0	95.6	Pulse	0.1000	3
H2	Ge	72	348879.72	1.7	98.2	Pulse	0.1000	3
H2	In	115	397999.06	0.1	100.4	Pulse	0.1000	3
He	Sc	45	40998.22	2.1	97.3	Pulse	0.1000	3
He	Ge	72	153185.92	1.3	99.0	Pulse	0.1000	3
He	In	115	86014.01	0.6	100.6	Pulse	0.1000	3
He	Tb	159	251610.12	0.6	100.5	Pulse	0.1000	3
He	Bi	209	162978.10	1.4	99.8	Pulse	0.1000	3

No Gas

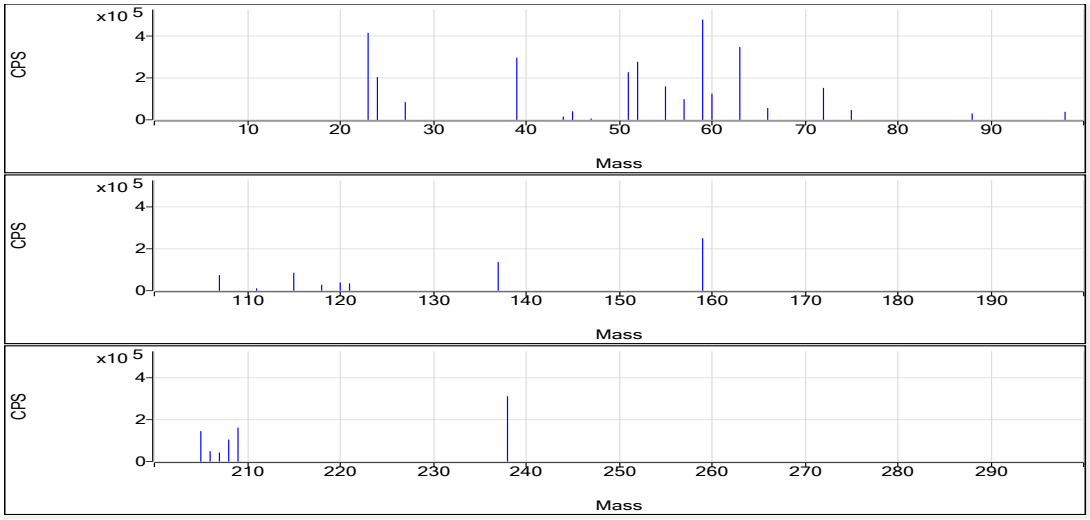


H2



Quantitation Report

He



Quantitation Report

Data File Name	019_CCB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:13:28 PM
Sample Name	CCB 226166
Sample Type	CCB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

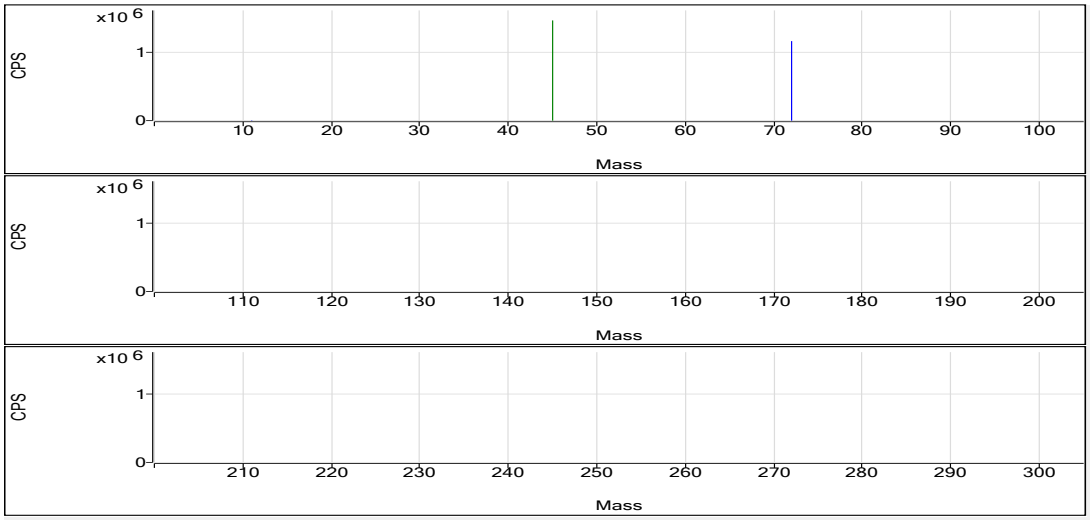
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.051	ppb	32.9	58.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	10.421	ppb	2.5	5717.12	0.0039	Pulse	0.5000	3
Se	78	115	H2	0.059	ppb	16.0	5.78	0.0000	Pulse	1.5000	3
Na	23	45	He	23.145	ppb	30.4	27235.53	0.6760	Pulse	0.1000	3
Mg	24	45	He	5.358	ppb	32.1	353.35	0.0088	Pulse	0.1000	3
Al	27	45	He	4.321	ppb	36.3	100.00	0.0025	Pulse	0.1000	3
K	39	45	He	5.272	ppb	373.3	20307.97	0.5042	Pulse	0.1000	3
Ca	44	45	He	14.311	ppb	67.5	126.67	0.0031	Pulse	0.1000	3
Ti	47	45	He	0.159	ppb	173.2	3.33	0.0001	Pulse	0.1000	3
V	51	45	He	0.125	ppb	87.4	470.03	0.0117	Pulse	0.1000	3
Cr	52	45	He	0.346	ppb	41.2	1303.43	0.0324	Pulse	0.1000	3
Mn	55	45	He	0.173	ppb	84.1	190.01	0.0047	Pulse	0.1000	3
Fe	57	45	He	5.286	ppb	58.7	220.01	0.0055	Pulse	0.1000	3
Co	59	72	He	0.106	ppb	10.1	213.34	0.0014	Pulse	0.1000	3
Ni	60	159	He	-0.179	ppb	N/A	466.69	0.0019	Pulse	0.1000	3
Cu	63	115	He	0.223	ppb	75.0	960.07	0.0113	Pulse	0.1000	3
Zn	66	115	He	-1.857	ppb	N/A	713.38	0.0084	Pulse	0.1000	3
As	75	115	He	0.137	ppb	37.3	63.33	0.0007	Pulse	0.5000	3
Sr	88	115	He	-0.013	ppb	N/A	53.33	0.0006	Pulse	0.1000	3
Mo	98	115	He	0.209	ppb	19.4	263.34	0.0031	Pulse	0.1000	3
Ag	107	115	He	0.052	ppb	16.4	176.68	0.0021	Pulse	0.1000	3
Cd	111	115	He	0.030	ppb	43.7	11.33	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.202	ppb	53.7	1443.46	0.0170	Pulse	0.1000	3
Sb	121	72	He	0.618	ppb	3.7	746.71	0.0049	Pulse	0.1000	3
Ba	137	115	He	0.097	ppb	47.5	66.67	0.0008	Pulse	0.1000	3
Tl	205	209	He	0.045	ppb	12.5	260.01	0.0016	Pulse	0.1000	3
Pb	208	209	He	0.002	ppb	193.6	250.01	0.0015	Pulse	0.1000	3
U	238	209	He	0.037	ppb	13.8	253.35	0.0016	Pulse	0.1000	3

Quantitation Report

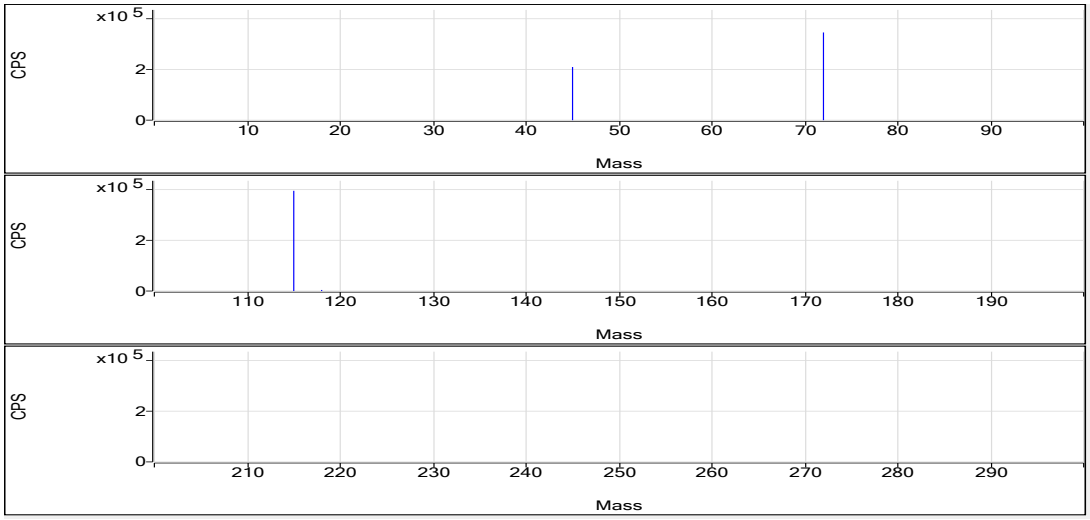
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1462855.34	0.7	97.3	Analog	0.1000	3
No Gas	Ge	72	1160706.83	0.8	99.7	Pulse	0.1000	3
H2	Sc	45	208794.93	1.7	93.8	Pulse	0.1000	3
H2	Ge	72	344574.73	1.3	97.0	Pulse	0.1000	3
H2	In	115	393796.66	1.0	99.4	Pulse	0.1000	3
He	Sc	45	40286.16	0.8	95.6	Pulse	0.1000	3
He	Ge	72	151887.83	1.7	98.1	Pulse	0.1000	3
He	In	115	84897.19	0.8	99.3	Pulse	0.1000	3
He	Tb	159	249901.57	0.2	99.9	Pulse	0.1000	3
He	Bi	209	161526.60	1.1	98.9	Pulse	0.1000	3

No Gas

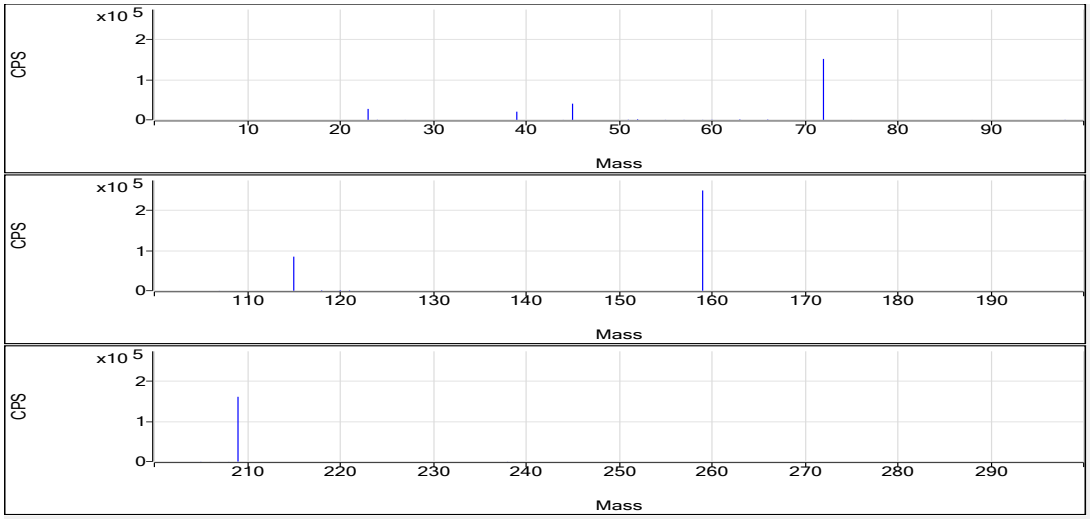


H2



Quantitation Report

He



Quantitation Report

Data File Name	025_CCV.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:24:43 PM
Sample Name	CCV 330252
Sample Type	CCV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

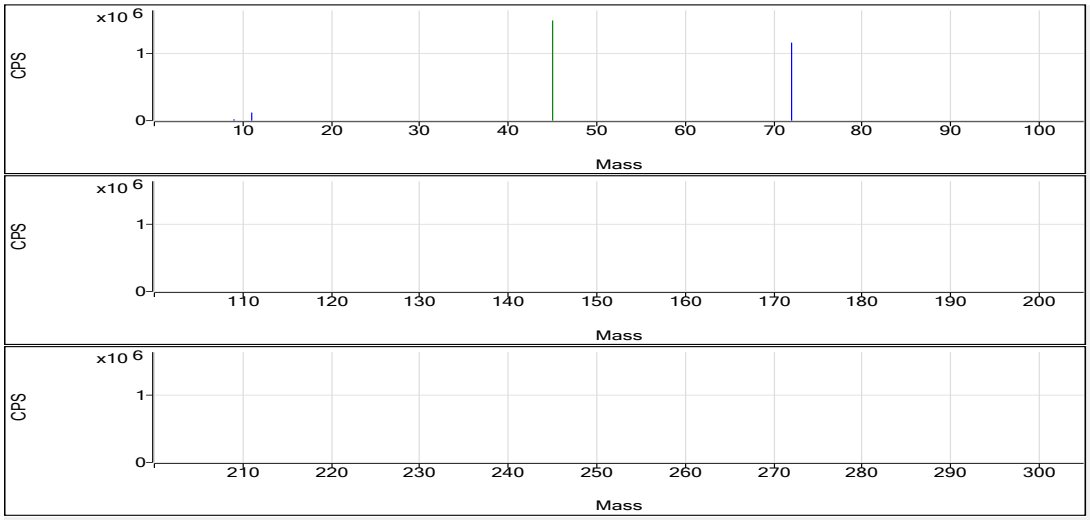
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	28.483	ppb	1.0	20605.45	0.0138	Pulse	0.5000	3
B	11	45	No Gas	282.229	ppb	1.4	120005.66	0.0806	Pulse	0.5000	3
Se	78	115	H2	30.046	ppb	1.1	2522.00	0.0064	Pulse	1.5000	3
Na	23	45	He	4789.917	ppb	1.9	429341.26	10.3700	Pulse	0.1000	3
Mg	24	45	He	4846.338	ppb	1.0	210370.24	5.0807	Pulse	0.1000	3
Al	27	45	He	4857.733	ppb	1.4	86264.98	2.0835	Pulse	0.1000	3
K	39	45	He	4863.867	ppb	2.2	300457.33	7.2571	Pulse	0.1000	3
Ca	44	45	He	4864.543	ppb	0.5	15408.58	0.3721	Pulse	0.1000	3
Ti	47	45	He	306.528	ppb	4.6	6628.41	0.1601	Pulse	0.1000	3
V	51	45	He	297.124	ppb	2.2	229435.62	5.5417	Pulse	0.1000	3
Cr	52	45	He	297.638	ppb	1.7	279649.19	6.7544	Pulse	0.1000	3
Mn	55	45	He	299.243	ppb	1.4	161806.39	3.9079	Pulse	0.1000	3
Fe	57	45	He	4992.523	ppb	0.1	98982.50	2.3905	Pulse	0.1000	3
Co	59	72	He	284.978	ppb	0.8	483856.05	3.2057	Pulse	0.1000	3
Ni	60	159	He	297.573	ppb	0.1	127628.75	0.5084	Pulse	0.1000	3
Cu	63	115	He	296.408	ppb	0.4	353283.76	4.1163	Pulse	0.1000	3
Zn	66	115	He	293.250	ppb	1.6	56400.83	0.6572	Pulse	0.1000	3
As	75	115	He	296.049	ppb	0.5	47428.24	0.5526	Pulse	0.5000	3
Sr	88	115	He	30.004	ppb	1.8	30125.89	0.3510	Pulse	0.1000	3
Mo	98	115	He	29.827	ppb	1.1	37968.38	0.4424	Pulse	0.1000	3
Ag	107	115	He	30.217	ppb	0.7	75190.96	0.8761	Pulse	0.1000	3
Cd	111	115	He	30.199	ppb	0.9	10822.20	0.1261	Pulse	0.5000	3
Sn	120	115	He	30.023	ppb	1.0	38490.41	0.4485	Pulse	0.1000	3
Sb	121	72	He	29.987	ppb	1.3	34931.25	0.2314	Pulse	0.1000	3
Ba	137	115	He	300.512	ppb	1.9	135904.18	1.5835	Pulse	0.1000	3
Tl	205	209	He	29.752	ppb	1.6	146582.40	0.8988	Pulse	0.1000	3
Pb	208	209	He	30.145	ppb	2.4	198920.41	1.2199	Pulse	0.1000	3
U	238	209	He	48.904	ppb	1.4	314287.84	1.9271	Pulse	0.1000	3

Quantitation Report

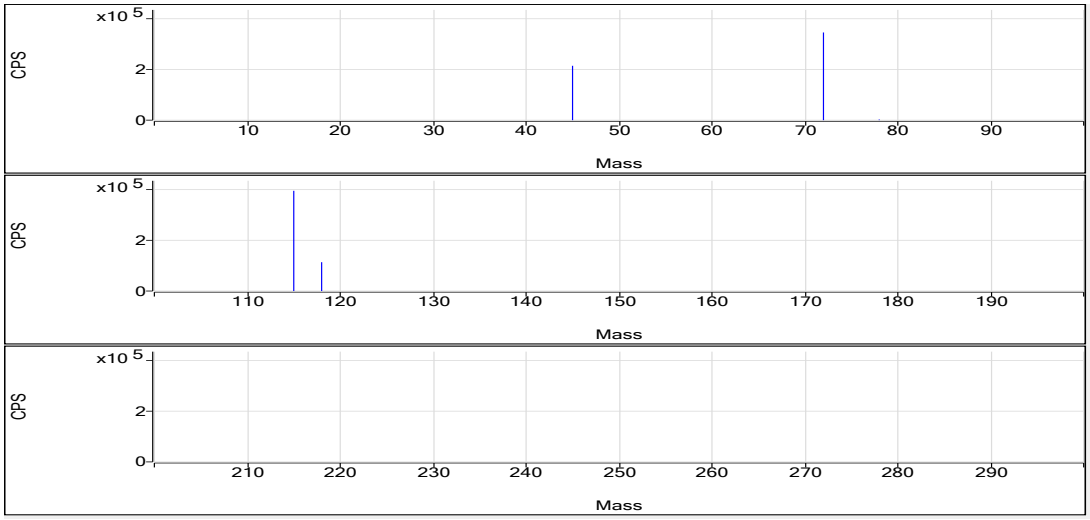
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1488401.33	0.8	99.0	Analog	0.1000	3
No Gas	Ge	72	1158978.19	0.8	99.5	Pulse	0.1000	3
H2	Sc	45	214893.52	1.2	96.5	Pulse	0.1000	3
H2	Ge	72	346584.10	1.3	97.5	Pulse	0.1000	3
H2	In	115	396126.24	0.7	99.9	Pulse	0.1000	3
He	Sc	45	41406.36	0.8	98.2	Pulse	0.1000	3
He	Ge	72	150944.69	0.9	97.5	Pulse	0.1000	3
He	In	115	85826.10	0.2	100.4	Pulse	0.1000	3
He	Tb	159	251051.39	0.3	100.3	Pulse	0.1000	3
He	Bi	209	163108.81	1.7	99.9	Pulse	0.1000	3

No Gas

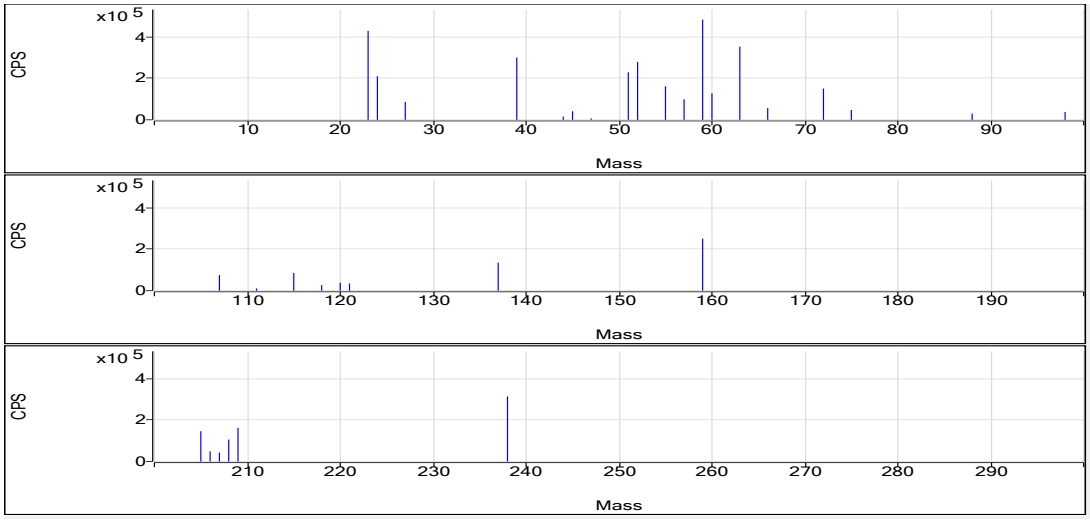


H2



Quantitation Report

He



Quantitation Report

Data File Name	026_CCB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:26:36 PM
Sample Name	CCB 226166
Sample Type	CCB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

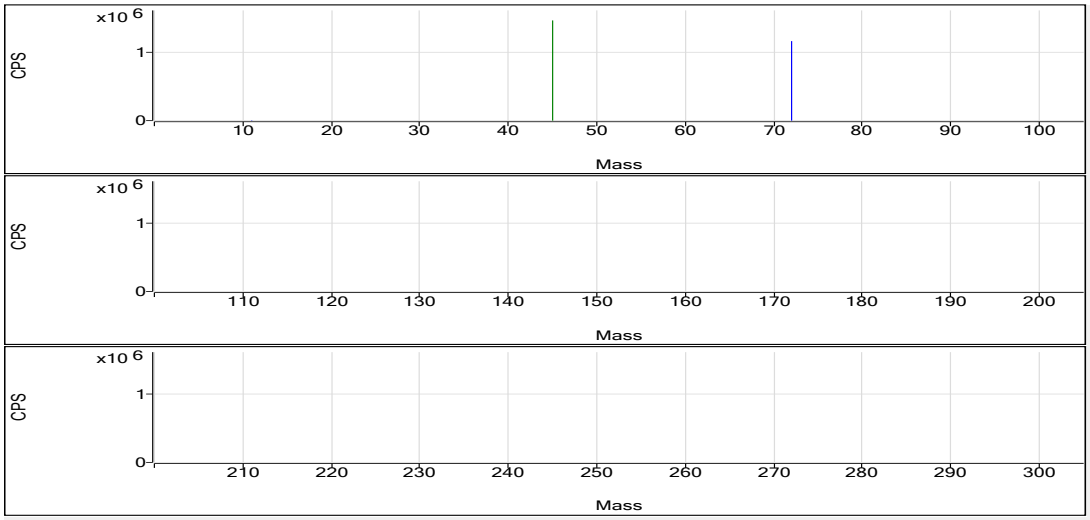
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.031	ppb	28.0	44.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	10.347	ppb	7.0	5680.43	0.0039	Pulse	0.5000	3
Se	78	115	H2	0.016	ppb	102.5	2.22	0.0000	Pulse	1.5000	3
Na	23	45	He	11.668	ppb	41.4	26550.86	0.6527	Pulse	0.1000	3
Mg	24	45	He	2.055	ppb	54.5	216.68	0.0053	Pulse	0.1000	3
Al	27	45	He	2.342	ppb	49.5	66.67	0.0016	Pulse	0.1000	3
K	39	45	He	0.204	ppb	9671.5	20231.21	0.4972	Pulse	0.1000	3
Ca	44	45	He	-7.707	ppb	N/A	60.00	0.0015	Pulse	0.1000	3
Ti	47	45	He	0.156	ppb	173.2	3.33	0.0001	Pulse	0.1000	3
V	51	45	He	0.110	ppb	51.7	463.36	0.0114	Pulse	0.1000	3
Cr	52	45	He	0.331	ppb	38.8	1303.44	0.0320	Pulse	0.1000	3
Mn	55	45	He	0.113	ppb	13.3	160.01	0.0039	Pulse	0.1000	3
Fe	57	45	He	2.967	ppb	96.0	176.67	0.0043	Pulse	0.1000	3
Co	59	72	He	0.093	ppb	12.3	193.34	0.0013	Pulse	0.1000	3
Ni	60	159	He	-0.120	ppb	N/A	493.36	0.0020	Pulse	0.1000	3
Cu	63	115	He	0.122	ppb	89.6	840.06	0.0099	Pulse	0.1000	3
Zn	66	115	He	-2.073	ppb	N/A	670.04	0.0079	Pulse	0.1000	3
As	75	115	He	0.015	ppb	70.9	44.00	0.0005	Pulse	0.5000	3
Sr	88	115	He	0.011	ppb	480.2	76.67	0.0009	Pulse	0.1000	3
Mo	98	115	He	0.117	ppb	49.3	146.67	0.0017	Pulse	0.1000	3
Ag	107	115	He	0.022	ppb	79.3	103.34	0.0012	Pulse	0.1000	3
Cd	111	115	He	0.015	ppb	38.8	6.00	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.074	ppb	163.1	1283.45	0.0152	Pulse	0.1000	3
Sb	121	72	He	0.343	ppb	4.2	426.69	0.0028	Pulse	0.1000	3
Ba	137	115	He	0.075	ppb	46.7	56.67	0.0007	Pulse	0.1000	3
Tl	205	209	He	0.017	ppb	39.2	123.34	0.0008	Pulse	0.1000	3
Pb	208	209	He	-0.008	ppb	N/A	183.34	0.0011	Pulse	0.1000	3
U	238	209	He	0.026	ppb	18.7	180.01	0.0011	Pulse	0.1000	3

Quantitation Report

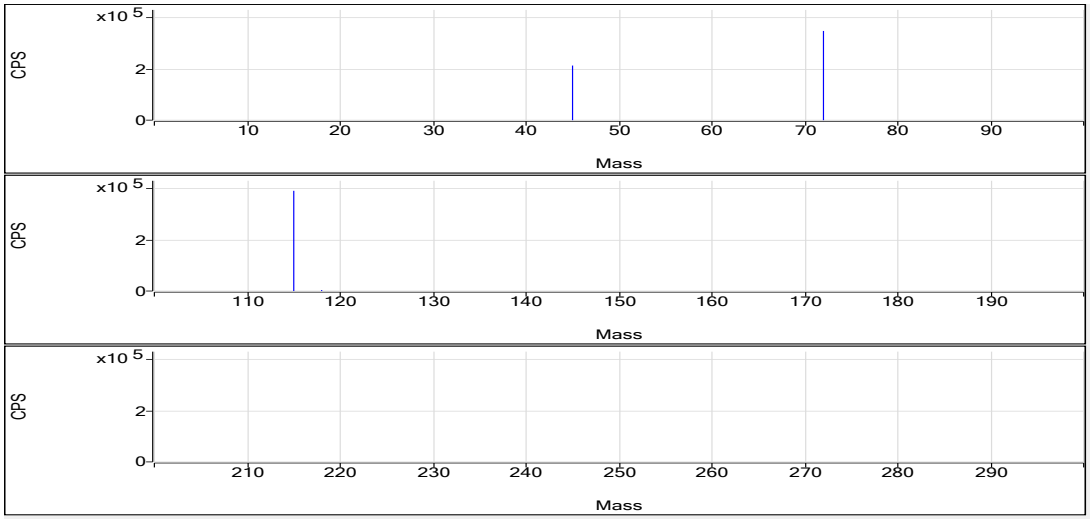
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1462531.12	2.4	97.3	Analog	0.1000	3
No Gas	Ge	72	1160444.49	0.5	99.7	Pulse	0.1000	3
H2	Sc	45	213065.63	0.9	95.7	Pulse	0.1000	3
H2	Ge	72	348052.34	0.7	98.0	Pulse	0.1000	3
H2	In	115	391013.64	0.6	98.7	Pulse	0.1000	3
He	Sc	45	40684.23	1.3	96.5	Pulse	0.1000	3
He	Ge	72	152699.40	1.8	98.7	Pulse	0.1000	3
He	In	115	84685.84	1.3	99.1	Pulse	0.1000	3
He	Tb	159	250850.75	0.9	100.2	Pulse	0.1000	3
He	Bi	209	160157.81	1.1	98.1	Pulse	0.1000	3

No Gas

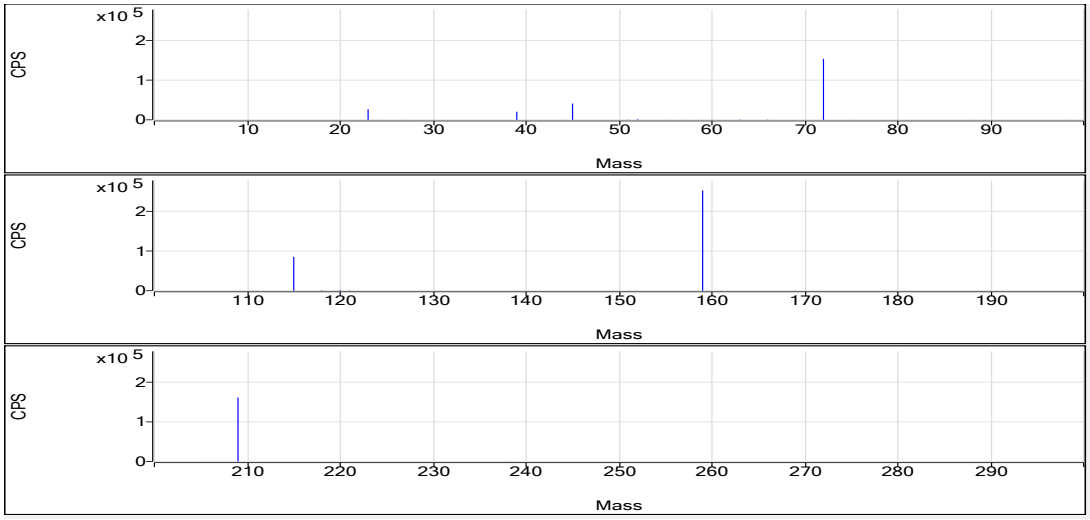


H2



Quantitation Report

He



Quantitation Report

Data File Name	027SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:28:29 PM
Sample Name	mb 410-33581/1-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

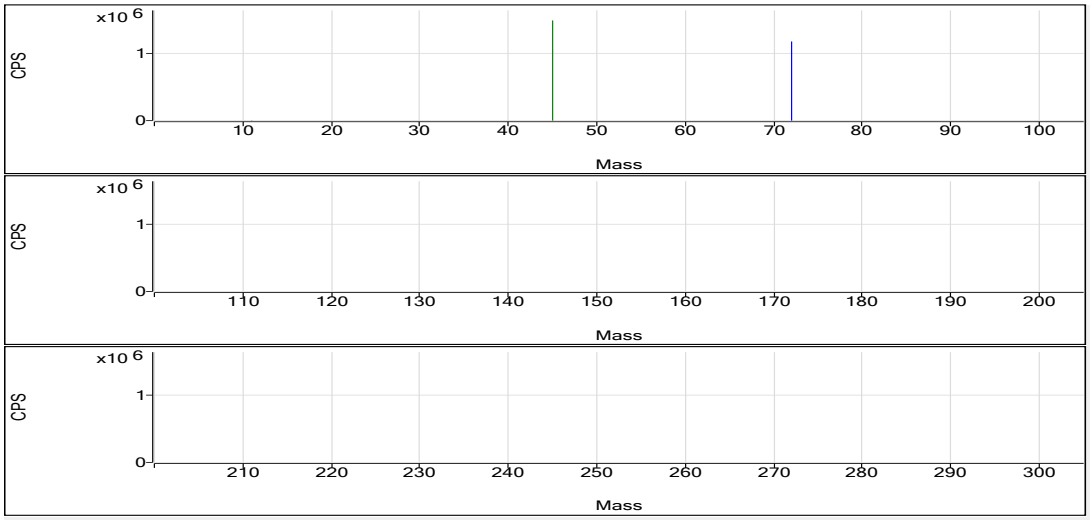
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.015	ppb	92.3	33.33	0.0000	Pulse	0.5000	3
B	11	45	No Gas	3.881	ppb	4.7	3056.33	0.0021	Pulse	0.5000	3
Se	78	115	H2	0.037	ppb	43.0	4.00	0.0000	Pulse	1.5000	3
Na	23	45	He	35.386	ppb	17.4	28374.32	0.7009	Pulse	0.1000	3
Mg	24	45	He	3.580	ppb	45.5	280.01	0.0069	Pulse	0.1000	3
Al	27	45	He	2.942	ppb	11.6	76.67	0.0019	Pulse	0.1000	3
K	39	45	He	27.163	ppb	29.6	21643.28	0.5347	Pulse	0.1000	3
Ca	44	45	He	45.487	ppb	33.2	223.34	0.0055	Pulse	0.1000	3
Ti	47	45	He	0.317	ppb	173.2	6.67	0.0002	Pulse	0.1000	3
V	51	45	He	0.091	ppb	42.6	446.69	0.0110	Pulse	0.1000	3
Cr	52	45	He	0.439	ppb	72.0	1393.44	0.0344	Pulse	0.1000	3
Mn	55	45	He	0.531	ppb	12.0	380.02	0.0094	Pulse	0.1000	3
Fe	57	45	He	1.801	ppb	135.7	153.34	0.0038	Pulse	0.1000	3
Co	59	72	He	0.043	ppb	41.4	106.67	0.0007	Pulse	0.1000	3
Ni	60	159	He	-0.066	ppb	N/A	520.03	0.0021	Pulse	0.1000	3
Cu	63	115	He	0.218	ppb	30.9	963.40	0.0112	Pulse	0.1000	3
Zn	66	115	He	0.703	ppb	114.6	1200.09	0.0140	Pulse	0.1000	3
As	75	115	He	0.012	ppb	568.2	44.00	0.0005	Pulse	0.5000	3
Sr	88	115	He	0.027	ppb	56.2	93.33	0.0011	Pulse	0.1000	3
Mo	98	115	He	0.058	ppb	42.4	73.33	0.0009	Pulse	0.1000	3
Ag	107	115	He	-0.005	ppb	N/A	36.67	0.0004	Pulse	0.1000	3
Cd	111	115	He	0.006	ppb	57.1	2.67	0.0000	Pulse	0.5000	3
Sn	120	115	He	-0.182	ppb	N/A	980.08	0.0114	Pulse	0.1000	3
Sb	121	72	He	0.145	ppb	19.8	193.34	0.0013	Pulse	0.1000	3
Ba	137	115	He	0.104	ppb	44.3	70.00	0.0008	Pulse	0.1000	3
Tl	205	209	He	0.008	ppb	67.5	80.00	0.0005	Pulse	0.1000	3
Pb	208	209	He	-0.004	ppb	N/A	210.01	0.0013	Pulse	0.1000	3
U	238	209	He	0.008	ppb	49.1	66.67	0.0004	Pulse	0.1000	3

Quantitation Report

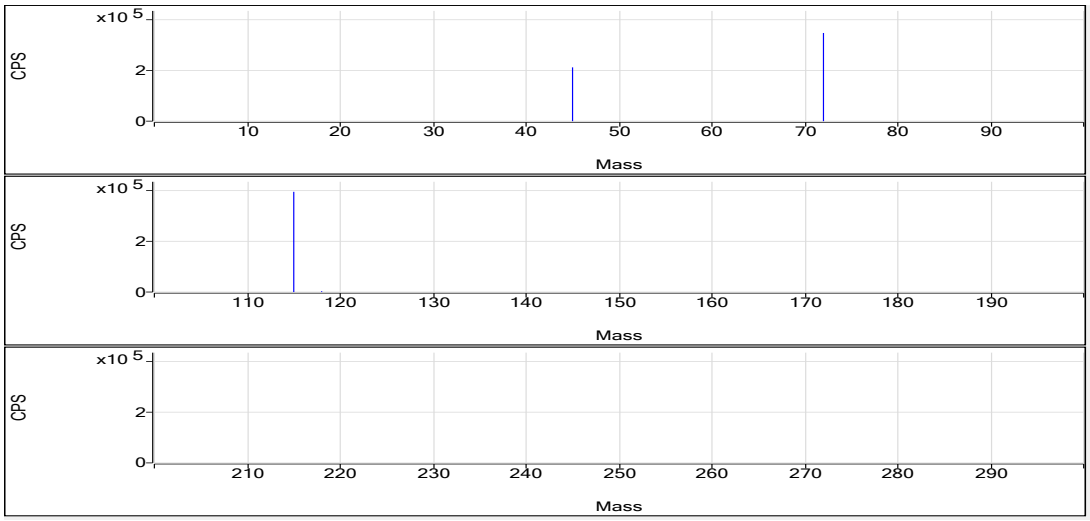
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1481988.47	1.2	98.6	Analog	0.1000	3
No Gas	Ge	72	1170707.61	0.7	100.5	Pulse	0.1000	3
H2	Sc	45	212933.14	1.2	95.6	Pulse	0.1000	3
H2	Ge	72	349045.44	1.2	98.2	Pulse	0.1000	3
H2	In	115	396715.67	1.6	100.1	Pulse	0.1000	3
He	Sc	45	40480.39	0.4	96.0	Pulse	0.1000	3
He	Ge	72	151954.16	0.7	98.2	Pulse	0.1000	3
He	In	115	85614.37	1.0	100.2	Pulse	0.1000	3
He	Tb	159	252283.60	0.2	100.8	Pulse	0.1000	3
He	Bi	209	162620.06	1.1	99.6	Pulse	0.1000	3

No Gas

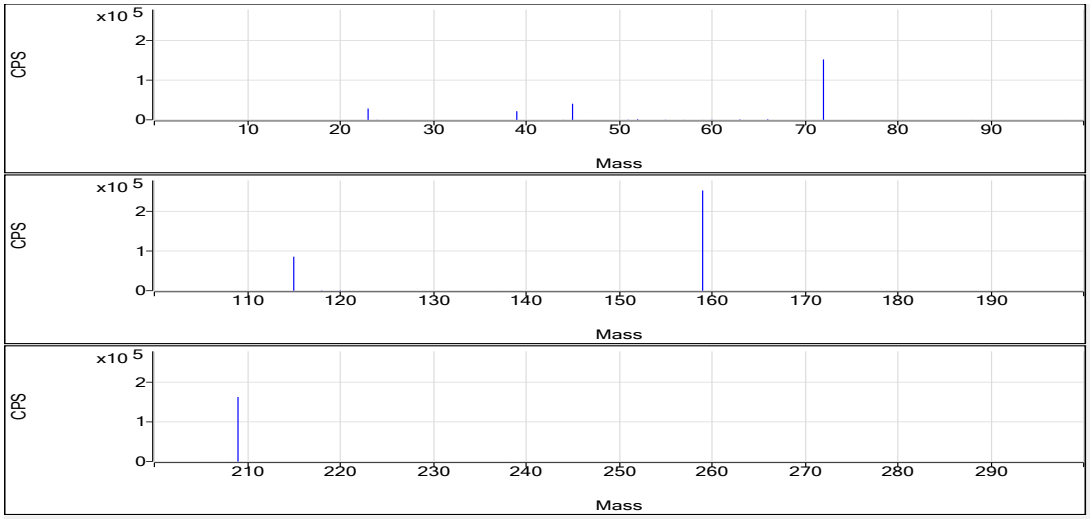


H2



Quantitation Report

He



Quantitation Report

Data File Name	028SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:30:21 PM
Sample Name	lcs 410-33581/2-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

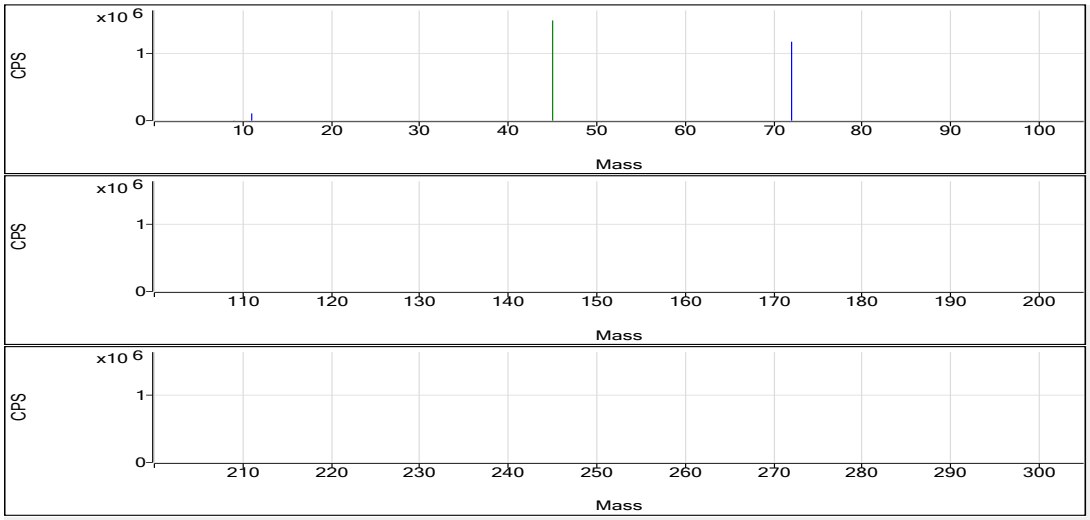
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	4.098	ppb	8.1	2984.32	0.0020	Pulse	0.5000	3
B	11	45	No Gas	251.020	ppb	1.5	106971.19	0.0718	Pulse	0.5000	3
Se	78	115	H2	10.185	ppb	2.4	875.36	0.0022	Pulse	1.5000	3
Na	23	45	He	10265.471	ppb	1.0	903148.14	21.5054	Pulse	0.1000	3
Mg	24	45	He	2045.789	ppb	1.3	90144.32	2.1466	Pulse	0.1000	3
Al	27	45	He	204.652	ppb	3.4	3710.59	0.0884	Pulse	0.1000	3
K	39	45	He	10260.437	ppb	0.7	619860.94	14.7577	Pulse	0.1000	3
Ca	44	45	He	4234.077	ppb	3.8	13613.46	0.3242	Pulse	0.1000	3
Ti	47	45	He	254.849	ppb	0.6	5591.26	0.1331	Pulse	0.1000	3
V	51	45	He	52.765	ppb	2.6	41643.46	0.9918	Pulse	0.1000	3
Cr	52	45	He	52.121	ppb	0.7	50524.89	1.2030	Pulse	0.1000	3
Mn	55	45	He	53.876	ppb	2.0	29631.01	0.7056	Pulse	0.1000	3
Fe	57	45	He	342.499	ppb	0.9	7001.89	0.1667	Pulse	0.1000	3
Co	59	72	He	242.090	ppb	0.8	424100.07	2.7233	Pulse	0.1000	3
Ni	60	159	He	53.179	ppb	1.1	23349.37	0.0926	Pulse	0.1000	3
Cu	63	115	He	52.493	ppb	0.5	64125.89	0.7357	Pulse	0.1000	3
Zn	66	115	He	531.820	ppb	0.5	102988.89	1.1816	Pulse	0.1000	3
As	75	115	He	10.504	ppb	2.8	1750.12	0.0201	Pulse	0.5000	3
Sr	88	115	He	41.081	ppb	2.0	41862.31	0.4803	Pulse	0.1000	3
Mo	98	115	He	51.371	ppb	1.4	66406.38	0.7619	Pulse	0.1000	3
Ag	107	115	He	51.222	ppb	1.7	129397.45	1.4847	Pulse	0.1000	3
Cd	111	115	He	5.117	ppb	5.6	1862.80	0.0214	Pulse	0.5000	3
Sn	120	115	He	52.353	ppb	1.5	67249.42	0.7716	Pulse	0.1000	3
Sb	121	72	He	5.618	ppb	5.0	6771.87	0.0435	Pulse	0.1000	3
Ba	137	115	He	52.296	ppb	1.9	24038.21	0.2758	Pulse	0.1000	3
Tl	205	209	He	2.089	ppb	1.4	10357.80	0.0633	Pulse	0.1000	3
Pb	208	209	He	5.342	ppb	0.5	35559.76	0.2174	Pulse	0.1000	3
U	238	209	He	0.001	ppb	88.7	23.33	0.0001	Pulse	0.1000	3

Quantitation Report

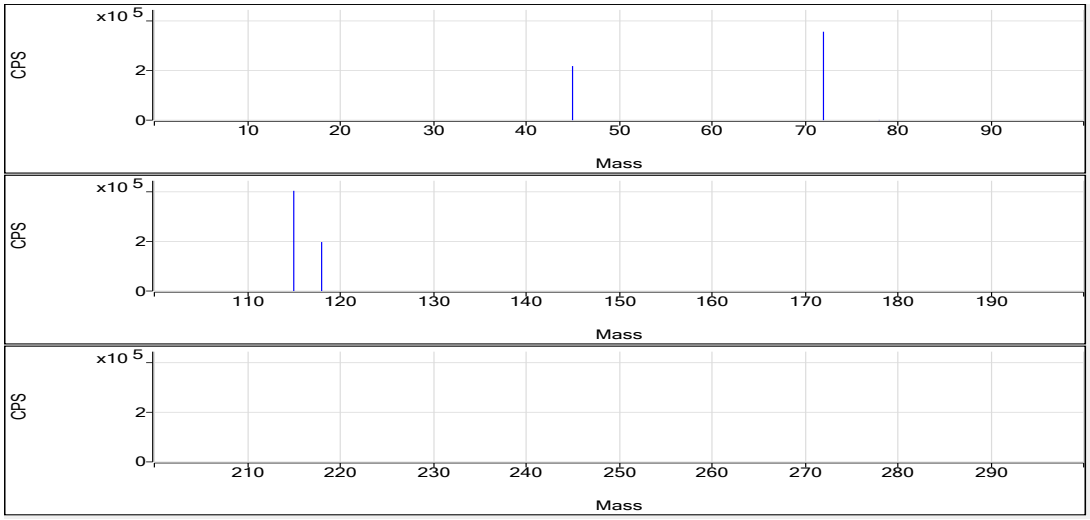
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1489788.73	1.4	99.1	Analog	0.1000	3
No Gas	Ge	72	1172988.01	1.1	100.7	Pulse	0.1000	3
H2	Sc	45	218757.73	1.4	98.3	Pulse	0.1000	3
H2	Ge	72	357647.41	1.1	100.7	Pulse	0.1000	3
H2	In	115	405325.02	0.6	102.3	Pulse	0.1000	3
He	Sc	45	42001.31	2.0	99.7	Pulse	0.1000	3
He	Ge	72	155738.15	0.7	100.6	Pulse	0.1000	3
He	In	115	87157.98	0.3	102.0	Pulse	0.1000	3
He	Tb	159	252071.37	0.9	100.7	Pulse	0.1000	3
He	Bi	209	163569.16	0.3	100.2	Pulse	0.1000	3

No Gas

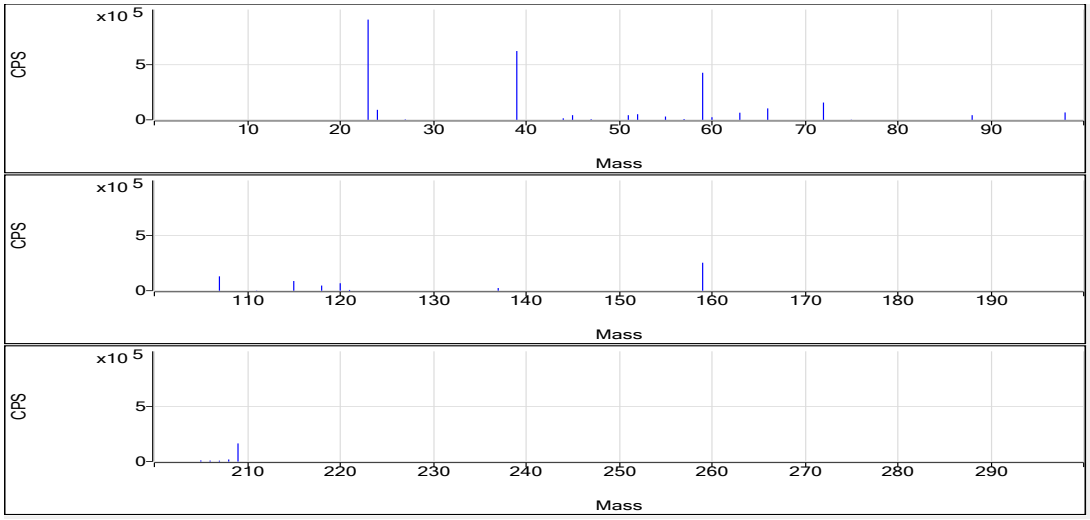


H2



Quantitation Report

He



Quantitation Report

Data File Name	029SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:32:15 PM
Sample Name	410-10659-c-1-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

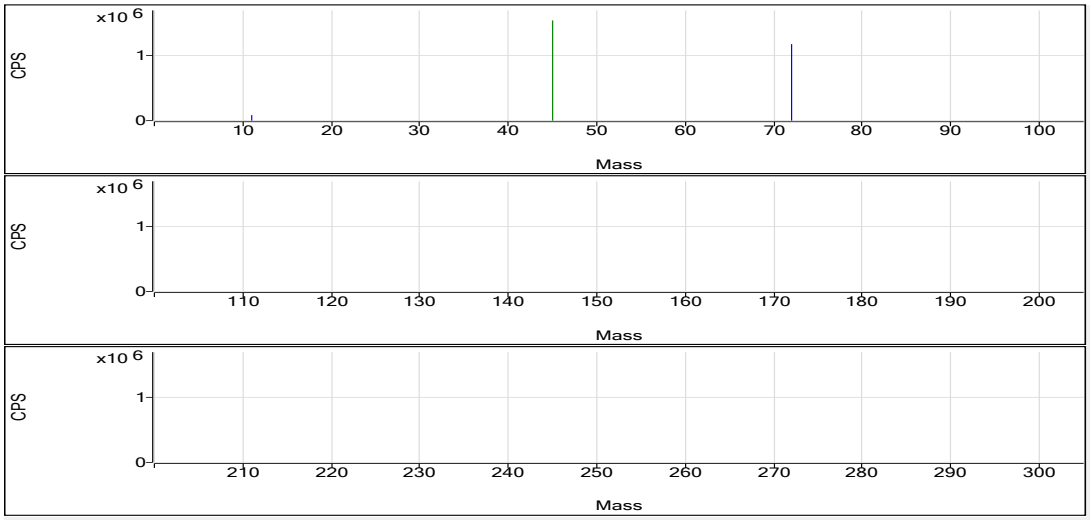
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.581	ppb	5.7	454.01	0.0003	Pulse	0.5000	3
B	11	45	No Gas	192.306	ppb	1.7	84453.73	0.0552	Pulse	0.5000	3
Se	78	115	H2	1.583	ppb	6.6	134.00	0.0003	Pulse	1.5000	3
Na	23	45	He	182422.551	ppb	1.1	16215852.68	371.6140	Analog	0.1000	3
Mg	24	45	He	6194.203	ppb	2.0	283277.64	6.4929	Pulse	0.1000	3
Al	27	45	He	10234.356	ppb	1.9	191489.27	4.3889	Pulse	0.1000	3
K	39	45	He	5001.401	ppb	1.6	324978.89	7.4483	Pulse	0.1000	3
Ca	44	45	He	34729.333	ppb	3.4	115342.54	2.6441	Pulse	0.1000	3
Ti	47	45	He	247.129	ppb	2.6	5631.58	0.1291	Pulse	0.1000	3
V	51	45	He	34.995	ppb	2.7	28836.15	0.6609	Pulse	0.1000	3
Cr	52	45	He	14.338	ppb	8.7	15205.56	0.3487	Pulse	0.1000	3
Mn	55	45	He	1413.386	ppb	1.7	804928.19	18.4486	Pulse	0.1000	3
Fe	57	45	He	9487.775	ppb	1.5	198103.62	4.5403	Pulse	0.1000	3
Co	59	72	He	5.090	ppb	3.2	8946.40	0.0575	Pulse	0.1000	3
Ni	60	159	He	13.697	ppb	3.3	6441.64	0.0255	Pulse	0.1000	3
Cu	63	115	He	78.701	ppb	0.8	93245.63	1.0990	Pulse	0.1000	3
Zn	66	115	He	121.893	ppb	1.9	23793.60	0.2805	Pulse	0.1000	3
As	75	115	He	21.678	ppb	4.1	3472.44	0.0409	Pulse	0.5000	3
Sr	88	115	He	281.686	ppb	0.3	279048.31	3.2889	Pulse	0.1000	3
Mo	98	115	He	5.447	ppb	3.8	6855.21	0.0808	Pulse	0.1000	3
Ag	107	115	He	0.395	ppb	15.6	1020.08	0.0120	Pulse	0.1000	3
Cd	111	115	He	0.472	ppb	12.9	168.00	0.0020	Pulse	0.5000	3
Sn	120	115	He	1.222	ppb	11.2	2693.69	0.0318	Pulse	0.1000	3
Sb	121	72	He	3.188	ppb	4.8	3850.67	0.0247	Pulse	0.1000	3
Ba	137	115	He	88.898	ppb	2.0	39758.45	0.4686	Pulse	0.1000	3
Tl	205	209	He	0.148	ppb	3.9	766.72	0.0047	Pulse	0.1000	3
Pb	208	209	He	35.050	ppb	0.8	231298.18	1.4181	Pulse	0.1000	3
U	238	209	He	1.535	ppb	1.7	9884.13	0.0606	Pulse	0.1000	3

Quantitation Report

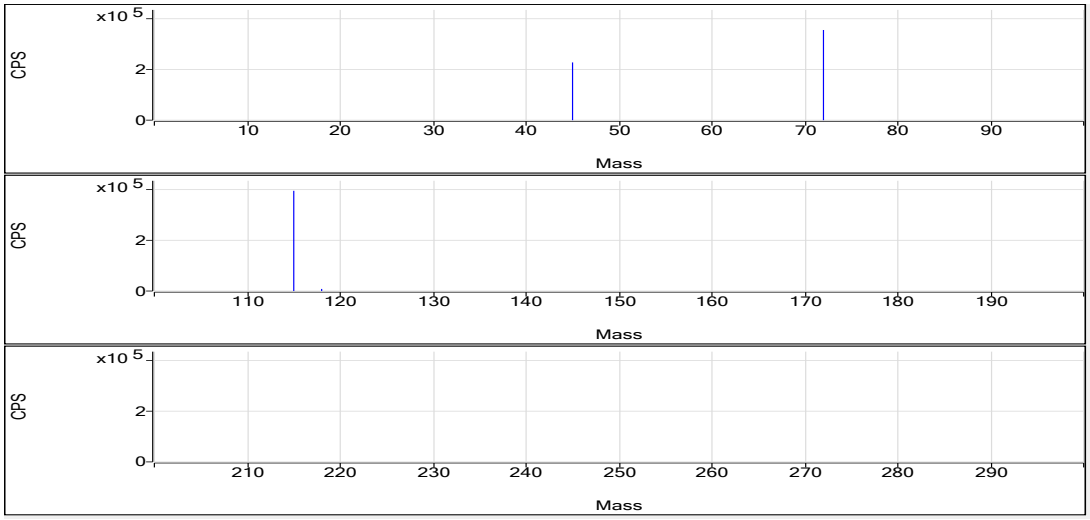
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1528855.86	0.8	101.7	Analog	0.1000	3
No Gas	Ge	72	1167253.94	0.7	100.2	Pulse	0.1000	3
H2	Sc	45	228636.79	0.6	102.7	Pulse	0.1000	3
H2	Ge	72	357078.59	0.9	100.5	Pulse	0.1000	3
H2	In	115	396908.82	0.2	100.1	Pulse	0.1000	3
He	Sc	45	43639.04	1.7	103.5	Pulse	0.1000	3
He	Ge	72	155653.34	0.3	100.6	Pulse	0.1000	3
He	In	115	84846.98	0.7	99.3	Pulse	0.1000	3
He	Tb	159	252894.65	0.8	101.1	Pulse	0.1000	3
He	Bi	209	163101.67	0.2	99.9	Pulse	0.1000	3

No Gas

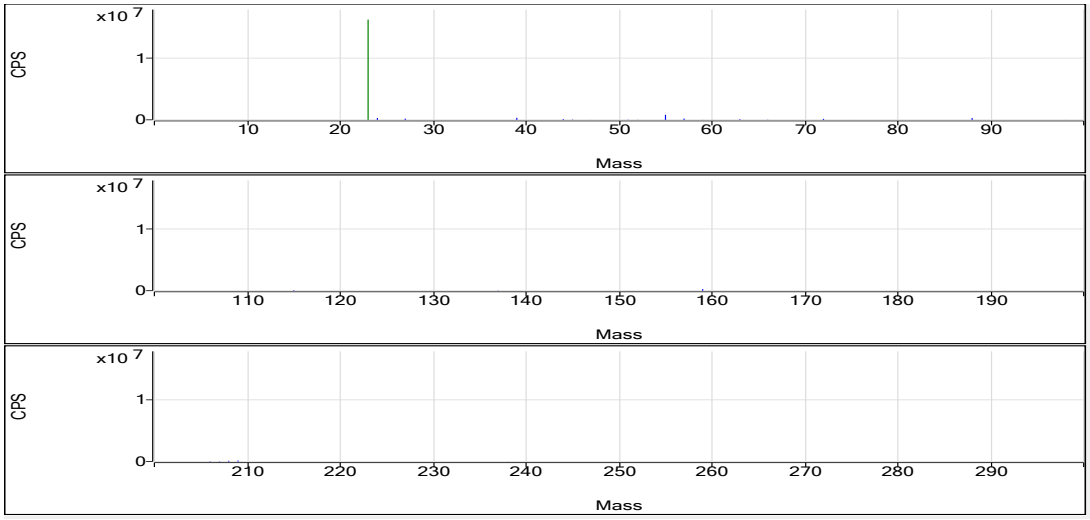


H2



Quantitation Report

He



Quantitation Report

Data File Name	030SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:34:07 PM
Sample Name	410-10659-c-1-a PDS
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

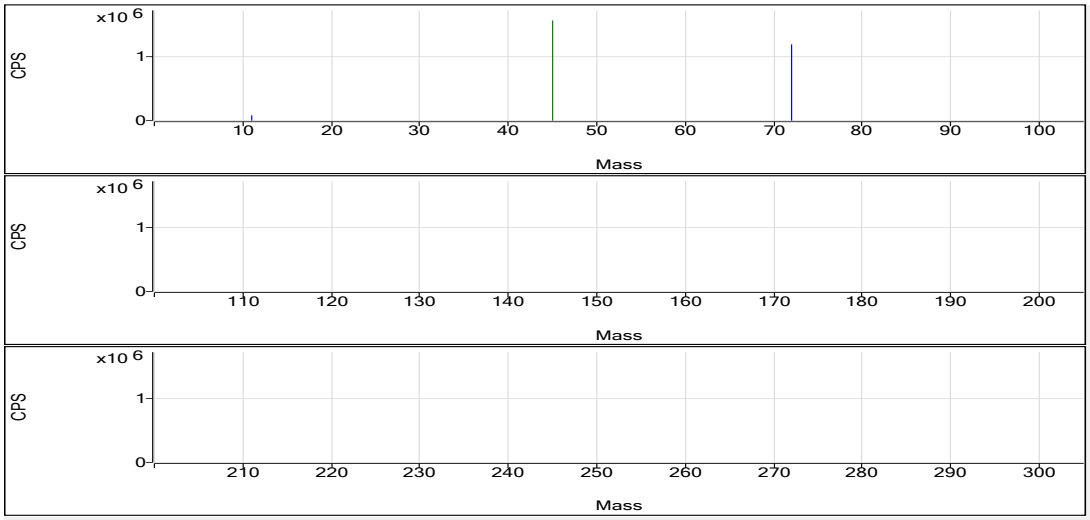
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	1.463	ppb	2.6	1129.38	0.0007	Pulse	0.5000	3
B	11	45	No Gas	184.425	ppb	0.5	82531.28	0.0530	Pulse	0.5000	3
Se	78	115	H2	3.392	ppb	5.2	284.45	0.0007	Pulse	1.5000	3
Na	23	45	He	184844.697	ppb	1.0	16072361.43	376.5399	Analog	0.1000	3
Mg	24	45	He	6244.026	ppb	2.5	279318.57	6.5451	Pulse	0.1000	3
Al	27	45	He	9367.408	ppb	1.3	171470.28	4.0172	Pulse	0.1000	3
K	39	45	He	5212.070	ppb	0.9	330428.12	7.7411	Pulse	0.1000	3
Ca	44	45	He	35102.989	ppb	0.8	114092.39	2.6726	Pulse	0.1000	3
Ti	47	45	He	229.457	ppb	4.5	5114.50	0.1198	Pulse	0.1000	3
V	51	45	He	35.639	ppb	2.1	28725.82	0.6729	Pulse	0.1000	3
Cr	52	45	He	15.576	ppb	2.8	16076.10	0.3767	Pulse	0.1000	3
Mn	55	45	He	1429.553	ppb	1.6	796422.10	18.6596	Pulse	0.1000	3
Fe	57	45	He	9261.564	ppb	2.1	189156.11	4.4321	Pulse	0.1000	3
Co	59	72	He	5.424	ppb	2.7	9580.12	0.0612	Pulse	0.1000	3
Ni	60	159	He	15.329	ppb	1.0	7165.34	0.0282	Pulse	0.1000	3
Cu	63	115	He	77.221	ppb	1.4	92843.72	1.0785	Pulse	0.1000	3
Zn	66	115	He	148.047	ppb	3.1	29093.42	0.3379	Pulse	0.1000	3
As	75	115	He	24.775	ppb	1.6	4019.92	0.0467	Pulse	0.5000	3
Sr	88	115	He	275.902	ppb	0.9	277319.80	3.2214	Pulse	0.1000	3
Mo	98	115	He	6.166	ppb	2.1	7872.41	0.0914	Pulse	0.1000	3
Ag	107	115	He	1.254	ppb	7.6	3177.14	0.0369	Pulse	0.1000	3
Cd	111	115	He	1.354	ppb	4.2	487.34	0.0057	Pulse	0.5000	3
Sn	120	115	He	4.964	ppb	1.5	7395.55	0.0859	Pulse	0.1000	3
Sb	121	72	He	4.919	ppb	4.8	5958.15	0.0381	Pulse	0.1000	3
Ba	137	115	He	88.138	ppb	0.9	39998.79	0.4646	Pulse	0.1000	3
Tl	205	209	He	1.071	ppb	3.0	5307.92	0.0326	Pulse	0.1000	3
Pb	208	209	He	35.519	ppb	1.2	234117.82	1.4371	Pulse	0.1000	3
U	238	209	He	3.419	ppb	0.8	21962.67	0.1348	Pulse	0.1000	3

Quantitation Report

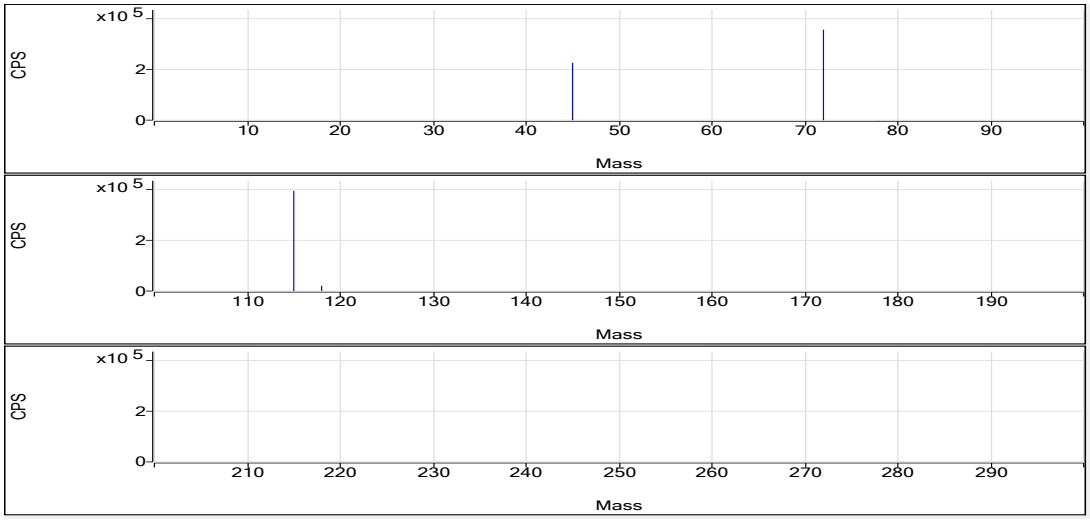
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1556654.25	0.4	103.5	Analog	0.1000	3
No Gas	Ge	72	1183762.56	0.3	101.7	Pulse	0.1000	3
H2	Sc	45	225714.04	0.2	101.4	Pulse	0.1000	3
H2	Ge	72	356269.43	0.3	100.3	Pulse	0.1000	3
H2	In	115	394678.30	0.8	99.6	Pulse	0.1000	3
He	Sc	45	42689.82	2.0	101.3	Pulse	0.1000	3
He	Ge	72	156499.40	1.2	101.1	Pulse	0.1000	3
He	In	115	86087.69	0.1	100.7	Pulse	0.1000	3
He	Tb	159	253671.02	0.9	101.4	Pulse	0.1000	3
He	Bi	209	162930.45	1.4	99.8	Pulse	0.1000	3

No Gas

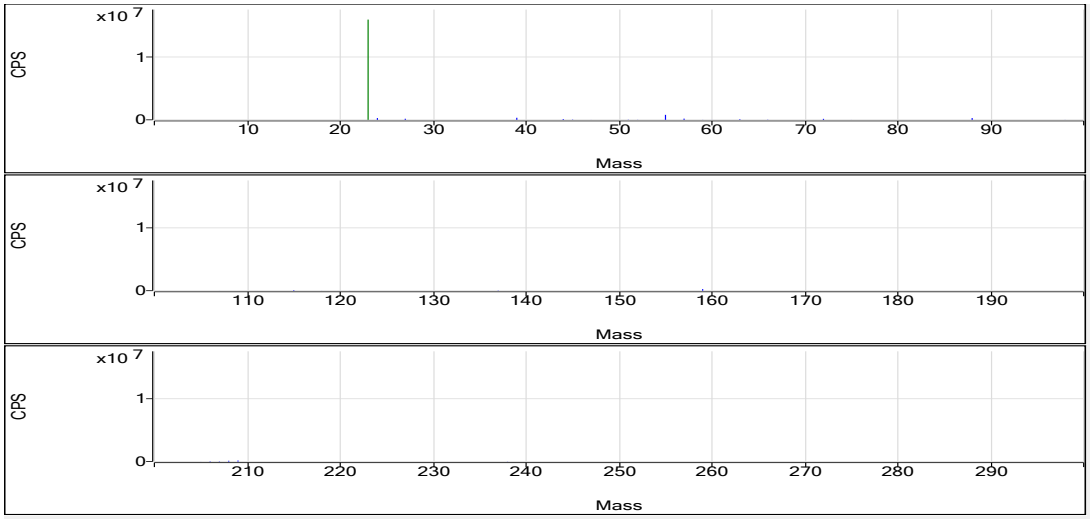


H2



Quantitation Report

He



Quantitation Report

Data File Name	031SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:36:00 PM
Sample Name	410-10659-c-1-b du
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

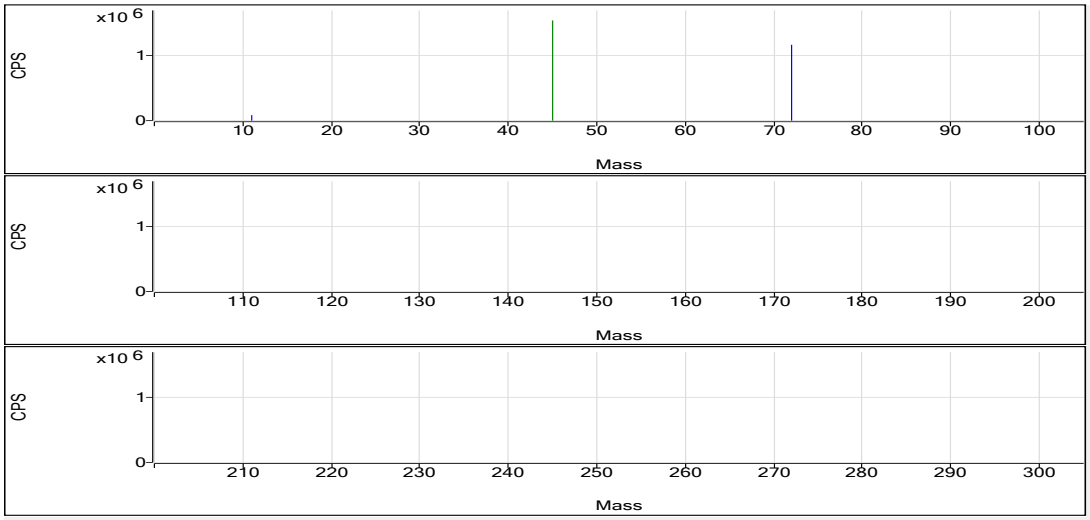
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.486	ppb	3.7	388.68	0.0003	Pulse	0.5000	3
B	11	45	No Gas	189.994	ppb	1.6	84456.41	0.0546	Pulse	0.5000	3
Se	78	115	H2	1.701	ppb	4.9	142.22	0.0004	Pulse	1.5000	3
Na	23	45	He	187980.638	ppb	0.2	16405673.09	382.9173	Analog	0.1000	3
Mg	24	45	He	6267.043	ppb	0.9	281430.60	6.5692	Pulse	0.1000	3
Al	27	45	He	9432.932	ppb	0.9	173319.19	4.0453	Pulse	0.1000	3
K	39	45	He	4944.854	ppb	1.3	315741.91	7.3697	Pulse	0.1000	3
Ca	44	45	He	35835.277	ppb	1.8	116873.14	2.7283	Pulse	0.1000	3
Ti	47	45	He	229.992	ppb	11.6	5142.72	0.1201	Pulse	0.1000	3
V	51	45	He	35.729	ppb	1.2	28902.72	0.6746	Pulse	0.1000	3
Cr	52	45	He	13.740	ppb	3.5	14357.61	0.3352	Pulse	0.1000	3
Mn	55	45	He	1463.402	ppb	1.1	818312.49	19.1013	Pulse	0.1000	3
Fe	57	45	He	9221.380	ppb	1.3	189047.41	4.4129	Pulse	0.1000	3
Co	59	72	He	4.726	ppb	2.8	8399.38	0.0534	Pulse	0.1000	3
Ni	60	159	He	13.623	ppb	7.9	6405.02	0.0253	Pulse	0.1000	3
Cu	63	115	He	78.325	ppb	2.4	92639.68	1.0938	Pulse	0.1000	3
Zn	66	115	He	123.239	ppb	3.8	24007.36	0.2834	Pulse	0.1000	3
As	75	115	He	21.024	ppb	2.5	3362.41	0.0397	Pulse	0.5000	3
Sr	88	115	He	285.496	ppb	1.0	282354.70	3.3333	Pulse	0.1000	3
Mo	98	115	He	5.672	ppb	2.8	7125.34	0.0841	Pulse	0.1000	3
Ag	107	115	He	0.371	ppb	17.4	960.07	0.0113	Pulse	0.1000	3
Cd	111	115	He	0.492	ppb	13.1	174.67	0.0021	Pulse	0.5000	3
Sn	120	115	He	0.907	ppb	10.3	2303.60	0.0272	Pulse	0.1000	3
Sb	121	72	He	3.101	ppb	5.4	3787.32	0.0241	Pulse	0.1000	3
Ba	137	115	He	88.796	ppb	1.8	39647.64	0.4681	Pulse	0.1000	3
Tl	205	209	He	0.123	ppb	9.8	650.04	0.0040	Pulse	0.1000	3
Pb	208	209	He	35.384	ppb	1.4	234259.11	1.4316	Pulse	0.1000	3
U	238	209	He	1.519	ppb	2.3	9810.76	0.0600	Pulse	0.1000	3

Quantitation Report

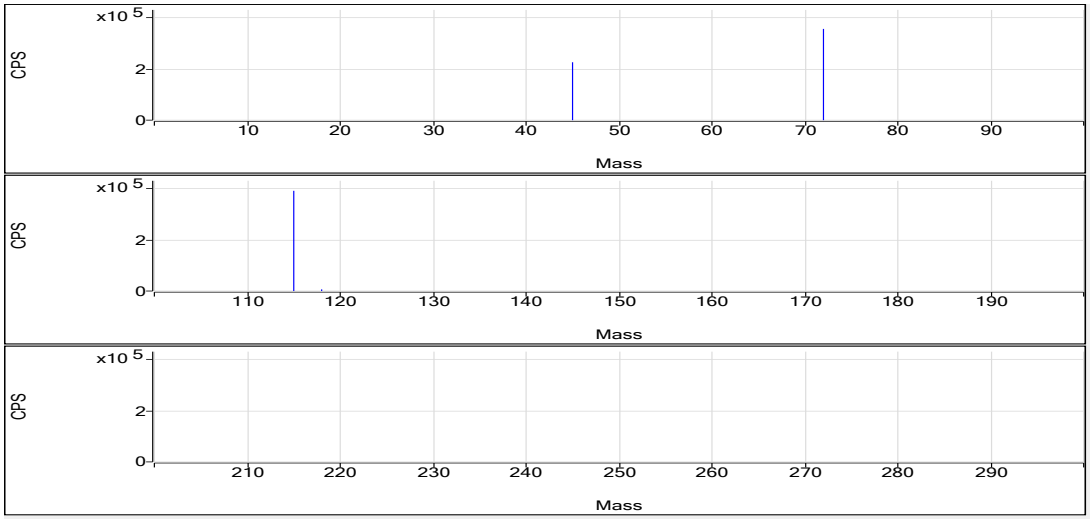
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1547223.52	0.7	102.9	Analog	0.1000	3
No Gas	Ge	72	1170519.85	0.3	100.5	Pulse	0.1000	3
H2	Sc	45	226795.24	2.1	101.9	Pulse	0.1000	3
H2	Ge	72	357422.12	1.0	100.6	Pulse	0.1000	3
H2	In	115	392569.21	1.8	99.0	Pulse	0.1000	3
He	Sc	45	42843.67	1.1	101.7	Pulse	0.1000	3
He	Ge	72	157379.32	0.2	101.7	Pulse	0.1000	3
He	In	115	84712.91	1.2	99.1	Pulse	0.1000	3
He	Tb	159	252793.64	1.0	101.0	Pulse	0.1000	3
He	Bi	209	163658.17	1.5	100.2	Pulse	0.1000	3

No Gas

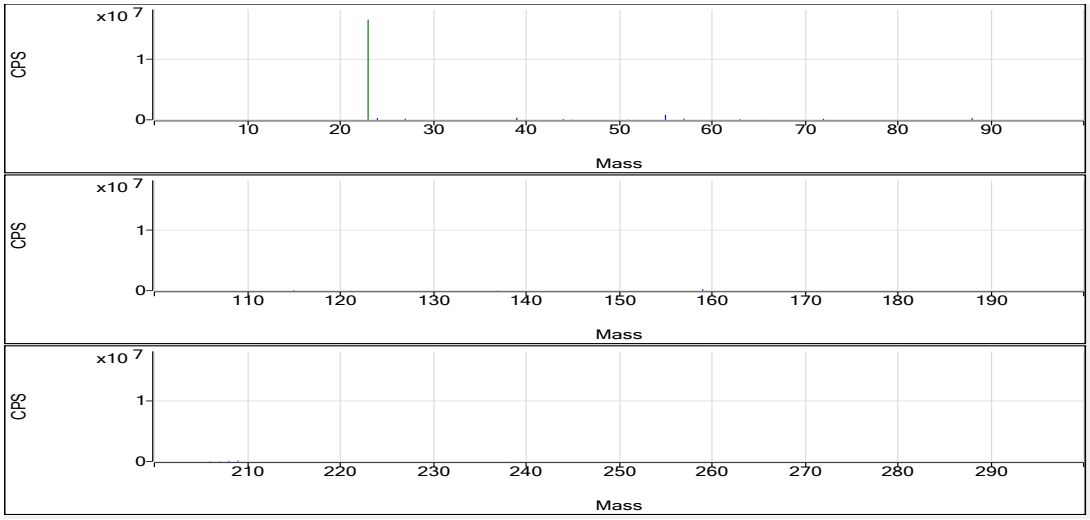


H2



Quantitation Report

He



Quantitation Report

Data File Name	032SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:37:52 PM
Sample Name	410-10659-c-1-c ms
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

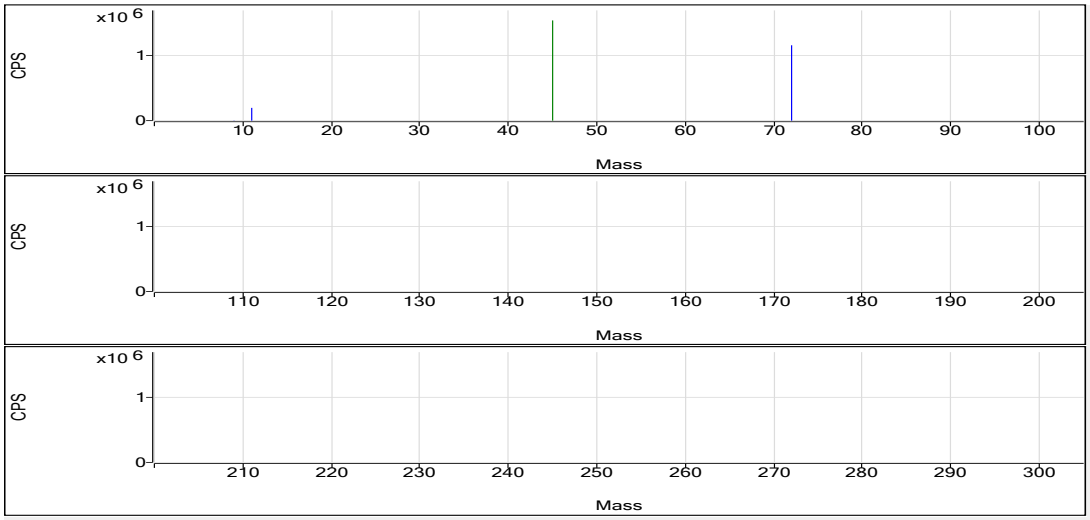
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	4.692	ppb	4.2	3562.44	0.0023	Pulse	0.5000	3
B	11	45	No Gas	448.247	ppb	1.4	198036.78	0.1275	Pulse	0.5000	3
Se	78	115	H2	11.445	ppb	3.1	958.92	0.0024	Pulse	1.5000	3
Na	23	45	He	197064.969	ppb	0.6	17710609.74	401.3917	Analog	0.1000	3
Mg	24	45	He	9043.630	ppb	1.5	418202.64	9.4783	Pulse	0.1000	3
Al	27	45	He	13925.182	ppb	0.9	263476.93	5.9715	Pulse	0.1000	3
K	39	45	He	15669.036	ppb	1.2	982798.22	22.2750	Pulse	0.1000	3
Ca	44	45	He	40283.328	ppb	1.3	135303.79	3.0667	Pulse	0.1000	3
Ti	47	45	He	501.242	ppb	1.2	11551.63	0.2618	Pulse	0.1000	3
V	51	45	He	90.868	ppb	1.8	75067.43	1.7013	Pulse	0.1000	3
Cr	52	45	He	68.285	ppb	1.2	69204.62	1.5685	Pulse	0.1000	3
Mn	55	45	He	1573.613	ppb	0.7	906255.43	20.5397	Pulse	0.1000	3
Fe	57	45	He	11586.277	ppb	0.9	244613.12	5.5439	Pulse	0.1000	3
Co	59	72	He	249.597	ppb	0.6	448162.10	2.8077	Pulse	0.1000	3
Ni	60	159	He	70.379	ppb	1.2	31040.60	0.1219	Pulse	0.1000	3
Cu	63	115	He	144.804	ppb	0.6	171506.68	2.0151	Pulse	0.1000	3
Zn	66	115	He	713.655	ppb	0.6	134589.22	1.5814	Pulse	0.1000	3
As	75	115	He	33.191	ppb	4.0	5310.34	0.0624	Pulse	0.5000	3
Sr	88	115	He	336.092	ppb	0.9	333960.74	3.9239	Pulse	0.1000	3
Mo	98	115	He	57.805	ppb	0.9	72968.24	0.8573	Pulse	0.1000	3
Ag	107	115	He	52.466	ppb	0.6	129428.36	1.5207	Pulse	0.1000	3
Cd	111	115	He	5.865	ppb	2.2	2084.83	0.0245	Pulse	0.5000	3
Sn	120	115	He	35.230	ppb	0.4	44582.40	0.5238	Pulse	0.1000	3
Sb	121	72	He	7.525	ppb	3.2	9286.78	0.0582	Pulse	0.1000	3
Ba	137	115	He	153.426	ppb	2.1	68815.86	0.8086	Pulse	0.1000	3
Tl	205	209	He	2.302	ppb	3.1	11188.48	0.0698	Pulse	0.1000	3
Pb	208	209	He	48.518	ppb	1.4	314689.57	1.9625	Pulse	0.1000	3
U	238	209	He	1.611	ppb	1.8	10197.74	0.0636	Pulse	0.1000	3

Quantitation Report

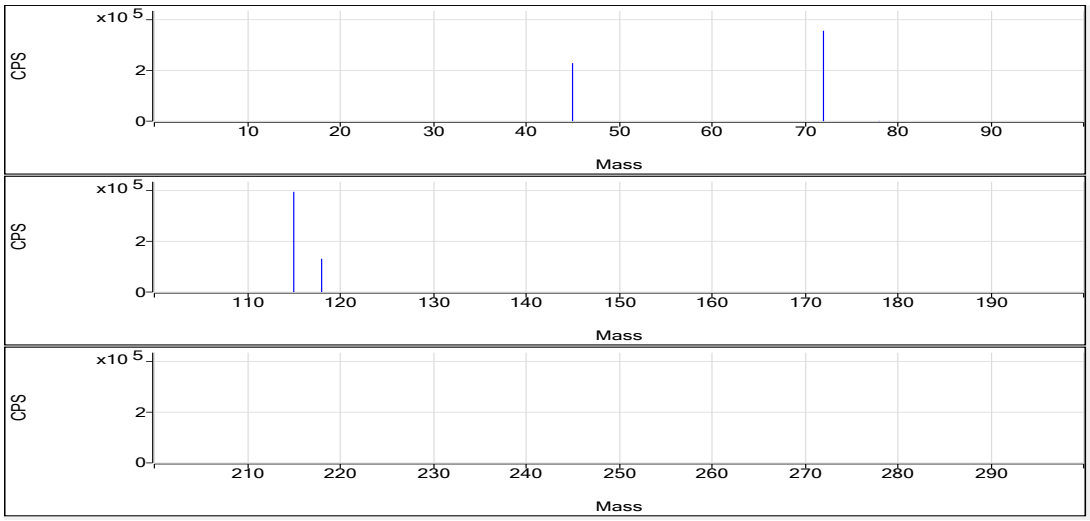
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1553540.29	0.3	103.3	Analog	0.1000	3
No Gas	Ge	72	1168231.88	0.2	100.3	Pulse	0.1000	3
H2	Sc	45	228601.72	2.5	102.7	Pulse	0.1000	3
H2	Ge	72	356402.57	0.8	100.3	Pulse	0.1000	3
H2	In	115	395116.04	0.9	99.7	Pulse	0.1000	3
He	Sc	45	44123.83	0.8	104.7	Pulse	0.1000	3
He	Ge	72	159623.30	0.8	103.1	Pulse	0.1000	3
He	In	115	85111.36	0.7	99.6	Pulse	0.1000	3
He	Tb	159	254656.99	0.4	101.8	Pulse	0.1000	3
He	Bi	209	160365.80	1.1	98.2	Pulse	0.1000	3

No Gas

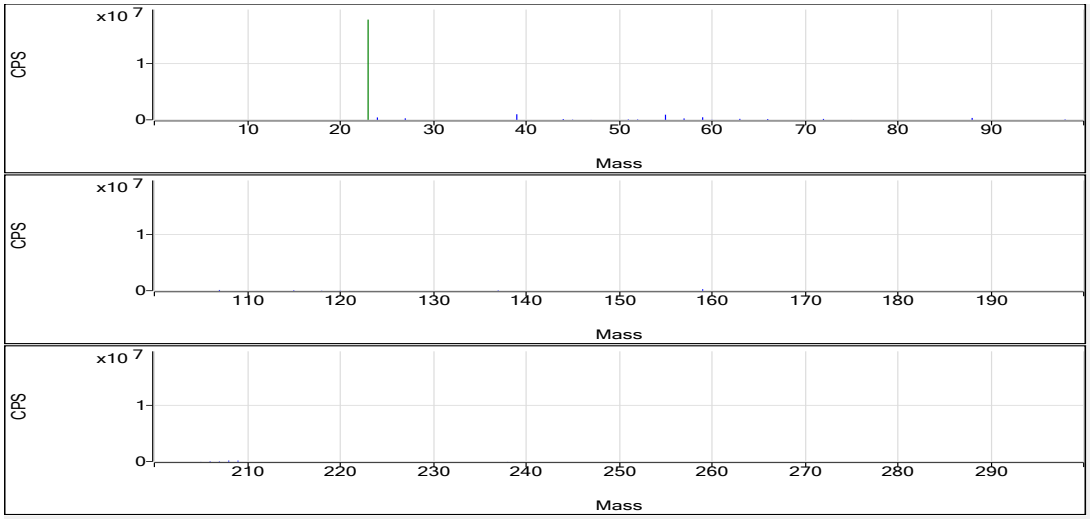


H2



Quantitation Report

He



Quantitation Report

Data File Name	033SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:39:45 PM
Sample Name	410-10659-e-1-a msd
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

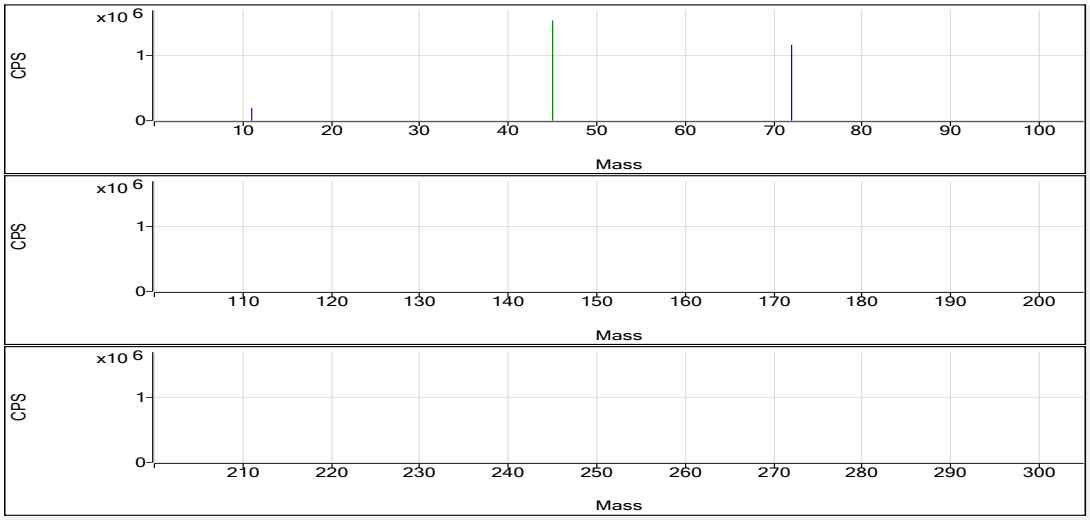
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	4.554	ppb	2.6	3425.08	0.0022	Pulse	0.5000	3
B	11	45	No Gas	448.563	ppb	0.5	196285.00	0.1276	Pulse	0.5000	3
Se	78	115	H2	11.382	ppb	4.2	953.59	0.0024	Pulse	1.5000	3
Na	23	45	He	194774.159	ppb	2.1	17034298.50	396.7330	Analog	0.1000	3
Mg	24	45	He	8407.522	ppb	1.4	378377.02	8.8118	Pulse	0.1000	3
Al	27	45	He	12380.710	ppb	0.5	228031.02	5.3093	Pulse	0.1000	3
K	39	45	He	15443.080	ppb	0.9	943055.30	21.9610	Pulse	0.1000	3
Ca	44	45	He	39684.776	ppb	2.3	129718.31	3.0211	Pulse	0.1000	3
Ti	47	45	He	487.310	ppb	2.8	10931.17	0.2545	Pulse	0.1000	3
V	51	45	He	89.275	ppb	1.5	71776.92	1.6716	Pulse	0.1000	3
Cr	52	45	He	67.159	ppb	0.6	66271.41	1.5431	Pulse	0.1000	3
Mn	55	45	He	1498.237	ppb	0.9	839789.54	19.5560	Pulse	0.1000	3
Fe	57	45	He	10074.306	ppb	0.7	207043.64	4.8208	Pulse	0.1000	3
Co	59	72	He	246.641	ppb	0.4	437224.07	2.7745	Pulse	0.1000	3
Ni	60	159	He	68.361	ppb	0.4	29791.35	0.1185	Pulse	0.1000	3
Cu	63	115	He	130.405	ppb	2.2	155858.75	1.8156	Pulse	0.1000	3
Zn	66	115	He	668.687	ppb	1.2	127271.33	1.4825	Pulse	0.1000	3
As	75	115	He	32.770	ppb	2.6	5289.00	0.0616	Pulse	0.5000	3
Sr	88	115	He	316.164	ppb	1.9	316886.47	3.6913	Pulse	0.1000	3
Mo	98	115	He	57.168	ppb	1.0	72790.44	0.8479	Pulse	0.1000	3
Ag	107	115	He	51.265	ppb	0.8	127570.49	1.4859	Pulse	0.1000	3
Cd	111	115	He	5.692	ppb	4.2	2040.83	0.0238	Pulse	0.5000	3
Sn	120	115	He	38.068	ppb	0.6	48498.42	0.5649	Pulse	0.1000	3
Sb	121	72	He	7.659	ppb	1.5	9333.47	0.0592	Pulse	0.1000	3
Ba	137	115	He	141.258	ppb	1.7	63914.79	0.7445	Pulse	0.1000	3
Tl	205	209	He	2.275	ppb	2.9	11131.81	0.0690	Pulse	0.1000	3
Pb	208	209	He	40.583	ppb	0.5	264955.95	1.6417	Pulse	0.1000	3
U	238	209	He	1.509	ppb	5.5	9610.58	0.0595	Pulse	0.1000	3

Quantitation Report

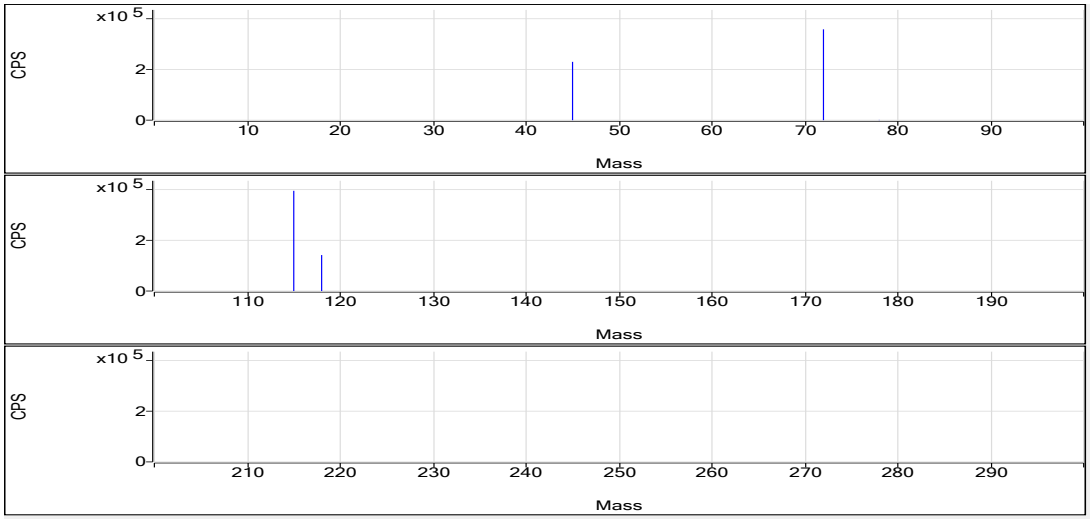
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1538687.27	0.8	102.3	Analog	0.1000	3
No Gas	Ge	72	1165153.57	0.5	100.1	Pulse	0.1000	3
H2	Sc	45	229957.92	1.9	103.3	Pulse	0.1000	3
H2	Ge	72	358183.71	1.9	100.8	Pulse	0.1000	3
H2	In	115	395239.12	1.3	99.7	Pulse	0.1000	3
He	Sc	45	42947.14	1.9	101.9	Pulse	0.1000	3
He	Ge	72	157590.16	0.9	101.8	Pulse	0.1000	3
He	In	115	85853.00	0.7	100.5	Pulse	0.1000	3
He	Tb	159	251483.93	1.1	100.5	Pulse	0.1000	3
He	Bi	209	161385.09	0.6	98.8	Pulse	0.1000	3

No Gas

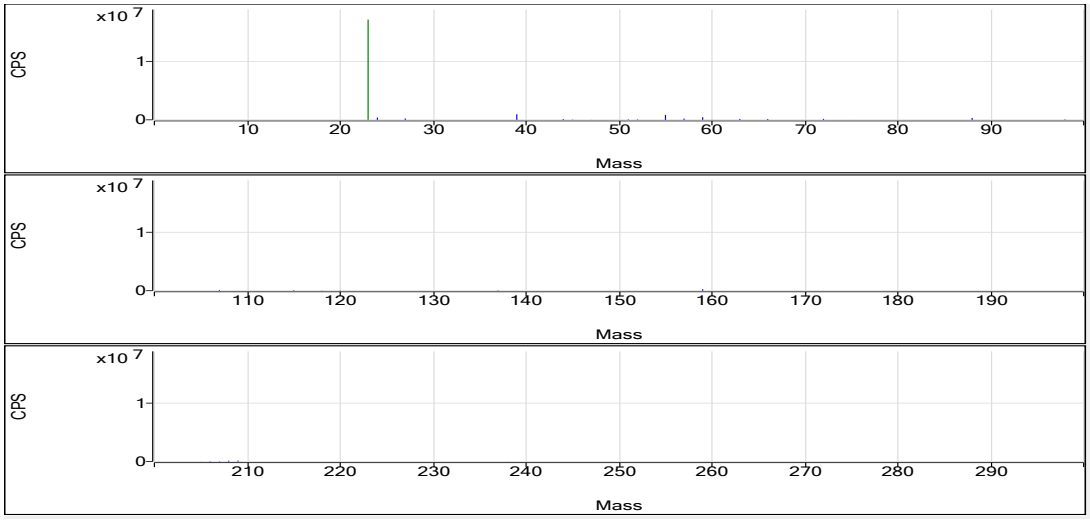


H2



Quantitation Report

He



Quantitation Report

Data File Name	034SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:41:37 PM
Sample Name	410-10659-c-1-a SD@5
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

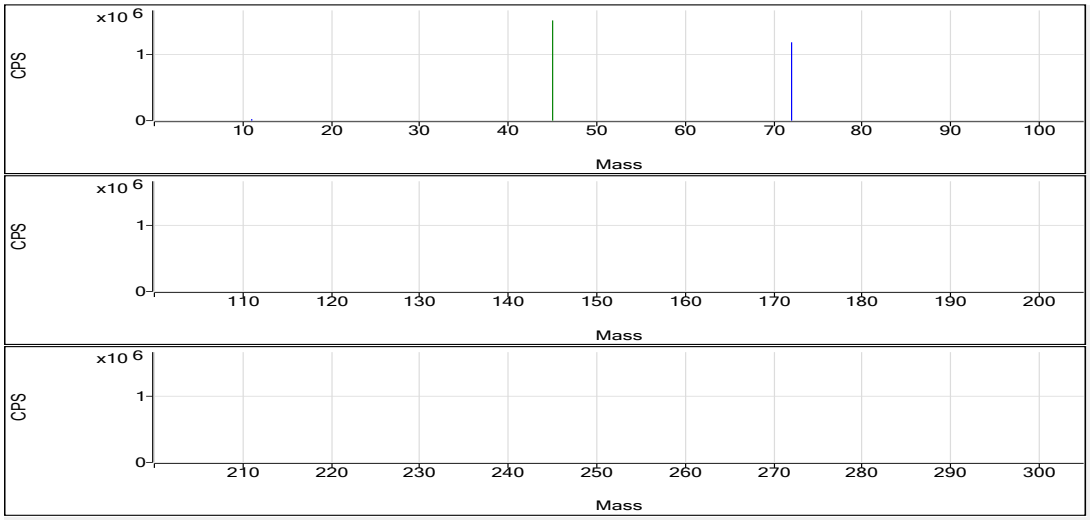
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.121	ppb	12.4	112.67	0.0001	Pulse	0.5000	3
B	11	45	No Gas	51.720	ppb	0.9	23702.02	0.0156	Pulse	0.5000	3
Se	78	115	H2	0.299	ppb	4.8	26.00	0.0001	Pulse	1.5000	3
Na	23	45	He	38340.386	ppb	0.8	3273969.95	78.6002	Analog	0.1000	3
Mg	24	45	He	1232.623	ppb	2.7	53925.72	1.2946	Pulse	0.1000	3
Al	27	45	He	2038.524	ppb	2.5	36435.83	0.8747	Pulse	0.1000	3
K	39	45	He	994.827	ppb	1.7	78292.46	1.8796	Pulse	0.1000	3
Ca	44	45	He	6998.945	ppb	1.9	22264.28	0.5345	Pulse	0.1000	3
Ti	47	45	He	47.498	ppb	7.1	1033.46	0.0248	Pulse	0.1000	3
V	51	45	He	7.099	ppb	4.2	5894.71	0.1415	Pulse	0.1000	3
Cr	52	45	He	3.163	ppb	3.8	4000.71	0.0960	Pulse	0.1000	3
Mn	55	45	He	291.520	ppb	1.4	158574.15	3.8071	Pulse	0.1000	3
Fe	57	45	He	1947.346	ppb	0.7	38913.10	0.9342	Pulse	0.1000	3
Co	59	72	He	1.007	ppb	5.9	1776.85	0.0115	Pulse	0.1000	3
Ni	60	159	He	2.922	ppb	20.5	1793.52	0.0071	Pulse	0.1000	3
Cu	63	115	He	15.391	ppb	2.7	19023.14	0.2215	Pulse	0.1000	3
Zn	66	115	He	23.098	ppb	3.5	5431.17	0.0633	Pulse	0.1000	3
As	75	115	He	4.167	ppb	2.6	709.35	0.0083	Pulse	0.5000	3
Sr	88	115	He	54.723	ppb	0.5	54916.79	0.6396	Pulse	0.1000	3
Mo	98	115	He	1.209	ppb	2.7	1540.14	0.0179	Pulse	0.1000	3
Ag	107	115	He	0.095	ppb	6.2	286.68	0.0033	Pulse	0.1000	3
Cd	111	115	He	0.072	ppb	11.0	26.67	0.0003	Pulse	0.5000	3
Sn	120	115	He	0.281	ppb	49.8	1556.81	0.0181	Pulse	0.1000	3
Sb	121	72	He	0.643	ppb	14.9	786.72	0.0051	Pulse	0.1000	3
Ba	137	115	He	16.770	ppb	4.0	7612.38	0.0886	Pulse	0.1000	3
Tl	205	209	He	0.023	ppb	23.8	153.34	0.0009	Pulse	0.1000	3
Pb	208	209	He	7.006	ppb	1.6	47037.65	0.2846	Pulse	0.1000	3
U	238	209	He	0.273	ppb	1.4	1796.86	0.0109	Pulse	0.1000	3

Quantitation Report

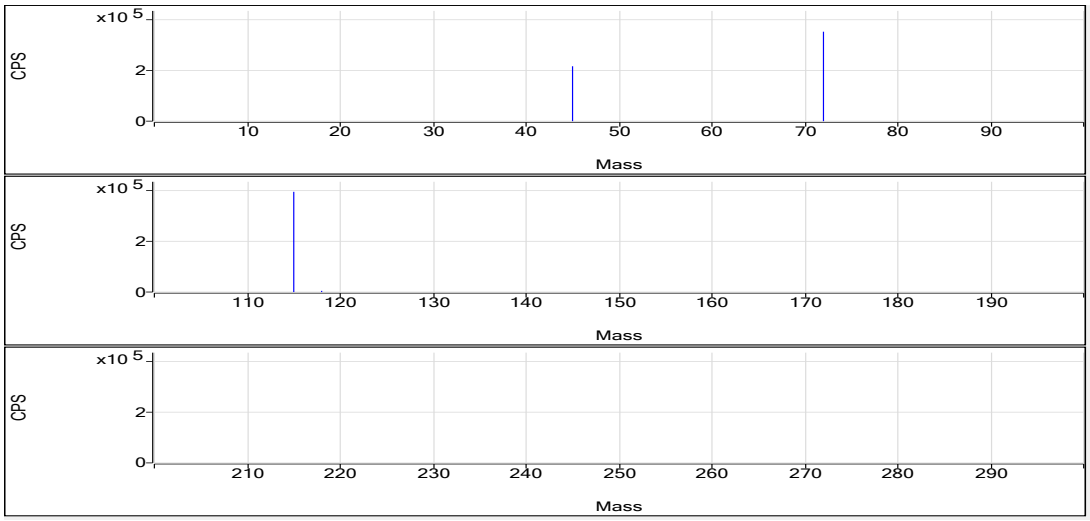
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1522813.31	1.0	101.3	Analog	0.1000	3
No Gas	Ge	72	1190398.94	0.8	102.2	Pulse	0.1000	3
H2	Sc	45	217465.15	1.2	97.7	Pulse	0.1000	3
H2	Ge	72	354304.54	1.5	99.7	Pulse	0.1000	3
H2	In	115	396965.49	1.2	100.2	Pulse	0.1000	3
He	Sc	45	41653.29	0.2	98.8	Pulse	0.1000	3
He	Ge	72	153929.35	0.3	99.5	Pulse	0.1000	3
He	In	115	85869.91	1.2	100.5	Pulse	0.1000	3
He	Tb	159	250859.51	1.0	100.2	Pulse	0.1000	3
He	Bi	209	165267.71	1.3	101.2	Pulse	0.1000	3

No Gas

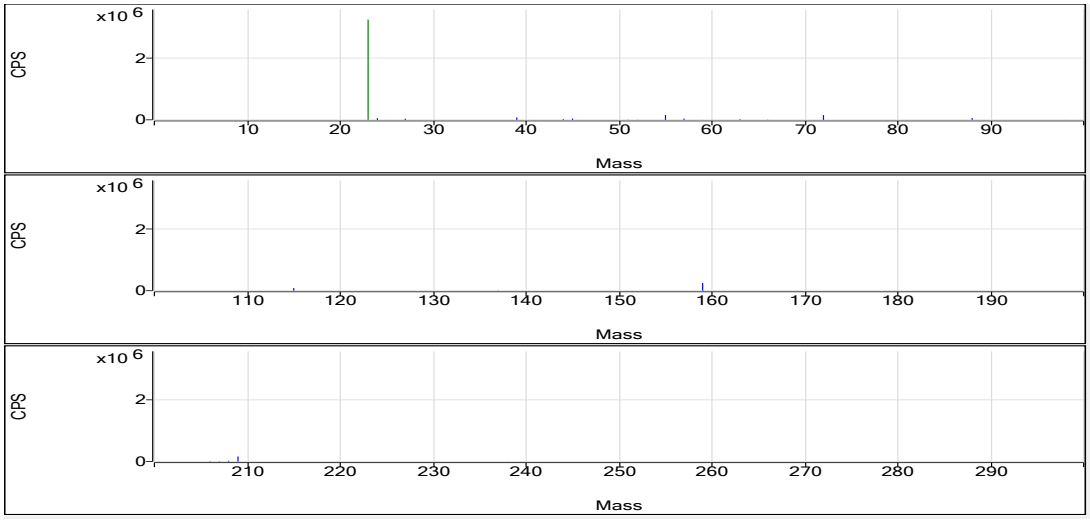


H2



Quantitation Report

He



Quantitation Report

Data File Name	035SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:43:30 PM
Sample Name	410-10659-r-2-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

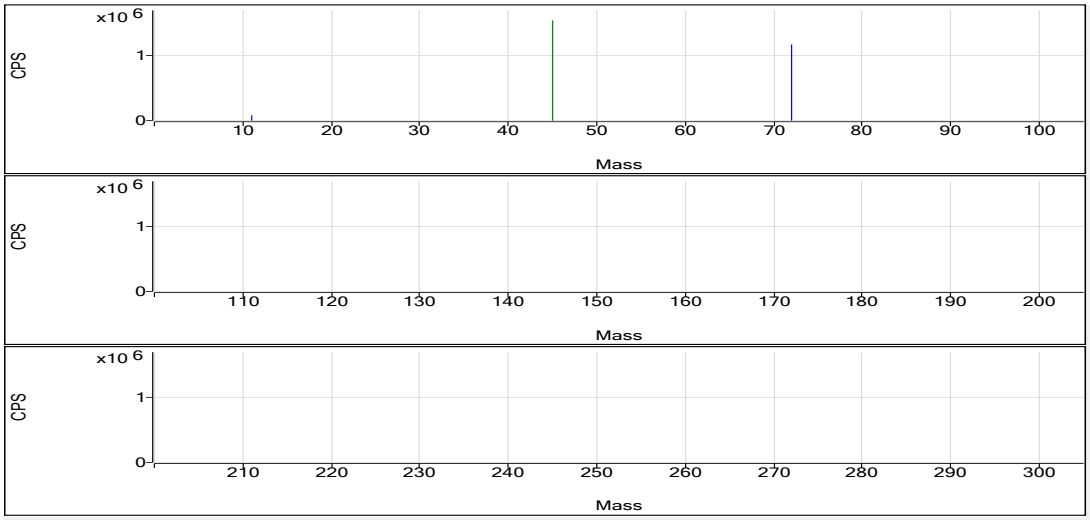
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.499	ppb	7.5	396.01	0.0003	Pulse	0.5000	3
B	11	45	No Gas	184.020	ppb	1.8	81409.85	0.0529	Pulse	0.5000	3
Se	78	115	H2	1.356	ppb	2.7	114.00	0.0003	Pulse	1.5000	3
Na	23	45	He	177840.453	ppb	1.1	15651910.60	362.2956	Analog	0.1000	3
Mg	24	45	He	6045.025	ppb	1.7	273729.08	6.3366	Pulse	0.1000	3
Al	27	45	He	9806.043	ppb	1.8	181655.10	4.2053	Pulse	0.1000	3
K	39	45	He	4886.270	ppb	0.7	314857.74	7.2882	Pulse	0.1000	3
Ca	44	45	He	34492.963	ppb	2.3	113424.23	2.6262	Pulse	0.1000	3
Ti	47	45	He	208.216	ppb	6.7	4694.27	0.1088	Pulse	0.1000	3
V	51	45	He	35.049	ppb	1.7	28595.42	0.6619	Pulse	0.1000	3
Cr	52	45	He	13.808	ppb	5.4	14541.04	0.3367	Pulse	0.1000	3
Mn	55	45	He	1428.103	ppb	1.1	805237.70	18.6406	Pulse	0.1000	3
Fe	57	45	He	9430.327	ppb	2.6	194906.05	4.5128	Pulse	0.1000	3
Co	59	72	He	4.899	ppb	1.4	8589.48	0.0553	Pulse	0.1000	3
Ni	60	159	He	14.353	ppb	5.3	6751.78	0.0266	Pulse	0.1000	3
Cu	63	115	He	77.786	ppb	2.5	92766.56	1.0863	Pulse	0.1000	3
Zn	66	115	He	124.605	ppb	2.0	24461.45	0.2864	Pulse	0.1000	3
As	75	115	He	21.391	ppb	5.9	3447.77	0.0404	Pulse	0.5000	3
Sr	88	115	He	278.775	ppb	1.6	277982.98	3.2549	Pulse	0.1000	3
Mo	98	115	He	5.137	ppb	4.7	6505.05	0.0762	Pulse	0.1000	3
Ag	107	115	He	0.360	ppb	16.4	940.07	0.0110	Pulse	0.1000	3
Cd	111	115	He	0.415	ppb	6.7	148.67	0.0017	Pulse	0.5000	3
Sn	120	115	He	0.821	ppb	18.9	2216.94	0.0260	Pulse	0.1000	3
Sb	121	72	He	2.746	ppb	3.5	3310.51	0.0213	Pulse	0.1000	3
Ba	137	115	He	87.046	ppb	2.7	39185.27	0.4589	Pulse	0.1000	3
Tl	205	209	He	0.122	ppb	0.5	636.71	0.0039	Pulse	0.1000	3
Pb	208	209	He	34.971	ppb	1.1	229982.78	1.4149	Pulse	0.1000	3
U	238	209	He	1.432	ppb	2.4	9190.26	0.0565	Pulse	0.1000	3

Quantitation Report

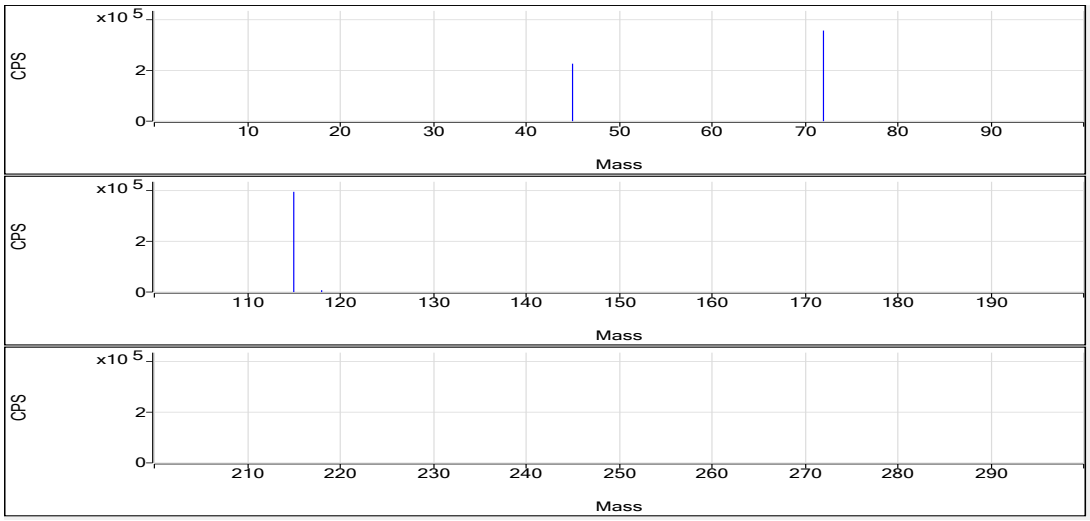
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1538880.71	0.3	102.4	Analog	0.1000	3
No Gas	Ge	72	1169636.96	0.3	100.4	Pulse	0.1000	3
H2	Sc	45	225826.02	2.1	101.4	Pulse	0.1000	3
H2	Ge	72	356057.59	1.0	100.2	Pulse	0.1000	3
H2	In	115	393860.83	1.3	99.4	Pulse	0.1000	3
He	Sc	45	43204.58	2.2	102.5	Pulse	0.1000	3
He	Ge	72	155270.84	1.1	100.3	Pulse	0.1000	3
He	In	115	85416.84	1.5	99.9	Pulse	0.1000	3
He	Tb	159	253892.25	0.6	101.5	Pulse	0.1000	3
He	Bi	209	162551.81	0.9	99.5	Pulse	0.1000	3

No Gas

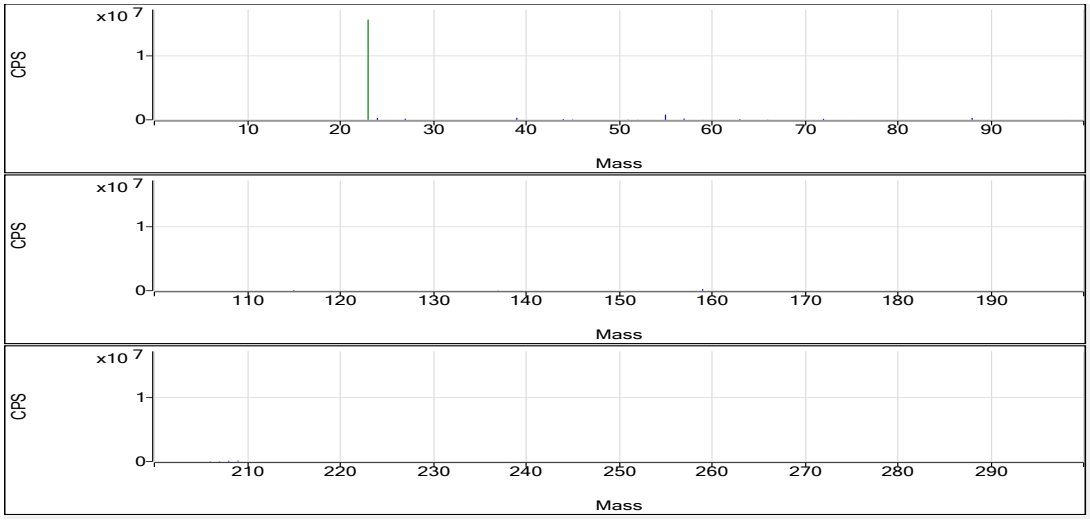


H2



Quantitation Report

He



Quantitation Report

Data File Name	036SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:45:23 PM
Sample Name	410-10717-q-6-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

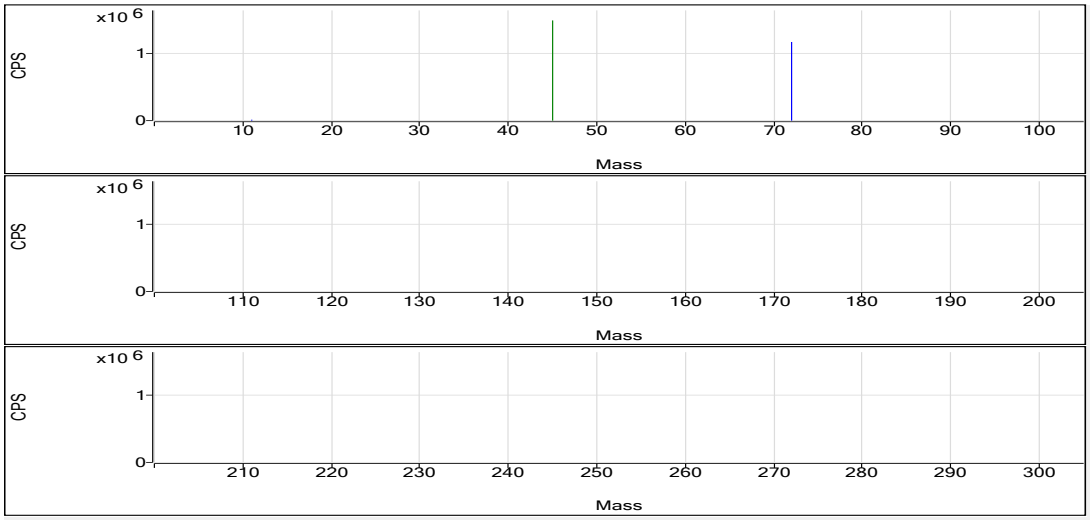
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.007	ppb	103.2	28.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	29.692	ppb	1.5	13967.18	0.0093	Pulse	0.5000	3
Se	78	115	H2	0.143	ppb	6.8	12.89	0.0000	Pulse	1.5000	3
Na	23	45	He	40145.222	ppb	2.4	3378330.89	82.2706	Analog	0.1000	3
Mg	24	45	He	8515.381	ppb	1.2	366515.48	8.9248	Pulse	0.1000	3
Al	27	45	He	21.301	ppb	31.3	400.02	0.0098	Pulse	0.1000	3
K	39	45	He	3625.707	ppb	1.6	227359.41	5.5362	Pulse	0.1000	3
Ca	44	45	He	46324.407	ppb	0.5	144830.78	3.5262	Pulse	0.1000	3
Ti	47	45	He	0.157	ppb	173.2	3.33	0.0001	Pulse	0.1000	3
V	51	45	He	0.999	ppb	17.6	1146.75	0.0279	Pulse	0.1000	3
Cr	52	45	He	3.330	ppb	9.8	4097.40	0.0998	Pulse	0.1000	3
Mn	55	45	He	637.418	ppb	1.3	341734.76	8.3214	Pulse	0.1000	3
Fe	57	45	He	210.629	ppb	9.0	4257.46	0.1037	Pulse	0.1000	3
Co	59	72	He	0.117	ppb	9.6	236.68	0.0015	Pulse	0.1000	3
Ni	60	159	He	0.291	ppb	99.2	670.04	0.0027	Pulse	0.1000	3
Cu	63	115	He	0.420	ppb	20.7	1200.09	0.0140	Pulse	0.1000	3
Zn	66	115	He	1.152	ppb	20.1	1283.43	0.0150	Pulse	0.1000	3
As	75	115	He	1.724	ppb	11.6	316.68	0.0037	Pulse	0.5000	3
Sr	88	115	He	181.904	ppb	0.9	181589.78	2.1241	Pulse	0.1000	3
Mo	98	115	He	2.020	ppb	3.8	2560.32	0.0300	Pulse	0.1000	3
Ag	107	115	He	-0.001	ppb	N/A	46.67	0.0005	Pulse	0.1000	3
Cd	111	115	He	0.007	ppb	155.2	3.33	0.0000	Pulse	0.5000	3
Sn	120	115	He	-0.159	ppb	N/A	1006.74	0.0118	Pulse	0.1000	3
Sb	121	72	He	0.383	ppb	22.1	480.03	0.0031	Pulse	0.1000	3
Ba	137	115	He	14.265	ppb	5.9	6445.03	0.0754	Pulse	0.1000	3
Tl	205	209	He	0.001	ppb	374.1	43.33	0.0003	Pulse	0.1000	3
Pb	208	209	He	0.038	ppb	11.4	483.36	0.0030	Pulse	0.1000	3
U	238	209	He	0.643	ppb	2.9	4074.13	0.0254	Pulse	0.1000	3

Quantitation Report

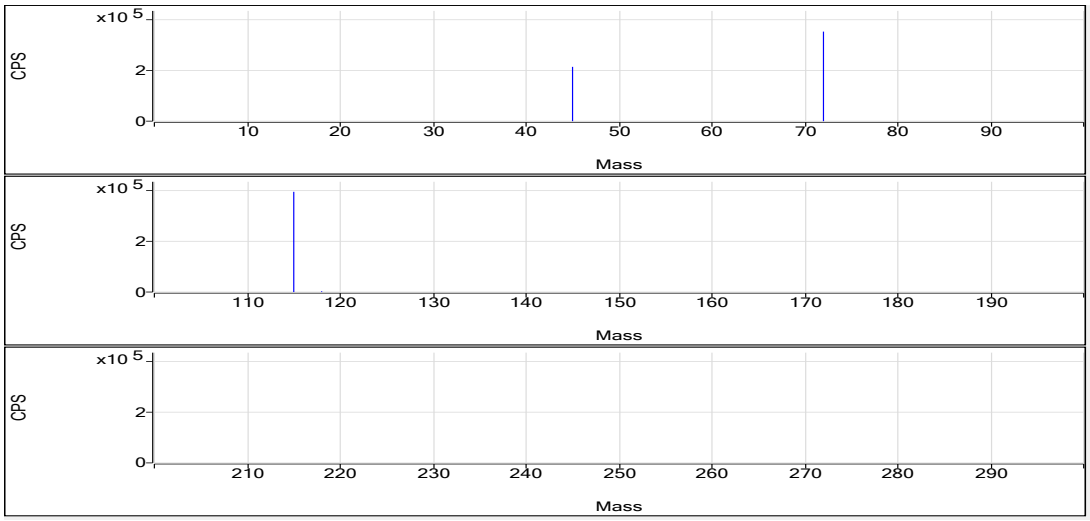
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1494542.48	1.5	99.4	Analog	0.1000	3
No Gas	Ge	72	1172964.12	0.4	100.7	Pulse	0.1000	3
H2	Sc	45	214096.47	2.9	96.2	Pulse	0.1000	3
H2	Ge	72	353082.60	1.7	99.4	Pulse	0.1000	3
H2	In	115	395175.68	1.3	99.7	Pulse	0.1000	3
He	Sc	45	41071.50	1.4	97.4	Pulse	0.1000	3
He	Ge	72	154578.86	0.6	99.9	Pulse	0.1000	3
He	In	115	85497.85	1.8	100.0	Pulse	0.1000	3
He	Tb	159	251247.87	0.6	100.4	Pulse	0.1000	3
He	Bi	209	160301.71	1.2	98.2	Pulse	0.1000	3

No Gas

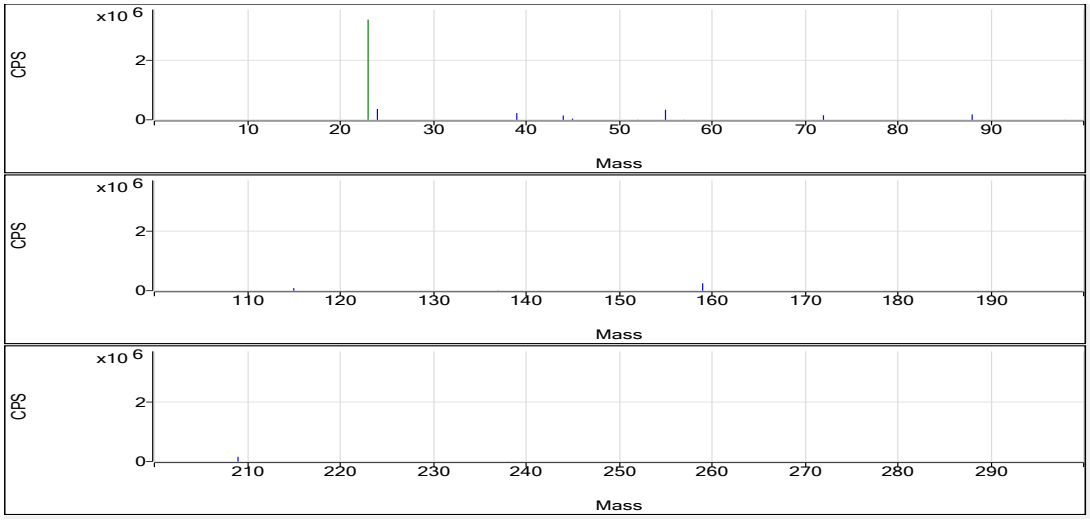


H2



Quantitation Report

He



Quantitation Report

Data File Name	037_CCV.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:47:15 PM
Sample Name	CCV 330252
Sample Type	CCV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

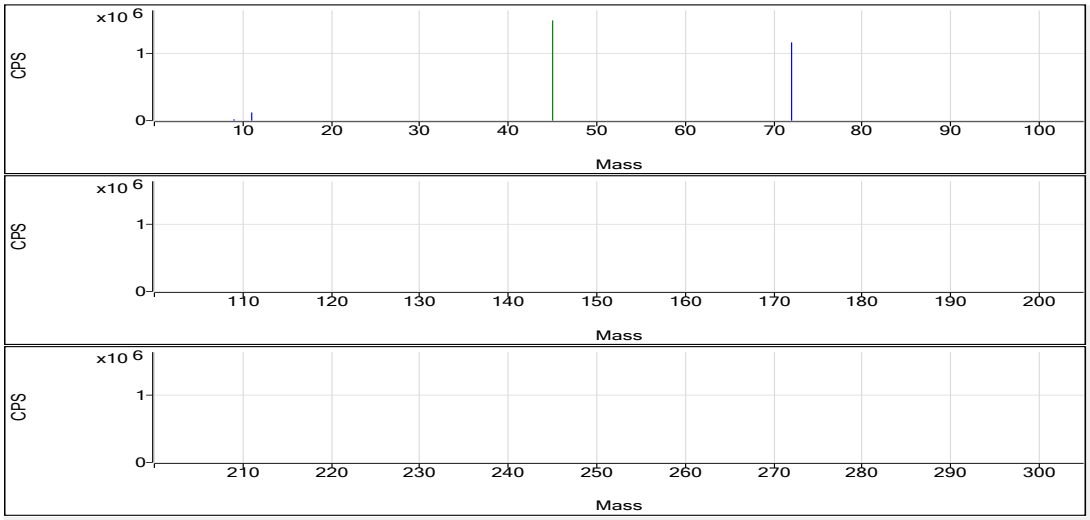
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	28.347	ppb	2.9	20652.16	0.0138	Pulse	0.5000	3
B	11	45	No Gas	285.354	ppb	3.0	122166.79	0.0815	Pulse	0.5000	3
Se	78	115	H2	29.295	ppb	2.8	2468.66	0.0062	Pulse	1.5000	3
Na	23	45	He	4817.985	ppb	2.8	427728.54	10.4271	Pulse	0.1000	3
Mg	24	45	He	4772.343	ppb	2.0	205247.32	5.0032	Pulse	0.1000	3
Al	27	45	He	4799.372	ppb	1.2	84457.32	2.0585	Pulse	0.1000	3
K	39	45	He	4868.512	ppb	0.7	298017.61	7.2636	Pulse	0.1000	3
Ca	44	45	He	4985.845	ppb	3.9	15642.16	0.3814	Pulse	0.1000	3
Ti	47	45	He	304.860	ppb	2.9	6531.68	0.1592	Pulse	0.1000	3
V	51	45	He	299.410	ppb	1.3	229102.91	5.5843	Pulse	0.1000	3
Cr	52	45	He	301.218	ppb	1.8	280416.34	6.8354	Pulse	0.1000	3
Mn	55	45	He	299.362	ppb	0.7	160400.14	3.9094	Pulse	0.1000	3
Fe	57	45	He	5039.742	ppb	2.3	98989.99	2.4131	Pulse	0.1000	3
Co	59	72	He	278.803	ppb	0.6	480971.59	3.1362	Pulse	0.1000	3
Ni	60	159	He	295.258	ppb	0.4	127308.57	0.5044	Pulse	0.1000	3
Cu	63	115	He	298.539	ppb	1.8	353486.91	4.1458	Pulse	0.1000	3
Zn	66	115	He	296.072	ppb	1.6	56561.26	0.6634	Pulse	0.1000	3
As	75	115	He	300.678	ppb	1.5	47855.71	0.5612	Pulse	0.5000	3
Sr	88	115	He	30.185	ppb	2.5	30119.20	0.3531	Pulse	0.1000	3
Mo	98	115	He	29.916	ppb	2.5	37828.18	0.4437	Pulse	0.1000	3
Ag	107	115	He	29.978	ppb	2.3	74105.39	0.8692	Pulse	0.1000	3
Cd	111	115	He	30.574	ppb	2.2	10884.26	0.1277	Pulse	0.5000	3
Sn	120	115	He	30.410	ppb	3.5	38711.28	0.4541	Pulse	0.1000	3
Sb	121	72	He	29.575	ppb	1.0	35008.08	0.2283	Pulse	0.1000	3
Ba	137	115	He	306.477	ppb	2.1	137687.71	1.6149	Pulse	0.1000	3
Tl	205	209	He	29.905	ppb	0.8	147760.90	0.9034	Pulse	0.1000	3
Pb	208	209	He	30.069	ppb	0.5	199006.88	1.2168	Pulse	0.1000	3
U	238	209	He	48.713	ppb	0.9	313950.84	1.9196	Pulse	0.1000	3

Quantitation Report

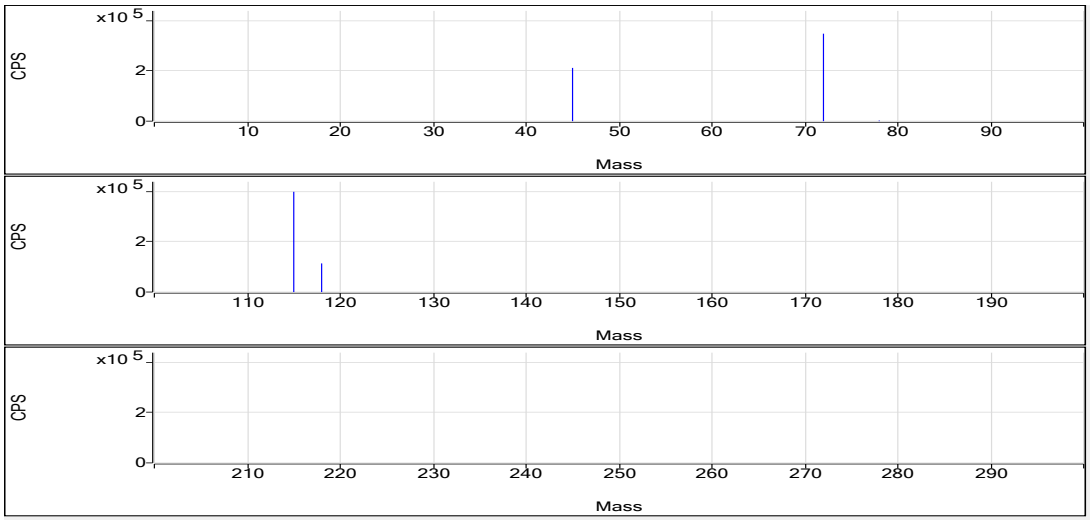
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1499126.33	0.7	99.7	Analog	0.1000	3
No Gas	Ge	72	1170847.72	0.5	100.6	Pulse	0.1000	3
H2	Sc	45	211333.52	1.8	94.9	Pulse	0.1000	3
H2	Ge	72	347169.03	1.8	97.7	Pulse	0.1000	3
H2	In	115	397764.72	1.5	100.4	Pulse	0.1000	3
He	Sc	45	41031.78	1.6	97.4	Pulse	0.1000	3
He	Ge	72	153366.40	0.9	99.1	Pulse	0.1000	3
He	In	115	85279.76	1.8	99.8	Pulse	0.1000	3
He	Tb	159	252382.04	0.8	100.9	Pulse	0.1000	3
He	Bi	209	163550.27	0.6	100.1	Pulse	0.1000	3

No Gas

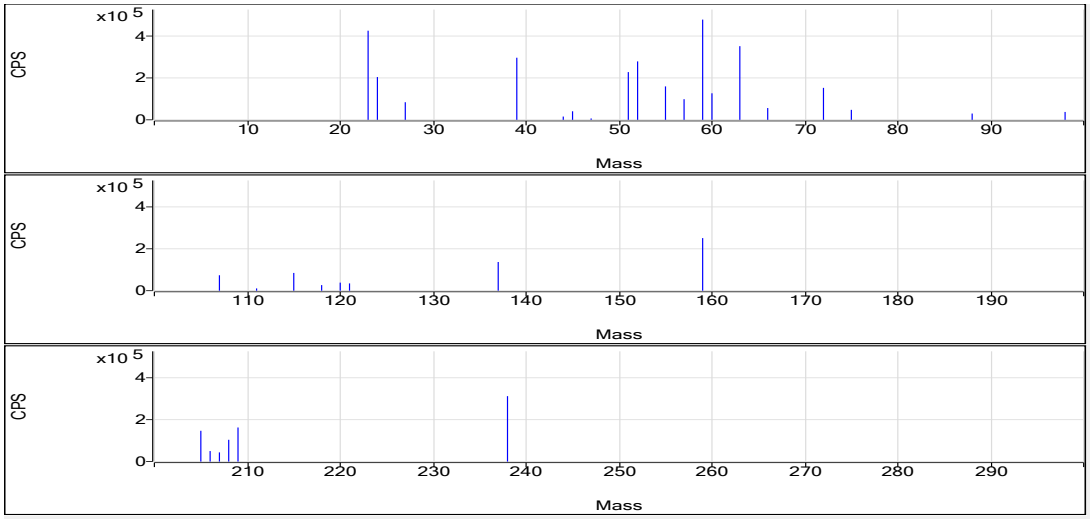


H2



Quantitation Report

He



Quantitation Report

Data File Name	038_CCB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:49:09 PM
Sample Name	CCB 226166
Sample Type	CCB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

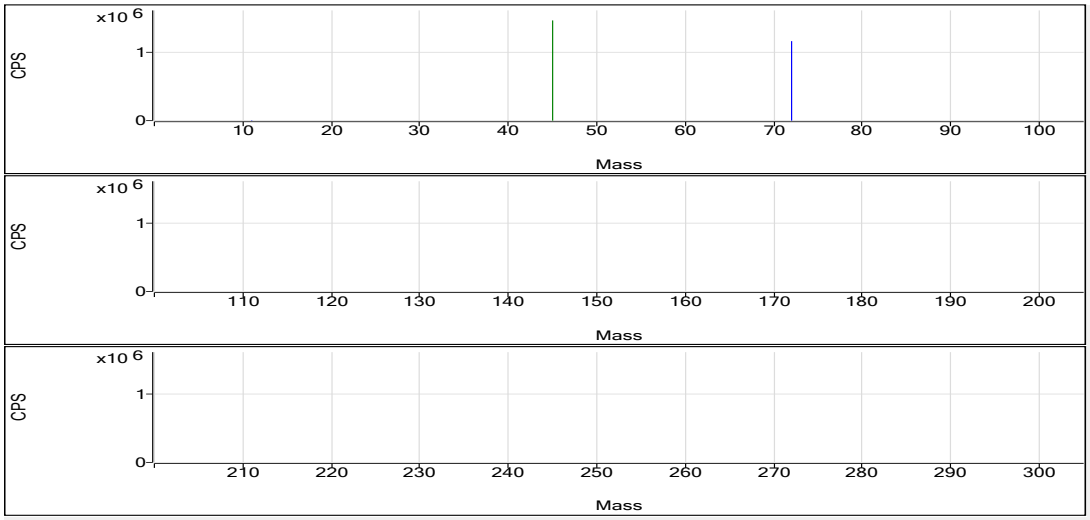
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.033	ppb	71.9	45.33	0.0000	Pulse	0.5000	3
B	11	45	No Gas	11.540	ppb	6.8	6192.64	0.0042	Pulse	0.5000	3
Se	78	115	H2	0.040	ppb	28.0	4.22	0.0000	Pulse	1.5000	3
Na	23	45	He	53.751	ppb	13.5	29867.22	0.7383	Pulse	0.1000	3
Mg	24	45	He	1.463	ppb	26.7	190.01	0.0047	Pulse	0.1000	3
Al	27	45	He	2.747	ppb	30.6	73.33	0.0018	Pulse	0.1000	3
K	39	45	He	-2.656	ppb	N/A	19954.10	0.4932	Pulse	0.1000	3
Ca	44	45	He	9.765	ppb	18.3	113.33	0.0028	Pulse	0.1000	3
Ti	47	45	He	0.000	ppb	N/A	0.00	0.0000	Pulse	0.1000	3
V	51	45	He	0.146	ppb	62.9	486.69	0.0120	Pulse	0.1000	3
Cr	52	45	He	0.475	ppb	4.0	1426.79	0.0353	Pulse	0.1000	3
Mn	55	45	He	0.367	ppb	15.7	293.34	0.0072	Pulse	0.1000	3
Fe	57	45	He	1.261	ppb	186.3	143.34	0.0035	Pulse	0.1000	3
Co	59	72	He	0.082	ppb	36.7	173.34	0.0011	Pulse	0.1000	3
Ni	60	159	He	-0.145	ppb	N/A	480.03	0.0019	Pulse	0.1000	3
Cu	63	115	He	0.064	ppb	60.0	780.04	0.0091	Pulse	0.1000	3
Zn	66	115	He	-1.351	ppb	N/A	813.38	0.0095	Pulse	0.1000	3
As	75	115	He	0.013	ppb	169.5	44.00	0.0005	Pulse	0.5000	3
Sr	88	115	He	0.007	ppb	173.5	73.33	0.0009	Pulse	0.1000	3
Mo	98	115	He	0.073	ppb	58.9	93.34	0.0011	Pulse	0.1000	3
Ag	107	115	He	0.015	ppb	56.2	86.67	0.0010	Pulse	0.1000	3
Cd	111	115	He	0.007	ppb	43.5	3.33	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.100	ppb	147.2	1326.78	0.0155	Pulse	0.1000	3
Sb	121	72	He	0.379	ppb	21.1	466.70	0.0031	Pulse	0.1000	3
Ba	137	115	He	0.104	ppb	0.5	70.00	0.0008	Pulse	0.1000	3
Tl	205	209	He	0.014	ppb	23.4	106.67	0.0007	Pulse	0.1000	3
Pb	208	209	He	-0.012	ppb	N/A	160.00	0.0010	Pulse	0.1000	3
U	238	209	He	0.028	ppb	10.5	193.34	0.0012	Pulse	0.1000	3

Quantitation Report

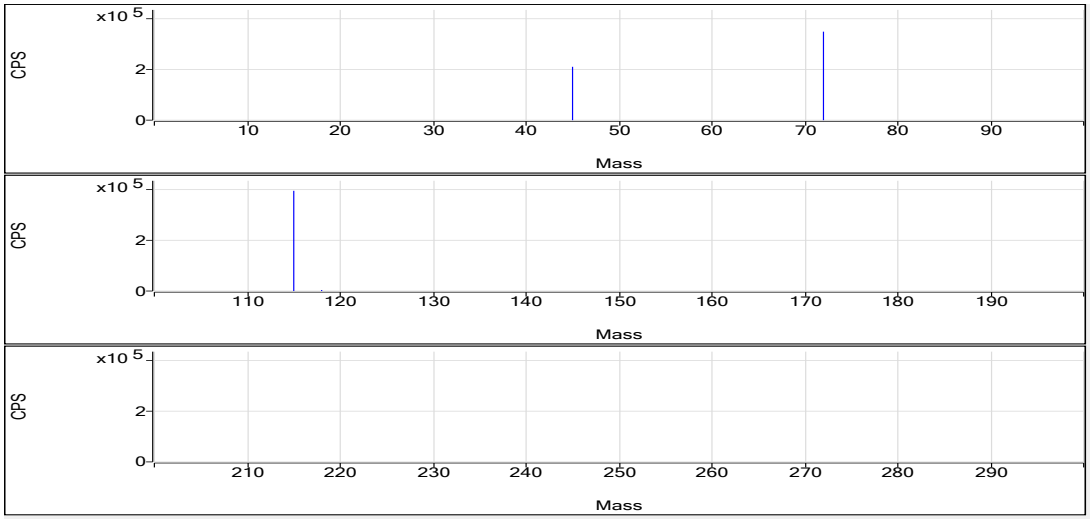
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1466869.72	1.6	97.6	Analog	0.1000	3
No Gas	Ge	72	1163572.09	0.9	99.9	Pulse	0.1000	3
H2	Sc	45	210720.45	0.3	94.7	Pulse	0.1000	3
H2	Ge	72	349508.24	1.5	98.4	Pulse	0.1000	3
H2	In	115	395836.69	1.9	99.9	Pulse	0.1000	3
He	Sc	45	40463.54	1.8	96.0	Pulse	0.1000	3
He	Ge	72	151847.69	0.2	98.1	Pulse	0.1000	3
He	In	115	85504.02	0.4	100.0	Pulse	0.1000	3
He	Tb	159	249420.13	0.9	99.7	Pulse	0.1000	3
He	Bi	209	162076.71	1.3	99.2	Pulse	0.1000	3

No Gas

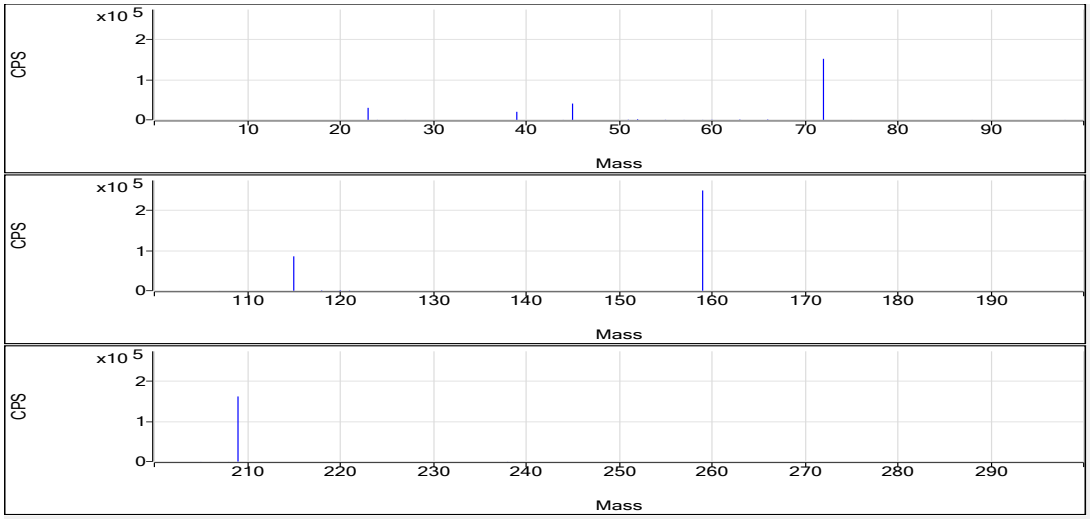


H2



Quantitation Report

He



Quantitation Report

Data File Name	039SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:51:01 PM
Sample Name	410-10696-o-1-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

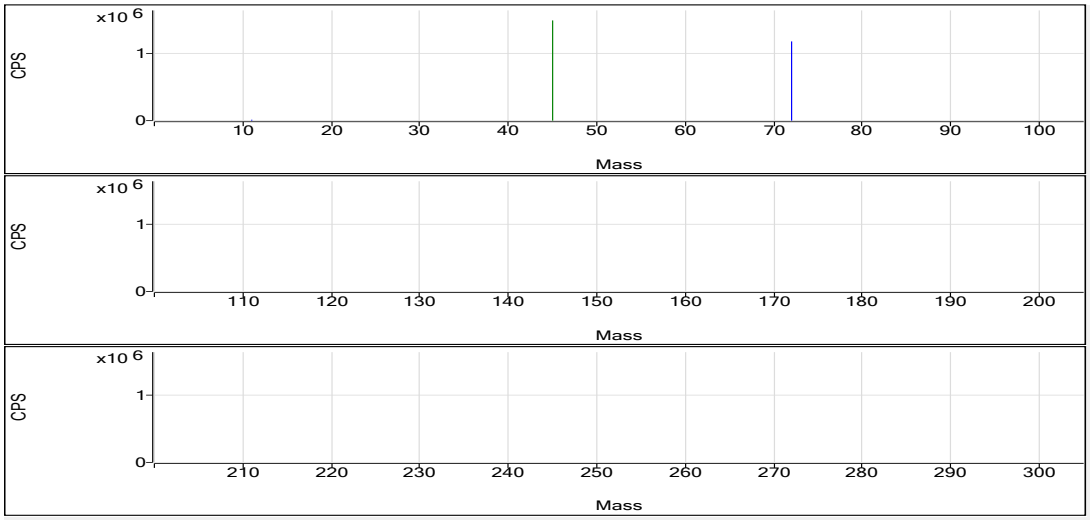
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.047	ppb	11.7	56.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	28.769	ppb	2.8	13578.17	0.0091	Pulse	0.5000	3
Se	78	115	H2	0.186	ppb	18.1	16.44	0.0000	Pulse	1.5000	3
Na	23	45	He	5296.020	ppb	1.7	464269.52	11.3993	Pulse	0.1000	3
Mg	24	45	He	14312.053	ppb	1.5	610863.66	14.9981	Pulse	0.1000	3
Al	27	45	He	140.719	ppb	11.6	2483.80	0.0610	Pulse	0.1000	3
K	39	45	He	1605.613	ppb	1.1	111135.15	2.7285	Pulse	0.1000	3
Ca	44	45	He	31717.144	ppb	1.5	98362.26	2.4150	Pulse	0.1000	3
Ti	47	45	He	3.942	ppb	71.7	83.34	0.0021	Pulse	0.1000	3
V	51	45	He	0.409	ppb	24.0	690.04	0.0170	Pulse	0.1000	3
Cr	52	45	He	3.415	ppb	2.5	4144.06	0.1017	Pulse	0.1000	3
Mn	55	45	He	794.408	ppb	0.4	422409.65	10.3703	Pulse	0.1000	3
Fe	57	45	He	52132.117	ppb	1.2	1015591.78	24.9343	Pulse	0.1000	3
Co	59	72	He	9.868	ppb	1.5	17057.16	0.1112	Pulse	0.1000	3
Ni	60	159	He	2.588	ppb	6.9	1656.83	0.0066	Pulse	0.1000	3
Cu	63	115	He	0.378	ppb	34.7	1123.42	0.0135	Pulse	0.1000	3
Zn	66	115	He	0.881	ppb	77.7	1203.42	0.0144	Pulse	0.1000	3
As	75	115	He	35.347	ppb	2.1	5542.43	0.0664	Pulse	0.5000	3
Sr	88	115	He	305.549	ppb	0.9	297700.71	3.5674	Pulse	0.1000	3
Mo	98	115	He	0.903	ppb	14.1	1116.75	0.0134	Pulse	0.1000	3
Ag	107	115	He	0.006	ppb	100.9	63.33	0.0008	Pulse	0.1000	3
Cd	111	115	He	0.010	ppb	1.0	4.00	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.008	ppb	1093.1	1183.43	0.0142	Pulse	0.1000	3
Sb	121	72	He	0.169	ppb	19.4	223.34	0.0015	Pulse	0.1000	3
Ba	137	115	He	359.584	ppb	1.1	158111.71	1.8947	Pulse	0.1000	3
Tl	205	209	He	0.011	ppb	84.7	93.34	0.0006	Pulse	0.1000	3
Pb	208	209	He	0.122	ppb	3.7	1046.73	0.0064	Pulse	0.1000	3
U	238	209	He	0.028	ppb	12.9	196.68	0.0012	Pulse	0.1000	3

Quantitation Report

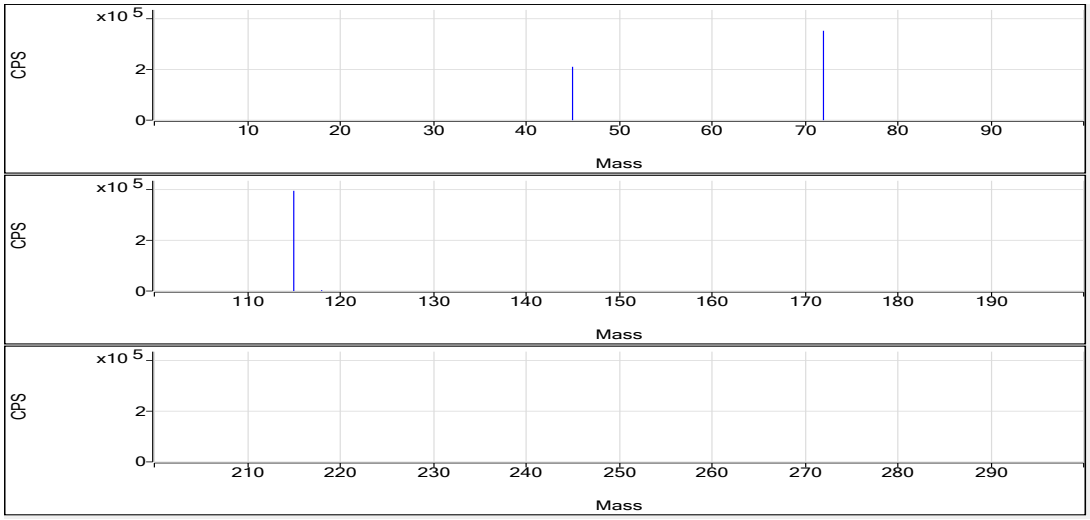
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1494817.22	2.0	99.4	Analog	0.1000	3
No Gas	Ge	72	1181796.83	1.2	101.5	Pulse	0.1000	3
H2	Sc	45	210832.72	1.9	94.7	Pulse	0.1000	3
H2	Ge	72	353247.47	2.6	99.4	Pulse	0.1000	3
H2	In	115	396010.32	2.5	99.9	Pulse	0.1000	3
He	Sc	45	40733.90	1.4	96.6	Pulse	0.1000	3
He	Ge	72	153387.06	1.1	99.1	Pulse	0.1000	3
He	In	115	83451.60	0.9	97.6	Pulse	0.1000	3
He	Tb	159	251905.11	0.8	100.7	Pulse	0.1000	3
He	Bi	209	163736.34	0.2	100.3	Pulse	0.1000	3

No Gas

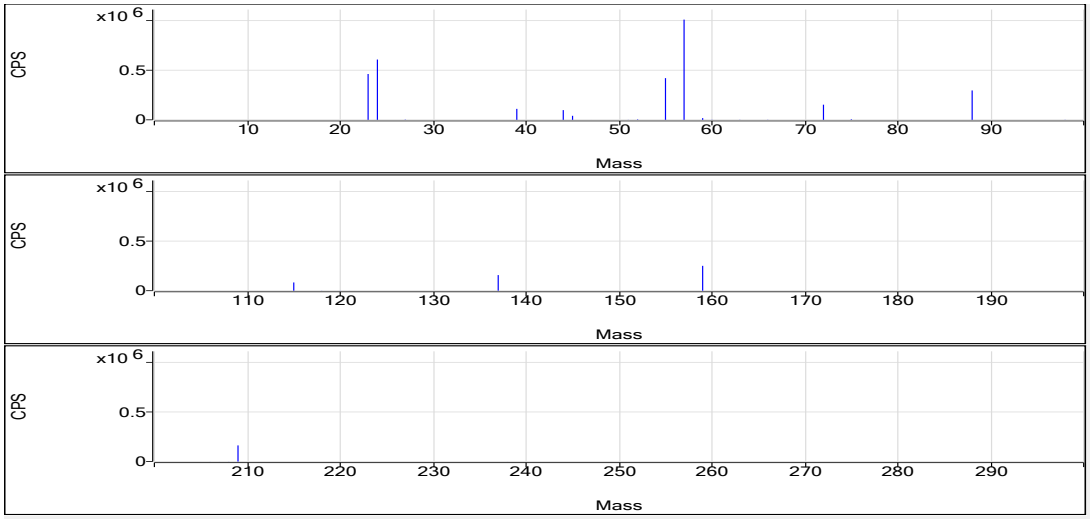


H2



Quantitation Report

He



Quantitation Report

Data File Name	040SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:52:53 PM
Sample Name	410-10717-q-5-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

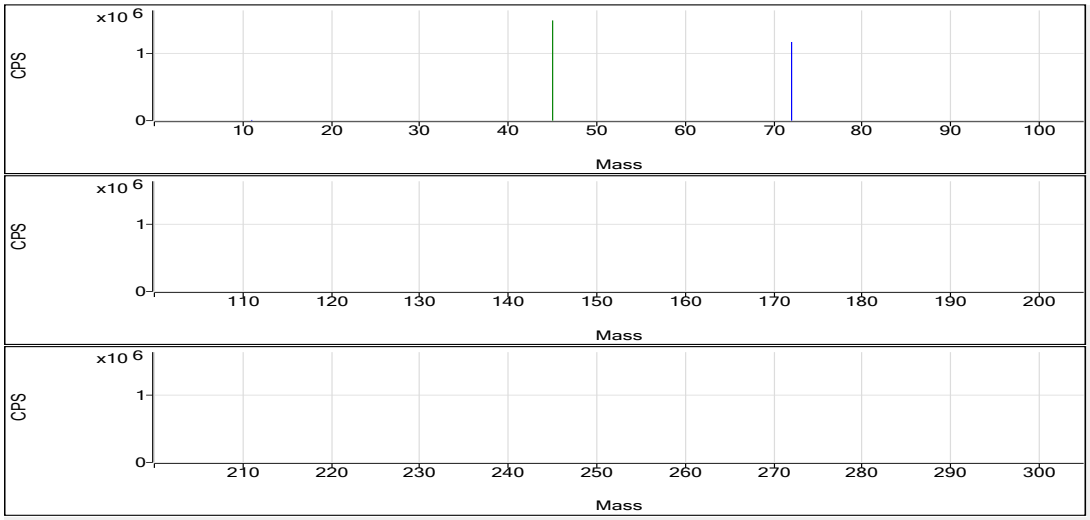
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	-0.003	ppb	N/A	20.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	21.372	ppb	1.5	10459.01	0.0070	Pulse	0.5000	3
Se	78	115	H2	0.095	ppb	80.9	8.89	0.0000	Pulse	1.5000	3
Na	23	45	He	38249.440	ppb	0.8	3256181.72	78.4152	Analog	0.1000	3
Mg	24	45	He	8373.641	ppb	0.6	364441.46	8.7763	Pulse	0.1000	3
Al	27	45	He	16.880	ppb	9.2	326.68	0.0079	Pulse	0.1000	3
K	39	45	He	3447.815	ppb	0.3	219630.71	5.2890	Pulse	0.1000	3
Ca	44	45	He	45226.773	ppb	1.3	142955.43	3.4427	Pulse	0.1000	3
Ti	47	45	He	0.154	ppb	173.2	3.33	0.0001	Pulse	0.1000	3
V	51	45	He	2.563	ppb	7.2	2370.27	0.0571	Pulse	0.1000	3
Cr	52	45	He	3.201	ppb	10.6	4024.01	0.0969	Pulse	0.1000	3
Mn	55	45	He	39.544	ppb	1.1	21533.10	0.5185	Pulse	0.1000	3
Fe	57	45	He	79.631	ppb	6.2	1703.49	0.0410	Pulse	0.1000	3
Co	59	72	He	0.131	ppb	34.5	260.01	0.0017	Pulse	0.1000	3
Ni	60	159	He	0.352	ppb	79.3	700.04	0.0028	Pulse	0.1000	3
Cu	63	115	He	0.217	ppb	17.6	956.73	0.0112	Pulse	0.1000	3
Zn	66	115	He	44.234	ppb	2.2	9336.64	0.1097	Pulse	0.1000	3
As	75	115	He	1.557	ppb	5.6	288.67	0.0034	Pulse	0.5000	3
Sr	88	115	He	186.962	ppb	2.3	185750.54	2.1832	Pulse	0.1000	3
Mo	98	115	He	2.024	ppb	2.5	2553.67	0.0300	Pulse	0.1000	3
Ag	107	115	He	0.007	ppb	40.8	66.67	0.0008	Pulse	0.1000	3
Cd	111	115	He	0.013	ppb	64.0	5.33	0.0001	Pulse	0.5000	3
Sn	120	115	He	-0.118	ppb	N/A	1053.42	0.0124	Pulse	0.1000	3
Sb	121	72	He	0.428	ppb	21.3	530.03	0.0035	Pulse	0.1000	3
Ba	137	115	He	14.735	ppb	6.6	6625.16	0.0779	Pulse	0.1000	3
Tl	205	209	He	0.010	ppb	25.0	86.67	0.0005	Pulse	0.1000	3
Pb	208	209	He	0.045	ppb	18.5	530.02	0.0033	Pulse	0.1000	3
U	238	209	He	0.130	ppb	9.7	843.39	0.0052	Pulse	0.1000	3

Quantitation Report

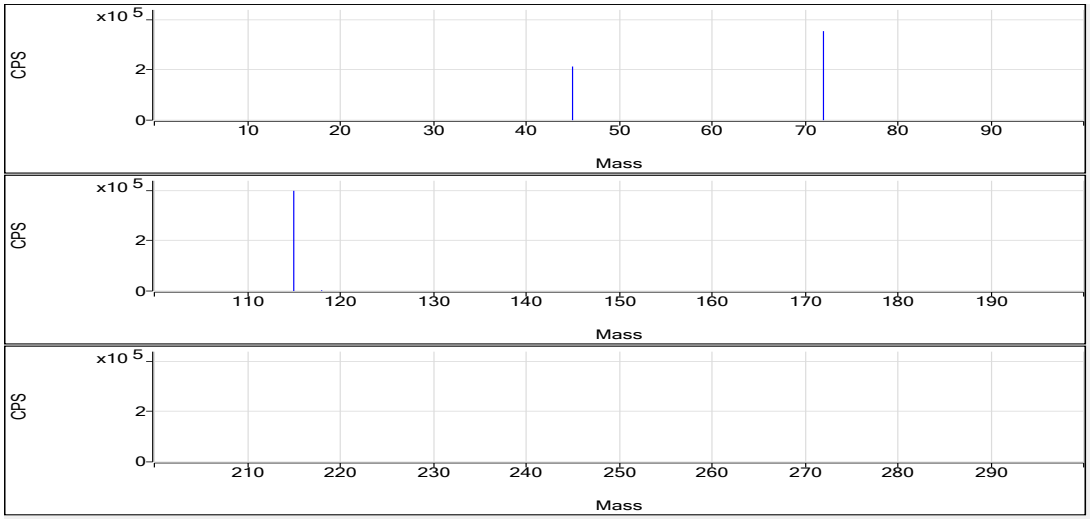
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1494515.65	1.4	99.4	Analog	0.1000	3
No Gas	Ge	72	1172942.07	0.7	100.7	Pulse	0.1000	3
H2	Sc	45	213102.46	0.3	95.7	Pulse	0.1000	3
H2	Ge	72	353638.67	0.4	99.5	Pulse	0.1000	3
H2	In	115	398066.22	0.6	100.4	Pulse	0.1000	3
He	Sc	45	41526.40	0.8	98.5	Pulse	0.1000	3
He	Ge	72	153478.43	0.7	99.2	Pulse	0.1000	3
He	In	115	85108.94	2.0	99.6	Pulse	0.1000	3
He	Tb	159	252355.86	0.9	100.8	Pulse	0.1000	3
He	Bi	209	161664.40	0.4	99.0	Pulse	0.1000	3

No Gas

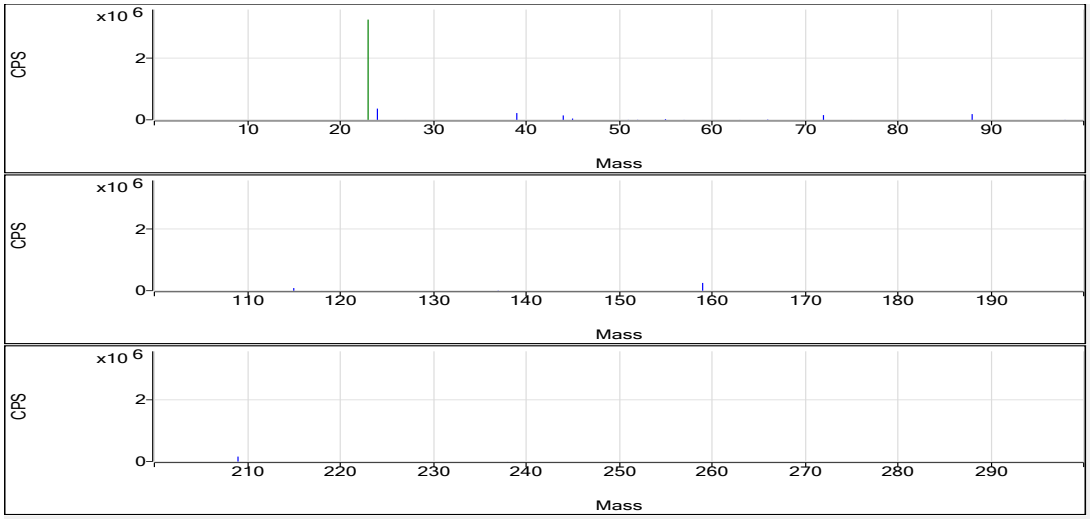


H2



Quantitation Report

He



Quantitation Report

Data File Name	041SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:54:46 PM
Sample Name	410-10696-q-3-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

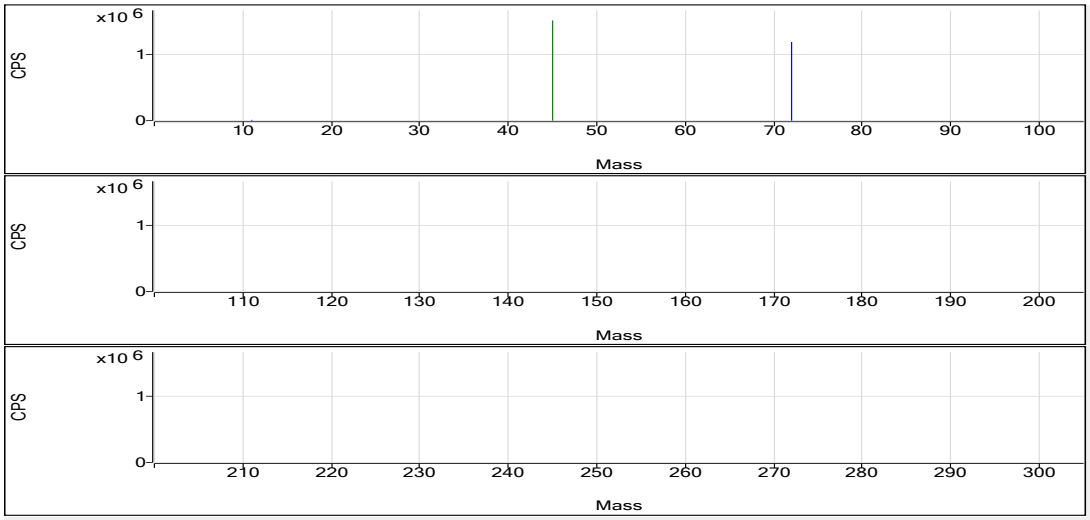
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.122	ppb	17.0	112.00	0.0001	Pulse	0.5000	3
B	11	45	No Gas	24.149	ppb	2.1	11726.63	0.0078	Pulse	0.5000	3
Se	78	115	H2	0.661	ppb	7.3	56.22	0.0001	Pulse	1.5000	3
Na	23	45	He	42872.563	ppb	0.8	3577132.76	87.8171	Analog	0.1000	3
Mg	24	45	He	21233.594	ppb	0.8	906329.59	22.2498	Pulse	0.1000	3
Al	27	45	He	1975.806	ppb	2.1	34533.31	0.8478	Pulse	0.1000	3
K	39	45	He	591.642	ppb	7.4	53730.78	1.3192	Pulse	0.1000	3
Ca	44	45	He	40876.046	ppb	0.7	126751.71	3.1118	Pulse	0.1000	3
Ti	47	45	He	35.881	ppb	44.2	763.69	0.0187	Pulse	0.1000	3
V	51	45	He	3.714	ppb	4.7	3197.14	0.0785	Pulse	0.1000	3
Cr	52	45	He	4.911	ppb	7.1	5521.27	0.1356	Pulse	0.1000	3
Mn	55	45	He	2870.161	ppb	0.5	1525951.38	37.4610	Analog	0.1000	3
Fe	57	45	He	22049.439	ppb	1.0	429640.10	10.5477	Pulse	0.1000	3
Co	59	72	He	5.632	ppb	3.4	9800.30	0.0636	Pulse	0.1000	3
Ni	60	159	He	4.029	ppb	1.1	2290.29	0.0090	Pulse	0.1000	3
Cu	63	115	He	1.563	ppb	9.7	2536.98	0.0299	Pulse	0.1000	3
Zn	66	115	He	2.644	ppb	6.3	1553.48	0.0183	Pulse	0.1000	3
As	75	115	He	16.729	ppb	2.2	2689.61	0.0317	Pulse	0.5000	3
Sr	88	115	He	341.969	ppb	1.7	338893.59	3.9925	Pulse	0.1000	3
Mo	98	115	He	1.246	ppb	10.3	1566.81	0.0185	Pulse	0.1000	3
Ag	107	115	He	0.010	ppb	109.8	73.33	0.0009	Pulse	0.1000	3
Cd	111	115	He	0.013	ppb	161.3	5.33	0.0001	Pulse	0.5000	3
Sn	120	115	He	-0.097	ppb	N/A	1076.75	0.0127	Pulse	0.1000	3
Sb	121	72	He	0.272	ppb	7.2	346.69	0.0022	Pulse	0.1000	3
Ba	137	115	He	212.363	ppb	1.9	94986.57	1.1191	Pulse	0.1000	3
Tl	205	209	He	0.023	ppb	27.1	153.34	0.0009	Pulse	0.1000	3
Pb	208	209	He	3.415	ppb	1.8	22508.50	0.1395	Pulse	0.1000	3
U	238	209	He	0.219	ppb	10.6	1410.14	0.0087	Pulse	0.1000	3

Quantitation Report

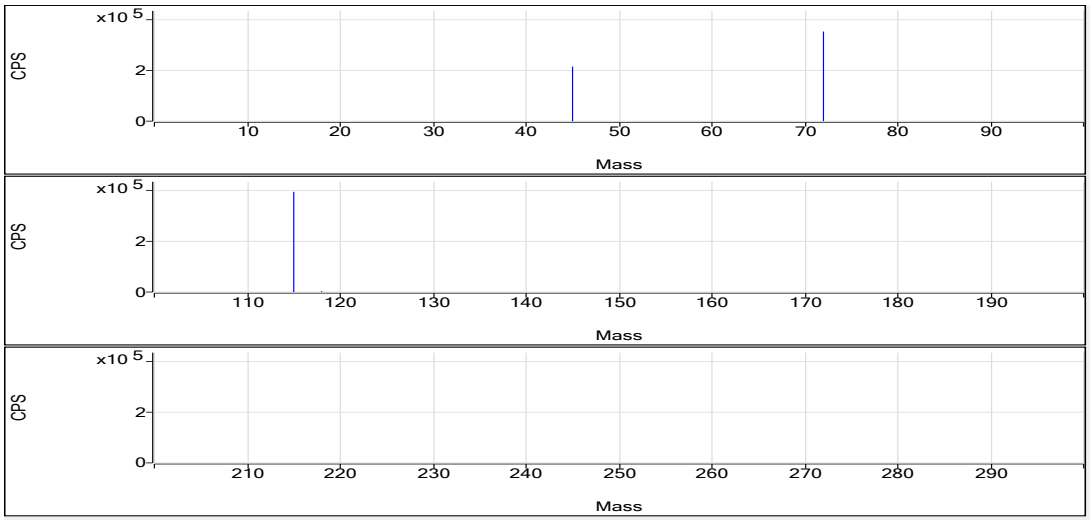
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1506538.78	2.0	100.2	Analog	0.1000	3
No Gas	Ge	72	1182307.46	1.4	101.5	Pulse	0.1000	3
H2	Sc	45	215188.94	1.4	96.7	Pulse	0.1000	3
H2	Ge	72	353488.36	0.9	99.5	Pulse	0.1000	3
H2	In	115	395262.39	0.8	99.7	Pulse	0.1000	3
He	Sc	45	40733.90	0.4	96.6	Pulse	0.1000	3
He	Ge	72	154188.38	0.5	99.6	Pulse	0.1000	3
He	In	115	84894.19	1.7	99.3	Pulse	0.1000	3
He	Tb	159	253744.98	1.2	101.4	Pulse	0.1000	3
He	Bi	209	161331.91	0.9	98.8	Pulse	0.1000	3

No Gas

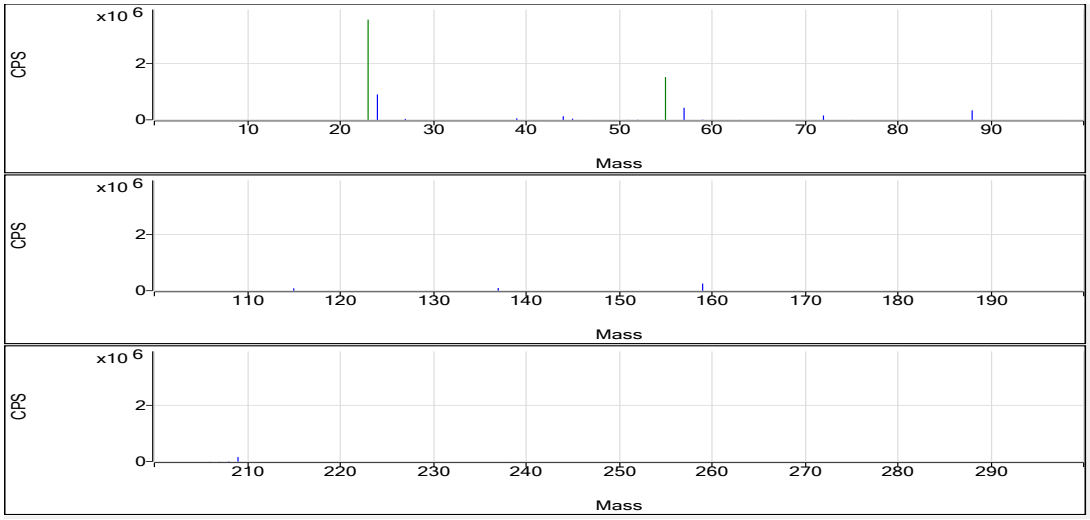


H2



Quantitation Report

He



Quantitation Report

Data File Name	042SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:56:40 PM
Sample Name	410-10696-q-6-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

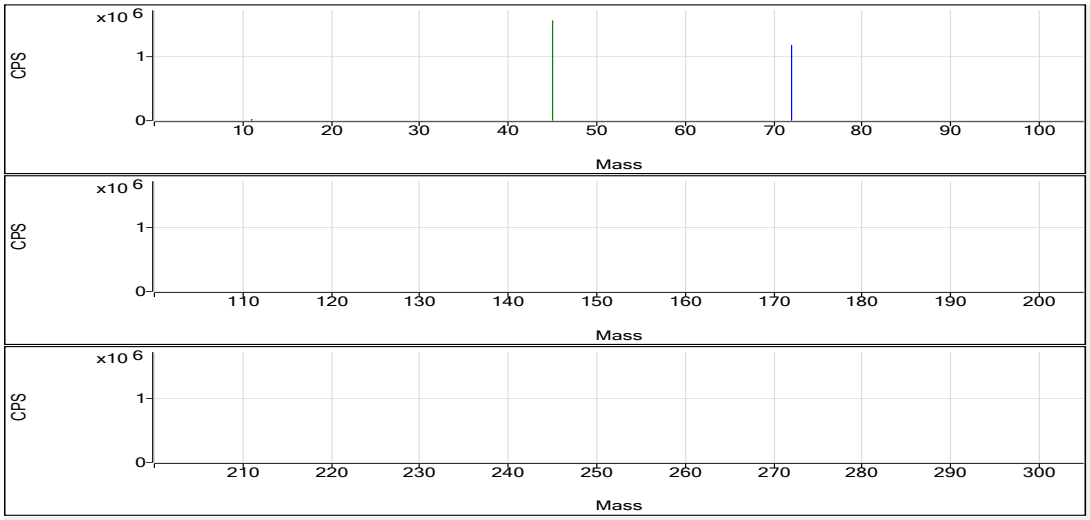
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	1.022	ppb	5.2	798.03	0.0005	Pulse	0.5000	3
B	11	45	No Gas	54.240	ppb	0.9	25410.17	0.0163	Pulse	0.5000	3
Se	78	115	H2	0.726	ppb	9.2	61.11	0.0002	Pulse	1.5000	3
Na	23	45	He	26845.482	ppb	2.6	2276357.57	55.2235	Analog	0.1000	3
Mg	24	45	He	36028.209	ppb	3.3	1556011.07	37.7503	Analog	0.1000	3
Al	27	45	He	17768.176	ppb	1.7	314110.10	7.6193	Pulse	0.1000	3
K	39	45	He	3329.483	ppb	1.3	211262.87	5.1245	Pulse	0.1000	3
Ca	44	45	He	63856.941	ppb	1.1	200366.32	4.8601	Pulse	0.1000	3
Ti	47	45	He	298.314	ppb	14.5	6421.37	0.1558	Pulse	0.1000	3
V	51	45	He	43.249	ppb	2.0	33583.11	0.8146	Pulse	0.1000	3
Cr	52	45	He	41.823	ppb	2.1	39995.53	0.9702	Pulse	0.1000	3
Mn	55	45	He	6340.260	ppb	1.0	3411492.03	82.7493	Analog	0.1000	3
Fe	57	45	He	29423.843	ppb	1.4	580210.96	14.0744	Pulse	0.1000	3
Co	59	72	He	21.836	ppb	1.6	37963.90	0.2458	Pulse	0.1000	3
Ni	60	159	He	30.649	ppb	3.6	13950.51	0.0543	Pulse	0.1000	3
Cu	63	115	He	33.010	ppb	0.5	39347.71	0.4657	Pulse	0.1000	3
Zn	66	115	He	225.038	ppb	2.0	42850.93	0.5072	Pulse	0.1000	3
As	75	115	He	8.449	ppb	1.7	1372.74	0.0162	Pulse	0.5000	3
Sr	88	115	He	547.675	ppb	0.2	540174.38	6.3937	Pulse	0.1000	3
Mo	98	115	He	11.492	ppb	1.8	14401.10	0.1704	Pulse	0.1000	3
Ag	107	115	He	0.026	ppb	23.2	113.34	0.0013	Pulse	0.1000	3
Cd	111	115	He	0.113	ppb	15.5	40.67	0.0005	Pulse	0.5000	3
Sn	120	115	He	0.186	ppb	65.7	1416.79	0.0168	Pulse	0.1000	3
Sb	121	72	He	0.478	ppb	15.4	593.37	0.0038	Pulse	0.1000	3
Ba	137	115	He	578.384	ppb	1.0	257462.66	3.0475	Pulse	0.1000	3
Tl	205	209	He	0.228	ppb	4.0	1153.42	0.0071	Pulse	0.1000	3
Pb	208	209	He	38.502	ppb	0.8	251708.46	1.5576	Pulse	0.1000	3
U	238	209	He	4.148	ppb	2.4	26428.30	0.1635	Pulse	0.1000	3

Quantitation Report

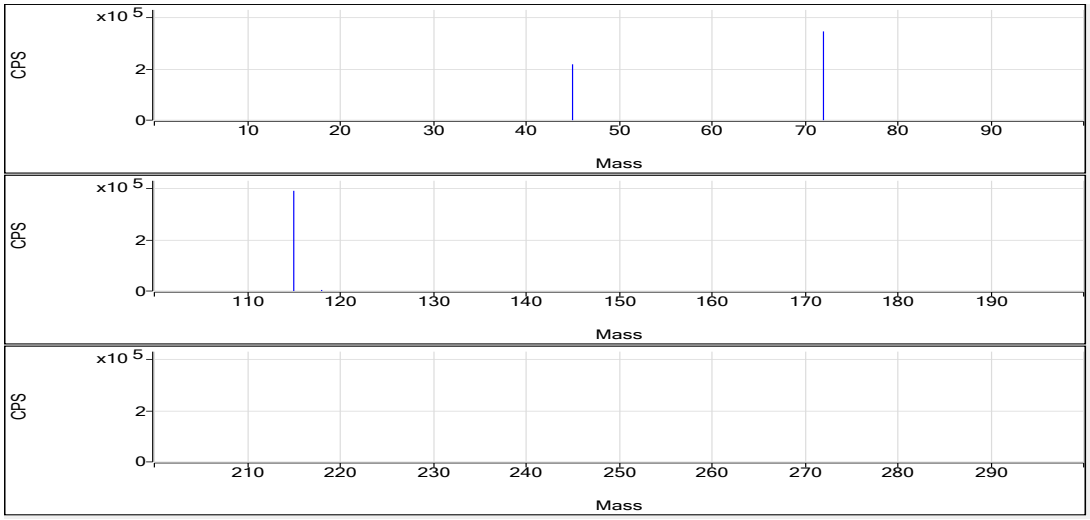
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1561290.13	0.6	103.9	Analog	0.1000	3
No Gas	Ge	72	1179169.72	0.6	101.3	Pulse	0.1000	3
H2	Sc	45	218446.40	1.6	98.1	Pulse	0.1000	3
H2	Ge	72	347126.19	1.3	97.7	Pulse	0.1000	3
H2	In	115	391981.74	0.6	98.9	Pulse	0.1000	3
He	Sc	45	41228.69	1.1	97.8	Pulse	0.1000	3
He	Ge	72	154439.16	0.6	99.8	Pulse	0.1000	3
He	In	115	84485.24	0.4	98.9	Pulse	0.1000	3
He	Tb	159	256830.52	0.7	102.6	Pulse	0.1000	3
He	Bi	209	161601.73	0.4	98.9	Pulse	0.1000	3

No Gas

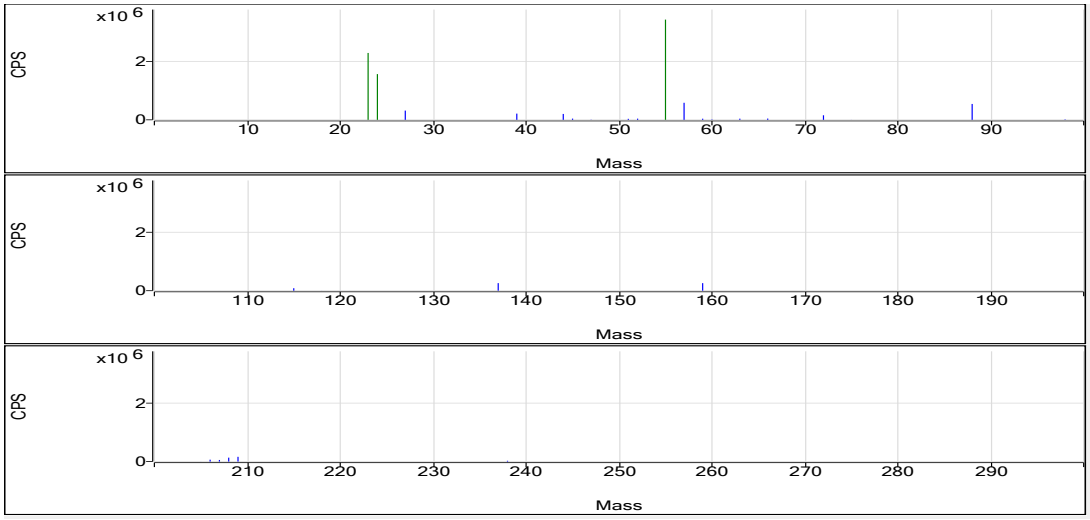


H2



Quantitation Report

He



Quantitation Report

Data File Name	043SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 3:58:32 PM
Sample Name	410-10703-q-2-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

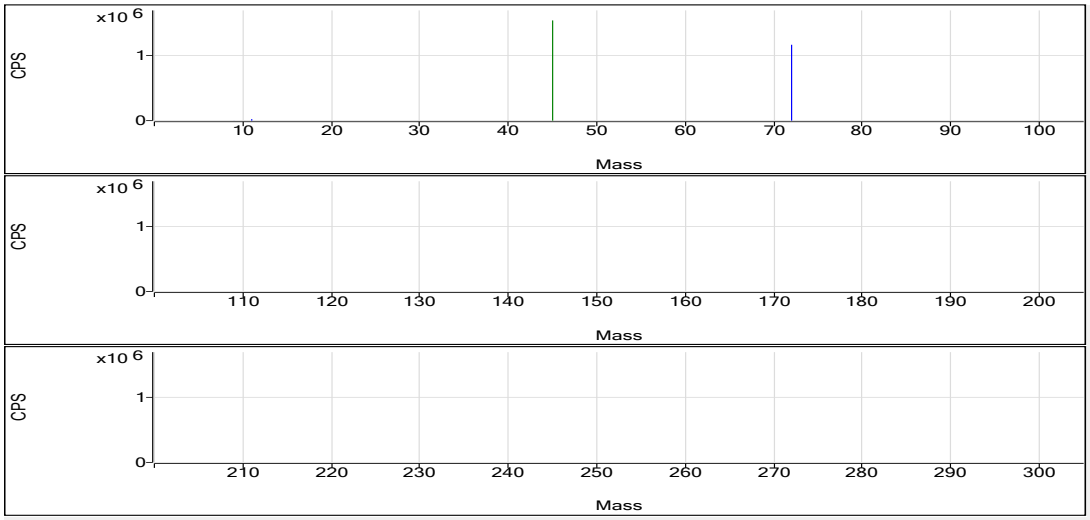
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	1.024	ppb	0.2	792.03	0.0005	Pulse	0.5000	3
B	11	45	No Gas	50.211	ppb	2.8	23394.87	0.0151	Pulse	0.5000	3
Se	78	115	H2	0.233	ppb	12.5	20.00	0.0001	Pulse	1.5000	3
Na	23	45	He	20986.638	ppb	2.7	1747572.63	43.3086	Analog	0.1000	3
Mg	24	45	He	42243.176	ppb	3.3	1785876.33	44.2618	Analog	0.1000	3
Al	27	45	He	23317.599	ppb	2.1	403525.34	9.9988	Pulse	0.1000	3
K	39	45	He	4194.939	ppb	2.4	255346.09	6.3274	Pulse	0.1000	3
Ca	44	45	He	104404.909	ppb	1.5	320660.96	7.9448	Pulse	0.1000	3
Ti	47	45	He	271.873	ppb	5.4	5731.47	0.1420	Pulse	0.1000	3
V	51	45	He	43.856	ppb	4.4	33315.61	0.8259	Pulse	0.1000	3
Cr	52	45	He	31.275	ppb	2.9	29524.06	0.7317	Pulse	0.1000	3
Mn	55	45	He	4311.447	ppb	3.4	2270271.42	56.2712	Analog	0.1000	3
Fe	57	45	He	36735.580	ppb	3.4	708905.51	17.5712	Pulse	0.1000	3
Co	59	72	He	13.352	ppb	1.8	22911.96	0.1504	Pulse	0.1000	3
Ni	60	159	He	20.332	ppb	0.6	9340.00	0.0368	Pulse	0.1000	3
Cu	63	115	He	12.980	ppb	0.3	15715.77	0.1881	Pulse	0.1000	3
Zn	66	115	He	36.151	ppb	4.9	7682.29	0.0920	Pulse	0.1000	3
As	75	115	He	19.760	ppb	2.2	3119.03	0.0373	Pulse	0.5000	3
Sr	88	115	He	637.544	ppb	1.9	621640.46	7.4428	Pulse	0.1000	3
Mo	98	115	He	1.496	ppb	2.9	1853.52	0.0222	Pulse	0.1000	3
Ag	107	115	He	0.021	ppb	18.5	100.00	0.0012	Pulse	0.1000	3
Cd	111	115	He	0.048	ppb	16.5	17.33	0.0002	Pulse	0.5000	3
Sn	120	115	He	0.330	ppb	50.6	1573.48	0.0189	Pulse	0.1000	3
Sb	121	72	He	0.276	ppb	30.1	346.68	0.0023	Pulse	0.1000	3
Ba	137	115	He	481.218	ppb	3.1	211749.36	2.5356	Pulse	0.1000	3
Tl	205	209	He	0.248	ppb	10.1	1253.45	0.0077	Pulse	0.1000	3
Pb	208	209	He	8.774	ppb	1.8	57661.34	0.3561	Pulse	0.1000	3
U	238	209	He	4.977	ppb	0.9	31779.86	0.1962	Pulse	0.1000	3

Quantitation Report

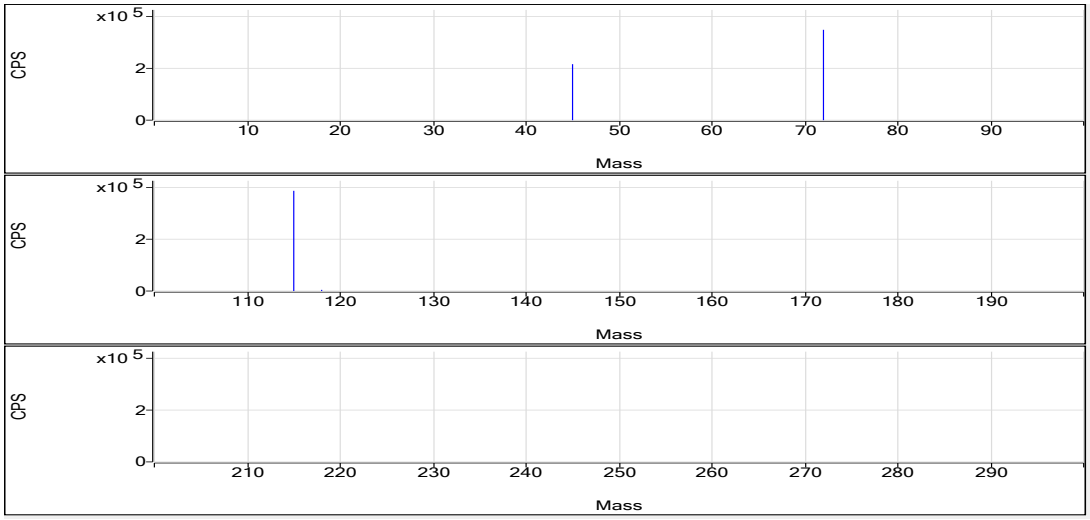
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1545858.36	1.9	102.8	Analog	0.1000	3
No Gas	Ge	72	1170414.10	0.5	100.5	Pulse	0.1000	3
H2	Sc	45	217120.61	1.5	97.5	Pulse	0.1000	3
H2	Ge	72	350411.44	1.9	98.6	Pulse	0.1000	3
H2	In	115	388691.23	0.8	98.1	Pulse	0.1000	3
He	Sc	45	40373.21	3.1	95.8	Pulse	0.1000	3
He	Ge	72	152346.44	0.4	98.4	Pulse	0.1000	3
He	In	115	83543.03	1.9	97.7	Pulse	0.1000	3
He	Tb	159	254082.86	0.8	101.5	Pulse	0.1000	3
He	Bi	209	161954.18	1.1	99.2	Pulse	0.1000	3

No Gas

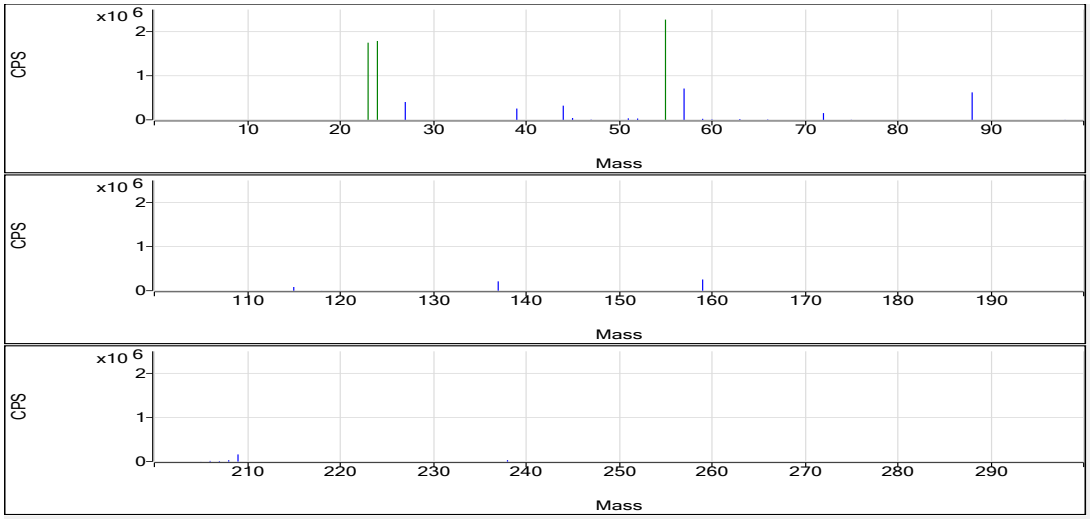


H2



Quantitation Report

He



Quantitation Report

Data File Name	044SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 4:00:24 PM
Sample Name	410-10706-o-1-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

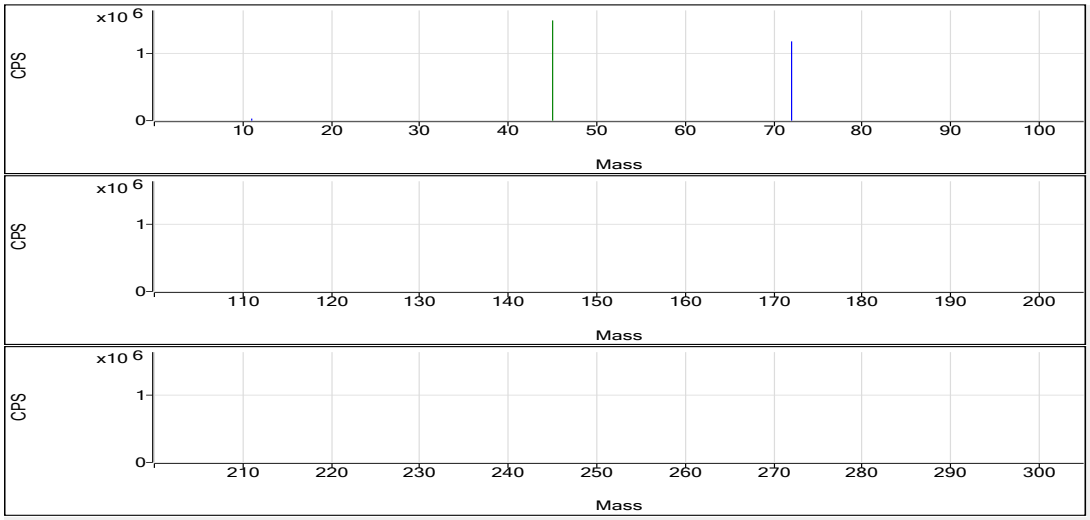
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.062	ppb	16.8	67.33	0.0000	Pulse	0.5000	3
B	11	45	No Gas	68.747	ppb	1.3	30423.35	0.0204	Pulse	0.5000	3
Se	78	115	H2	0.287	ppb	33.0	25.11	0.0001	Pulse	1.5000	3
Na	23	45	He	5566.263	ppb	4.3	473862.74	11.9488	Pulse	0.1000	3
Mg	24	45	He	12371.789	ppb	3.7	514206.41	12.9652	Pulse	0.1000	3
Al	27	45	He	384.715	ppb	8.4	6562.29	0.1656	Pulse	0.1000	3
K	39	45	He	2866.513	ppb	2.6	177773.56	4.4810	Pulse	0.1000	3
Ca	44	45	He	43395.710	ppb	4.4	130996.29	3.3034	Pulse	0.1000	3
Ti	47	45	He	7.231	ppb	10.0	150.01	0.0038	Pulse	0.1000	3
V	51	45	He	3.204	ppb	4.8	2737.02	0.0690	Pulse	0.1000	3
Cr	52	45	He	4.310	ppb	1.1	4840.96	0.1220	Pulse	0.1000	3
Mn	55	45	He	574.407	ppb	4.2	297381.79	7.4990	Pulse	0.1000	3
Fe	57	45	He	1462.334	ppb	2.9	27857.42	0.7023	Pulse	0.1000	3
Co	59	72	He	1.899	ppb	3.6	3287.16	0.0216	Pulse	0.1000	3
Ni	60	159	He	18.179	ppb	3.8	8262.66	0.0331	Pulse	0.1000	3
Cu	63	115	He	2.285	ppb	11.2	3390.52	0.0399	Pulse	0.1000	3
Zn	66	115	He	1.172	ppb	37.2	1280.10	0.0151	Pulse	0.1000	3
As	75	115	He	7.514	ppb	4.5	1232.73	0.0145	Pulse	0.5000	3
Sr	88	115	He	192.021	ppb	0.2	190537.39	2.2422	Pulse	0.1000	3
Mo	98	115	He	0.392	ppb	6.8	493.36	0.0058	Pulse	0.1000	3
Ag	107	115	He	0.011	ppb	86.1	76.67	0.0009	Pulse	0.1000	3
Cd	111	115	He	0.008	ppb	113.9	3.33	0.0000	Pulse	0.5000	3
Sn	120	115	He	-0.102	ppb	N/A	1070.08	0.0126	Pulse	0.1000	3
Sb	121	72	He	0.131	ppb	22.2	176.67	0.0012	Pulse	0.1000	3
Ba	137	115	He	72.230	ppb	1.3	32362.14	0.3808	Pulse	0.1000	3
Tl	205	209	He	0.013	ppb	17.8	106.67	0.0007	Pulse	0.1000	3
Pb	208	209	He	0.535	ppb	6.6	3777.14	0.0231	Pulse	0.1000	3
U	238	209	He	0.077	ppb	12.1	510.03	0.0031	Pulse	0.1000	3

Quantitation Report

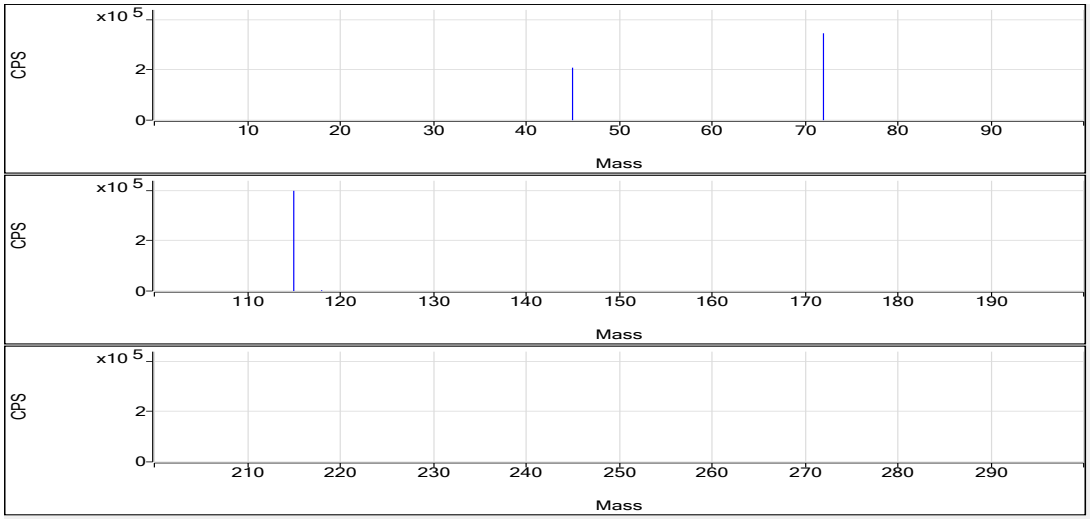
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1493560.03	0.9	99.3	Analog	0.1000	3
No Gas	Ge	72	1181286.65	0.6	101.4	Pulse	0.1000	3
H2	Sc	45	208428.83	0.5	93.6	Pulse	0.1000	3
H2	Ge	72	345066.65	1.6	97.1	Pulse	0.1000	3
H2	In	115	398047.51	1.1	100.4	Pulse	0.1000	3
He	Sc	45	39691.50	3.2	94.2	Pulse	0.1000	3
He	Ge	72	152400.64	0.8	98.5	Pulse	0.1000	3
He	In	115	84977.70	0.8	99.4	Pulse	0.1000	3
He	Tb	159	249684.02	0.6	99.8	Pulse	0.1000	3
He	Bi	209	163590.47	0.4	100.2	Pulse	0.1000	3

No Gas

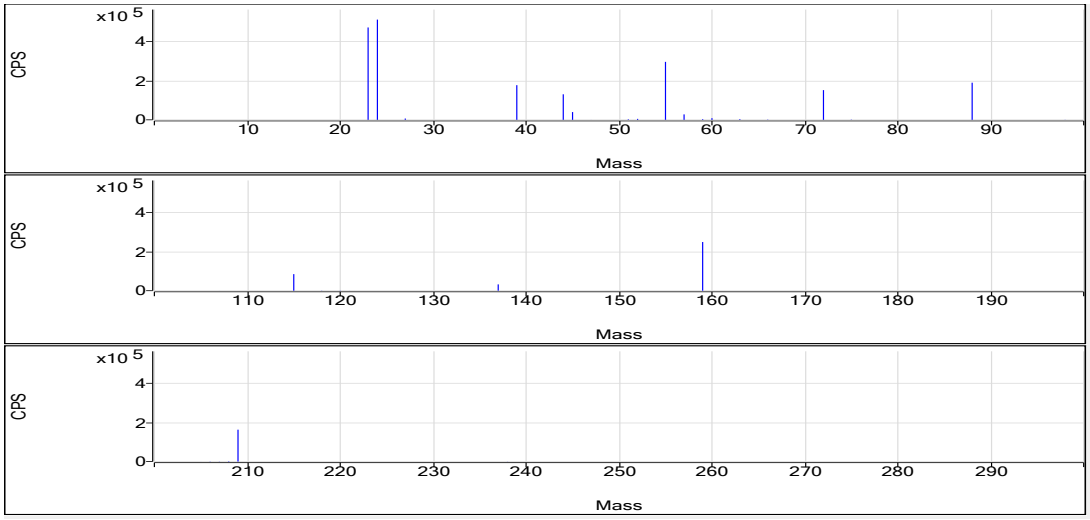


H2



Quantitation Report

He



Quantitation Report

Data File Name	045SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 4:02:16 PM
Sample Name	410-10706-q-4-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

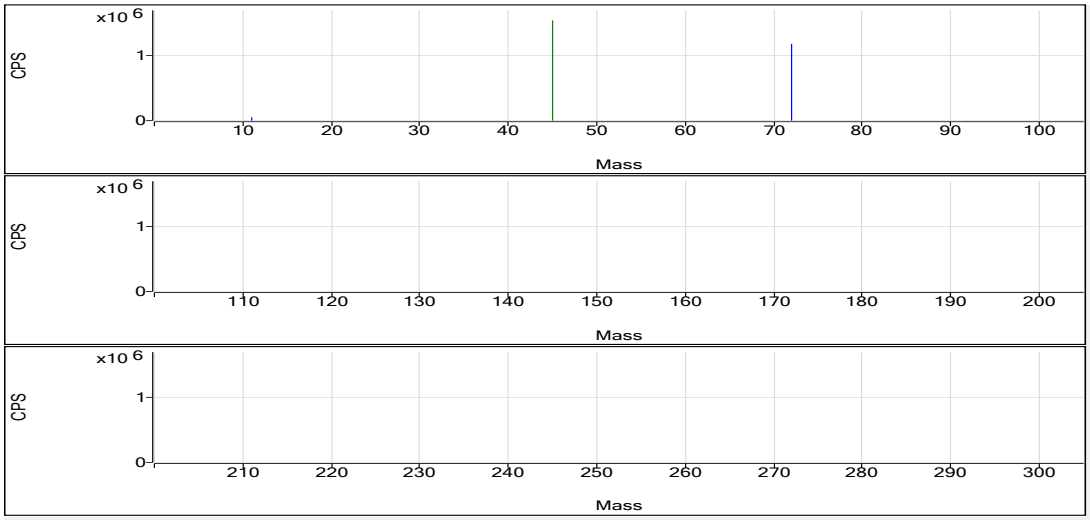
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.999	ppb	7.2	773.36	0.0005	Pulse	0.5000	3
B	11	45	No Gas	118.009	ppb	3.0	53007.64	0.0343	Pulse	0.5000	3
Se	78	115	H2	0.337	ppb	16.4	28.89	0.0001	Pulse	1.5000	3
Na	23	45	He	4731.779	ppb	1.9	419946.50	10.2518	Pulse	0.1000	3
Mg	24	45	He	12735.973	ppb	1.7	546734.64	13.3468	Pulse	0.1000	3
Al	27	45	He	16233.360	ppb	1.9	285157.11	6.9612	Pulse	0.1000	3
K	39	45	He	4609.725	ppb	1.5	282811.23	6.9039	Pulse	0.1000	3
Ca	44	45	He	37411.683	ppb	0.4	116676.63	2.8482	Pulse	0.1000	3
Ti	47	45	He	225.039	ppb	4.3	4814.58	0.1175	Pulse	0.1000	3
V	51	45	He	40.240	ppb	0.9	31074.89	0.7586	Pulse	0.1000	3
Cr	52	45	He	34.529	ppb	3.0	32984.79	0.8052	Pulse	0.1000	3
Mn	55	45	He	1048.472	ppb	1.2	560633.38	13.6861	Pulse	0.1000	3
Fe	57	45	He	26450.998	ppb	0.9	518306.24	12.6527	Pulse	0.1000	3
Co	59	72	He	9.135	ppb	0.9	15592.22	0.1030	Pulse	0.1000	3
Ni	60	159	He	15.247	ppb	1.8	7125.31	0.0281	Pulse	0.1000	3
Cu	63	115	He	20.406	ppb	2.7	24381.07	0.2910	Pulse	0.1000	3
Zn	66	115	He	27.547	ppb	4.5	6118.18	0.0730	Pulse	0.1000	3
As	75	115	He	9.353	ppb	4.7	1502.09	0.0179	Pulse	0.5000	3
Sr	88	115	He	191.460	ppb	0.7	187309.44	2.2357	Pulse	0.1000	3
Mo	98	115	He	2.636	ppb	6.6	3277.17	0.0391	Pulse	0.1000	3
Ag	107	115	He	0.029	ppb	47.6	120.00	0.0014	Pulse	0.1000	3
Cd	111	115	He	0.103	ppb	12.8	36.67	0.0004	Pulse	0.5000	3
Sn	120	115	He	0.226	ppb	36.0	1453.46	0.0173	Pulse	0.1000	3
Sb	121	72	He	0.351	ppb	12.8	433.36	0.0029	Pulse	0.1000	3
Ba	137	115	He	257.251	ppb	2.1	113561.80	1.3556	Pulse	0.1000	3
Tl	205	209	He	0.209	ppb	2.1	1070.09	0.0065	Pulse	0.1000	3
Pb	208	209	He	22.559	ppb	1.3	149310.29	0.9132	Pulse	0.1000	3
U	238	209	He	1.107	ppb	3.0	7148.93	0.0437	Pulse	0.1000	3

Quantitation Report

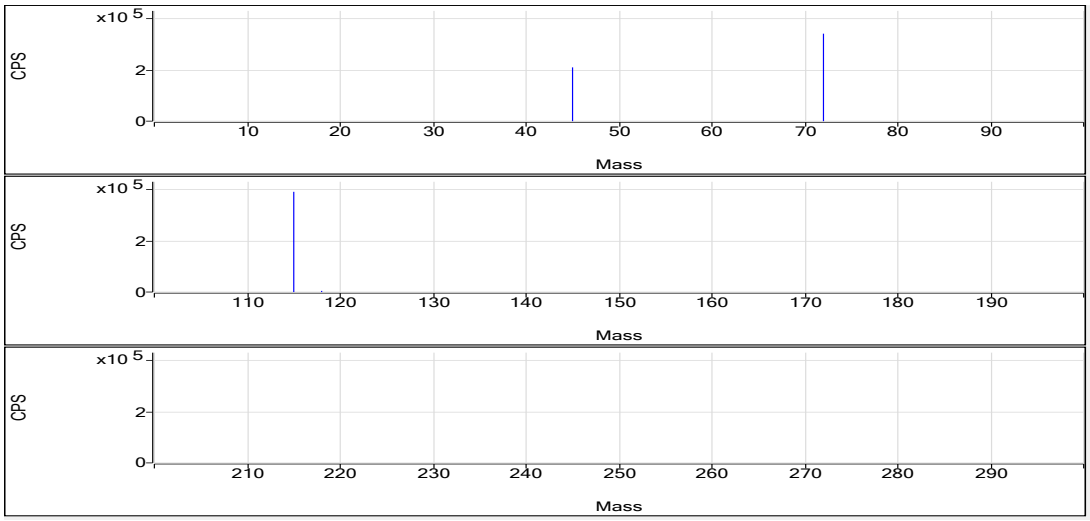
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1547041.12	1.4	102.9	Analog	0.1000	3
No Gas	Ge	72	1185428.21	0.2	101.8	Pulse	0.1000	3
H2	Sc	45	210226.51	2.3	94.4	Pulse	0.1000	3
H2	Ge	72	341928.90	1.1	96.2	Pulse	0.1000	3
H2	In	115	391734.83	0.7	98.8	Pulse	0.1000	3
He	Sc	45	40964.79	0.3	97.2	Pulse	0.1000	3
He	Ge	72	151416.52	0.6	97.8	Pulse	0.1000	3
He	In	115	83787.40	1.3	98.0	Pulse	0.1000	3
He	Tb	159	253486.16	0.3	101.3	Pulse	0.1000	3
He	Bi	209	163500.68	0.5	100.1	Pulse	0.1000	3

No Gas

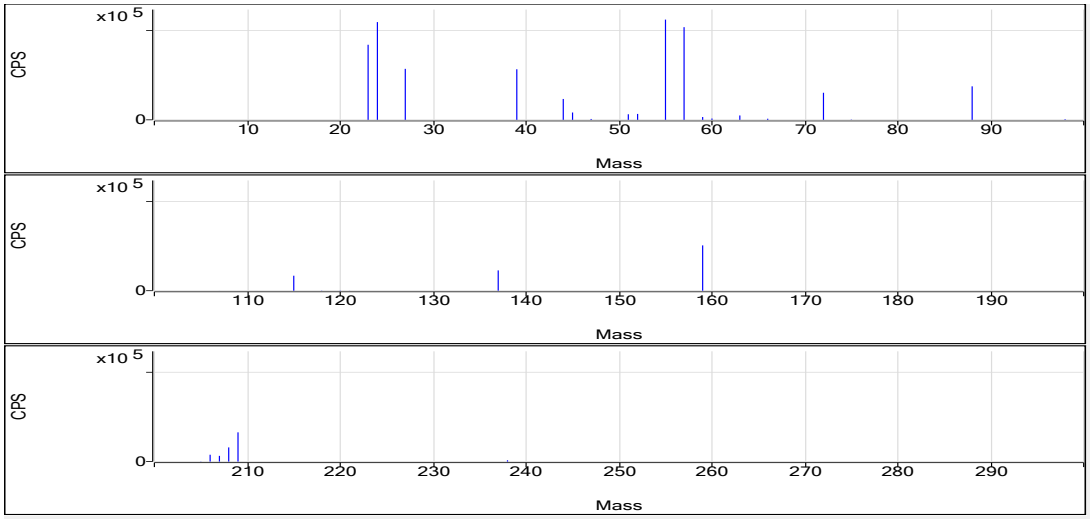


H2



Quantitation Report

He



Quantitation Report

Data File Name	046SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 4:04:09 PM
Sample Name	410-10706-o-5-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

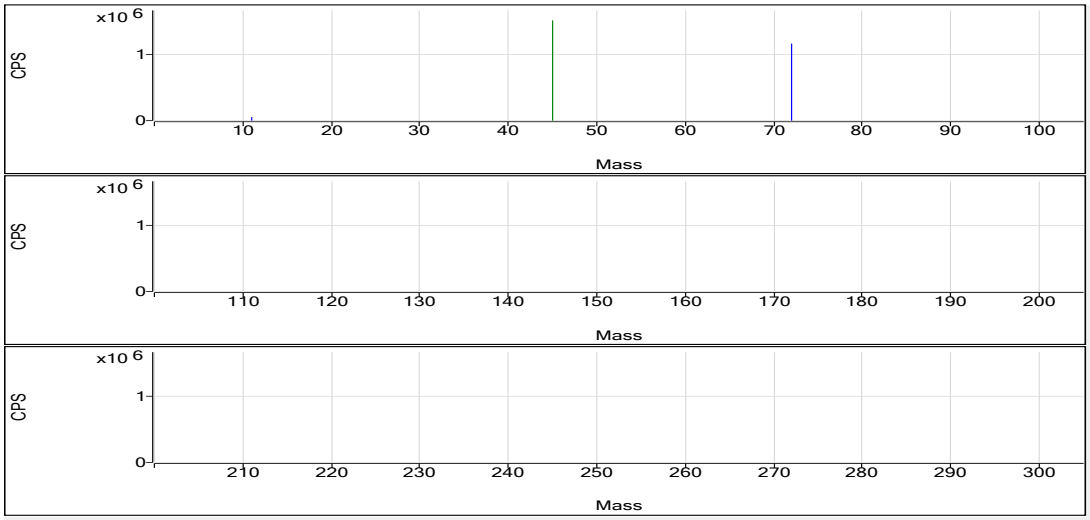
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.786	ppb	2.5	605.35	0.0004	Pulse	0.5000	3
B	11	45	No Gas	121.101	ppb	3.1	53617.67	0.0351	Pulse	0.5000	3
Se	78	115	H2	0.275	ppb	7.3	23.56	0.0001	Pulse	1.5000	3
Na	23	45	He	4759.879	ppb	1.8	420765.24	10.3089	Pulse	0.1000	3
Mg	24	45	He	11790.134	ppb	2.5	504272.94	12.3558	Pulse	0.1000	3
Al	27	45	He	14278.388	ppb	3.2	249868.55	6.1229	Pulse	0.1000	3
K	39	45	He	4250.903	ppb	2.6	261417.56	6.4052	Pulse	0.1000	3
Ca	44	45	He	35498.619	ppb	2.8	110299.33	2.7027	Pulse	0.1000	3
Ti	47	45	He	237.268	ppb	12.3	5058.48	0.1239	Pulse	0.1000	3
V	51	45	He	32.568	ppb	2.3	25132.74	0.6157	Pulse	0.1000	3
Cr	52	45	He	29.517	ppb	2.3	28248.37	0.6919	Pulse	0.1000	3
Mn	55	45	He	975.207	ppb	2.2	519543.55	12.7299	Pulse	0.1000	3
Fe	57	45	He	21735.815	ppb	2.2	424365.98	10.3977	Pulse	0.1000	3
Co	59	72	He	7.813	ppb	3.1	13189.69	0.0881	Pulse	0.1000	3
Ni	60	159	He	11.888	ppb	1.2	5727.99	0.0224	Pulse	0.1000	3
Cu	63	115	He	15.698	ppb	1.2	19113.15	0.2258	Pulse	0.1000	3
Zn	66	115	He	24.179	ppb	6.2	5554.59	0.0656	Pulse	0.1000	3
As	75	115	He	7.821	ppb	4.2	1276.06	0.0151	Pulse	0.5000	3
Sr	88	115	He	187.775	ppb	1.5	185608.81	2.1927	Pulse	0.1000	3
Mo	98	115	He	1.987	ppb	2.6	2493.63	0.0295	Pulse	0.1000	3
Ag	107	115	He	0.023	ppb	44.4	106.67	0.0013	Pulse	0.1000	3
Cd	111	115	He	0.076	ppb	46.0	27.33	0.0003	Pulse	0.5000	3
Sn	120	115	He	0.399	ppb	8.7	1680.16	0.0199	Pulse	0.1000	3
Sb	121	72	He	0.301	ppb	10.1	370.02	0.0025	Pulse	0.1000	3
Ba	137	115	He	231.518	ppb	1.8	103262.69	1.2200	Pulse	0.1000	3
Tl	205	209	He	0.171	ppb	12.6	886.73	0.0054	Pulse	0.1000	3
Pb	208	209	He	16.363	ppb	1.4	108427.98	0.6628	Pulse	0.1000	3
U	238	209	He	0.909	ppb	7.5	5874.97	0.0359	Pulse	0.1000	3

Quantitation Report

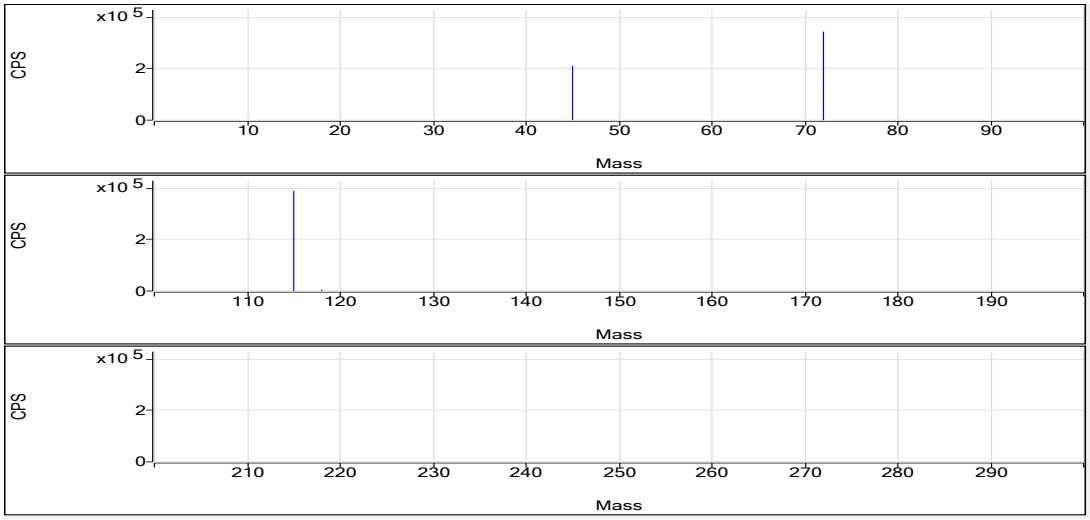
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1526128.05	1.8	101.5	Analog	0.1000	3
No Gas	Ge	72	1173432.51	0.4	100.8	Pulse	0.1000	3
H2	Sc	45	210793.85	1.4	94.7	Pulse	0.1000	3
H2	Ge	72	344304.51	1.8	96.9	Pulse	0.1000	3
H2	In	115	389903.45	1.7	98.4	Pulse	0.1000	3
He	Sc	45	40824.63	1.9	96.9	Pulse	0.1000	3
He	Ge	72	149709.87	0.6	96.7	Pulse	0.1000	3
He	In	115	84645.06	0.7	99.0	Pulse	0.1000	3
He	Tb	159	255767.58	0.8	102.2	Pulse	0.1000	3
He	Bi	209	163599.98	1.1	100.2	Pulse	0.1000	3

No Gas

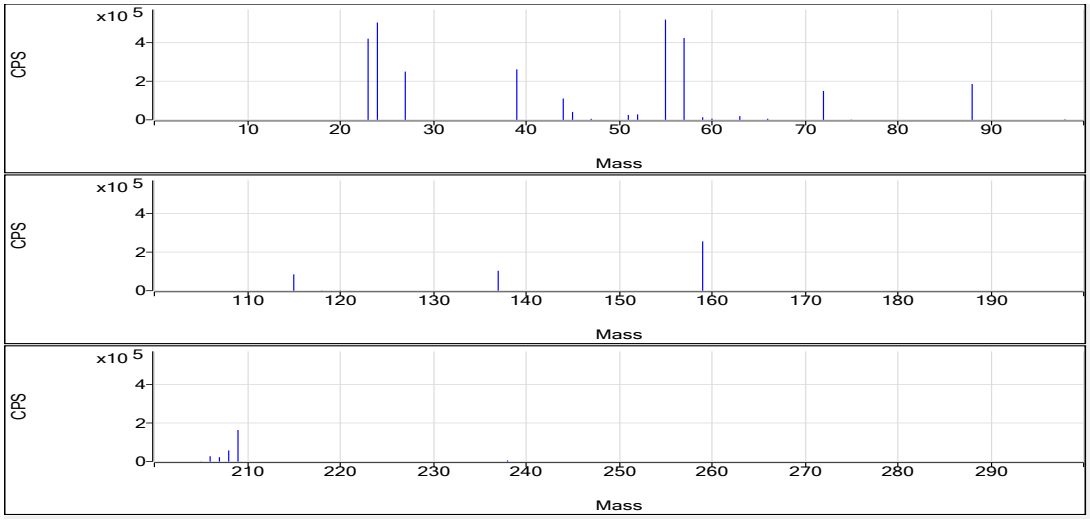


H2



Quantitation Report

He



Quantitation Report

Data File Name	047SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 4:06:01 PM
Sample Name	410-10711-o-1-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

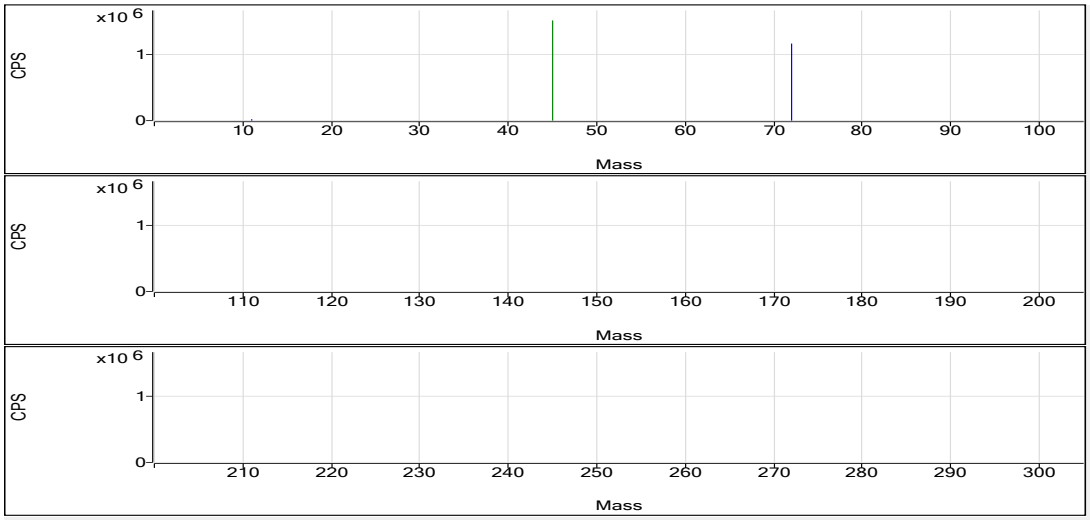
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.543	ppb	1.7	422.01	0.0003	Pulse	0.5000	3
B	11	45	No Gas	48.965	ppb	1.6	22406.01	0.0148	Pulse	0.5000	3
Se	78	115	H2	0.464	ppb	12.5	39.11	0.0001	Pulse	1.5000	3
Na	23	45	He	73841.712	ppb	0.6	6214879.28	150.7977	Analog	0.1000	3
Mg	24	45	He	18918.904	ppb	0.5	817020.64	19.8247	Pulse	0.1000	3
Al	27	45	He	11727.308	ppb	0.5	207260.84	5.0291	Pulse	0.1000	3
K	39	45	He	3571.223	ppb	0.7	225035.55	5.4605	Pulse	0.1000	3
Ca	44	45	He	32727.987	ppb	0.4	102695.80	2.4919	Pulse	0.1000	3
Ti	47	45	He	127.899	ppb	4.8	2753.71	0.0668	Pulse	0.1000	3
V	51	45	He	20.013	ppb	1.1	15742.60	0.3820	Pulse	0.1000	3
Cr	52	45	He	12.404	ppb	7.1	12565.86	0.3050	Pulse	0.1000	3
Mn	55	45	He	1759.825	ppb	0.8	946611.39	22.9699	Pulse	0.1000	3
Fe	57	45	He	34452.638	ppb	1.0	679124.39	16.4794	Pulse	0.1000	3
Co	59	72	He	10.399	ppb	2.4	17748.07	0.1172	Pulse	0.1000	3
Ni	60	159	He	8.420	ppb	3.8	4177.41	0.0165	Pulse	0.1000	3
Cu	63	115	He	5.040	ppb	2.8	6631.76	0.0781	Pulse	0.1000	3
Zn	66	115	He	18.676	ppb	4.1	4547.54	0.0535	Pulse	0.1000	3
As	75	115	He	12.912	ppb	3.4	2086.83	0.0246	Pulse	0.5000	3
Sr	88	115	He	293.244	ppb	0.6	290770.71	3.4238	Pulse	0.1000	3
Mo	98	115	He	1.082	ppb	4.3	1363.45	0.0161	Pulse	0.1000	3
Ag	107	115	He	0.052	ppb	28.4	176.68	0.0021	Pulse	0.1000	3
Cd	111	115	He	0.030	ppb	28.9	11.33	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.370	ppb	20.2	1650.16	0.0194	Pulse	0.1000	3
Sb	121	72	He	0.177	ppb	5.1	230.01	0.0015	Pulse	0.1000	3
Ba	137	115	He	276.872	ppb	1.0	123903.30	1.4590	Pulse	0.1000	3
Tl	205	209	He	0.120	ppb	3.9	623.37	0.0039	Pulse	0.1000	3
Pb	208	209	He	57.713	ppb	0.7	375601.75	2.3341	Pulse	0.1000	3
U	238	209	He	0.934	ppb	7.4	5934.97	0.0369	Pulse	0.1000	3

Quantitation Report

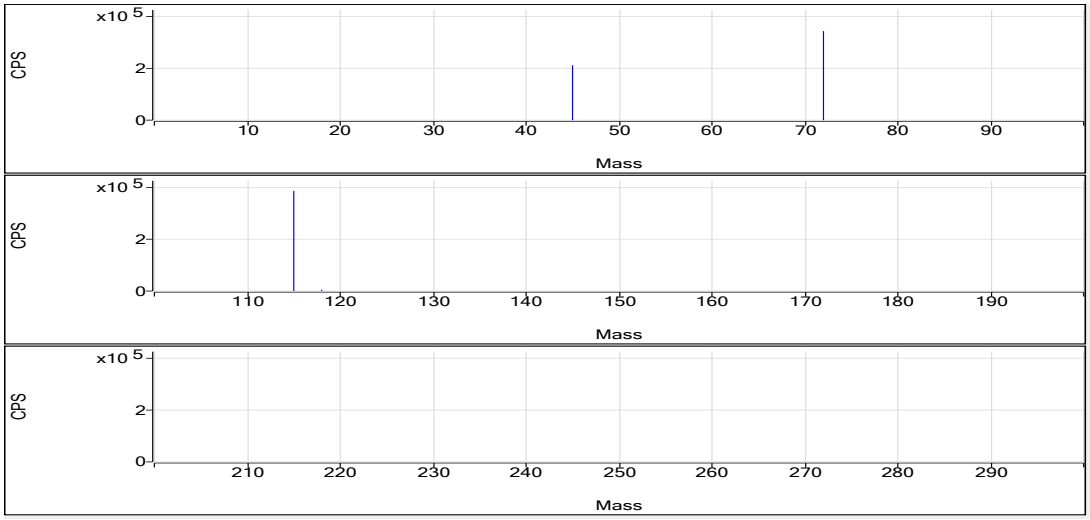
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1515343.26	0.2	100.8	Analog	0.1000	3
No Gas	Ge	72	1165597.61	0.5	100.1	Pulse	0.1000	3
H2	Sc	45	213032.74	0.9	95.7	Pulse	0.1000	3
H2	Ge	72	345754.16	0.5	97.3	Pulse	0.1000	3
H2	In	115	388831.71	1.3	98.1	Pulse	0.1000	3
He	Sc	45	41212.21	0.7	97.8	Pulse	0.1000	3
He	Ge	72	151447.09	0.2	97.9	Pulse	0.1000	3
He	In	115	84927.45	0.6	99.4	Pulse	0.1000	3
He	Tb	159	253211.07	0.4	101.2	Pulse	0.1000	3
He	Bi	209	160922.41	0.4	98.5	Pulse	0.1000	3

No Gas

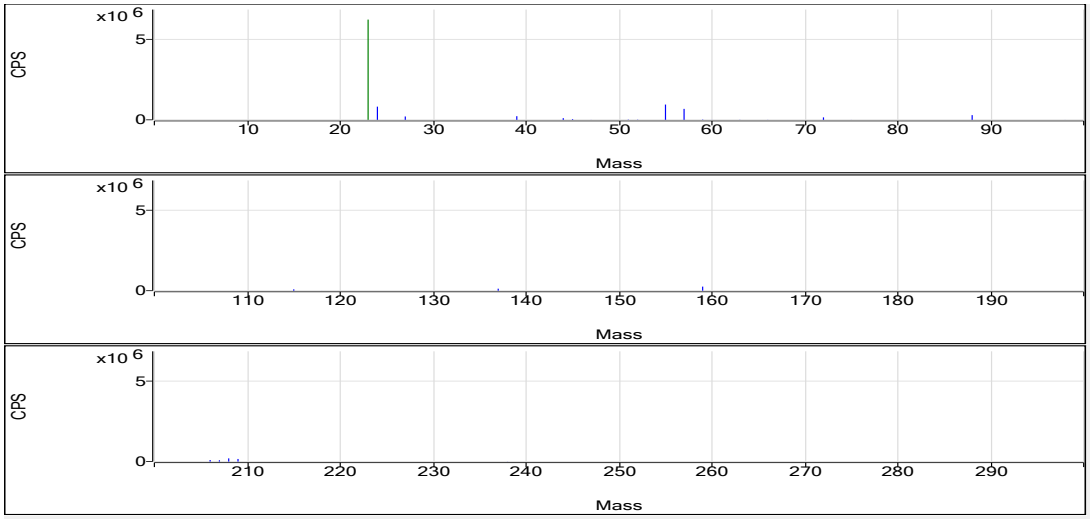


H2



Quantitation Report

He



Quantitation Report

Data File Name	048SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 4:07:54 PM
Sample Name	410-10711-o-2-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

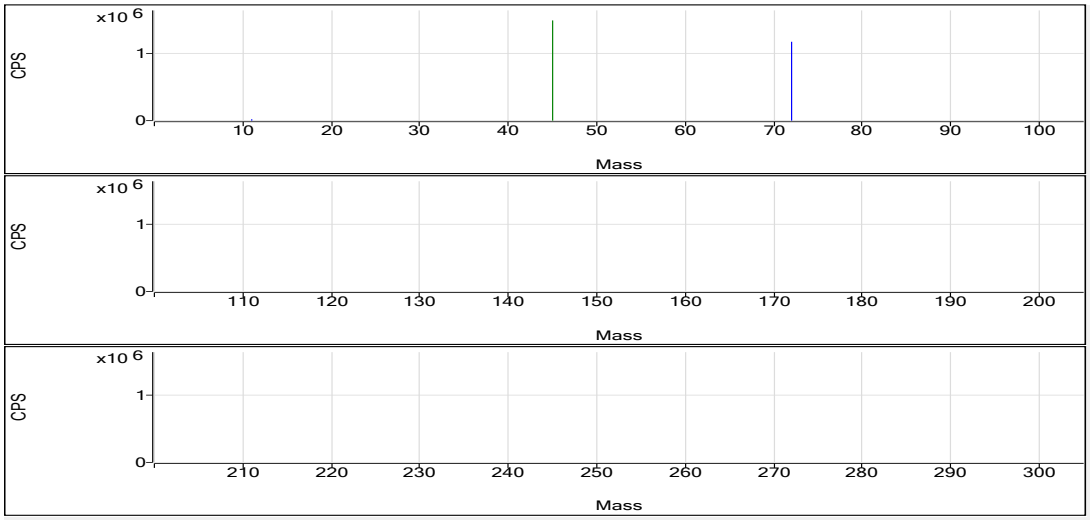
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.006	ppb	63.6	26.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	46.248	ppb	1.4	20862.50	0.0140	Pulse	0.5000	3
Se	78	115	H2	0.063	ppb	14.4	6.00	0.0000	Pulse	1.5000	3
Na	23	45	He	52867.852	ppb	3.4	4271133.69	108.1441	Analog	0.1000	3
Mg	24	45	He	36833.349	ppb	1.4	1524676.39	38.5939	Analog	0.1000	3
Al	27	45	He	448.417	ppb	1.7	7624.16	0.1929	Pulse	0.1000	3
K	39	45	He	1652.754	ppb	3.6	110352.29	2.7940	Pulse	0.1000	3
Ca	44	45	He	84200.393	ppb	2.1	253107.33	6.4077	Pulse	0.1000	3
Ti	47	45	He	14.760	ppb	39.4	303.44	0.0077	Pulse	0.1000	3
V	51	45	He	0.847	ppb	23.9	990.06	0.0251	Pulse	0.1000	3
Cr	52	45	He	3.713	ppb	4.1	4284.11	0.1085	Pulse	0.1000	3
Mn	55	45	He	1253.146	ppb	3.0	646030.02	16.3573	Pulse	0.1000	3
Fe	57	45	He	9546.542	ppb	3.3	180420.63	4.5684	Pulse	0.1000	3
Co	59	72	He	0.701	ppb	9.5	1216.76	0.0081	Pulse	0.1000	3
Ni	60	159	He	0.952	ppb	23.9	950.06	0.0038	Pulse	0.1000	3
Cu	63	115	He	0.309	ppb	24.5	1040.07	0.0125	Pulse	0.1000	3
Zn	66	115	He	0.231	ppb	204.3	1080.08	0.0130	Pulse	0.1000	3
As	75	115	He	15.267	ppb	0.4	2408.88	0.0290	Pulse	0.5000	3
Sr	88	115	He	325.806	ppb	0.5	316367.59	3.8039	Pulse	0.1000	3
Mo	98	115	He	0.505	ppb	4.1	623.37	0.0075	Pulse	0.1000	3
Ag	107	115	He	-0.006	ppb	N/A	33.33	0.0004	Pulse	0.1000	3
Cd	111	115	He	0.010	ppb	59.6	4.00	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.027	ppb	463.0	1203.43	0.0145	Pulse	0.1000	3
Sb	121	72	He	0.055	ppb	22.8	86.67	0.0006	Pulse	0.1000	3
Ba	137	115	He	431.829	ppb	1.5	189226.35	2.2753	Pulse	0.1000	3
Tl	205	209	He	0.005	ppb	205.6	60.00	0.0004	Pulse	0.1000	3
Pb	208	209	He	0.154	ppb	7.6	1216.74	0.0077	Pulse	0.1000	3
U	238	209	He	0.757	ppb	2.7	4727.71	0.0299	Pulse	0.1000	3

Quantitation Report

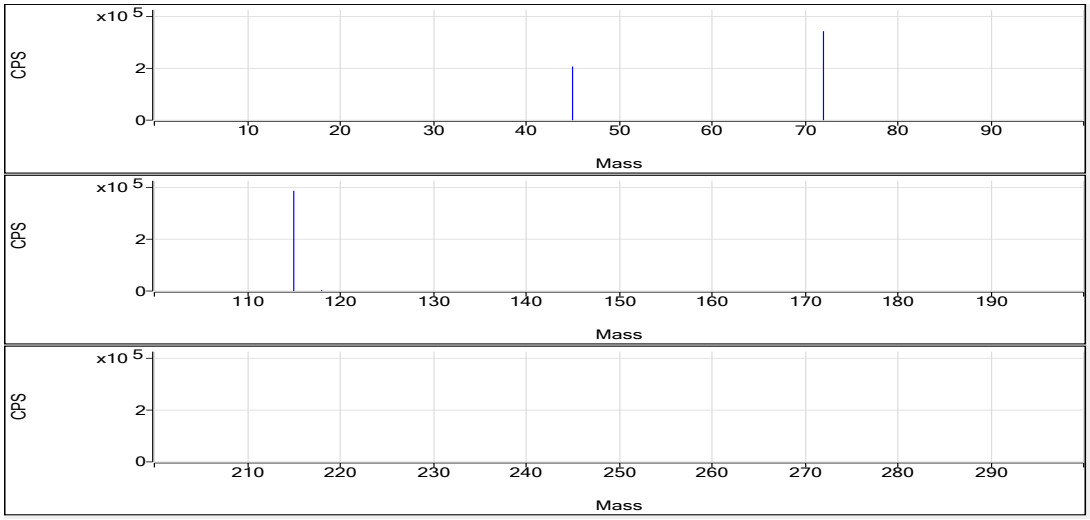
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1487924.61	1.4	99.0	Analog	0.1000	3
No Gas	Ge	72	1171021.47	0.6	100.6	Pulse	0.1000	3
H2	Sc	45	208035.33	2.1	93.4	Pulse	0.1000	3
H2	Ge	72	344842.62	1.2	97.0	Pulse	0.1000	3
H2	In	115	388358.43	1.6	98.0	Pulse	0.1000	3
He	Sc	45	39514.12	2.5	93.8	Pulse	0.1000	3
He	Ge	72	150177.07	0.9	97.0	Pulse	0.1000	3
He	In	115	83169.96	0.8	97.3	Pulse	0.1000	3
He	Tb	159	250688.65	1.0	100.2	Pulse	0.1000	3
He	Bi	209	158027.32	0.8	96.8	Pulse	0.1000	3

No Gas

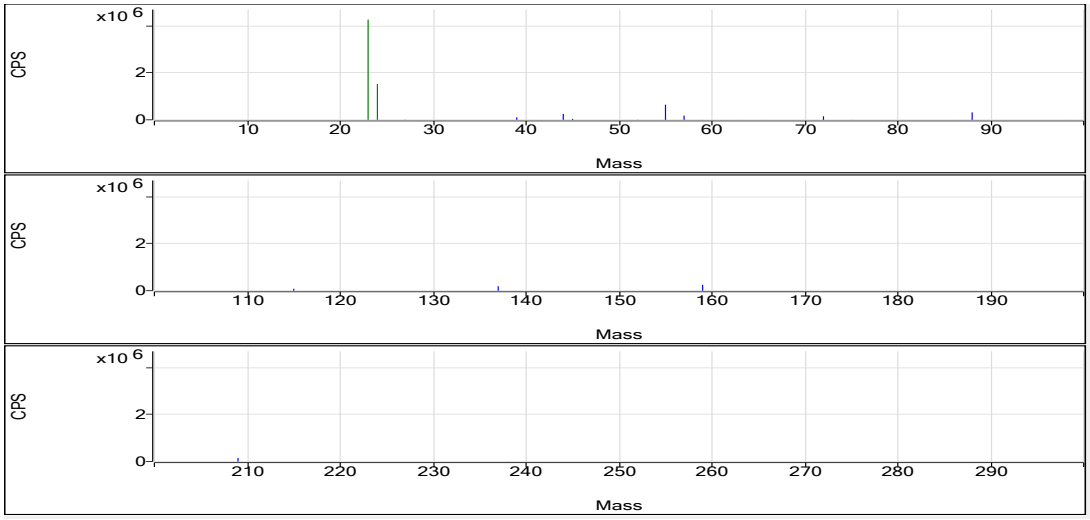


H2



Quantitation Report

He



Quantitation Report

Data File Name	049_CCV.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 4:09:47 PM
Sample Name	CCV 330252
Sample Type	CCV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

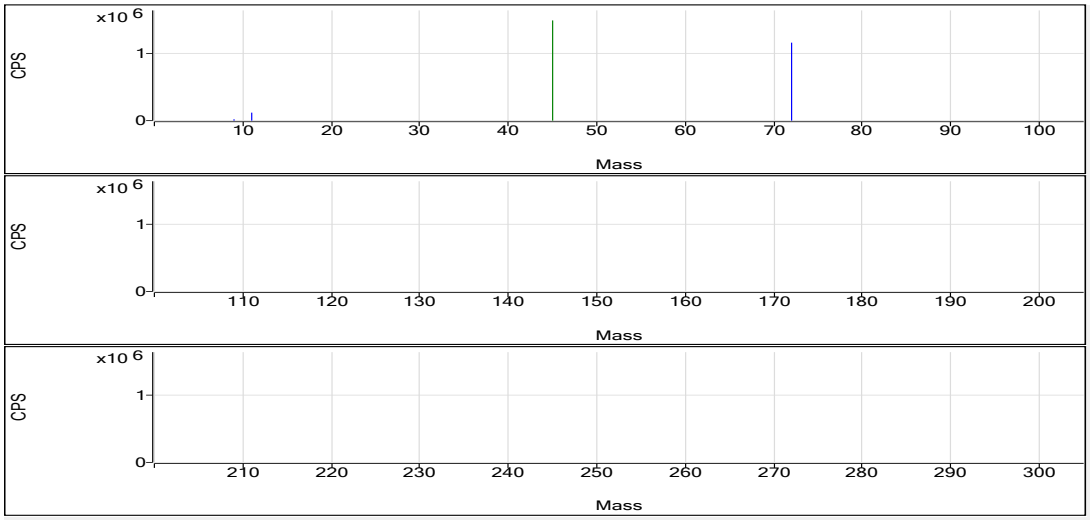
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	28.150	ppb	2.0	20455.24	0.0137	Pulse	0.5000	3
B	11	45	No Gas	279.471	ppb	1.5	119367.06	0.0798	Pulse	0.5000	3
Se	78	115	H2	29.627	ppb	0.4	2461.99	0.0063	Pulse	1.5000	3
Na	23	45	He	4941.448	ppb	1.0	419908.98	10.6782	Pulse	0.1000	3
Mg	24	45	He	4958.878	ppb	0.5	204437.19	5.1986	Pulse	0.1000	3
Al	27	45	He	4852.820	ppb	1.3	81849.98	2.0814	Pulse	0.1000	3
K	39	45	He	4964.885	ppb	1.2	290894.99	7.3975	Pulse	0.1000	3
Ca	44	45	He	5087.084	ppb	2.7	15301.81	0.3891	Pulse	0.1000	3
Ti	47	45	He	316.952	ppb	2.8	6511.67	0.1655	Pulse	0.1000	3
V	51	45	He	301.854	ppb	0.8	221403.90	5.6298	Pulse	0.1000	3
Cr	52	45	He	305.219	ppb	0.7	272357.21	6.9258	Pulse	0.1000	3
Mn	55	45	He	306.003	ppb	2.2	157130.68	3.9961	Pulse	0.1000	3
Fe	57	45	He	5180.212	ppb	0.2	97540.37	2.4803	Pulse	0.1000	3
Co	59	72	He	282.344	ppb	1.2	470284.72	3.1760	Pulse	0.1000	3
Ni	60	159	He	289.629	ppb	1.4	124440.77	0.4949	Pulse	0.1000	3
Cu	63	115	He	293.828	ppb	0.9	342506.19	4.0805	Pulse	0.1000	3
Zn	66	115	He	300.462	ppb	2.8	56484.67	0.6730	Pulse	0.1000	3
As	75	115	He	297.221	ppb	0.9	46567.50	0.5548	Pulse	0.5000	3
Sr	88	115	He	30.613	ppb	0.5	30059.34	0.3581	Pulse	0.1000	3
Mo	98	115	He	30.349	ppb	0.8	37781.17	0.4501	Pulse	0.1000	3
Ag	107	115	He	29.924	ppb	1.4	72825.26	0.8676	Pulse	0.1000	3
Cd	111	115	He	30.089	ppb	1.6	10546.00	0.1256	Pulse	0.5000	3
Sn	120	115	He	30.609	ppb	0.8	38356.87	0.4570	Pulse	0.1000	3
Sb	121	72	He	30.469	ppb	1.6	34817.63	0.2351	Pulse	0.1000	3
Ba	137	115	He	301.365	ppb	1.8	133282.30	1.5880	Pulse	0.1000	3
Tl	205	209	He	29.931	ppb	0.0	146720.50	0.9042	Pulse	0.1000	3
Pb	208	209	He	30.196	ppb	0.4	198271.31	1.2219	Pulse	0.1000	3
U	238	209	He	48.668	ppb	0.3	311176.08	1.9178	Pulse	0.1000	3

Quantitation Report

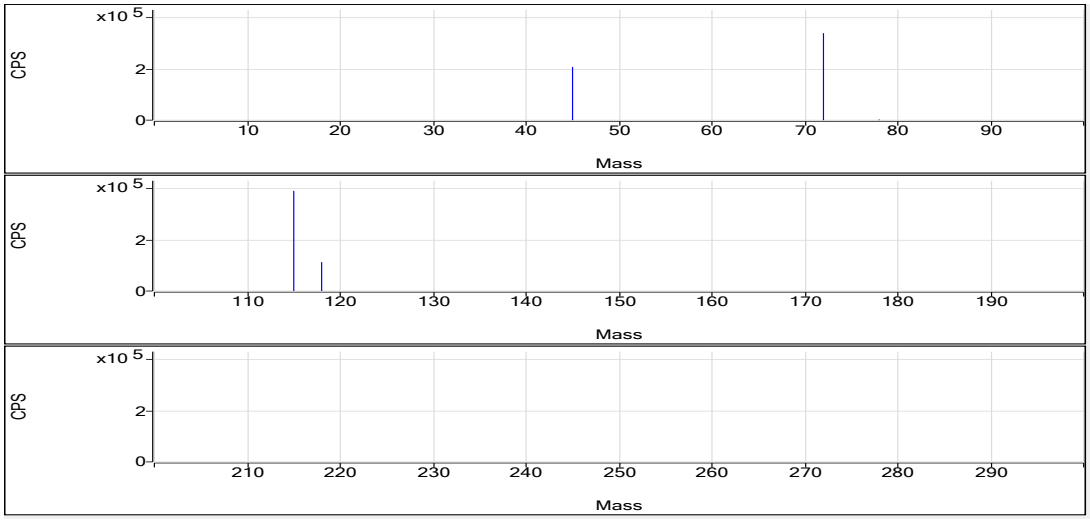
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1495096.54	0.7	99.4	Analog	0.1000	3
No Gas	Ge	72	1163382.77	1.5	99.9	Pulse	0.1000	3
H2	Sc	45	208180.99	1.7	93.5	Pulse	0.1000	3
H2	Ge	72	340509.67	2.1	95.8	Pulse	0.1000	3
H2	In	115	392153.78	1.9	98.9	Pulse	0.1000	3
He	Sc	45	39326.88	1.2	93.3	Pulse	0.1000	3
He	Ge	72	148072.33	0.4	95.7	Pulse	0.1000	3
He	In	115	83937.85	0.7	98.2	Pulse	0.1000	3
He	Tb	159	251457.35	0.5	100.5	Pulse	0.1000	3
He	Bi	209	162258.70	0.7	99.3	Pulse	0.1000	3

No Gas

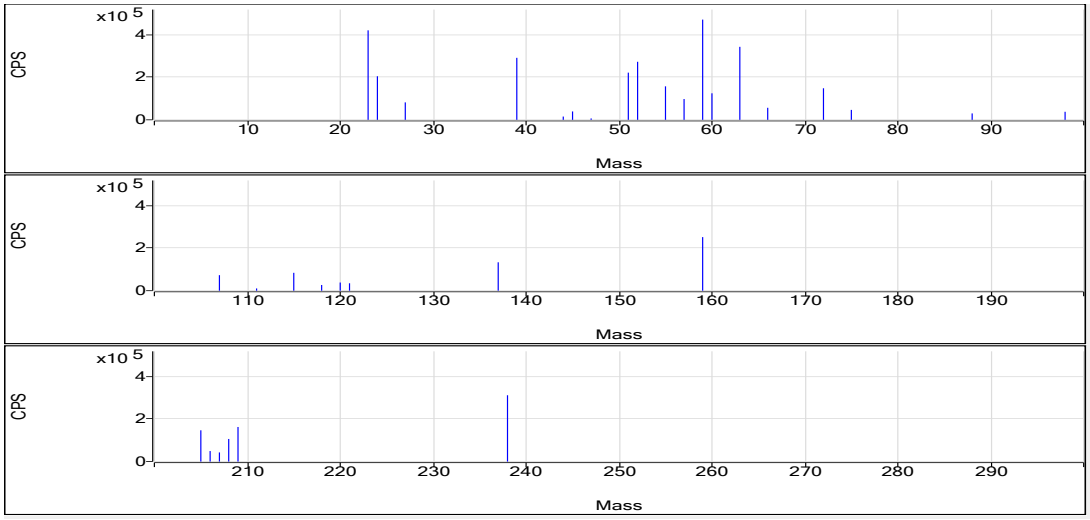


H2



Quantitation Report

He



Quantitation Report

Data File Name	050_CCB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 4:11:40 PM
Sample Name	CCB 226166
Sample Type	CCB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

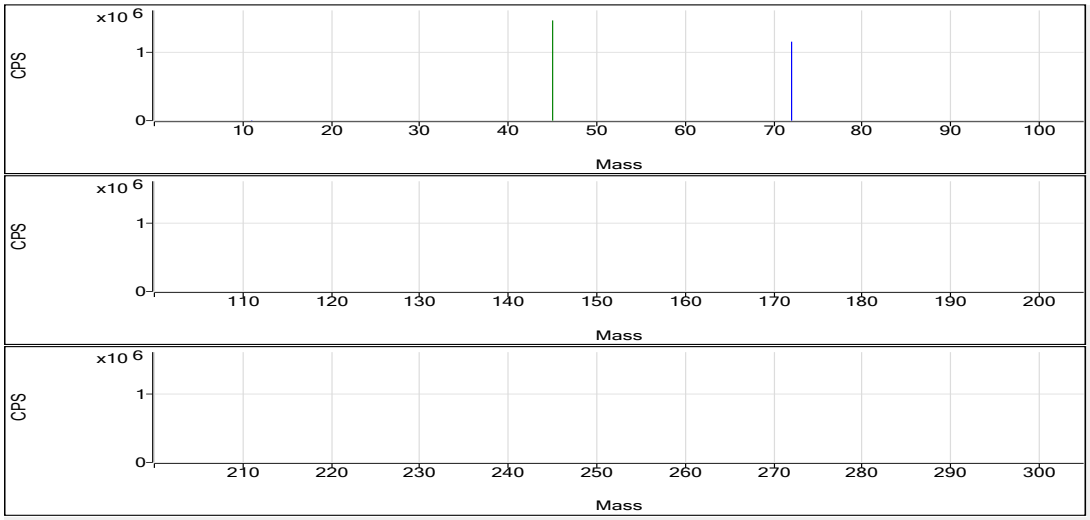
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.026	ppb	74.4	40.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	10.230	ppb	1.8	5683.77	0.0039	Pulse	0.5000	3
Se	78	115	H2	0.024	ppb	49.0	2.89	0.0000	Pulse	1.5000	3
Na	23	45	He	46.613	ppb	31.0	28307.58	0.7238	Pulse	0.1000	3
Mg	24	45	He	5.119	ppb	22.5	333.35	0.0085	Pulse	0.1000	3
Al	27	45	He	1.497	ppb	143.1	50.00	0.0013	Pulse	0.1000	3
K	39	45	He	8.865	ppb	239.8	19914.07	0.5092	Pulse	0.1000	3
Ca	44	45	He	16.511	ppb	132.3	130.00	0.0033	Pulse	0.1000	3
Ti	47	45	He	0.329	ppb	86.6	6.67	0.0002	Pulse	0.1000	3
V	51	45	He	0.122	ppb	105.9	453.36	0.0116	Pulse	0.1000	3
Cr	52	45	He	0.281	ppb	40.7	1206.76	0.0309	Pulse	0.1000	3
Mn	55	45	He	0.450	ppb	30.2	326.68	0.0083	Pulse	0.1000	3
Fe	57	45	He	6.374	ppb	41.3	233.34	0.0060	Pulse	0.1000	3
Co	59	72	He	0.080	ppb	31.1	166.68	0.0011	Pulse	0.1000	3
Ni	60	159	He	-0.150	ppb	N/A	473.36	0.0019	Pulse	0.1000	3
Cu	63	115	He	0.023	ppb	241.6	703.37	0.0085	Pulse	0.1000	3
Zn	66	115	He	-1.815	ppb	N/A	700.04	0.0085	Pulse	0.1000	3
As	75	115	He	0.067	ppb	67.1	50.67	0.0006	Pulse	0.5000	3
Sr	88	115	He	0.034	ppb	16.0	96.67	0.0012	Pulse	0.1000	3
Mo	98	115	He	0.063	ppb	59.3	76.67	0.0009	Pulse	0.1000	3
Ag	107	115	He	0.004	ppb	244.5	56.67	0.0007	Pulse	0.1000	3
Cd	111	115	He	0.008	ppb	86.3	3.33	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.008	ppb	1194.9	1170.09	0.0142	Pulse	0.1000	3
Sb	121	72	He	0.375	ppb	24.9	453.36	0.0030	Pulse	0.1000	3
Ba	137	115	He	0.009	ppb	369.4	26.67	0.0003	Pulse	0.1000	3
Tl	205	209	He	0.016	ppb	85.2	116.67	0.0007	Pulse	0.1000	3
Pb	208	209	He	-0.008	ppb	N/A	186.67	0.0011	Pulse	0.1000	3
U	238	209	He	0.024	ppb	18.9	170.01	0.0010	Pulse	0.1000	3

Quantitation Report

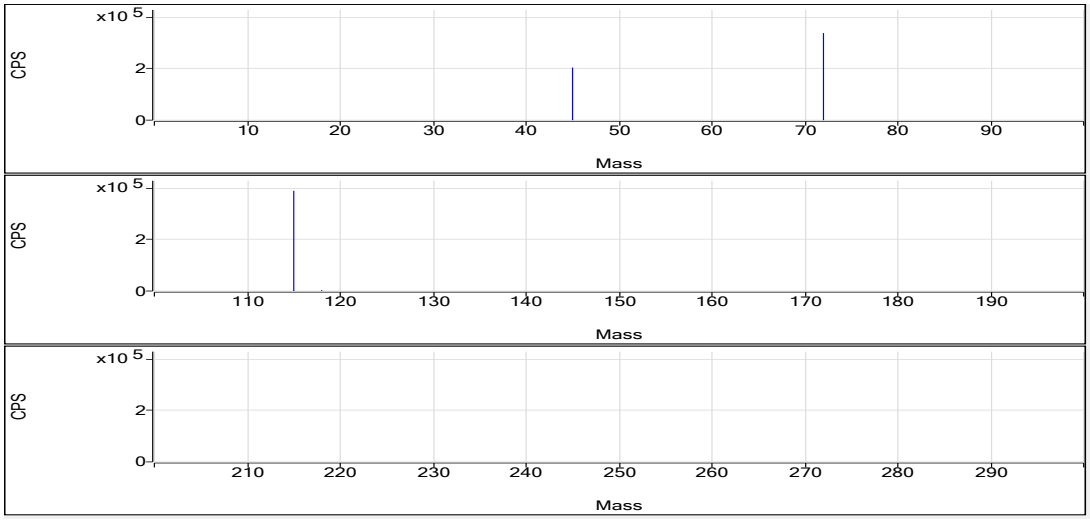
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1474497.48	3.4	98.1	Analog	0.1000	3
No Gas	Ge	72	1161755.17	1.2	99.8	Pulse	0.1000	3
H2	Sc	45	204614.18	2.3	91.9	Pulse	0.1000	3
H2	Ge	72	338957.34	1.8	95.4	Pulse	0.1000	3
H2	In	115	390100.77	0.9	98.4	Pulse	0.1000	3
He	Sc	45	39129.96	1.7	92.8	Pulse	0.1000	3
He	Ge	72	148969.03	0.1	96.2	Pulse	0.1000	3
He	In	115	82389.16	1.2	96.4	Pulse	0.1000	3
He	Tb	159	247135.58	1.4	98.8	Pulse	0.1000	3
He	Bi	209	162256.54	0.7	99.3	Pulse	0.1000	3

No Gas

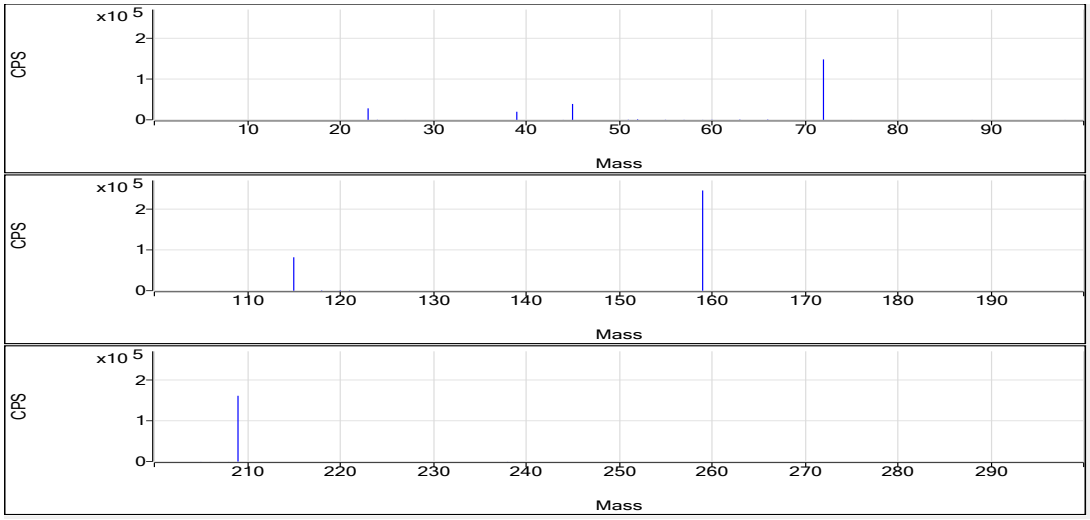


H2



Quantitation Report

He



Quantitation Report

Data File Name	051SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 4:13:33 PM
Sample Name	410-10711-o-7-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

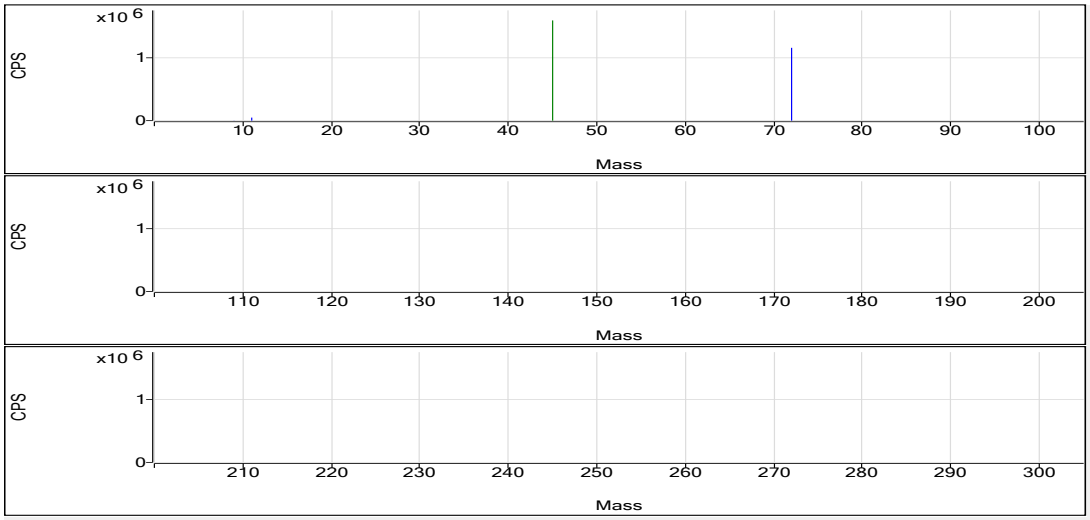
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	2.669	ppb	1.8	2103.50	0.0013	Pulse	0.5000	3
B	11	45	No Gas	103.901	ppb	1.7	48607.53	0.0303	Pulse	0.5000	3
Se	78	115	H2	0.594	ppb	20.4	49.78	0.0001	Pulse	1.5000	3
Na	23	45	He	7407.979	ppb	1.4	660630.02	15.6943	Pulse	0.1000	3
Mg	24	45	He	16960.863	ppb	1.1	748122.49	17.7733	Pulse	0.1000	3
Al	27	45	He	35071.552	ppb	1.5	633004.95	15.0387	Pulse	0.1000	3
K	39	45	He	8116.750	ppb	1.9	495756.38	11.7782	Pulse	0.1000	3
Ca	44	45	He	54229.044	ppb	1.4	173757.02	4.1276	Pulse	0.1000	3
Ti	47	45	He	425.665	ppb	9.0	9364.46	0.2223	Pulse	0.1000	3
V	51	45	He	85.716	ppb	1.0	67573.81	1.6053	Pulse	0.1000	3
Cr	52	45	He	58.665	ppb	2.7	56858.70	1.3510	Pulse	0.1000	3
Mn	55	45	He	3200.570	ppb	2.9	1757986.43	41.7731	Analog	0.1000	3
Fe	57	45	He	96109.144	ppb	1.6	1934722.00	45.9657	Analog	0.1000	3
Co	59	72	He	34.179	ppb	1.7	58685.84	0.3847	Pulse	0.1000	3
Ni	60	159	He	34.254	ppb	3.5	15909.18	0.0604	Pulse	0.1000	3
Cu	63	115	He	33.873	ppb	2.3	40774.85	0.4777	Pulse	0.1000	3
Zn	66	115	He	87.235	ppb	5.1	17434.42	0.2043	Pulse	0.1000	3
As	75	115	He	28.509	ppb	2.5	4579.42	0.0537	Pulse	0.5000	3
Sr	88	115	He	425.338	ppb	1.6	423798.21	4.9657	Pulse	0.1000	3
Mo	98	115	He	3.769	ppb	1.7	4770.96	0.0559	Pulse	0.1000	3
Ag	107	115	He	0.089	ppb	8.5	270.01	0.0032	Pulse	0.1000	3
Cd	111	115	He	0.249	ppb	8.5	89.33	0.0010	Pulse	0.5000	3
Sn	120	115	He	0.457	ppb	15.2	1766.90	0.0207	Pulse	0.1000	3
Sb	121	72	He	0.391	ppb	7.8	483.35	0.0032	Pulse	0.1000	3
Ba	137	115	He	513.702	ppb	0.7	231015.80	2.7067	Pulse	0.1000	3
Tl	205	209	He	0.450	ppb	9.1	2283.62	0.0138	Pulse	0.1000	3
Pb	208	209	He	146.513	ppb	1.5	978302.30	5.9232	Pulse	0.1000	3
U	238	209	He	4.125	ppb	1.2	26871.82	0.1627	Pulse	0.1000	3

Quantitation Report

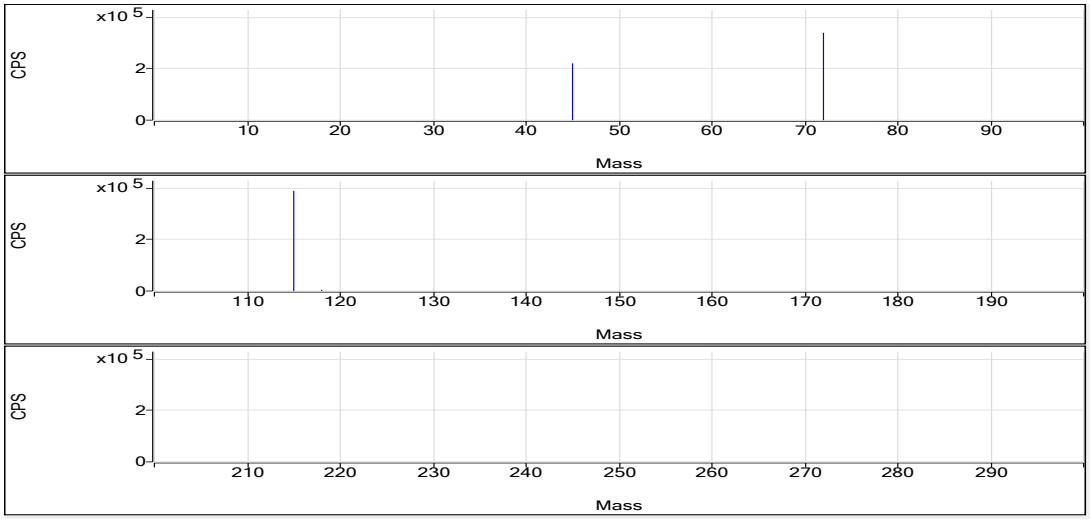
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1604531.02	0.9	106.7	Analog	0.1000	3
No Gas	Ge	72	1166009.64	1.1	100.1	Pulse	0.1000	3
H2	Sc	45	220644.43	1.8	99.1	Pulse	0.1000	3
H2	Ge	72	339094.77	1.8	95.4	Pulse	0.1000	3
H2	In	115	389081.53	1.4	98.2	Pulse	0.1000	3
He	Sc	45	42098.13	1.7	99.9	Pulse	0.1000	3
He	Ge	72	152578.99	0.9	98.6	Pulse	0.1000	3
He	In	115	85353.61	1.0	99.9	Pulse	0.1000	3
He	Tb	159	263201.77	0.6	105.2	Pulse	0.1000	3
He	Bi	209	165202.64	2.3	101.2	Pulse	0.1000	3

No Gas

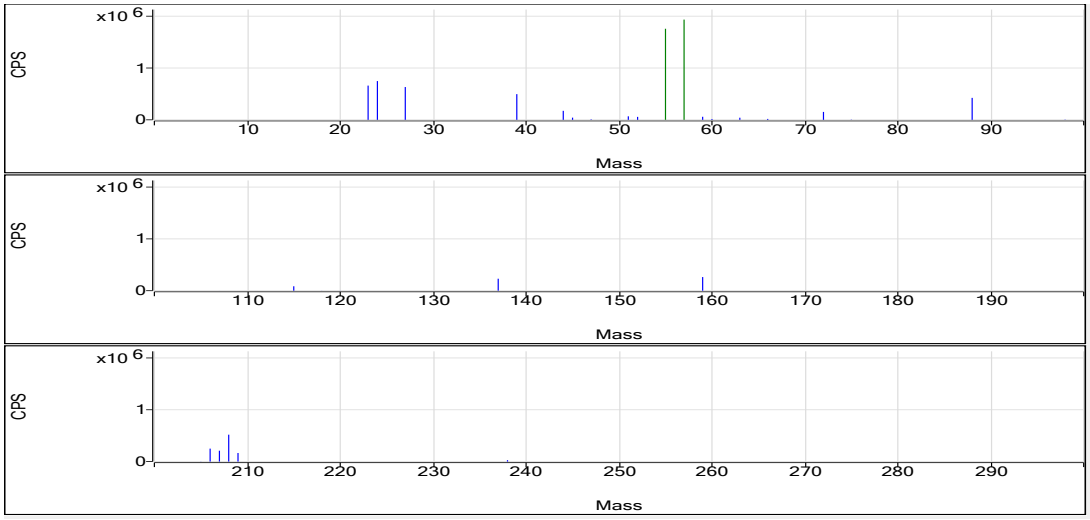


H2



Quantitation Report

He



Quantitation Report

Data File Name	052SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 4:15:25 PM
Sample Name	410-10781-i-3-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

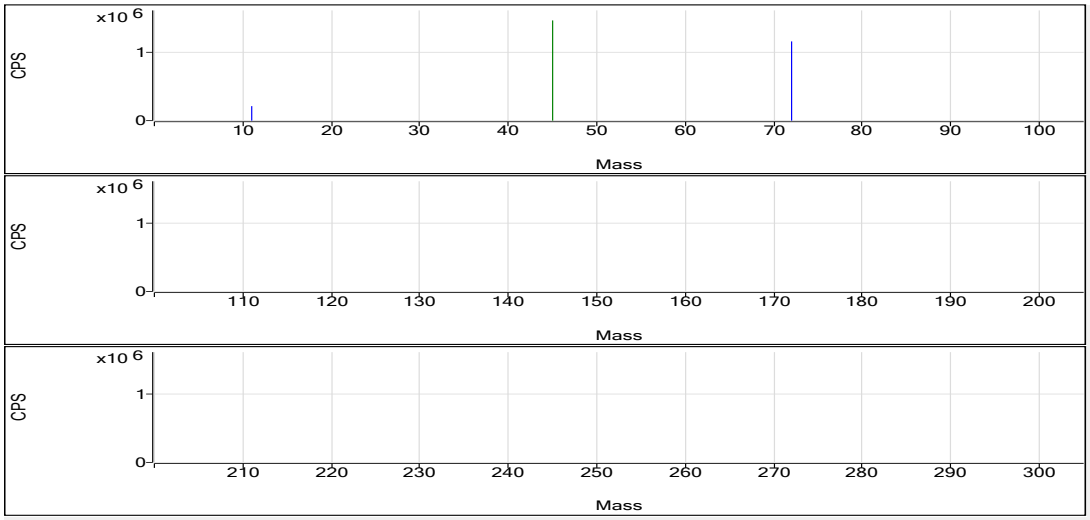
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.009	ppb	125.1	28.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	509.034	ppb	2.5	213698.71	0.1446	Pulse	0.5000	3
Se	78	115	H2	1.093	ppb	10.6	90.22	0.0002	Pulse	1.5000	3
Na	23	45	He	103753.885	ppb	0.1	8194622.79	211.6289	Analog	0.1000	3
Mg	24	45	He	50937.445	ppb	0.9	2066505.86	53.3709	Analog	0.1000	3
Al	27	45	He	16.797	ppb	2.4	303.35	0.0078	Pulse	0.1000	3
K	39	45	He	1802.217	ppb	1.4	116226.54	3.0018	Pulse	0.1000	3
Ca	44	45	He	143688.165	ppb	1.1	423334.40	10.9333	Pulse	0.1000	3
Ti	47	45	He	0.828	ppb	125.5	16.67	0.0004	Pulse	0.1000	3
V	51	45	He	21.430	ppb	2.2	15812.36	0.4083	Pulse	0.1000	3
Cr	52	45	He	0.675	ppb	23.9	1540.14	0.0398	Pulse	0.1000	3
Mn	55	45	He	9.557	ppb	8.3	4924.32	0.1272	Pulse	0.1000	3
Fe	57	45	He	51.117	ppb	2.7	1060.08	0.0274	Pulse	0.1000	3
Co	59	72	He	0.112	ppb	26.8	220.01	0.0015	Pulse	0.1000	3
Ni	60	159	He	1.138	ppb	13.5	1010.07	0.0041	Pulse	0.1000	3
Cu	63	115	He	4.473	ppb	6.4	5811.39	0.0702	Pulse	0.1000	3
Zn	66	115	He	0.260	ppb	196.6	1080.08	0.0131	Pulse	0.1000	3
As	75	115	He	1035.191	ppb	1.9	159850.44	1.9311	Pulse	0.5000	3
Sr	88	115	He	1007.055	ppb	1.7	973140.69	11.7560	Pulse	0.1000	3
Mo	98	115	He	6.745	ppb	5.3	8279.34	0.1000	Pulse	0.1000	3
Ag	107	115	He	0.002	ppb	223.7	53.33	0.0006	Pulse	0.1000	3
Cd	111	115	He	0.021	ppb	70.9	8.00	0.0001	Pulse	0.5000	3
Sn	120	115	He	-0.157	ppb	N/A	976.74	0.0118	Pulse	0.1000	3
Sb	121	72	He	18.710	ppb	0.1	21497.17	0.1445	Pulse	0.1000	3
Ba	137	115	He	175.071	ppb	0.8	76378.32	0.9226	Pulse	0.1000	3
Tl	205	209	He	0.005	ppb	211.7	60.00	0.0004	Pulse	0.1000	3
Pb	208	209	He	0.062	ppb	16.9	620.03	0.0040	Pulse	0.1000	3
U	238	209	He	18.745	ppb	1.9	115428.14	0.7387	Pulse	0.1000	3

Quantitation Report

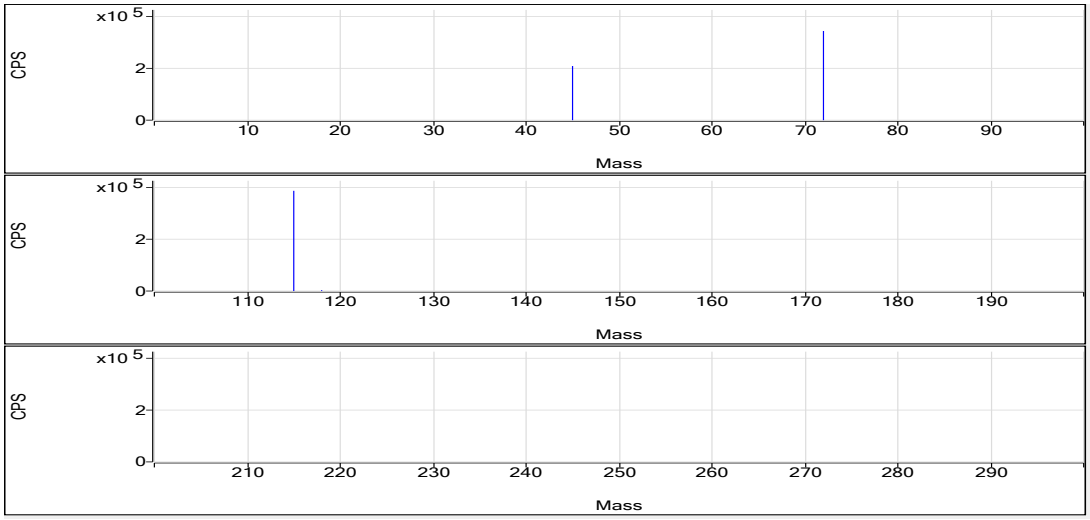
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1477589.20	0.7	98.3	Analog	0.1000	3
No Gas	Ge	72	1168272.12	0.7	100.3	Pulse	0.1000	3
H2	Sc	45	208343.96	0.4	93.6	Pulse	0.1000	3
H2	Ge	72	343201.91	1.3	96.6	Pulse	0.1000	3
H2	In	115	385751.25	0.8	97.3	Pulse	0.1000	3
He	Sc	45	38721.90	0.9	91.9	Pulse	0.1000	3
He	Ge	72	148820.59	1.1	96.2	Pulse	0.1000	3
He	In	115	82788.02	1.1	96.9	Pulse	0.1000	3
He	Tb	159	245801.61	1.2	98.2	Pulse	0.1000	3
He	Bi	209	156264.77	0.8	95.7	Pulse	0.1000	3

No Gas

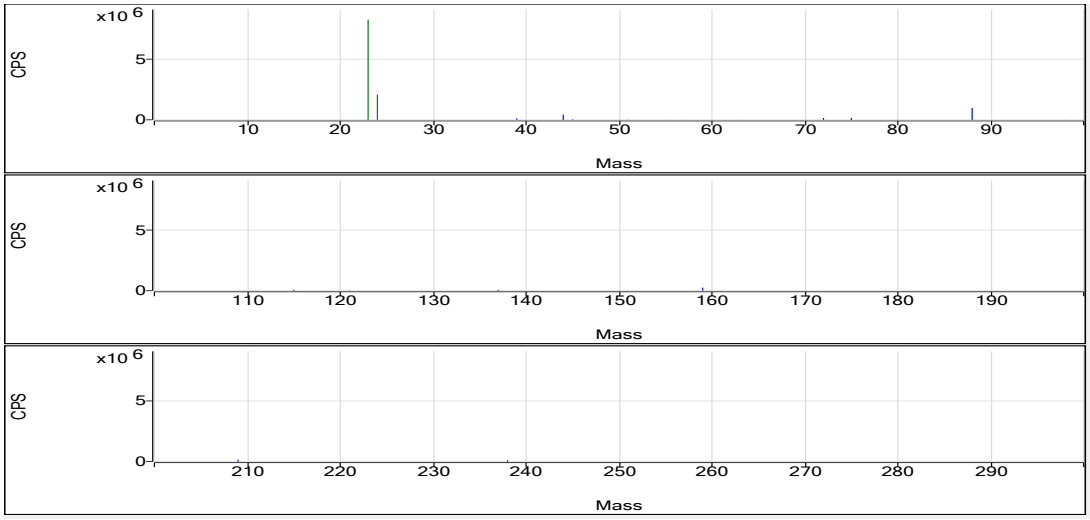


H2



Quantitation Report

He



Quantitation Report

Data File Name	053SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 4:17:17 PM
Sample Name	410-10781-i-4-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

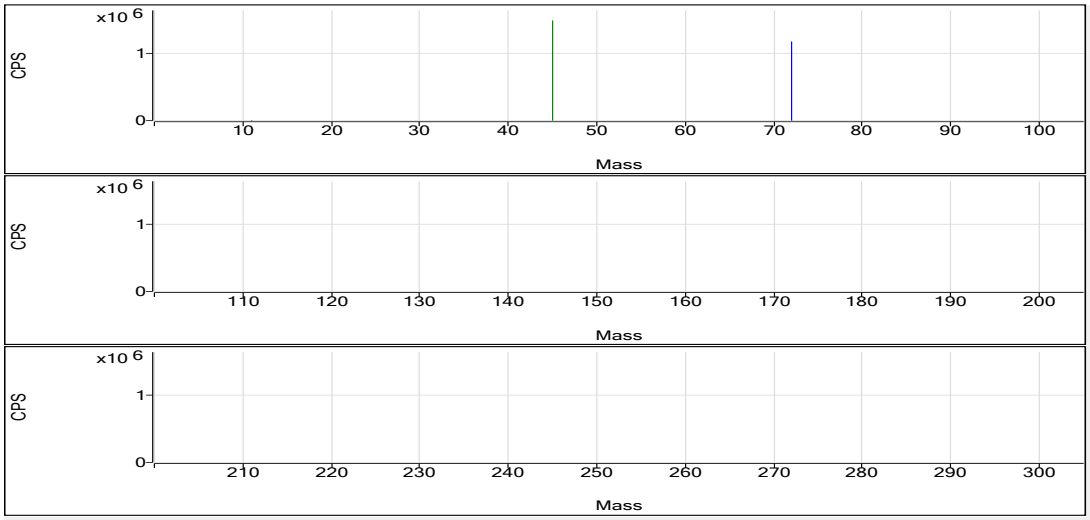
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	-0.004	ppb	N/A	19.33	0.0000	Pulse	0.5000	3
B	11	45	No Gas	15.840	ppb	5.6	8041.52	0.0054	Pulse	0.5000	3
Se	78	115	H2	0.003	ppb	314.9	1.11	0.0000	Pulse	1.5000	3
Na	23	45	He	200.861	ppb	6.6	40639.76	1.0374	Pulse	0.1000	3
Mg	24	45	He	23.349	ppb	17.2	1080.07	0.0276	Pulse	0.1000	3
Al	27	45	He	6.885	ppb	25.7	140.01	0.0036	Pulse	0.1000	3
K	39	45	He	1.925	ppb	810.3	19563.54	0.4996	Pulse	0.1000	3
Ca	44	45	He	70.633	ppb	34.3	290.02	0.0074	Pulse	0.1000	3
Ti	47	45	He	0.322	ppb	86.6	6.67	0.0002	Pulse	0.1000	3
V	51	45	He	0.052	ppb	59.1	403.35	0.0103	Pulse	0.1000	3
Cr	52	45	He	0.409	ppb	53.3	1320.10	0.0338	Pulse	0.1000	3
Mn	55	45	He	0.476	ppb	14.5	340.01	0.0087	Pulse	0.1000	3
Fe	57	45	He	9.526	ppb	4.5	293.35	0.0075	Pulse	0.1000	3
Co	59	72	He	0.009	ppb	101.1	46.67	0.0003	Pulse	0.1000	3
Ni	60	159	He	-0.264	ppb	N/A	430.02	0.0017	Pulse	0.1000	3
Cu	63	115	He	0.083	ppb	90.7	780.05	0.0094	Pulse	0.1000	3
Zn	66	115	He	-1.187	ppb	N/A	820.05	0.0099	Pulse	0.1000	3
As	75	115	He	0.314	ppb	15.7	89.33	0.0011	Pulse	0.5000	3
Sr	88	115	He	0.322	ppb	27.0	376.69	0.0045	Pulse	0.1000	3
Mo	98	115	He	0.059	ppb	28.3	73.33	0.0009	Pulse	0.1000	3
Ag	107	115	He	-0.013	ppb	N/A	16.67	0.0002	Pulse	0.1000	3
Cd	111	115	He	0.000	ppb	4473.6	0.67	0.0000	Pulse	0.5000	3
Sn	120	115	He	-0.153	ppb	N/A	986.74	0.0119	Pulse	0.1000	3
Sb	121	72	He	0.181	ppb	11.6	230.01	0.0015	Pulse	0.1000	3
Ba	137	115	He	0.108	ppb	37.8	70.00	0.0008	Pulse	0.1000	3
Tl	205	209	He	0.004	ppb	85.8	60.00	0.0004	Pulse	0.1000	3
Pb	208	209	He	0.011	ppb	42.1	313.35	0.0019	Pulse	0.1000	3
U	238	209	He	0.008	ppb	19.2	70.00	0.0004	Pulse	0.1000	3

Quantitation Report

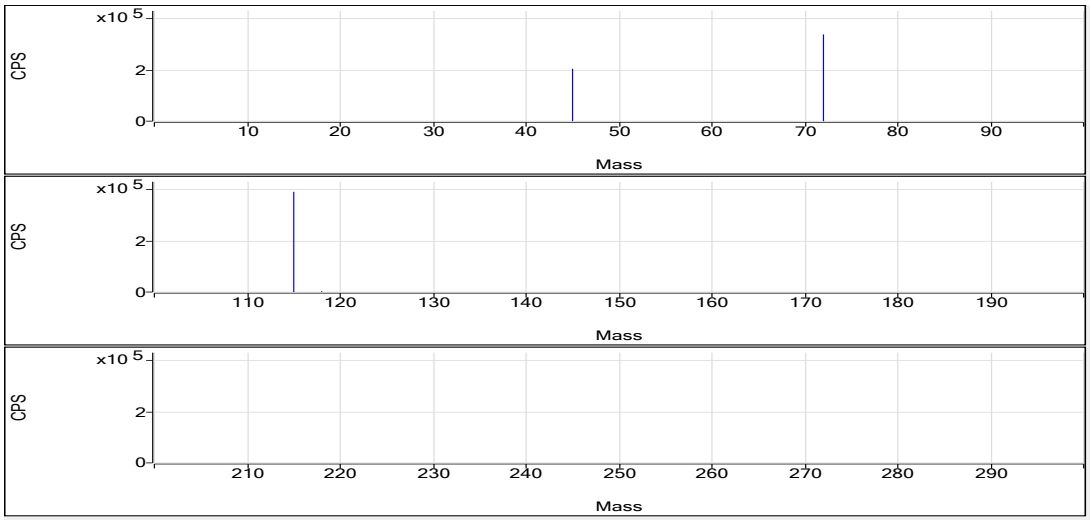
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1479328.16	1.2	98.4	Analog	0.1000	3
No Gas	Ge	72	1167624.77	0.7	100.3	Pulse	0.1000	3
H2	Sc	45	204647.72	0.5	91.9	Pulse	0.1000	3
H2	Ge	72	338685.80	0.4	95.3	Pulse	0.1000	3
H2	In	115	391336.66	0.2	98.7	Pulse	0.1000	3
He	Sc	45	39183.19	2.4	93.0	Pulse	0.1000	3
He	Ge	72	148792.36	1.8	96.1	Pulse	0.1000	3
He	In	115	83116.69	1.4	97.2	Pulse	0.1000	3
He	Tb	159	249243.68	1.2	99.6	Pulse	0.1000	3
He	Bi	209	164064.37	0.6	100.5	Pulse	0.1000	3

No Gas

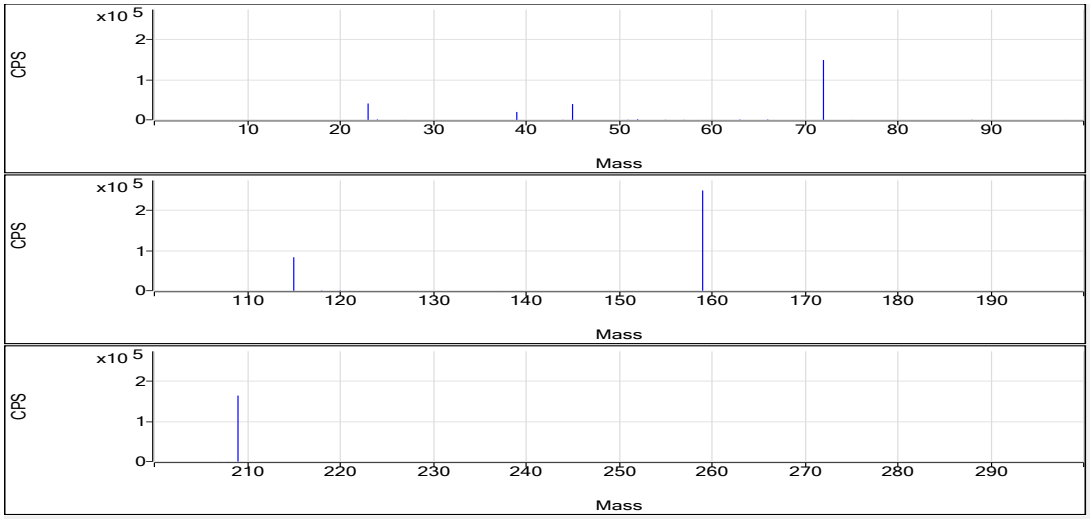


H2



Quantitation Report

He



Quantitation Report

Data File Name	054SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 4:19:09 PM
Sample Name	410-10649-n-2-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

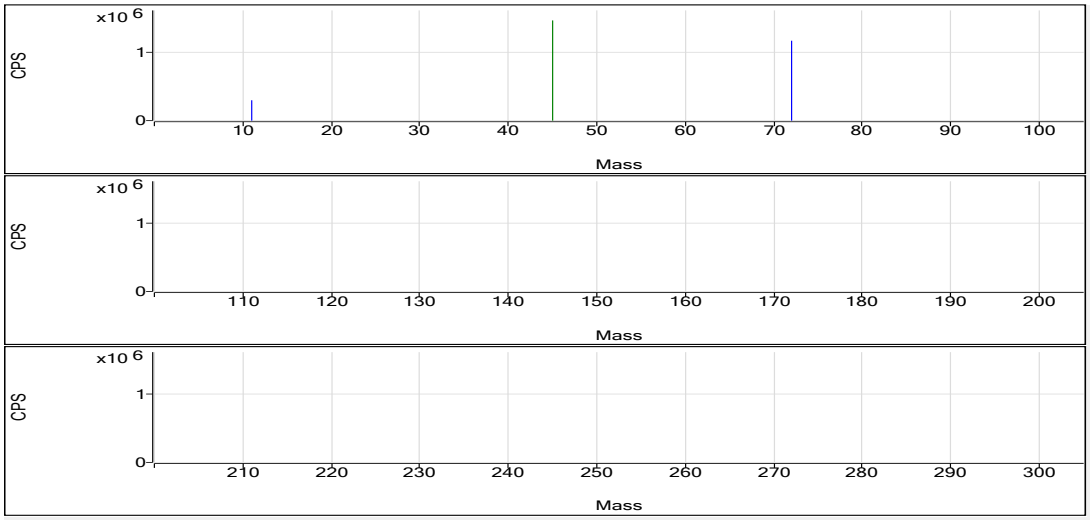
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.006	ppb	24.8	26.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	717.145	ppb	0.9	298029.95	0.2034	Pulse	0.5000	3
Se	78	115	H2	0.310	ppb	18.8	26.22	0.0001	Pulse	1.5000	3
Na	23	45	He	125286.374	ppb	0.2	10264219.43	255.4186	Analog	0.1000	3
Mg	24	45	He	56078.027	ppb	1.5	2361166.37	58.7567	Analog	0.1000	3
Al	27	45	He	79.397	ppb	9.3	1393.48	0.0347	Pulse	0.1000	3
K	39	45	He	35040.753	ppb	0.5	1977125.75	49.1994	Analog	0.1000	3
Ca	44	45	He	115569.838	ppb	2.0	353396.81	8.7942	Pulse	0.1000	3
Ti	47	45	He	2.859	ppb	0.1	60.00	0.0015	Pulse	0.1000	3
V	51	45	He	0.925	ppb	5.2	1066.75	0.0265	Pulse	0.1000	3
Cr	52	45	He	12.895	ppb	5.3	12702.62	0.3161	Pulse	0.1000	3
Mn	55	45	He	127.583	ppb	0.2	67011.68	1.6675	Pulse	0.1000	3
Fe	57	45	He	36691.092	ppb	1.4	705254.11	17.5499	Pulse	0.1000	3
Co	59	72	He	3.290	ppb	3.1	5641.27	0.0372	Pulse	0.1000	3
Ni	60	159	He	7.084	ppb	1.0	3550.57	0.0142	Pulse	0.1000	3
Cu	63	115	He	0.816	ppb	24.6	1620.13	0.0195	Pulse	0.1000	3
Zn	66	115	He	17.597	ppb	4.5	4244.11	0.0512	Pulse	0.1000	3
As	75	115	He	1.084	ppb	17.1	208.67	0.0025	Pulse	0.5000	3
Sr	88	115	He	1115.947	ppb	1.0	1080699.80	13.0271	Pulse	0.1000	3
Mo	98	115	He	1.621	ppb	11.0	1993.54	0.0240	Pulse	0.1000	3
Ag	107	115	He	0.010	ppb	126.8	73.33	0.0009	Pulse	0.1000	3
Cd	111	115	He	0.063	ppb	28.2	22.67	0.0003	Pulse	0.5000	3
Sn	120	115	He	3.025	ppb	8.4	4797.66	0.0579	Pulse	0.1000	3
Sb	121	72	He	0.289	ppb	19.8	360.02	0.0024	Pulse	0.1000	3
Ba	137	115	He	753.885	ppb	0.7	329521.74	3.9721	Pulse	0.1000	3
Tl	205	209	He	0.002	ppb	181.3	46.67	0.0003	Pulse	0.1000	3
Pb	208	209	He	18.155	ppb	1.7	114756.69	0.7353	Pulse	0.1000	3
U	238	209	He	0.277	ppb	4.9	1716.84	0.0110	Pulse	0.1000	3

Quantitation Report

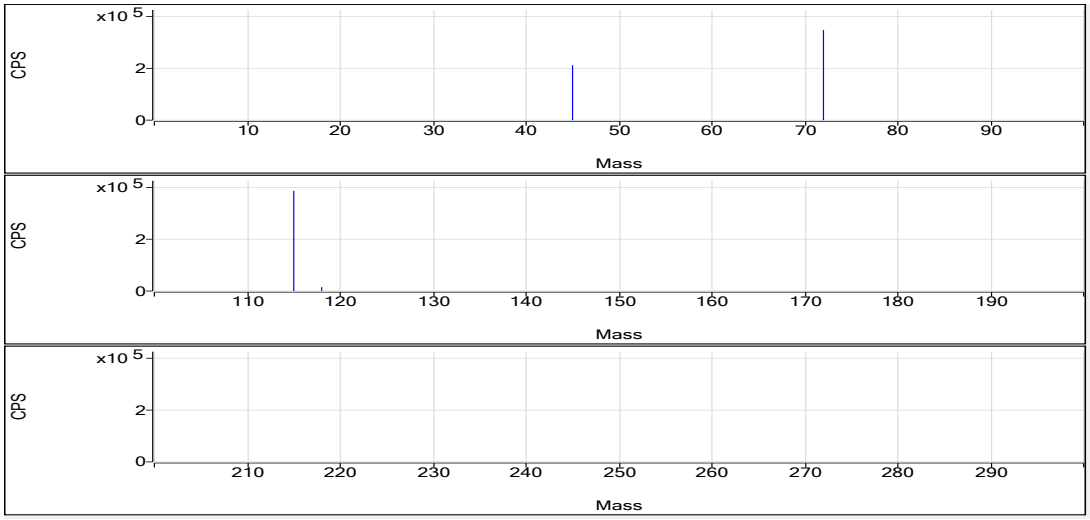
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1465450.34	0.2	97.5	Analog	0.1000	3
No Gas	Ge	72	1168667.90	0.7	100.4	Pulse	0.1000	3
H2	Sc	45	211437.20	1.3	95.0	Pulse	0.1000	3
H2	Ge	72	346365.80	1.7	97.5	Pulse	0.1000	3
H2	In	115	385376.91	1.3	97.2	Pulse	0.1000	3
He	Sc	45	40185.88	0.1	95.3	Pulse	0.1000	3
He	Ge	72	151554.41	0.4	97.9	Pulse	0.1000	3
He	In	115	82962.15	0.9	97.1	Pulse	0.1000	3
He	Tb	159	249661.48	1.1	99.8	Pulse	0.1000	3
He	Bi	209	156084.10	0.4	95.6	Pulse	0.1000	3

No Gas

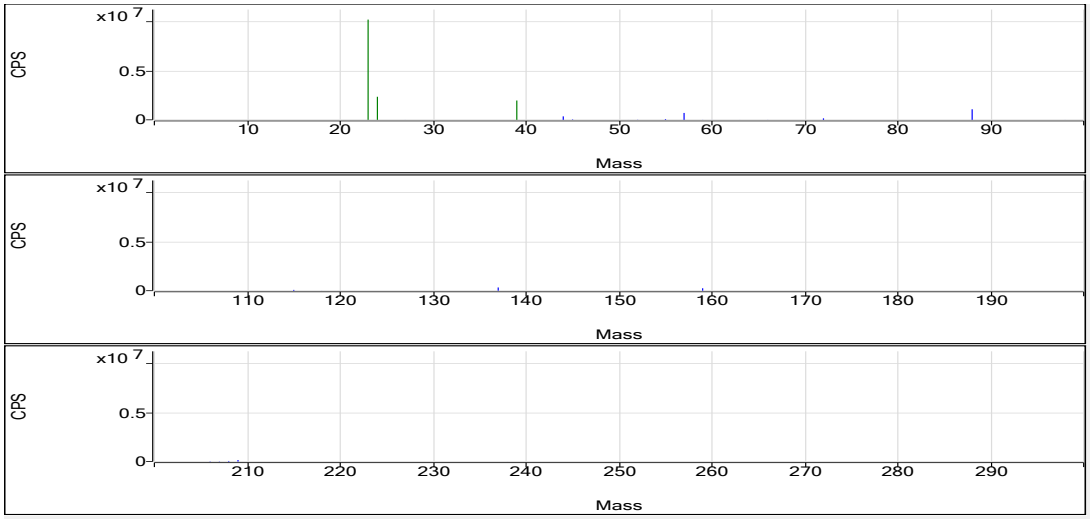


H2



Quantitation Report

He



Quantitation Report

Data File Name	055SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 4:21:00 PM
Sample Name	410-10649-m-3-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

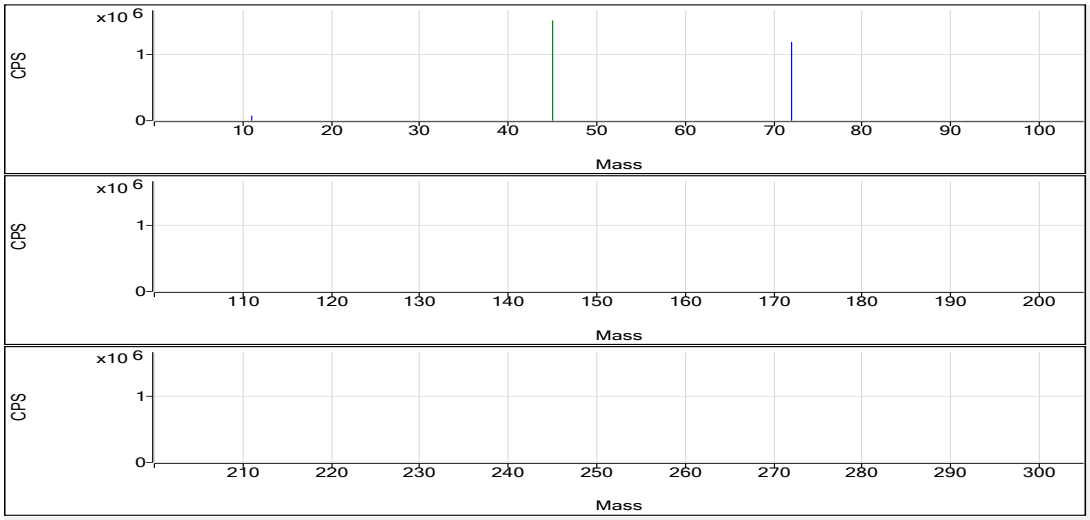
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.041	ppb	39.5	52.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	172.944	ppb	1.4	75059.87	0.0498	Pulse	0.5000	3
Se	78	115	H2	0.968	ppb	4.2	81.78	0.0002	Pulse	1.5000	3
Na	23	45	He	45791.337	ppb	1.4	3816360.99	93.7529	Analog	0.1000	3
Mg	24	45	He	13306.054	ppb	2.2	567601.22	13.9441	Pulse	0.1000	3
Al	27	45	He	960.150	ppb	3.3	16783.36	0.4123	Pulse	0.1000	3
K	39	45	He	24227.922	ppb	1.9	1391301.96	34.1709	Analog	0.1000	3
Ca	44	45	He	91164.506	ppb	0.4	282423.97	6.9375	Pulse	0.1000	3
Ti	47	45	He	23.852	ppb	13.1	506.69	0.0125	Pulse	0.1000	3
V	51	45	He	32.104	ppb	0.6	24714.96	0.6071	Pulse	0.1000	3
Cr	52	45	He	7.039	ppb	6.1	7478.81	0.1837	Pulse	0.1000	3
Mn	55	45	He	107.371	ppb	0.8	57146.10	1.4038	Pulse	0.1000	3
Fe	57	45	He	1026.330	ppb	2.6	20097.81	0.4938	Pulse	0.1000	3
Co	59	72	He	1.635	ppb	5.2	2837.05	0.0186	Pulse	0.1000	3
Ni	60	159	He	10.931	ppb	2.1	5254.47	0.0208	Pulse	0.1000	3
Cu	63	115	He	9.972	ppb	3.8	12265.61	0.1464	Pulse	0.1000	3
Zn	66	115	He	9.493	ppb	9.3	2793.71	0.0334	Pulse	0.1000	3
As	75	115	He	9.584	ppb	3.4	1538.10	0.0184	Pulse	0.5000	3
Sr	88	115	He	967.621	ppb	0.4	946060.17	11.2957	Pulse	0.1000	3
Mo	98	115	He	47.888	ppb	1.0	59485.65	0.7103	Pulse	0.1000	3
Ag	107	115	He	0.013	ppb	32.4	80.00	0.0010	Pulse	0.1000	3
Cd	111	115	He	0.097	ppb	34.5	34.67	0.0004	Pulse	0.5000	3
Sn	120	115	He	0.089	ppb	97.9	1286.77	0.0154	Pulse	0.1000	3
Sb	121	72	He	2.773	ppb	7.5	3283.83	0.0215	Pulse	0.1000	3
Ba	137	115	He	48.273	ppb	1.2	21323.74	0.2546	Pulse	0.1000	3
Tl	205	209	He	0.012	ppb	32.5	100.00	0.0006	Pulse	0.1000	3
Pb	208	209	He	7.577	ppb	0.9	49561.21	0.3077	Pulse	0.1000	3
U	238	209	He	2.918	ppb	2.8	18533.92	0.1151	Pulse	0.1000	3

Quantitation Report

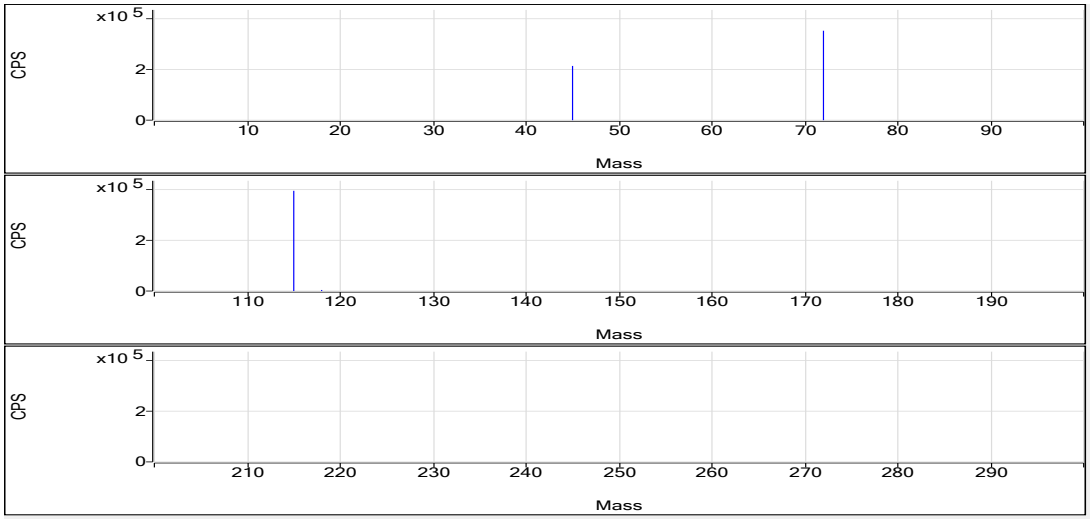
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1508143.99	1.7	100.3	Analog	0.1000	3
No Gas	Ge	72	1184465.37	1.1	101.7	Pulse	0.1000	3
H2	Sc	45	213489.64	1.5	95.9	Pulse	0.1000	3
H2	Ge	72	352081.32	1.9	99.1	Pulse	0.1000	3
H2	In	115	394564.12	1.9	99.6	Pulse	0.1000	3
He	Sc	45	40710.82	1.2	96.6	Pulse	0.1000	3
He	Ge	72	152510.68	0.6	98.5	Pulse	0.1000	3
He	In	115	83753.73	0.3	98.0	Pulse	0.1000	3
He	Tb	159	252983.62	1.4	101.1	Pulse	0.1000	3
He	Bi	209	161064.30	0.3	98.6	Pulse	0.1000	3

No Gas

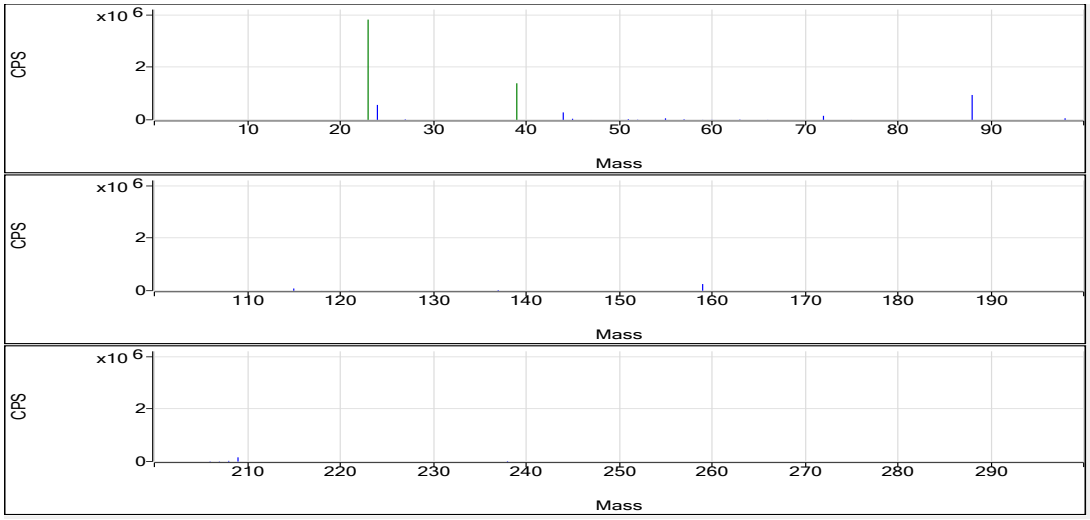


H2



Quantitation Report

He



Quantitation Report

Data File Name	056SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 4:22:53 PM
Sample Name	410-10649-o-4-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

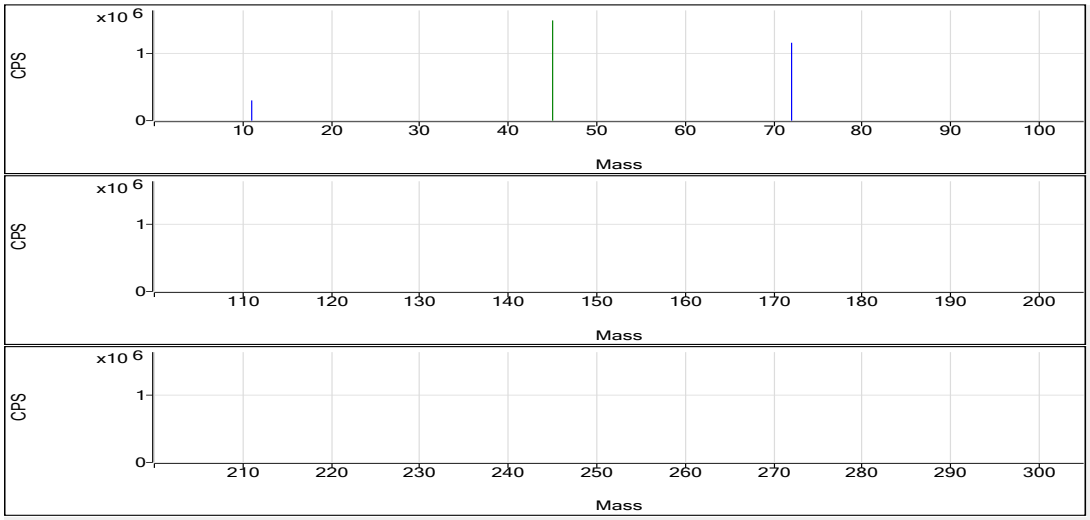
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.000	ppb	3515.3	22.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	711.853	ppb	2.1	301394.14	0.2019	Pulse	0.5000	3
Se	78	115	H2	0.208	ppb	22.7	18.00	0.0000	Pulse	1.5000	3
Na	23	45	He	121526.270	ppb	2.1	10070826.31	247.7718	Analog	0.1000	3
Mg	24	45	He	56907.035	ppb	1.6	2423591.84	59.6253	Analog	0.1000	3
Al	27	45	He	71.165	ppb	4.4	1266.77	0.0311	Pulse	0.1000	3
K	39	45	He	35272.019	ppb	1.5	2012906.84	49.5209	Analog	0.1000	3
Ca	44	45	He	116153.869	ppb	2.0	359245.56	8.8386	Pulse	0.1000	3
Ti	47	45	He	2.821	ppb	32.4	60.00	0.0015	Pulse	0.1000	3
V	51	45	He	0.890	ppb	3.3	1053.41	0.0259	Pulse	0.1000	3
Cr	52	45	He	13.441	ppb	2.2	13349.86	0.3284	Pulse	0.1000	3
Mn	55	45	He	129.412	ppb	1.8	68749.96	1.6914	Pulse	0.1000	3
Fe	57	45	He	36476.482	ppb	2.1	709144.34	17.4472	Pulse	0.1000	3
Co	59	72	He	3.331	ppb	3.9	5841.36	0.0377	Pulse	0.1000	3
Ni	60	159	He	7.479	ppb	5.0	3730.62	0.0149	Pulse	0.1000	3
Cu	63	115	He	0.789	ppb	15.8	1610.15	0.0192	Pulse	0.1000	3
Zn	66	115	He	15.150	ppb	0.8	3847.32	0.0458	Pulse	0.1000	3
As	75	115	He	0.885	ppb	5.3	180.00	0.0021	Pulse	0.5000	3
Sr	88	115	He	1121.267	ppb	1.6	1099630.92	13.0892	Pulse	0.1000	3
Mo	98	115	He	2.014	ppb	9.1	2510.32	0.0299	Pulse	0.1000	3
Ag	107	115	He	0.000	ppb	988.6	50.00	0.0006	Pulse	0.1000	3
Cd	111	115	He	0.057	ppb	21.9	20.67	0.0002	Pulse	0.5000	3
Sn	120	115	He	2.865	ppb	14.2	4664.29	0.0555	Pulse	0.1000	3
Sb	121	72	He	0.281	ppb	28.1	360.02	0.0023	Pulse	0.1000	3
Ba	137	115	He	738.774	ppb	0.6	327026.40	3.8925	Pulse	0.1000	3
Tl	205	209	He	-0.001	ppb	N/A	33.33	0.0002	Pulse	0.1000	3
Pb	208	209	He	16.510	ppb	0.4	104905.57	0.6688	Pulse	0.1000	3
U	238	209	He	0.338	ppb	11.0	2103.58	0.0134	Pulse	0.1000	3

Quantitation Report

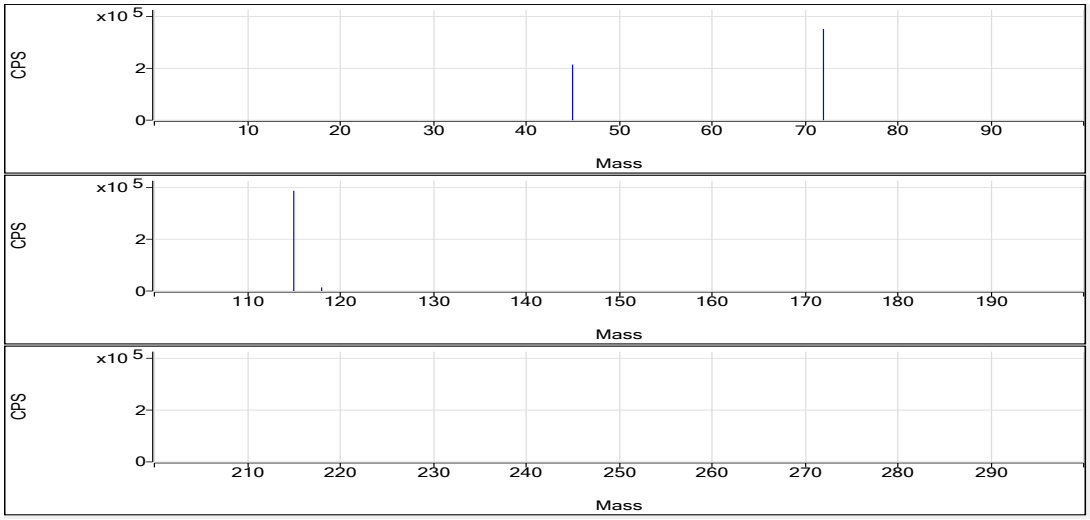
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1493142.74	1.8	99.3	Analog	0.1000	3
No Gas	Ge	72	1160416.44	0.8	99.7	Pulse	0.1000	3
H2	Sc	45	214747.33	0.9	96.5	Pulse	0.1000	3
H2	Ge	72	352512.75	0.4	99.2	Pulse	0.1000	3
H2	In	115	387338.24	1.6	97.7	Pulse	0.1000	3
He	Sc	45	40654.04	1.7	96.5	Pulse	0.1000	3
He	Ge	72	155013.81	1.3	100.2	Pulse	0.1000	3
He	In	115	84018.48	1.2	98.3	Pulse	0.1000	3
He	Tb	159	250438.93	0.6	100.1	Pulse	0.1000	3
He	Bi	209	156860.49	0.6	96.0	Pulse	0.1000	3

No Gas

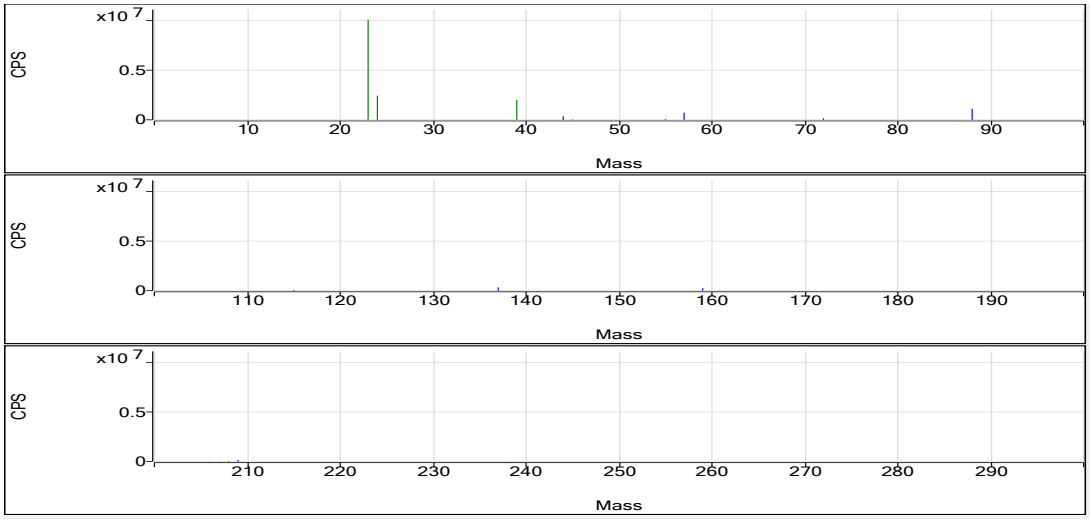


H2



Quantitation Report

He



Quantitation Report

Data File Name	057SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 4:24:44 PM
Sample Name	410-10649-m-5-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

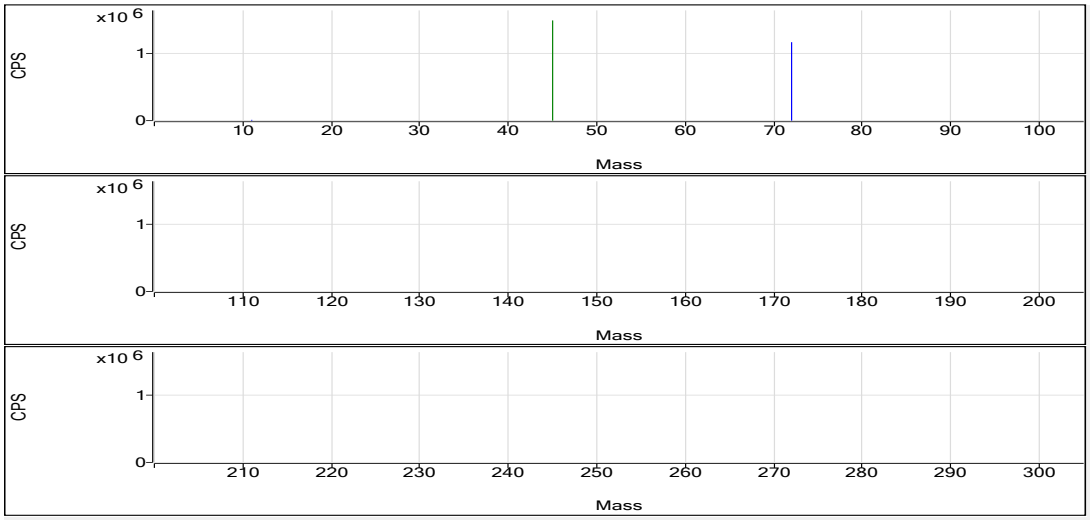
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	-0.004	ppb	N/A	19.33	0.0000	Pulse	0.5000	3
B	11	45	No Gas	24.211	ppb	5.1	11585.83	0.0078	Pulse	0.5000	3
Se	78	115	H2	0.013	ppb	204.5	2.00	0.0000	Pulse	1.5000	3
Na	23	45	He	96.228	ppb	5.0	34427.00	0.8247	Pulse	0.1000	3
Mg	24	45	He	22.850	ppb	18.8	1130.08	0.0271	Pulse	0.1000	3
Al	27	45	He	4.846	ppb	57.7	113.34	0.0027	Pulse	0.1000	3
K	39	45	He	7.854	ppb	227.0	21199.22	0.5078	Pulse	0.1000	3
Ca	44	45	He	53.735	ppb	54.5	256.68	0.0061	Pulse	0.1000	3
Ti	47	45	He	0.155	ppb	173.2	3.33	0.0001	Pulse	0.1000	3
V	51	45	He	0.013	ppb	411.6	400.02	0.0096	Pulse	0.1000	3
Cr	52	45	He	2.971	ppb	3.9	3827.30	0.0917	Pulse	0.1000	3
Mn	55	45	He	0.277	ppb	19.4	253.34	0.0061	Pulse	0.1000	3
Fe	57	45	He	14.435	ppb	19.9	410.02	0.0098	Pulse	0.1000	3
Co	59	72	He	0.000	ppb	N/A	33.33	0.0002	Pulse	0.1000	3
Ni	60	159	He	-0.143	ppb	N/A	486.69	0.0019	Pulse	0.1000	3
Cu	63	115	He	0.045	ppb	244.8	760.05	0.0089	Pulse	0.1000	3
Zn	66	115	He	-1.259	ppb	N/A	833.39	0.0097	Pulse	0.1000	3
As	75	115	He	0.041	ppb	148.7	48.67	0.0006	Pulse	0.5000	3
Sr	88	115	He	0.445	ppb	25.4	513.36	0.0060	Pulse	0.1000	3
Mo	98	115	He	0.042	ppb	21.4	53.33	0.0006	Pulse	0.1000	3
Ag	107	115	He	-0.001	ppb	N/A	46.67	0.0005	Pulse	0.1000	3
Cd	111	115	He	-0.002	ppb	0.0	0.00	0.0000	Pulse	0.5000	3
Sn	120	115	He	-0.122	ppb	N/A	1056.75	0.0123	Pulse	0.1000	3
Sb	121	72	He	0.039	ppb	22.1	70.00	0.0005	Pulse	0.1000	3
Ba	137	115	He	0.855	ppb	9.5	410.02	0.0048	Pulse	0.1000	3
Tl	205	209	He	0.003	ppb	84.6	53.33	0.0003	Pulse	0.1000	3
Pb	208	209	He	-0.011	ppb	N/A	166.67	0.0010	Pulse	0.1000	3
U	238	209	He	0.000	ppb	N/A	16.67	0.0001	Pulse	0.1000	3

Quantitation Report

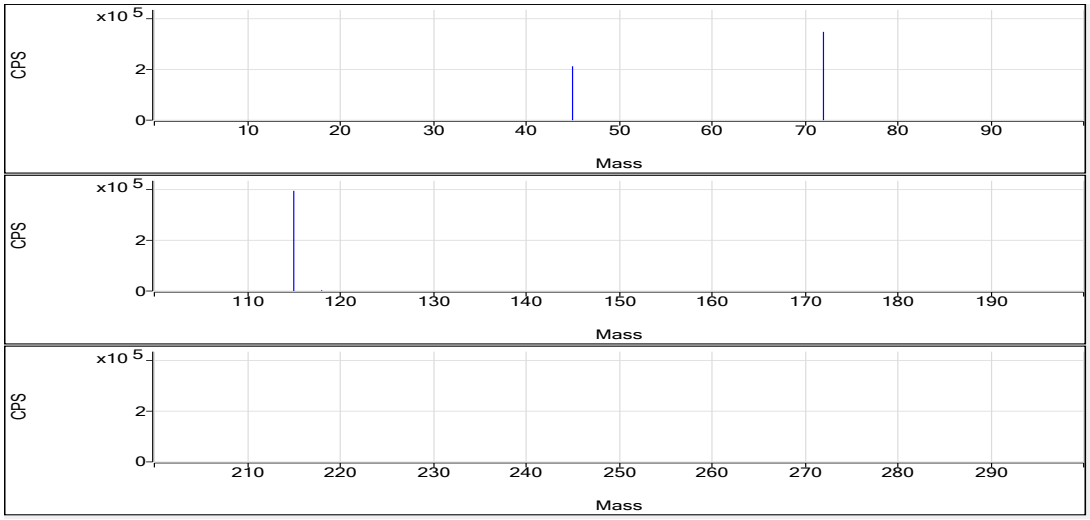
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1486185.65	2.1	98.9	Analog	0.1000	3
No Gas	Ge	72	1163266.28	0.3	99.9	Pulse	0.1000	3
H2	Sc	45	211815.11	2.2	95.1	Pulse	0.1000	3
H2	Ge	72	346921.10	1.3	97.6	Pulse	0.1000	3
H2	In	115	393801.63	2.4	99.4	Pulse	0.1000	3
He	Sc	45	41750.17	1.2	99.1	Pulse	0.1000	3
He	Ge	72	155203.02	0.9	100.3	Pulse	0.1000	3
He	In	115	85813.17	0.8	100.4	Pulse	0.1000	3
He	Tb	159	252361.20	1.3	100.8	Pulse	0.1000	3
He	Bi	209	162758.96	0.5	99.7	Pulse	0.1000	3

No Gas

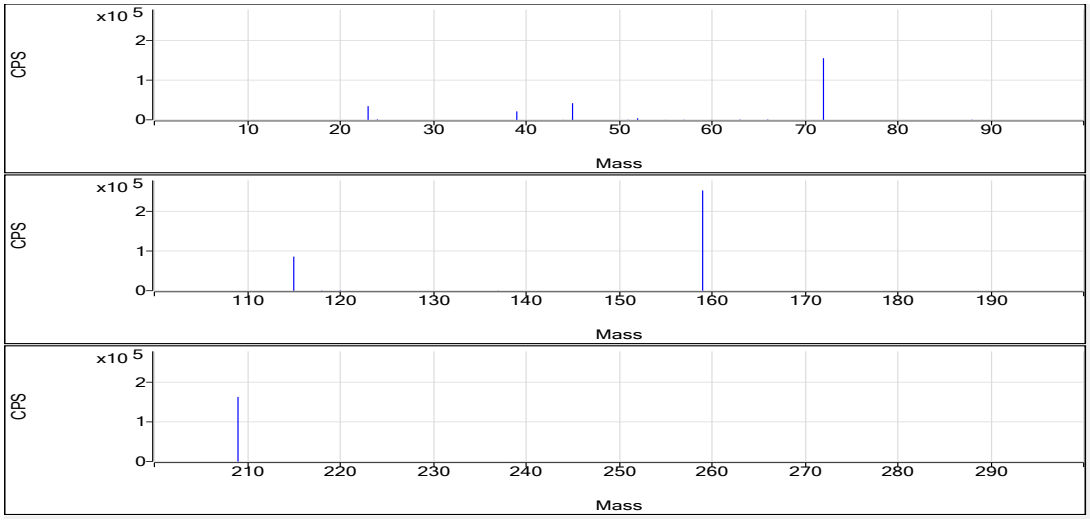


H2



Quantitation Report

He



Quantitation Report

Data File Name	058_CCV.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 4:26:37 PM
Sample Name	CCV 330252
Sample Type	CCV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

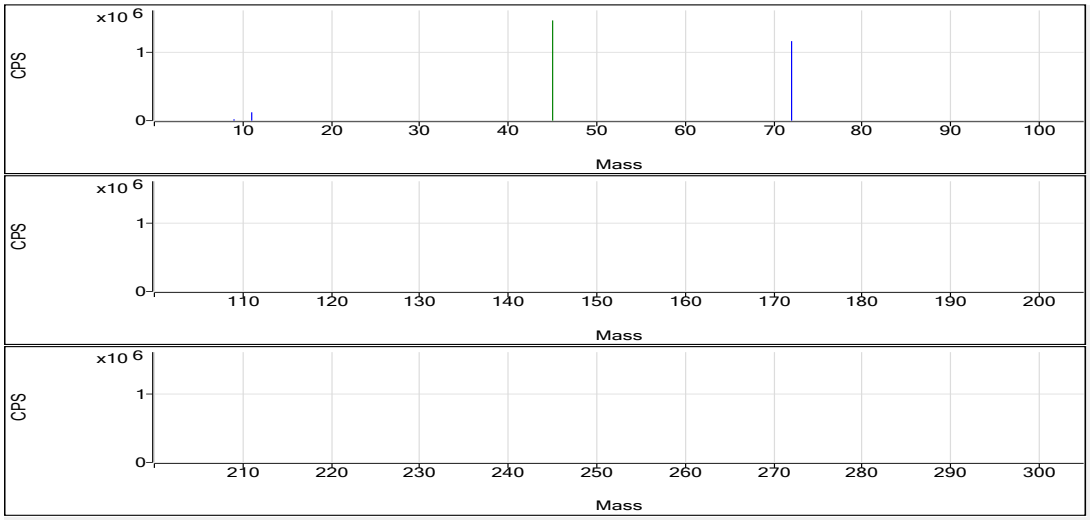
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	28.554	ppb	3.1	20476.61	0.0139	Pulse	0.5000	3
B	11	45	No Gas	291.413	ppb	1.7	122790.30	0.0832	Pulse	0.5000	3
Se	78	115	H2	29.694	ppb	0.2	2511.11	0.0063	Pulse	1.5000	3
Na	23	45	He	5027.925	ppb	1.7	435061.78	10.8540	Pulse	0.1000	3
Mg	24	45	He	4961.540	ppb	2.5	208449.44	5.2014	Pulse	0.1000	3
Al	27	45	He	4982.513	ppb	2.3	85647.41	2.1370	Pulse	0.1000	3
K	39	45	He	5068.612	ppb	2.1	302274.74	7.5417	Pulse	0.1000	3
Ca	44	45	He	5096.691	ppb	3.2	15625.52	0.3898	Pulse	0.1000	3
Ti	47	45	He	298.746	ppb	3.6	6258.20	0.1560	Pulse	0.1000	3
V	51	45	He	310.331	ppb	1.8	231971.21	5.7876	Pulse	0.1000	3
Cr	52	45	He	309.477	ppb	2.6	281410.13	7.0221	Pulse	0.1000	3
Mn	55	45	He	309.831	ppb	2.0	162165.27	4.0461	Pulse	0.1000	3
Fe	57	45	He	5218.956	ppb	3.0	100137.99	2.4988	Pulse	0.1000	3
Co	59	72	He	277.634	ppb	0.9	485070.36	3.1231	Pulse	0.1000	3
Ni	60	159	He	305.630	ppb	1.8	130324.69	0.5221	Pulse	0.1000	3
Cu	63	115	He	296.126	ppb	1.5	355989.88	4.1124	Pulse	0.1000	3
Zn	66	115	He	301.126	ppb	2.5	58381.93	0.6745	Pulse	0.1000	3
As	75	115	He	296.678	ppb	0.6	47939.95	0.5538	Pulse	0.5000	3
Sr	88	115	He	30.320	ppb	2.0	30703.76	0.3547	Pulse	0.1000	3
Mo	98	115	He	29.882	ppb	0.9	38369.63	0.4432	Pulse	0.1000	3
Ag	107	115	He	29.811	ppb	0.7	74822.41	0.8643	Pulse	0.1000	3
Cd	111	115	He	30.210	ppb	0.9	10920.95	0.1261	Pulse	0.5000	3
Sn	120	115	He	29.844	ppb	1.5	38601.03	0.4459	Pulse	0.1000	3
Sb	121	72	He	29.530	ppb	2.8	35392.57	0.2279	Pulse	0.1000	3
Ba	137	115	He	303.109	ppb	1.3	138267.59	1.5972	Pulse	0.1000	3
Tl	205	209	He	30.133	ppb	0.0	147525.81	0.9103	Pulse	0.1000	3
Pb	208	209	He	30.372	ppb	1.1	199162.81	1.2290	Pulse	0.1000	3
U	238	209	He	48.998	ppb	0.8	312886.79	1.9308	Pulse	0.1000	3

Quantitation Report

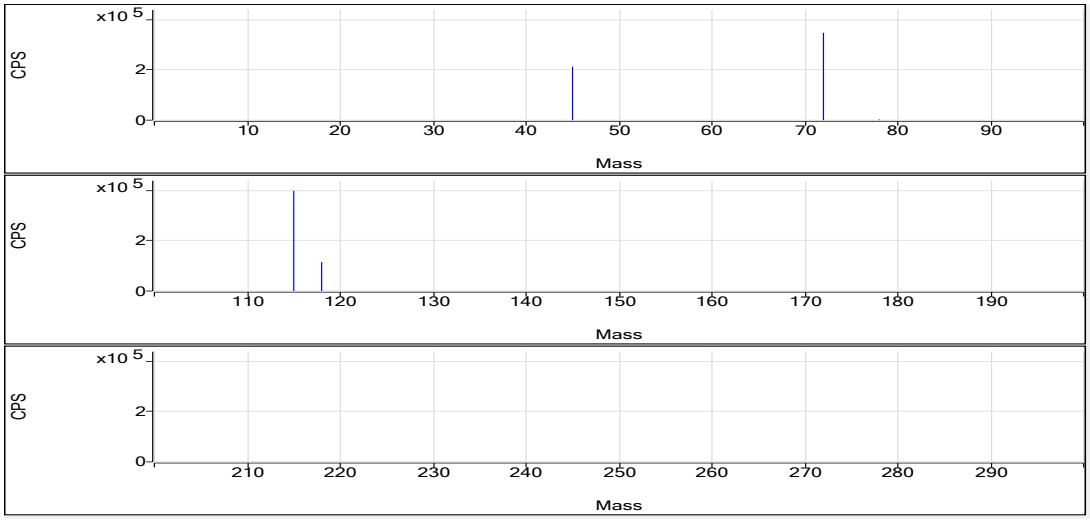
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1475744.72	1.2	98.2	Analog	0.1000	3
No Gas	Ge	72	1170666.78	0.7	100.5	Pulse	0.1000	3
H2	Sc	45	213085.84	0.7	95.7	Pulse	0.1000	3
H2	Ge	72	348115.32	2.7	98.0	Pulse	0.1000	3
H2	In	115	399071.15	1.3	100.7	Pulse	0.1000	3
He	Sc	45	40092.35	2.5	95.1	Pulse	0.1000	3
He	Ge	72	155331.84	1.5	100.4	Pulse	0.1000	3
He	In	115	86570.89	0.8	101.3	Pulse	0.1000	3
He	Tb	159	249627.71	0.9	99.8	Pulse	0.1000	3
He	Bi	209	162056.45	0.8	99.2	Pulse	0.1000	3

No Gas

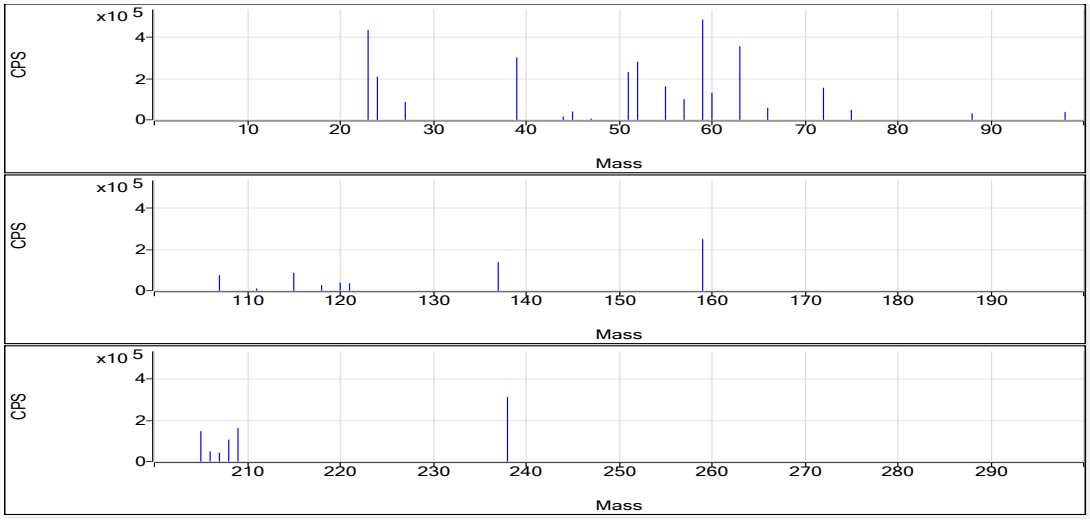


H2



Quantitation Report

He



Quantitation Report

Data File Name	059_CCB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 4:28:30 PM
Sample Name	CCB 226166
Sample Type	CCB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

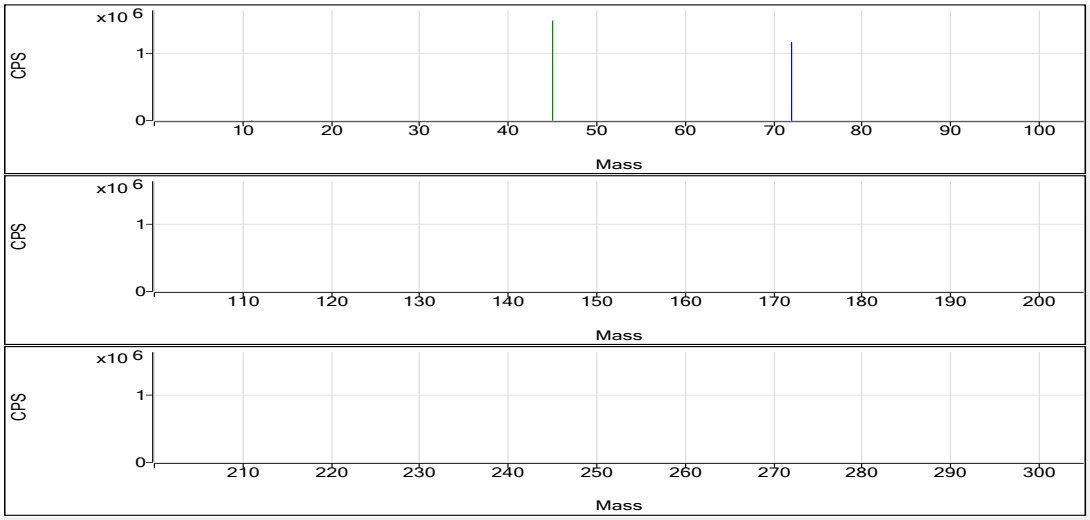
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.011	ppb	50.8	30.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	12.828	ppb	8.1	6872.27	0.0046	Pulse	0.5000	3
Se	78	115	H2	0.035	ppb	53.1	3.78	0.0000	Pulse	1.5000	3
Na	23	45	He	41.518	ppb	12.4	28988.90	0.7134	Pulse	0.1000	3
Mg	24	45	He	5.278	ppb	31.2	353.35	0.0087	Pulse	0.1000	3
Al	27	45	He	3.121	ppb	49.3	80.00	0.0020	Pulse	0.1000	3
K	39	45	He	-1.569	ppb	N/A	20104.20	0.4947	Pulse	0.1000	3
Ca	44	45	He	7.455	ppb	100.6	106.67	0.0026	Pulse	0.1000	3
Ti	47	45	He	0.471	ppb	0.5	10.00	0.0002	Pulse	0.1000	3
V	51	45	He	0.129	ppb	27.3	476.69	0.0117	Pulse	0.1000	3
Cr	52	45	He	0.450	ppb	40.5	1410.12	0.0347	Pulse	0.1000	3
Mn	55	45	He	0.259	ppb	26.5	236.68	0.0058	Pulse	0.1000	3
Fe	57	45	He	2.964	ppb	54.4	176.68	0.0043	Pulse	0.1000	3
Co	59	72	He	0.115	ppb	22.1	230.01	0.0015	Pulse	0.1000	3
Ni	60	159	He	-0.060	ppb	N/A	520.02	0.0021	Pulse	0.1000	3
Cu	63	115	He	0.056	ppb	146.9	770.04	0.0090	Pulse	0.1000	3
Zn	66	115	He	-1.319	ppb	N/A	820.06	0.0096	Pulse	0.1000	3
As	75	115	He	0.113	ppb	73.3	60.00	0.0007	Pulse	0.5000	3
Sr	88	115	He	0.093	ppb	53.6	160.01	0.0019	Pulse	0.1000	3
Mo	98	115	He	0.076	ppb	5.3	96.67	0.0011	Pulse	0.1000	3
Ag	107	115	He	0.003	ppb	426.9	56.67	0.0007	Pulse	0.1000	3
Cd	111	115	He	0.013	ppb	89.0	5.33	0.0001	Pulse	0.5000	3
Sn	120	115	He	-0.049	ppb	N/A	1143.42	0.0134	Pulse	0.1000	3
Sb	121	72	He	0.402	ppb	14.3	493.36	0.0033	Pulse	0.1000	3
Ba	137	115	He	0.104	ppb	78.0	70.00	0.0008	Pulse	0.1000	3
Tl	205	209	He	0.019	ppb	28.5	136.68	0.0008	Pulse	0.1000	3
Pb	208	209	He	-0.002	ppb	N/A	226.67	0.0014	Pulse	0.1000	3
U	238	209	He	0.029	ppb	10.7	203.34	0.0012	Pulse	0.1000	3

Quantitation Report

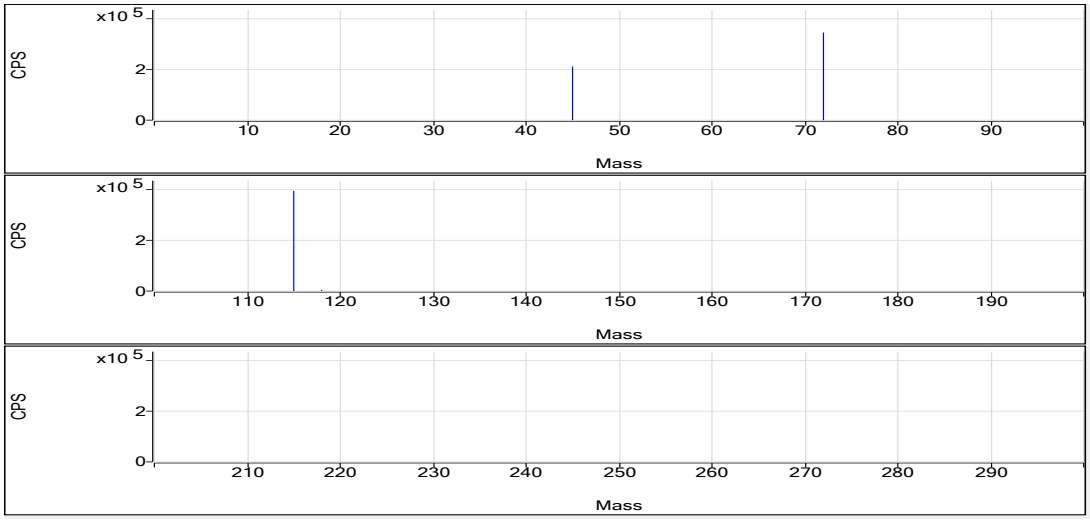
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1498611.23	0.8	99.7	Analog	0.1000	3
No Gas	Ge	72	1175111.42	0.2	100.9	Pulse	0.1000	3
H2	Sc	45	210695.62	2.4	94.6	Pulse	0.1000	3
H2	Ge	72	343867.04	2.7	96.8	Pulse	0.1000	3
H2	In	115	393536.00	1.7	99.3	Pulse	0.1000	3
He	Sc	45	40637.27	0.5	96.4	Pulse	0.1000	3
He	Ge	72	151908.17	0.9	98.1	Pulse	0.1000	3
He	In	115	85574.47	0.7	100.1	Pulse	0.1000	3
He	Tb	159	251117.06	1.2	100.3	Pulse	0.1000	3
He	Bi	209	163771.53	1.0	100.3	Pulse	0.1000	3

No Gas

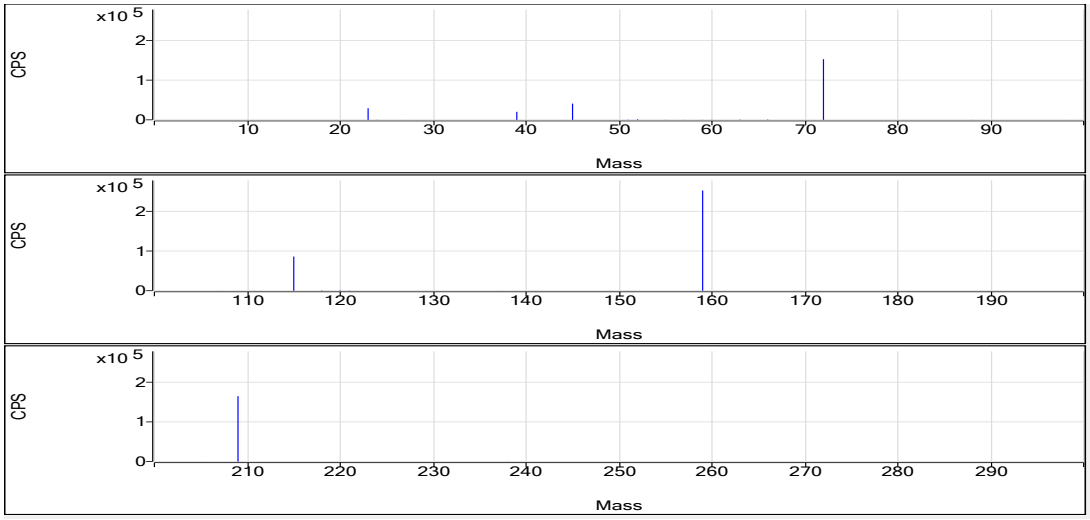


H2



Quantitation Report

He



Quantitation Report

Data File Name	060_LLC.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 4:30:22 PM
Sample Name	CRI 329983
Sample Type	LLC
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

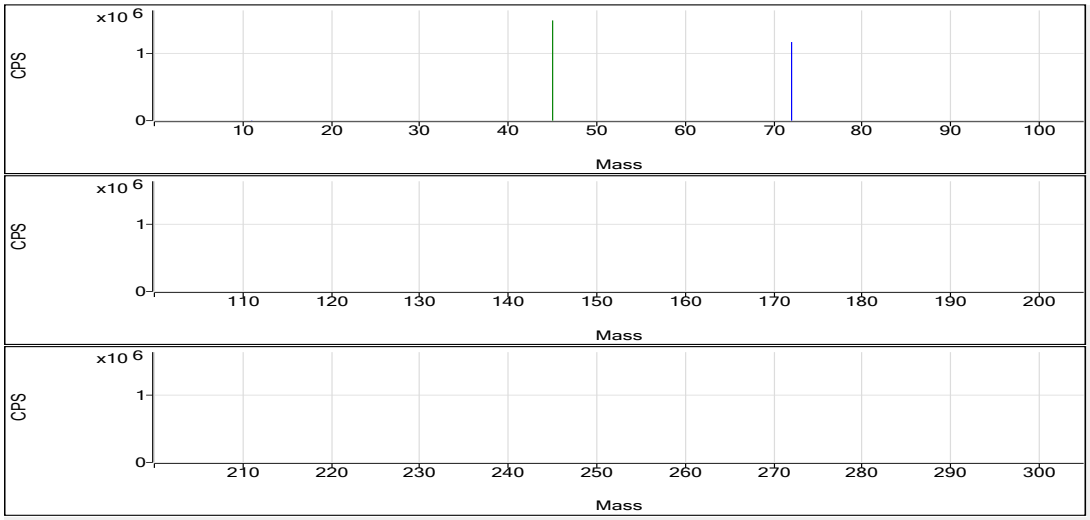
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.443	ppb	5.6	342.01	0.0002	Pulse	0.5000	3
B	11	45	No Gas	6.144	ppb	1.6	4010.56	0.0027	Pulse	0.5000	3
Se	78	115	H2	0.847	ppb	1.6	72.44	0.0002	Pulse	1.5000	3
Na	23	45	He	219.045	ppb	4.3	43718.13	1.0744	Pulse	0.1000	3
Mg	24	45	He	48.702	ppb	7.4	2206.91	0.0542	Pulse	0.1000	3
Al	27	45	He	26.282	ppb	20.4	483.36	0.0119	Pulse	0.1000	3
K	39	45	He	189.735	ppb	8.4	30953.22	0.7606	Pulse	0.1000	3
Ca	44	45	He	111.034	ppb	18.7	426.69	0.0105	Pulse	0.1000	3
Ti	47	45	He	7.989	ppb	8.3	170.01	0.0042	Pulse	0.1000	3
V	51	45	He	0.558	ppb	27.1	803.39	0.0197	Pulse	0.1000	3
Cr	52	45	He	1.691	ppb	7.4	2553.67	0.0627	Pulse	0.1000	3
Mn	55	45	He	2.148	ppb	12.9	1240.10	0.0305	Pulse	0.1000	3
Fe	57	45	He	49.564	ppb	17.6	1083.42	0.0266	Pulse	0.1000	3
Co	59	72	He	0.457	ppb	10.0	826.72	0.0054	Pulse	0.1000	3
Ni	60	159	He	0.745	ppb	19.1	870.05	0.0034	Pulse	0.1000	3
Cu	63	115	He	0.962	ppb	24.2	1836.85	0.0216	Pulse	0.1000	3
Zn	66	115	He	8.258	ppb	11.3	2610.33	0.0306	Pulse	0.1000	3
As	75	115	He	1.855	ppb	14.8	336.68	0.0040	Pulse	0.5000	3
Sr	88	115	He	1.005	ppb	2.9	1066.75	0.0125	Pulse	0.1000	3
Mo	98	115	He	0.480	ppb	4.8	606.70	0.0071	Pulse	0.1000	3
Ag	107	115	He	0.476	ppb	7.7	1226.76	0.0144	Pulse	0.1000	3
Cd	111	115	He	0.508	ppb	3.0	181.33	0.0021	Pulse	0.5000	3
Sn	120	115	He	1.955	ppb	5.8	3610.61	0.0424	Pulse	0.1000	3
Sb	121	72	He	0.965	ppb	8.5	1170.09	0.0076	Pulse	0.1000	3
Ba	137	115	He	1.953	ppb	7.3	900.06	0.0106	Pulse	0.1000	3
Tl	205	209	He	0.477	ppb	9.0	2400.32	0.0147	Pulse	0.1000	3
Pb	208	209	He	0.476	ppb	5.2	3386.96	0.0207	Pulse	0.1000	3
U	238	209	He	0.930	ppb	1.6	6014.92	0.0367	Pulse	0.1000	3

Quantitation Report

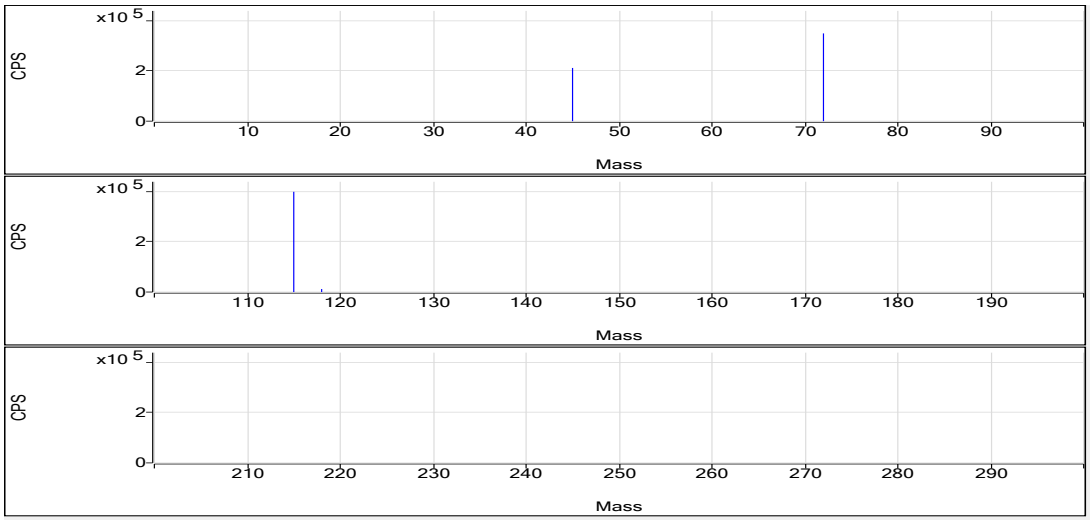
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1484827.74	0.9	98.8	Analog	0.1000	3
No Gas	Ge	72	1164374.02	1.2	100.0	Pulse	0.1000	3
H2	Sc	45	211717.50	2.2	95.1	Pulse	0.1000	3
H2	Ge	72	349210.02	2.1	98.3	Pulse	0.1000	3
H2	In	115	398831.83	2.0	100.6	Pulse	0.1000	3
He	Sc	45	40697.57	2.1	96.6	Pulse	0.1000	3
He	Ge	72	154223.31	1.5	99.6	Pulse	0.1000	3
He	In	115	85241.96	1.0	99.7	Pulse	0.1000	3
He	Tb	159	252881.73	0.4	101.1	Pulse	0.1000	3
He	Bi	209	163694.35	0.5	100.2	Pulse	0.1000	3

No Gas

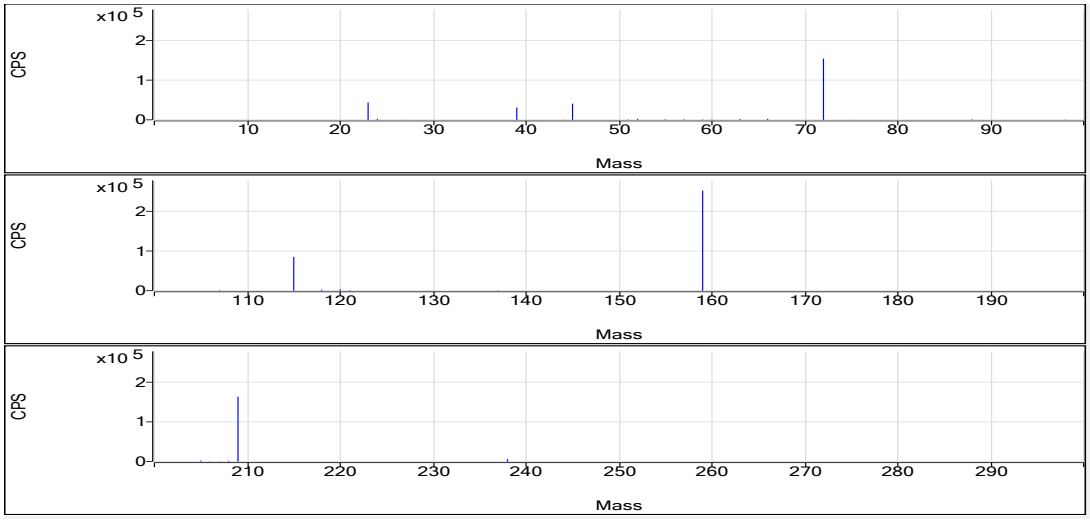


H2



Quantitation Report

He



Quantitation Report

Data File Name	061_CCV.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 4:32:14 PM
Sample Name	CCV 330252
Sample Type	CCV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

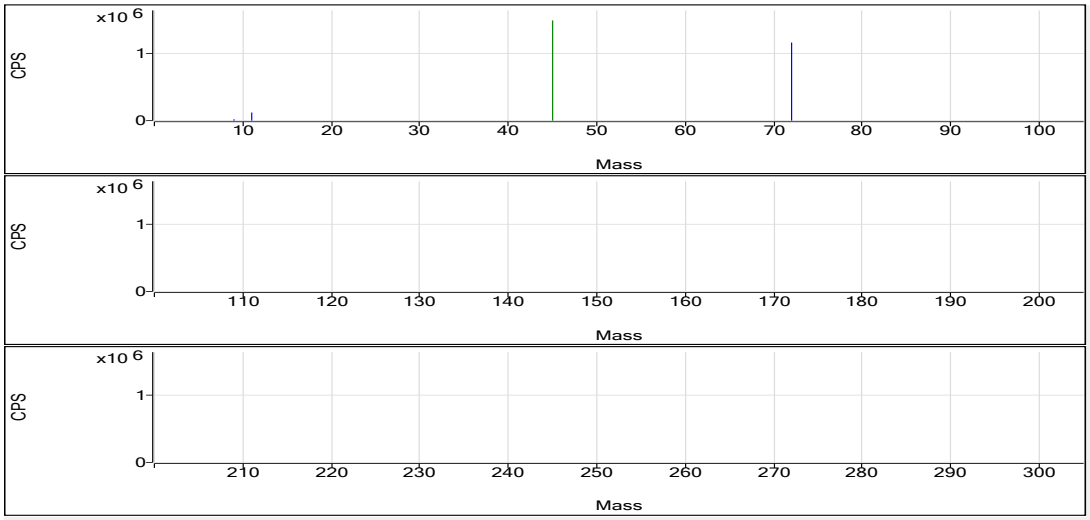
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	28.079	ppb	1.5	20481.92	0.0136	Pulse	0.5000	3
B	11	45	No Gas	283.501	ppb	1.4	121537.74	0.0810	Pulse	0.5000	3
Se	78	115	H2	29.585	ppb	4.6	2533.34	0.0063	Pulse	1.5000	3
Na	23	45	He	4845.571	ppb	0.7	432946.09	10.4832	Pulse	0.1000	3
Mg	24	45	He	4896.833	ppb	1.5	212013.14	5.1336	Pulse	0.1000	3
Al	27	45	He	4849.985	ppb	0.2	85910.34	2.0802	Pulse	0.1000	3
K	39	45	He	4958.725	ppb	1.7	305150.72	7.3890	Pulse	0.1000	3
Ca	44	45	He	4978.143	ppb	1.8	15725.56	0.3808	Pulse	0.1000	3
Ti	47	45	He	306.035	ppb	2.0	6601.74	0.1598	Pulse	0.1000	3
V	51	45	He	303.552	ppb	0.7	233808.66	5.6614	Pulse	0.1000	3
Cr	52	45	He	302.918	ppb	0.5	283881.21	6.8738	Pulse	0.1000	3
Mn	55	45	He	307.919	ppb	1.6	166061.89	4.0211	Pulse	0.1000	3
Fe	57	45	He	5047.086	ppb	2.7	99799.28	2.4166	Pulse	0.1000	3
Co	59	72	He	280.075	ppb	1.3	488783.18	3.1505	Pulse	0.1000	3
Ni	60	159	He	297.666	ppb	0.8	128563.78	0.5085	Pulse	0.1000	3
Cu	63	115	He	300.111	ppb	1.0	357079.93	4.1676	Pulse	0.1000	3
Zn	66	115	He	304.421	ppb	1.4	58419.19	0.6817	Pulse	0.1000	3
As	75	115	He	303.316	ppb	0.5	48509.87	0.5662	Pulse	0.5000	3
Sr	88	115	He	30.426	ppb	0.7	30496.84	0.3559	Pulse	0.1000	3
Mo	98	115	He	30.088	ppb	0.7	38235.65	0.4463	Pulse	0.1000	3
Ag	107	115	He	30.016	ppb	1.2	74567.67	0.8703	Pulse	0.1000	3
Cd	111	115	He	30.312	ppb	1.1	10844.89	0.1266	Pulse	0.5000	3
Sn	120	115	He	30.427	ppb	1.8	38928.74	0.4543	Pulse	0.1000	3
Sb	121	72	He	29.224	ppb	1.8	34991.44	0.2255	Pulse	0.1000	3
Ba	137	115	He	306.412	ppb	0.6	138342.00	1.6146	Pulse	0.1000	3
Tl	205	209	He	29.875	ppb	0.4	147676.40	0.9025	Pulse	0.1000	3
Pb	208	209	He	30.080	ppb	2.0	199166.62	1.2172	Pulse	0.1000	3
U	238	209	He	48.781	ppb	0.9	314523.83	1.9223	Pulse	0.1000	3

Quantitation Report

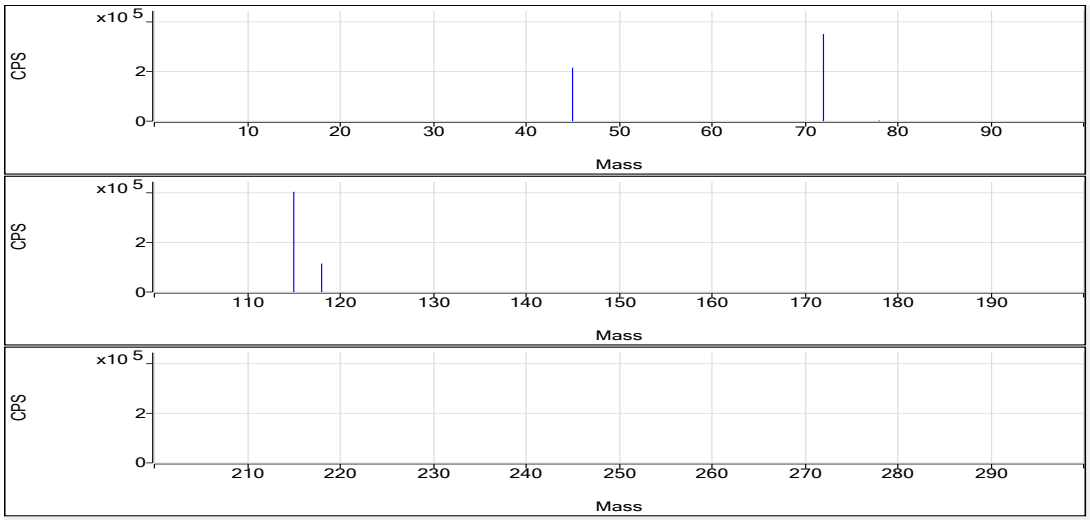
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1500729.87	0.7	99.8	Analog	0.1000	3
No Gas	Ge	72	1169612.25	0.1	100.4	Pulse	0.1000	3
H2	Sc	45	215411.86	0.9	96.8	Pulse	0.1000	3
H2	Ge	72	351489.90	1.4	98.9	Pulse	0.1000	3
H2	In	115	404103.82	0.9	102.0	Pulse	0.1000	3
He	Sc	45	41298.91	0.3	98.0	Pulse	0.1000	3
He	Ge	72	155152.75	0.8	100.2	Pulse	0.1000	3
He	In	115	85685.04	1.1	100.3	Pulse	0.1000	3
He	Tb	159	252821.57	0.7	101.0	Pulse	0.1000	3
He	Bi	209	163623.15	0.1	100.2	Pulse	0.1000	3

No Gas

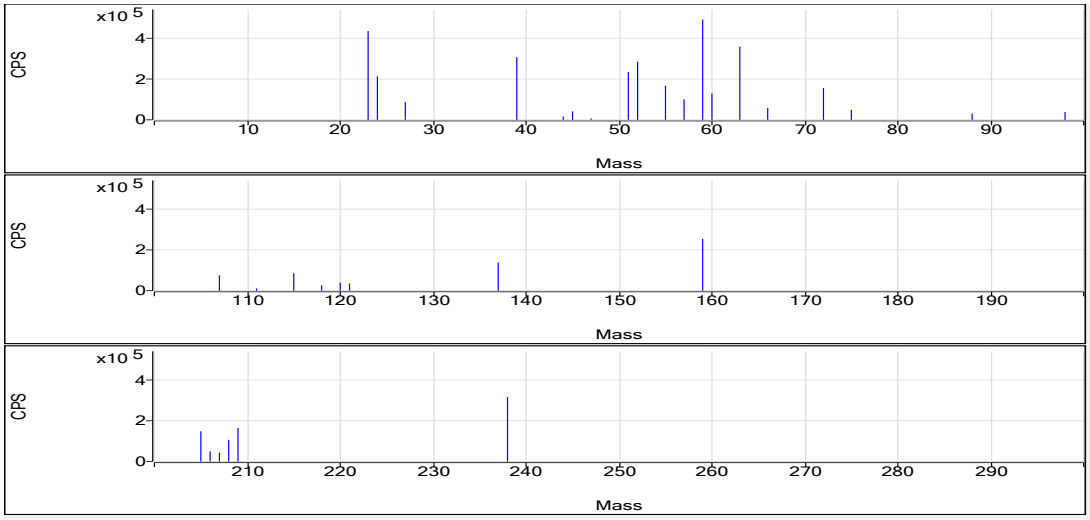


H2



Quantitation Report

He



Quantitation Report

Data File Name	062_CCB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H18B00.b
Acq Time	8/18/2020 4:34:07 PM
Sample Name	CCB 226166
Sample Type	CCB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/18/2020 3:12:03 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

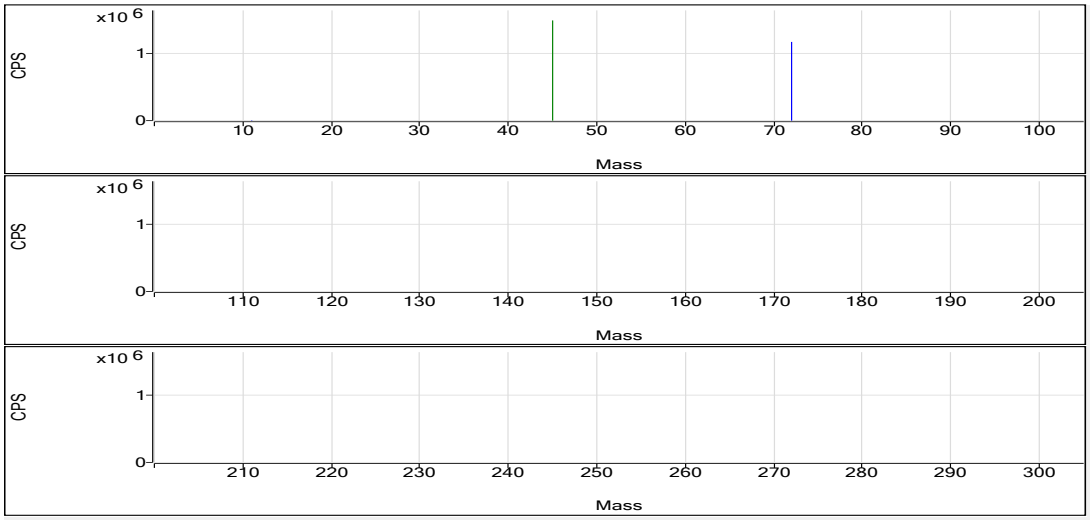
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.025	ppb	47.6	40.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	11.631	ppb	5.2	6288.68	0.0042	Pulse	0.5000	3
Se	78	115	H2	0.042	ppb	85.8	4.45	0.0000	Pulse	1.5000	3
Na	23	45	He	31.935	ppb	27.5	28374.43	0.6939	Pulse	0.1000	3
Mg	24	45	He	3.643	ppb	71.2	286.68	0.0070	Pulse	0.1000	3
Al	27	45	He	3.482	ppb	53.9	86.67	0.0021	Pulse	0.1000	3
K	39	45	He	3.443	ppb	266.4	20514.87	0.5017	Pulse	0.1000	3
Ca	44	45	He	4.915	ppb	316.5	100.00	0.0024	Pulse	0.1000	3
Ti	47	45	He	0.154	ppb	173.2	3.33	0.0001	Pulse	0.1000	3
V	51	45	He	0.151	ppb	16.8	496.69	0.0121	Pulse	0.1000	3
Cr	52	45	He	0.282	ppb	43.0	1263.43	0.0309	Pulse	0.1000	3
Mn	55	45	He	0.268	ppb	23.5	243.34	0.0059	Pulse	0.1000	3
Fe	57	45	He	2.384	ppb	63.8	166.68	0.0041	Pulse	0.1000	3
Co	59	72	He	0.106	ppb	26.7	216.68	0.0014	Pulse	0.1000	3
Ni	60	159	He	-0.204	ppb	N/A	460.02	0.0018	Pulse	0.1000	3
Cu	63	115	He	0.067	ppb	174.2	783.38	0.0092	Pulse	0.1000	3
Zn	66	115	He	-1.972	ppb	N/A	696.70	0.0081	Pulse	0.1000	3
As	75	115	He	0.209	ppb	51.4	75.33	0.0009	Pulse	0.5000	3
Sr	88	115	He	0.047	ppb	33.2	113.34	0.0013	Pulse	0.1000	3
Mo	98	115	He	0.068	ppb	6.5	86.67	0.0010	Pulse	0.1000	3
Ag	107	115	He	0.009	ppb	49.0	73.33	0.0009	Pulse	0.1000	3
Cd	111	115	He	0.013	ppb	25.0	5.33	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.105	ppb	72.5	1333.44	0.0156	Pulse	0.1000	3
Sb	121	72	He	0.395	ppb	13.4	493.36	0.0032	Pulse	0.1000	3
Ba	137	115	He	0.126	ppb	35.4	80.00	0.0009	Pulse	0.1000	3
Tl	205	209	He	0.022	ppb	38.5	146.67	0.0009	Pulse	0.1000	3
Pb	208	209	He	-0.003	ppb	N/A	216.67	0.0013	Pulse	0.1000	3
U	238	209	He	0.023	ppb	14.1	166.68	0.0010	Pulse	0.1000	3

Quantitation Report

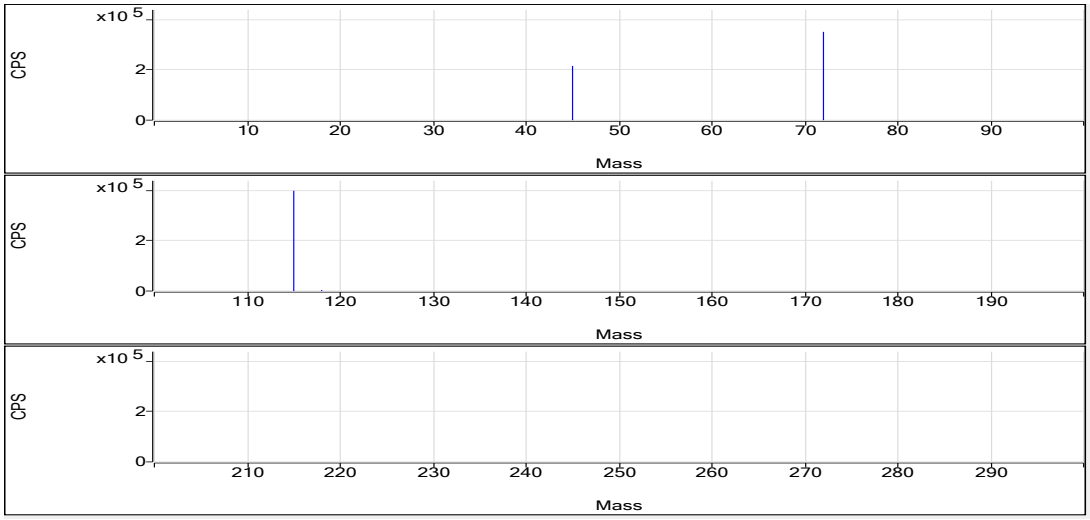
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1480246.96	1.2	98.5	Analog	0.1000	3
No Gas	Ge	72	1162783.94	0.9	99.9	Pulse	0.1000	3
H2	Sc	45	215682.84	1.7	96.9	Pulse	0.1000	3
H2	Ge	72	351287.76	2.0	98.9	Pulse	0.1000	3
H2	In	115	398714.95	0.5	100.6	Pulse	0.1000	3
He	Sc	45	40901.20	1.6	97.0	Pulse	0.1000	3
He	Ge	72	154168.61	0.4	99.6	Pulse	0.1000	3
He	In	115	85513.88	0.3	100.1	Pulse	0.1000	3
He	Tb	159	251702.55	1.3	100.6	Pulse	0.1000	3
He	Bi	209	162311.82	0.5	99.4	Pulse	0.1000	3

No Gas

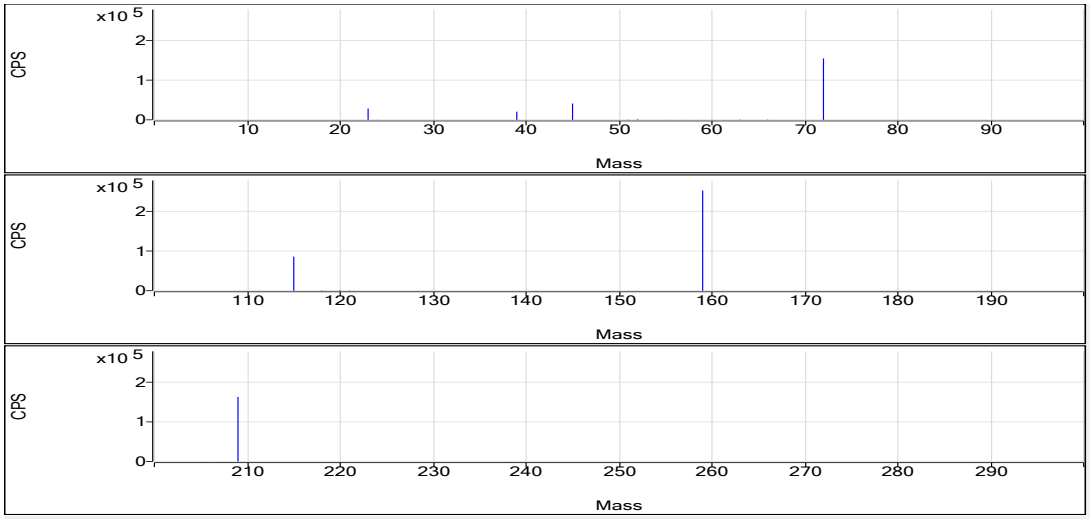


H2



Quantitation Report

He



US EPA Tune Check Report

Operator Name	us19_usr_ins03786
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\~EPATune.b
Acq. Date-Time	8/18/2020 8:35:03 AM
Report Comment	---
Instrument Name	G8403A SG18254097

[No Gas]

Sensitivity

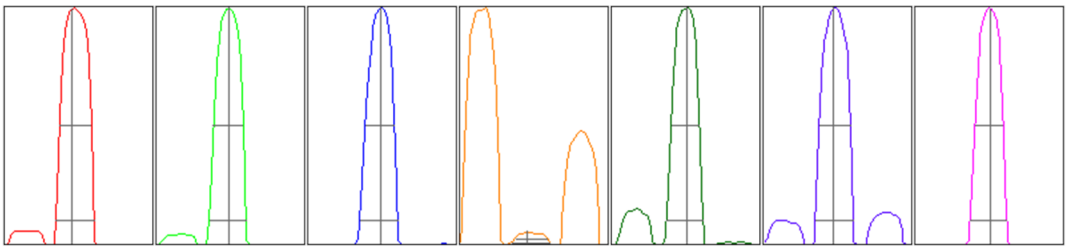
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
7	10.00	2987	29868.70			0.820	5.000
89	10.00	6021	60210.73			0.945	5.000
205	10.00	1409	14090.62			1.524	5.000
69		23	226.01			30.947	
138		283	2827.75			2.673	
70		217	2165.51			9.183	
140		3701	37010.40			1.369	

Mass	RSD% (Flag)
7	
89	
205	
69	
138	
70	
140	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	2962	2959	3012	3005	2996
89	5938	5994	6029	6075	6069
205	1394	1388	1437	1426	1399
69	16	17	21	32	27
138	277	276	289	293	279
70	197	202	209	242	233
140	3646	3645	3731	3736	3747

Integration Time [sec] 0.1

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	4736.87	6.90	6.90 - 7.10	
89	10316.87	89.00	88.90 - 89.10	
205	2446.18	205.00	204.90 - 205.10	
69	36.90	68.90	-	
138	502.41	138.05	-	
70	354.91	69.95	-	
140	6603.70	140.05	-	

Mass	W-50%	W-10%	W-10% (Required)	W-10% (Flag)
7	0.66	0.769	0.800	
89	0.61	0.743	0.800	
205	0.60	0.766	0.800	
69	0.65	0.774		
138	0.58	0.744		
70	0.64	0.770		
140	0.58	0.749		

Integration Time [sec]	0.1
Acquisition Time [sec]	223
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	General Purpose	Nebulizer Gas	1.05 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	8.8 V	Deflect	10.0 V
Extract 2	-240.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-120 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

QP Parameters

Mass Gain	122	Axis Gain	0.9991	QP Bias	-3.0 V
Mass Offset	124	Axis Offset	0.04		

Hardware Settings

Torch

Torch H	0.2 mm	Torch V	-0.4 mm

EM

Discriminator	4.2 mV	Analog HV	2199 V	Pulse HV	1451 V

Quantitation Report

Data File Name	007CALB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:45:16 AM
Sample Name	icis 360862
Sample Type	CalBlk
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

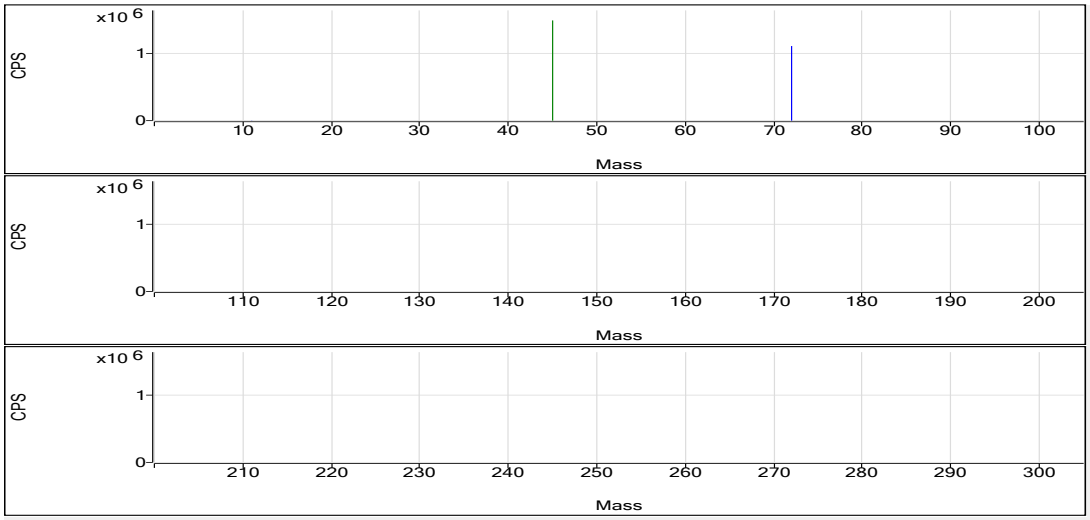
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.000	ppb	N/A	24.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	0.000	ppb	N/A	2626.91	0.0018	Pulse	0.5000	3
Se	78	115	H2	0.000	ppb	N/A	2.00	0.0000	Pulse	1.5000	3
Na	23	45	He	0.000	ppb	N/A	12739.23	0.1931	Pulse	0.1000	3
Mg	24	45	He	0.000	ppb	N/A	216.68	0.0033	Pulse	0.1000	3
Al	27	45	He	0.000	ppb	N/A	176.67	0.0027	Pulse	0.1000	3
K	39	45	He	0.000	ppb	N/A	38330.81	0.5805	Pulse	0.1000	3
Ca	44	45	He	0.000	ppb	N/A	216.68	0.0033	Pulse	0.1000	3
Ti	47	45	He	0.000	ppb	N/A	0.00	0.0000	Pulse	0.1000	3
V	51	45	He	0.000	ppb	N/A	1076.75	0.0163	Pulse	0.1000	3
Cr	52	45	He	0.000	ppb	N/A	1490.12	0.0226	Pulse	0.1000	3
Mn	55	45	He	0.000	ppb	N/A	1220.10	0.0185	Pulse	0.1000	3
Fe	57	45	He	0.000	ppb	N/A	193.34	0.0029	Pulse	0.1000	3
Co	59	115	He	0.000	ppb	N/A	126.67	0.0015	Pulse	0.1000	3
Ni	60	115	He	0.000	ppb	N/A	630.04	0.0076	Pulse	0.1000	3
Cu	63	115	He	0.000	ppb	N/A	1073.41	0.0130	Pulse	0.1000	3
Zn	66	115	He	0.000	ppb	N/A	1703.49	0.0206	Pulse	0.1000	3
As	75	115	He	0.000	ppb	N/A	100.67	0.0012	Pulse	0.5000	3
Sr	88	115	He	0.000	ppb	N/A	76.67	0.0009	Pulse	0.1000	3
Mo	98	115	He	0.038	ppb	45.9	46.67	0.0006	Pulse	0.1000	3
Ag	107	115	He	0.000	ppb	N/A	60.00	0.0007	Pulse	0.1000	3
Cd	111	115	He	0.000	ppb	N/A	2.00	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.000	ppb	N/A	1073.42	0.0130	Pulse	0.1000	3
Sb	121	72	He	0.000	ppb	N/A	30.00	0.0002	Pulse	0.1000	3
Ba	137	115	He	0.000	ppb	N/A	13.33	0.0002	Pulse	0.1000	3
Tl	205	209	He	0.000	ppb	N/A	100.00	0.0008	Pulse	0.1000	3
Pb	208	209	He	0.000	ppb	N/A	540.03	0.0042	Pulse	0.1000	3
U	238	209	He	0.000	ppb	N/A	13.33	0.0001	Pulse	0.1000	3

Quantitation Report

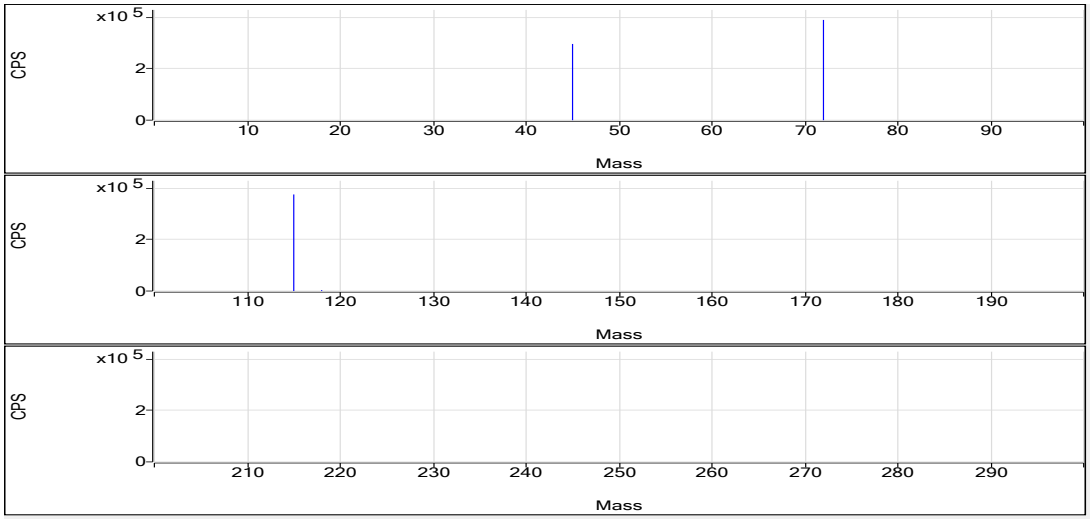
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1495203.05	0.5	100.0	Analog	0.1000	3
No Gas	Ge	72	1112898.73	1.2	100.0	Pulse	0.1000	3
H2	Sc	45	296273.35	1.4	100.0	Pulse	0.1000	3
H2	Ge	72	389686.56	1.3	100.0	Pulse	0.1000	3
H2	In	115	375488.11	1.5	100.0	Pulse	0.1000	3
He	Sc	45	65992.34	2.2	100.0	Pulse	0.1000	3
He	Ge	72	187822.16	0.7	100.0	Pulse	0.1000	3
He	In	115	82767.70	1.7	100.0	Pulse	0.1000	3
He	Tb	159	210274.95	1.0	100.0	Pulse	0.1000	3
He	Bi	209	128339.80	1.0	100.0	Pulse	0.1000	3

No Gas

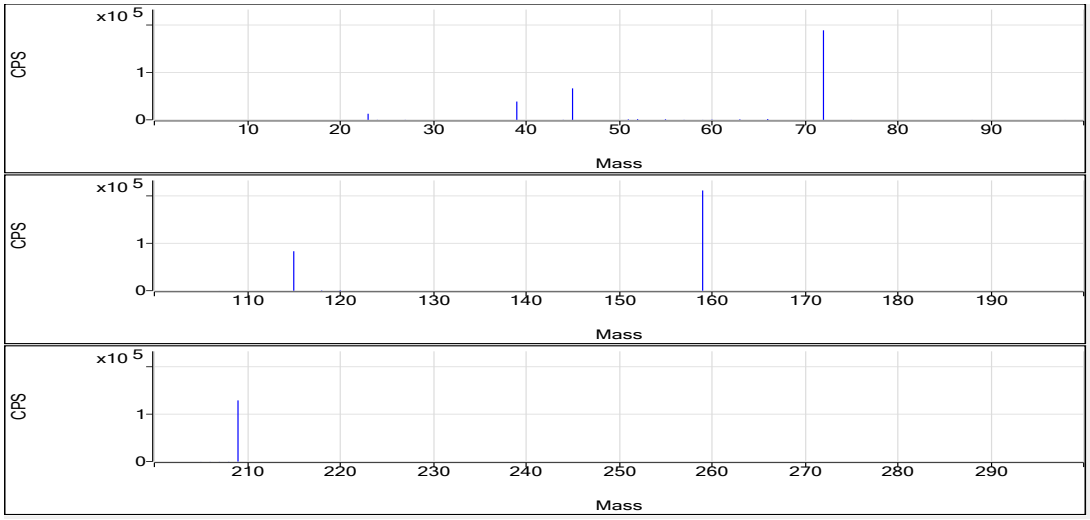


H2



Quantitation Report

He



Quantitation Report

Data File Name	008CALS.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:47:09 AM
Sample Name	std1 360887
Sample Type	CalStd
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

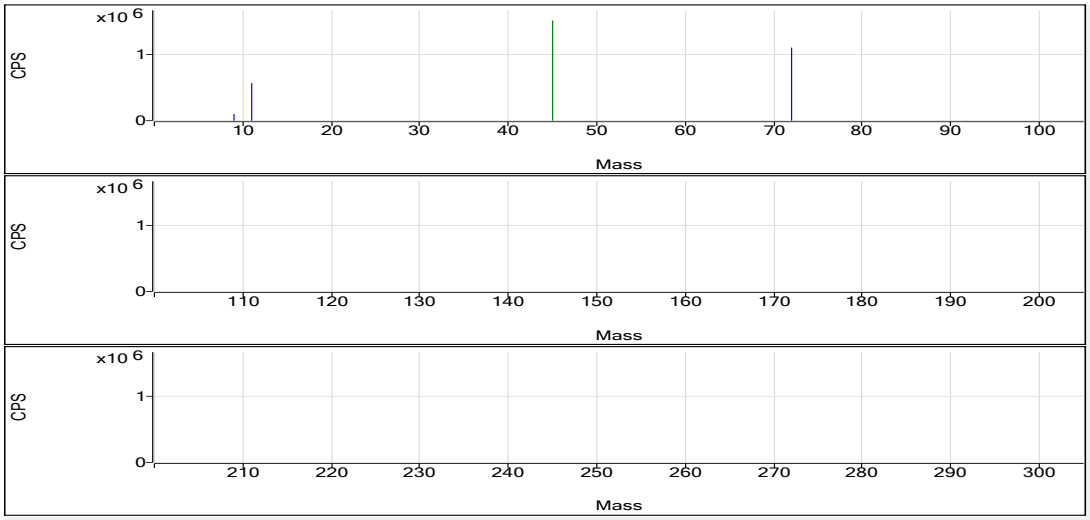
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	100.000	ppb	2.8	99250.73	0.0654	Pulse	0.5000	3
B	11	45	No Gas	1000.000	ppb	2.5	568991.60	0.3747	Pulse	0.5000	3
Se	78	115	H2	100.000	ppb	0.7	8914.76	0.0237	Pulse	1.5000	3
Na	23	45	He	10000.000	ppb	1.2	1819820.34	27.3149	Analog	0.1000	3
Mg	24	45	He	10000.000	ppb	1.5	861749.26	12.9353	Pulse	0.1000	3
Al	27	45	He	10000.000	ppb	2.1	338958.12	5.0882	Pulse	0.1000	3
K	39	45	He	10000.000	ppb	2.0	1034631.42	15.5309	Pulse	0.1000	3
Ca	44	45	He	10000.000	ppb	2.7	50086.43	0.7519	Pulse	0.1000	3
Ti	47	45	He	1000.000	ppb	1.6	33004.61	0.4954	Pulse	0.1000	3
V	51	45	He	1000.000	ppb	1.2	1099938.32	16.5101	Pulse	0.1000	3
Cr	52	45	He	1000.000	ppb	2.9	1355418.50	20.3402	Mix	0.1000	3
Mn	55	45	He	1000.000	ppb	1.5	735491.13	11.0399	Pulse	0.1000	3
Fe	57	45	He	10000.000	ppb	1.2	263996.39	3.9626	Pulse	0.1000	3
Co	59	115	He	1000.000	ppb	2.4	2208518.20	26.4244	Analog	0.1000	3
Ni	60	115	He	1000.000	ppb	1.6	537316.64	6.4283	Pulse	0.1000	3
Cu	63	115	He	1000.000	ppb	1.1	1454408.83	17.3994	Pulse	0.1000	3
Zn	66	115	He	1000.000	ppb	0.4	228798.19	2.7370	Pulse	0.1000	3
As	75	115	He	1000.000	ppb	1.5	189538.05	2.2676	Pulse	0.5000	3
Sr	88	115	He	100.000	ppb	0.9	107688.74	1.2883	Pulse	0.1000	3
Mo	98	115	He	100.000	ppb	0.7	125483.03	1.5011	Pulse	0.1000	3
Ag	107	115	He	100.000	ppb	1.4	232911.40	2.7864	Pulse	0.1000	3
Cd	111	115	He	100.000	ppb	0.7	33560.58	0.4015	Pulse	0.5000	3
Sn	120	115	He	100.000	ppb	1.6	117983.96	1.4115	Pulse	0.1000	3
Sb	121	72	He	100.000	ppb	2.0	111281.80	0.6002	Pulse	0.1000	3
Ba	137	115	He	1000.000	ppb	1.3	418238.29	5.0035	Pulse	0.1000	3
Tl	205	209	He	100.000	ppb	2.0	373228.85	2.8995	Pulse	0.1000	3
Pb	208	209	He	100.000	ppb	2.1	517031.41	4.0167	Pulse	0.1000	3
U	238	209	He	100.000	ppb	1.9	485174.41	3.7691	Pulse	0.1000	3

Quantitation Report

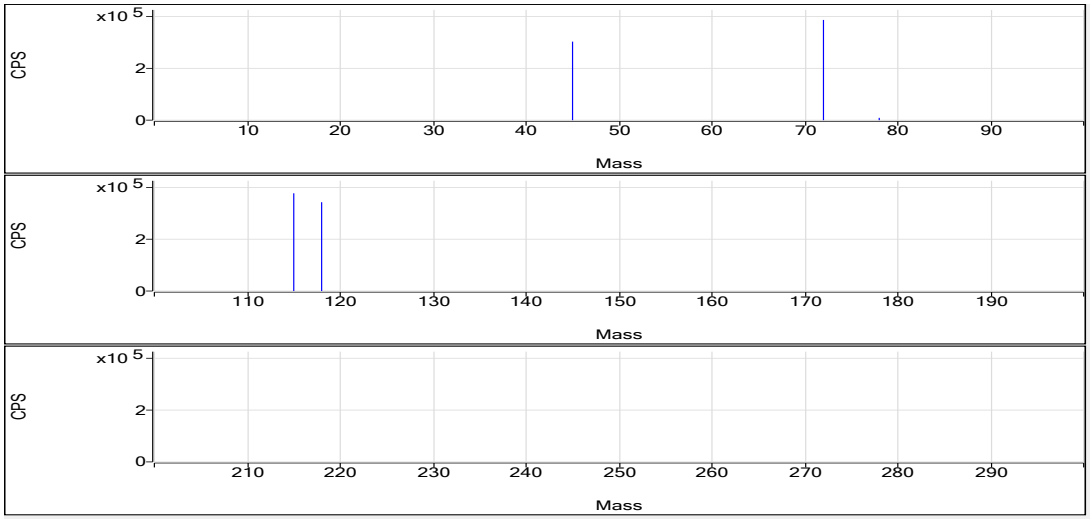
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1518716.59	0.7	101.6	Analog	0.1000	3
No Gas	Ge	72	1107567.95	0.7	99.5	Pulse	0.1000	3
H2	Sc	45	302126.86	0.9	102.0	Pulse	0.1000	3
H2	Ge	72	385553.69	0.8	98.9	Pulse	0.1000	3
H2	In	115	376023.54	1.2	100.1	Pulse	0.1000	3
He	Sc	45	66628.93	1.4	101.0	Pulse	0.1000	3
He	Ge	72	185406.87	0.8	98.7	Pulse	0.1000	3
He	In	115	83599.79	1.6	101.0	Pulse	0.1000	3
He	Tb	159	215087.17	0.3	102.3	Pulse	0.1000	3
He	Bi	209	128747.58	1.6	100.3	Pulse	0.1000	3

No Gas

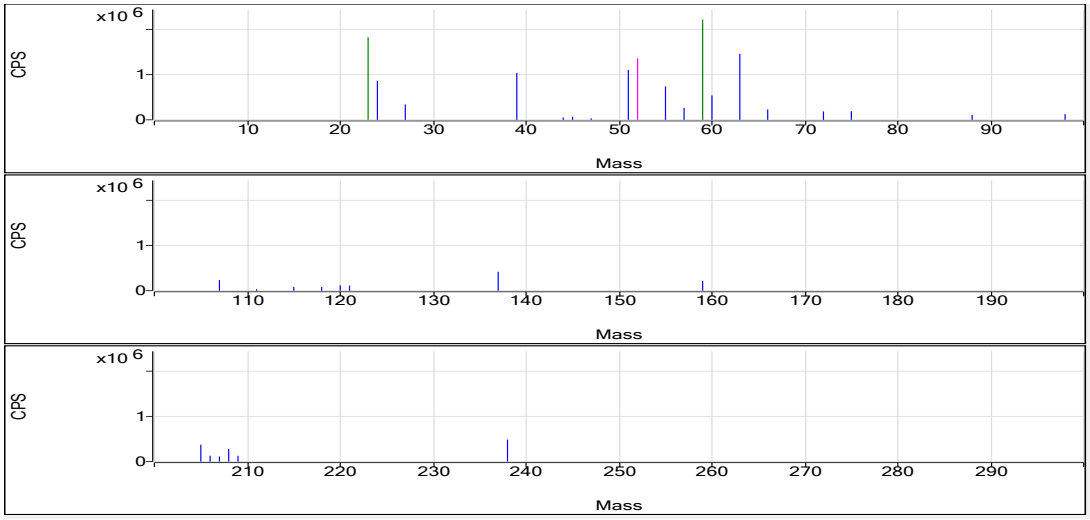


H2



Quantitation Report

He



Quantitation Report

Data File Name	009_ICV.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:49:03 AM
Sample Name	icv 361005
Sample Type	ICV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

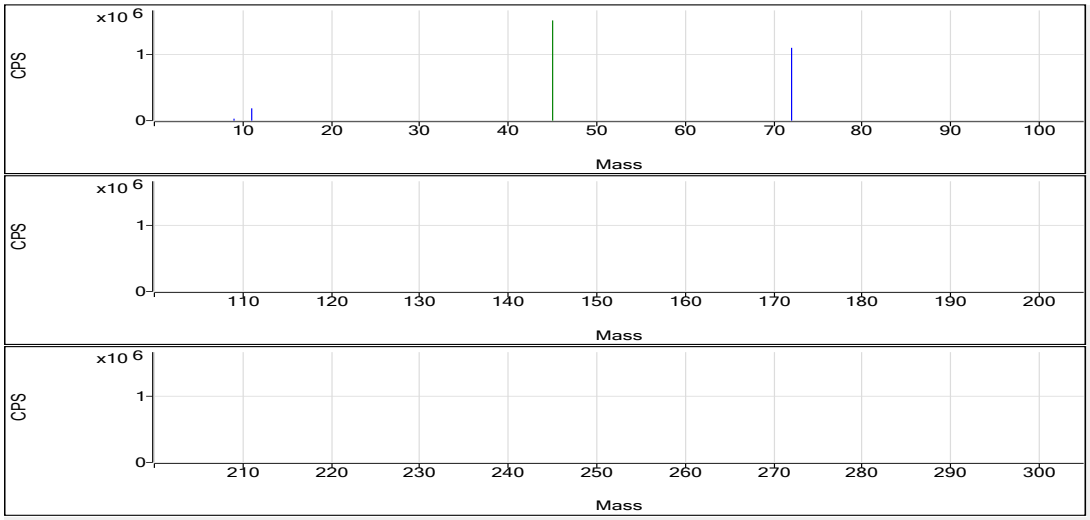
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	29.957	ppb	1.4	29910.22	0.0196	Pulse	0.5000	3
B	11	45	No Gas	324.699	ppb	1.6	187554.83	0.1228	Pulse	0.5000	3
Se	78	115	H2	30.065	ppb	1.4	2684.92	0.0071	Pulse	1.5000	3
Na	23	45	He	4659.713	ppb	2.0	852304.49	12.8311	Pulse	0.1000	3
Mg	24	45	He	5085.316	ppb	2.3	437038.56	6.5796	Pulse	0.1000	3
Al	27	45	He	5055.045	ppb	2.2	170934.97	2.5734	Pulse	0.1000	3
K	39	45	He	5049.986	ppb	2.6	540032.26	8.1304	Pulse	0.1000	3
Ca	44	45	He	4975.053	ppb	3.1	24955.23	0.3757	Pulse	0.1000	3
Ti	47	45	He	310.813	ppb	2.4	10227.19	0.1540	Pulse	0.1000	3
V	51	45	He	303.058	ppb	2.4	333104.07	5.0149	Pulse	0.1000	3
Cr	52	45	He	292.950	ppb	1.2	396912.78	5.9746	Pulse	0.1000	3
Mn	55	45	He	308.989	ppb	2.0	227444.18	3.4240	Pulse	0.1000	3
Fe	57	45	He	5073.675	ppb	2.0	133657.38	2.0119	Pulse	0.1000	3
Co	59	115	He	287.818	ppb	0.6	636002.51	7.6065	Pulse	0.1000	3
Ni	60	115	He	307.802	ppb	0.5	165880.32	1.9839	Pulse	0.1000	3
Cu	63	115	He	305.099	ppb	0.5	444615.06	5.3176	Pulse	0.1000	3
Zn	66	115	He	303.914	ppb	1.6	70747.02	0.8461	Pulse	0.1000	3
As	75	115	He	304.510	ppb	0.5	57805.24	0.6913	Pulse	0.5000	3
Sr	88	115	He	30.384	ppb	2.1	32781.77	0.3921	Pulse	0.1000	3
Mo	98	115	He	30.914	ppb	2.5	38800.47	0.4640	Pulse	0.1000	3
Ag	107	115	He	29.826	ppb	1.8	69532.06	0.8316	Pulse	0.1000	3
Cd	111	115	He	30.000	ppb	1.8	10071.66	0.1205	Pulse	0.5000	3
Sn	120	115	He	29.844	ppb	0.5	35984.01	0.4304	Pulse	0.1000	3
Sb	121	72	He	30.954	ppb	2.4	34620.43	0.1859	Pulse	0.1000	3
Ba	137	115	He	302.897	ppb	0.5	126728.74	1.5157	Pulse	0.1000	3
Tl	205	209	He	31.046	ppb	1.5	115921.87	0.9007	Pulse	0.1000	3
Pb	208	209	He	30.132	ppb	1.1	156131.05	1.2132	Pulse	0.1000	3
U	238	209	He	376.221	ppb	0.6	1824932.73	14.1799	Analog	0.1000	3

Quantitation Report

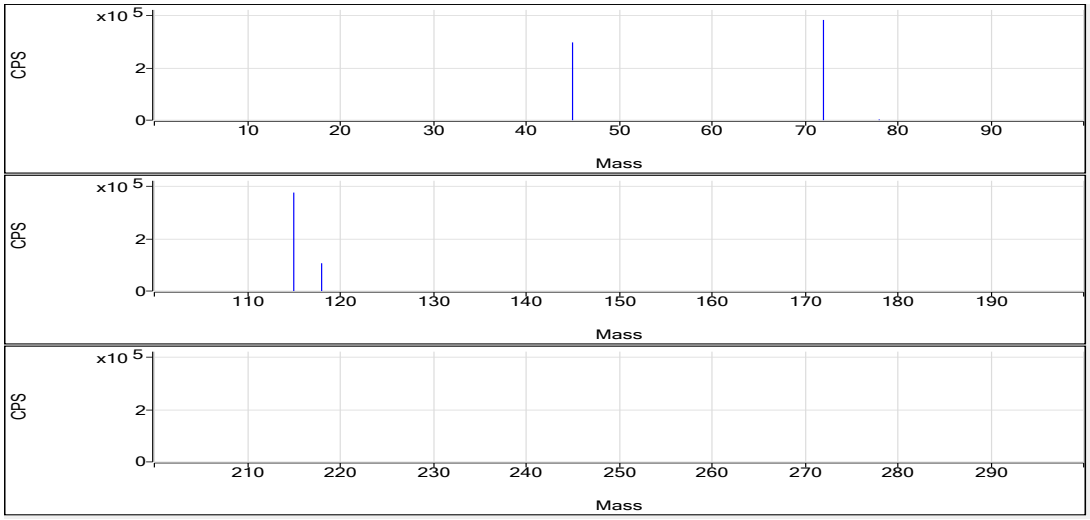
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1526930.71	1.5	102.1	Analog	0.1000	3
No Gas	Ge	72	1109606.49	0.7	99.7	Pulse	0.1000	3
H2	Sc	45	297266.43	0.6	100.3	Pulse	0.1000	3
H2	Ge	72	383197.82	1.6	98.3	Pulse	0.1000	3
H2	In	115	376454.53	0.8	100.3	Pulse	0.1000	3
He	Sc	45	66444.45	2.2	100.7	Pulse	0.1000	3
He	Ge	72	186251.48	0.7	99.2	Pulse	0.1000	3
He	In	115	83612.63	0.2	101.0	Pulse	0.1000	3
He	Tb	159	212748.81	0.8	101.2	Pulse	0.1000	3
He	Bi	209	128700.33	1.3	100.3	Pulse	0.1000	3

No Gas

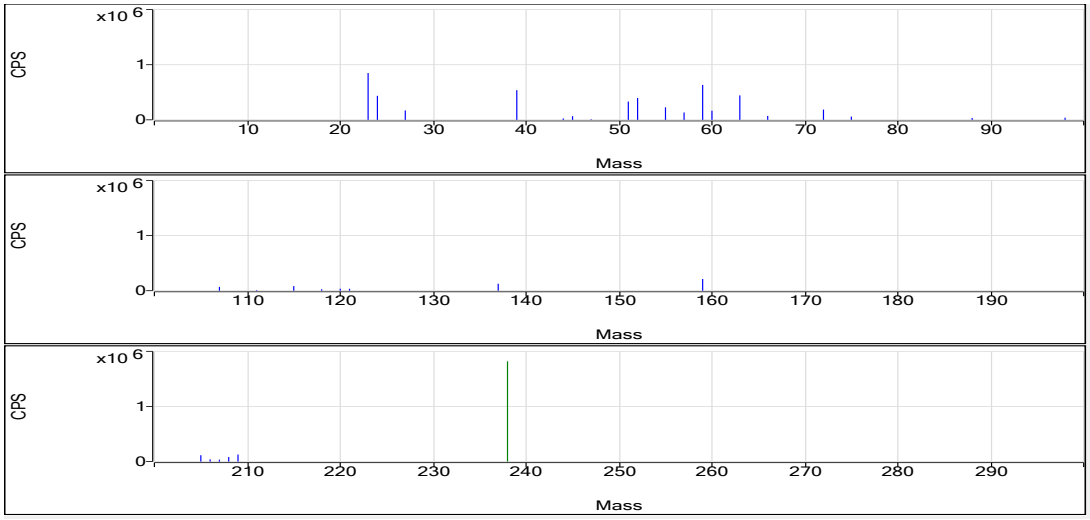


H2



Quantitation Report

He



Quantitation Report

Data File Name	010_ICB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:50:57 AM
Sample Name	icb 360854
Sample Type	ICB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

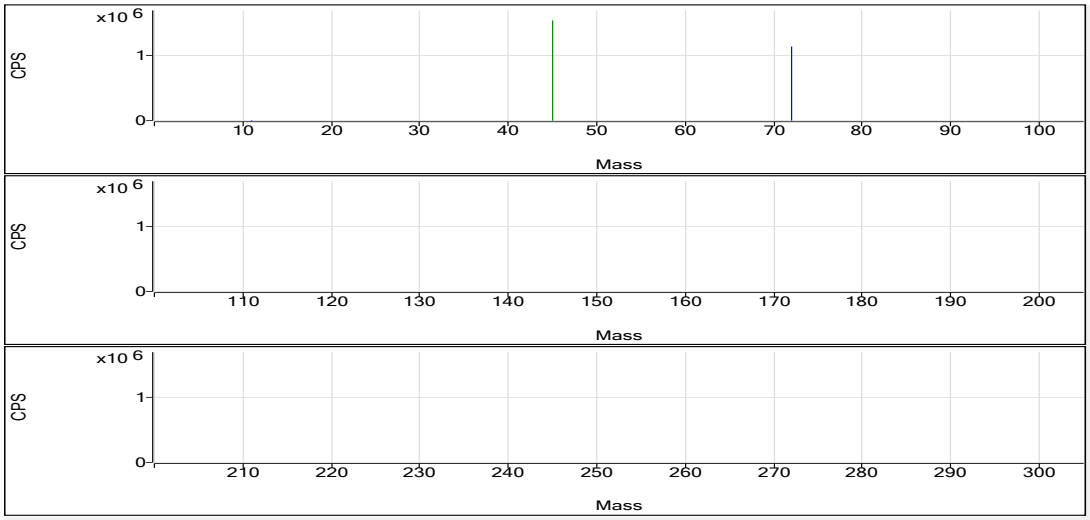
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.023	ppb	44.3	47.33	0.0000	Pulse	0.5000	3
B	11	45	No Gas	11.882	ppb	6.1	9503.03	0.0062	Pulse	0.5000	3
Se	78	115	H2	0.020	ppb	140.6	3.78	0.0000	Pulse	1.5000	3
Na	23	45	He	7.339	ppb	62.0	13910.22	0.2130	Pulse	0.1000	3
Mg	24	45	He	0.357	ppb	345.0	243.35	0.0037	Pulse	0.1000	3
Al	27	45	He	0.589	ppb	243.1	193.34	0.0030	Pulse	0.1000	3
K	39	45	He	6.367	ppb	325.8	38531.14	0.5900	Pulse	0.1000	3
Ca	44	45	He	0.459	ppb	2544.2	216.68	0.0033	Pulse	0.1000	3
Ti	47	45	He	0.312	ppb	100.5	10.00	0.0002	Pulse	0.1000	3
V	51	45	He	0.276	ppb	60.8	1360.11	0.0208	Pulse	0.1000	3
Cr	52	45	He	0.320	ppb	17.6	1900.20	0.0291	Pulse	0.1000	3
Mn	55	45	He	-0.039	ppb	N/A	1183.43	0.0181	Pulse	0.1000	3
Fe	57	45	He	1.229	ppb	152.0	223.34	0.0034	Pulse	0.1000	3
Co	59	115	He	0.101	ppb	13.8	346.68	0.0042	Pulse	0.1000	3
Ni	60	115	He	-0.033	ppb	N/A	610.04	0.0074	Pulse	0.1000	3
Cu	63	115	He	0.102	ppb	117.3	1216.77	0.0148	Pulse	0.1000	3
Zn	66	115	He	-1.707	ppb	N/A	1313.44	0.0159	Pulse	0.1000	3
As	75	115	He	0.026	ppb	168.7	105.33	0.0013	Pulse	0.5000	3
Sr	88	115	He	0.016	ppb	282.7	93.34	0.0011	Pulse	0.1000	3
Mo	98	115	He	0.092	ppb	37.1	113.34	0.0014	Pulse	0.1000	3
Ag	107	115	He	-0.007	ppb	N/A	43.33	0.0005	Pulse	0.1000	3
Cd	111	115	He	0.010	ppb	70.9	5.33	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.201	ppb	54.3	1303.45	0.0158	Pulse	0.1000	3
Sb	121	72	He	0.229	ppb	31.4	286.68	0.0015	Pulse	0.1000	3
Ba	137	115	He	0.088	ppb	69.3	50.00	0.0006	Pulse	0.1000	3
Tl	205	209	He	0.368	ppb	10.0	1470.13	0.0115	Pulse	0.1000	3
Pb	208	209	He	-0.014	ppb	N/A	466.69	0.0036	Pulse	0.1000	3
U	238	209	He	0.121	ppb	26.4	600.04	0.0047	Pulse	0.1000	3

Quantitation Report

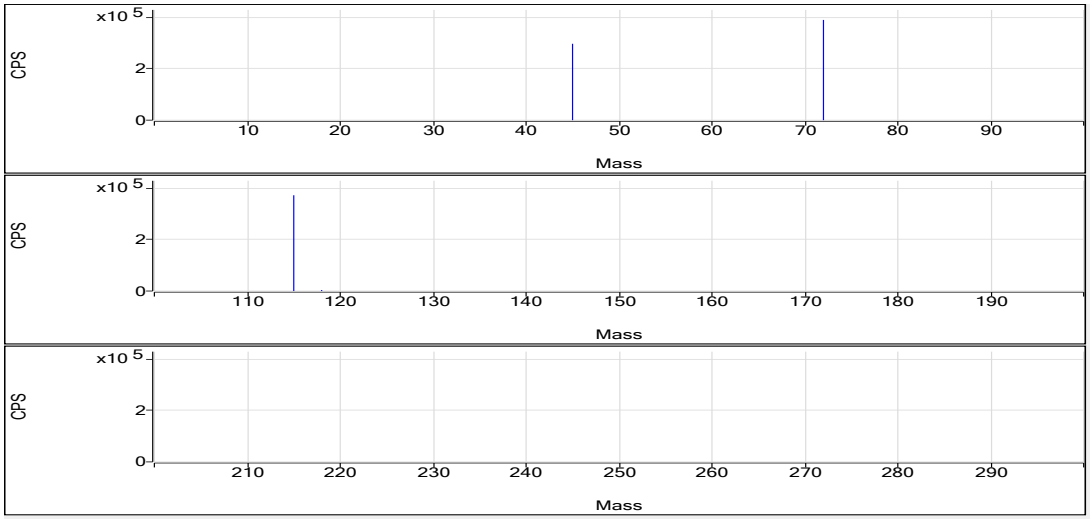
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1535656.90	0.4	102.7	Analog	0.1000	3
No Gas	Ge	72	1135125.56	0.6	102.0	Pulse	0.1000	3
H2	Sc	45	297369.29	0.9	100.4	Pulse	0.1000	3
H2	Ge	72	390175.41	0.3	100.1	Pulse	0.1000	3
H2	In	115	372867.44	1.2	99.3	Pulse	0.1000	3
He	Sc	45	65305.90	1.2	99.0	Pulse	0.1000	3
He	Ge	72	187044.56	1.2	99.6	Pulse	0.1000	3
He	In	115	82465.89	2.1	99.6	Pulse	0.1000	3
He	Tb	159	210774.81	0.7	100.2	Pulse	0.1000	3
He	Bi	209	128407.40	1.1	100.1	Pulse	0.1000	3

No Gas

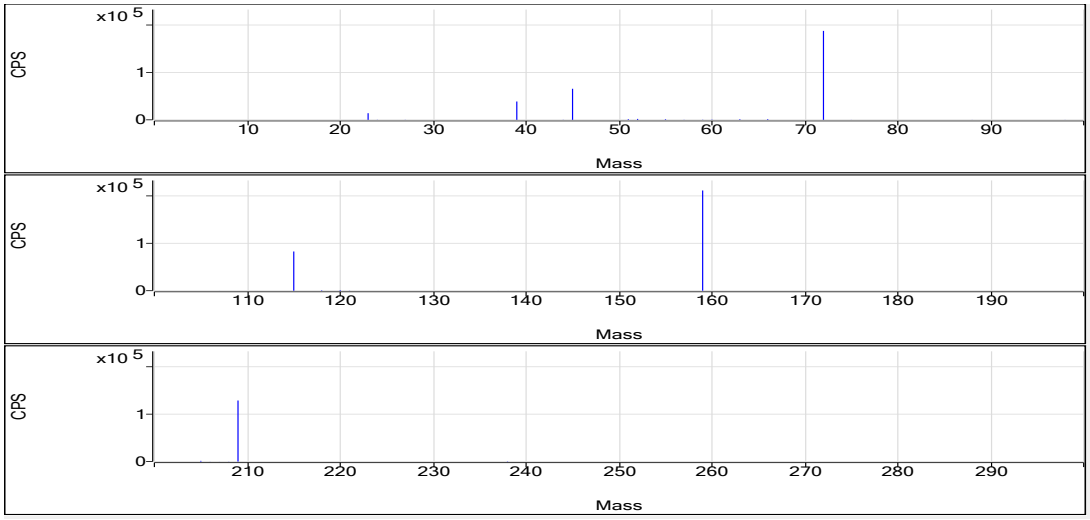


H2



Quantitation Report

He



Quantitation Report

Data File Name	011_LLC.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:52:50 AM
Sample Name	cri 361009
Sample Type	LLC
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

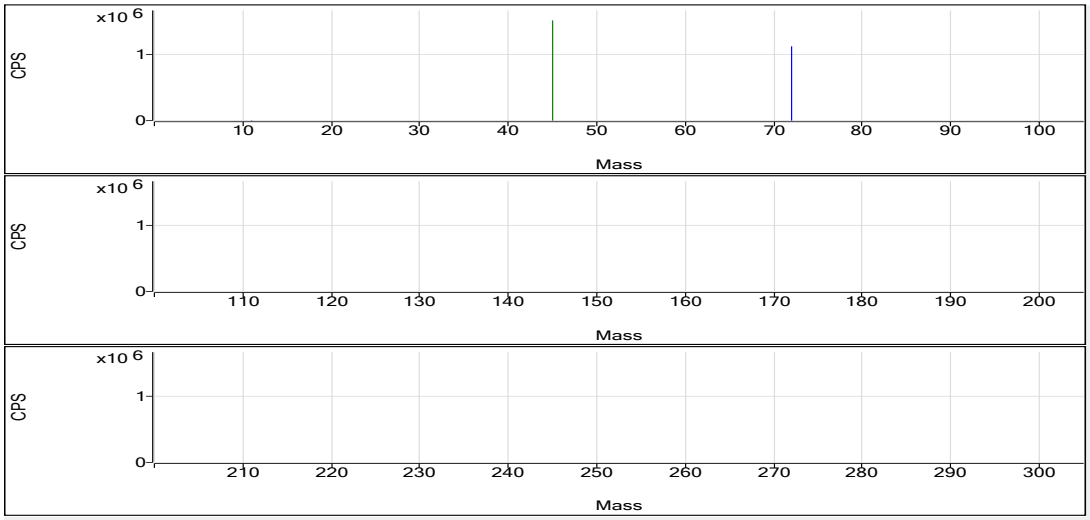
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.529	ppb	9.7	550.01	0.0004	Pulse	0.5000	3
B	11	45	No Gas	5.061	ppb	3.1	5548.38	0.0036	Pulse	0.5000	3
Se	78	115	H2	0.922	ppb	15.1	83.33	0.0002	Pulse	1.5000	3
Na	23	45	He	198.877	ppb	4.1	47463.08	0.7325	Pulse	0.1000	3
Mg	24	45	He	54.443	ppb	5.0	4774.26	0.0737	Pulse	0.1000	3
Al	27	45	He	25.706	ppb	1.3	1020.07	0.0157	Pulse	0.1000	3
K	39	45	He	216.840	ppb	12.6	58630.58	0.9047	Pulse	0.1000	3
Ca	44	45	He	110.779	ppb	16.6	750.05	0.0116	Pulse	0.1000	3
Ti	47	45	He	11.206	ppb	9.0	360.02	0.0056	Pulse	0.1000	3
V	51	45	He	0.584	ppb	11.8	1680.15	0.0259	Pulse	0.1000	3
Cr	52	45	He	2.428	ppb	3.1	4660.89	0.0719	Pulse	0.1000	3
Mn	55	45	He	1.889	ppb	4.4	2550.31	0.0394	Pulse	0.1000	3
Fe	57	45	He	52.984	ppb	5.1	1550.14	0.0239	Pulse	0.1000	3
Co	59	115	He	0.514	ppb	8.7	1253.44	0.0151	Pulse	0.1000	3
Ni	60	115	He	1.181	ppb	5.6	1260.10	0.0152	Pulse	0.1000	3
Cu	63	115	He	1.061	ppb	16.2	2606.98	0.0314	Pulse	0.1000	3
Zn	66	115	He	9.616	ppb	6.9	3873.98	0.0467	Pulse	0.1000	3
As	75	115	He	2.079	ppb	5.3	492.01	0.0059	Pulse	0.5000	3
Sr	88	115	He	1.018	ppb	10.2	1163.43	0.0140	Pulse	0.1000	3
Mo	98	115	He	0.525	ppb	12.1	653.37	0.0079	Pulse	0.1000	3
Ag	107	115	He	0.482	ppb	6.5	1173.42	0.0141	Pulse	0.1000	3
Cd	111	115	He	0.464	ppb	8.4	156.67	0.0019	Pulse	0.5000	3
Sn	120	115	He	2.328	ppb	8.1	3777.31	0.0455	Pulse	0.1000	3
Sb	121	72	He	1.101	ppb	4.7	1256.77	0.0068	Pulse	0.1000	3
Ba	137	115	He	1.983	ppb	17.3	836.72	0.0101	Pulse	0.1000	3
Tl	205	209	He	0.627	ppb	4.6	2446.98	0.0190	Pulse	0.1000	3
Pb	208	209	He	0.512	ppb	3.2	3193.59	0.0247	Pulse	0.1000	3
U	238	209	He	0.980	ppb	6.5	4781.06	0.0370	Pulse	0.1000	3

Quantitation Report

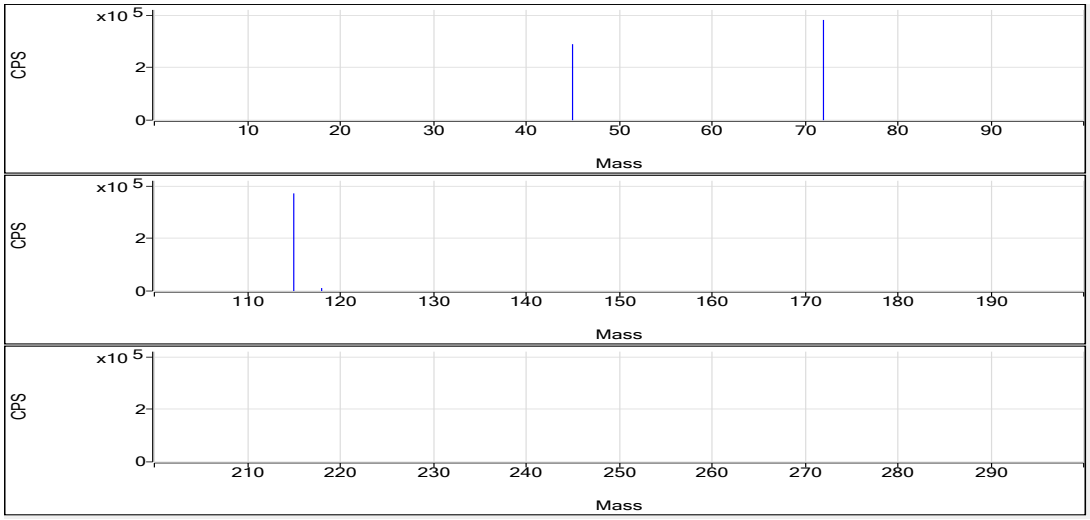
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1522432.11	0.9	101.8	Analog	0.1000	3
No Gas	Ge	72	1129282.74	1.1	101.5	Pulse	0.1000	3
H2	Sc	45	289523.54	0.6	97.7	Pulse	0.1000	3
H2	Ge	72	381884.36	0.8	98.0	Pulse	0.1000	3
H2	In	115	372085.24	1.8	99.1	Pulse	0.1000	3
He	Sc	45	64810.77	1.0	98.2	Pulse	0.1000	3
He	Ge	72	185683.76	0.5	98.9	Pulse	0.1000	3
He	In	115	82953.27	0.4	100.2	Pulse	0.1000	3
He	Tb	159	210763.30	0.5	100.2	Pulse	0.1000	3
He	Bi	209	129121.80	1.1	100.6	Pulse	0.1000	3

No Gas

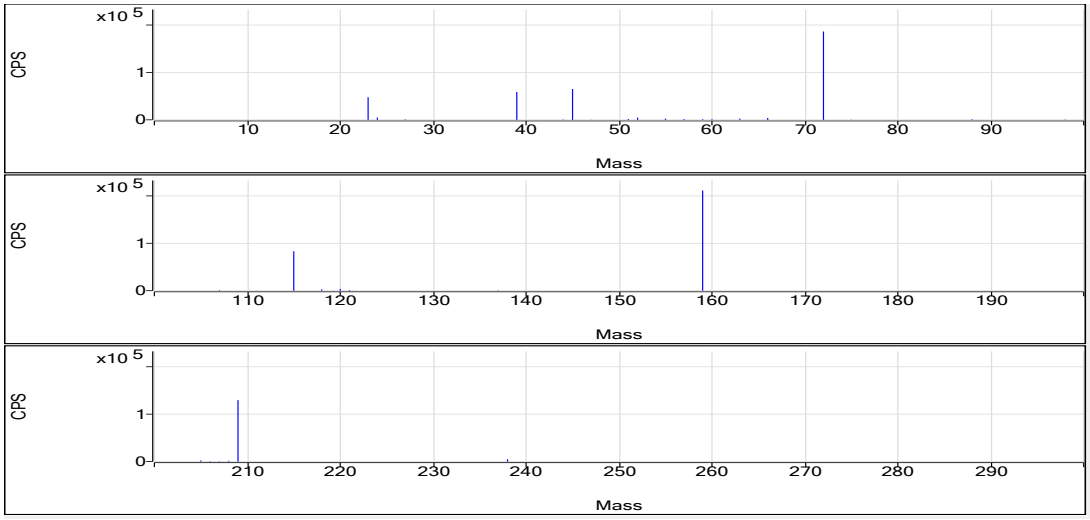


H2



Quantitation Report

He



Quantitation Report

Data File Name	012ICSA.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:54:44 AM
Sample Name	icsa 361015
Sample Type	ICSA
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

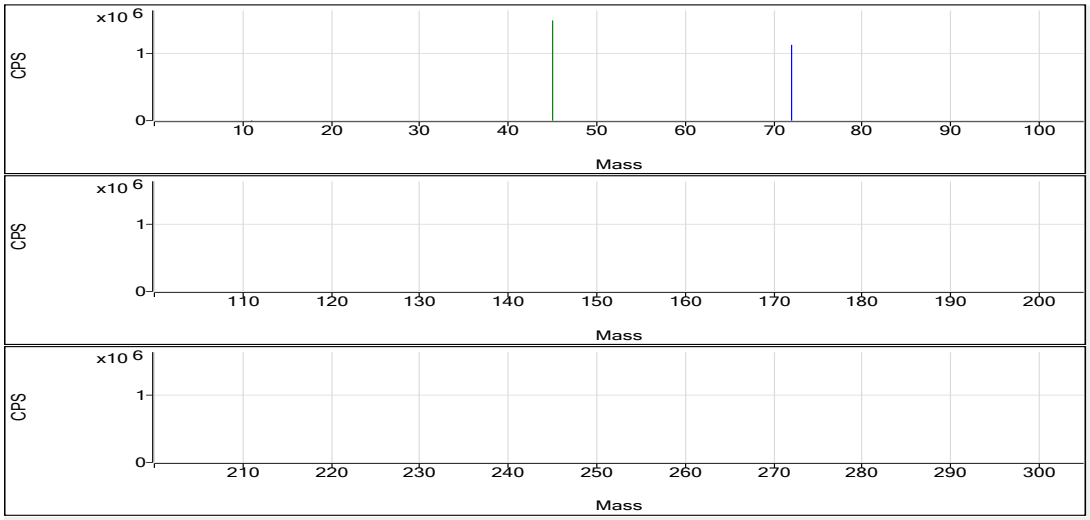
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.015	ppb	86.8	38.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	7.571	ppb	3.6	6782.22	0.0046	Pulse	0.5000	3
Se	78	115	H2	0.025	ppb	31.9	4.00	0.0000	Pulse	1.5000	3
Na	23	45	He	230310.028	ppb	1.3	39875885.24	624.8359	Analog	0.1000	3
Mg	24	45	He	99556.508	ppb	0.5	8217314.88	128.7499	Analog	0.1000	3
Al	27	45	He	105182.887	ppb	1.7	3413939.84	53.4938	Analog	0.1000	3
K	39	45	He	104406.567	ppb	0.8	9999087.14	156.6721	Analog	0.1000	3
Ca	44	45	He	322258.198	ppb	1.0	1539843.78	24.1281	Analog	0.1000	3
Ti	47	45	He	2052.418	ppb	2.3	64881.27	1.0168	Pulse	0.1000	3
V	51	45	He	0.061	ppb	79.3	1103.42	0.0173	Pulse	0.1000	3
Cr	52	45	He	1.705	ppb	4.5	3653.97	0.0572	Pulse	0.1000	3
Mn	55	45	He	2.112	ppb	15.6	2667.00	0.0418	Pulse	0.1000	3
Fe	57	45	He	257838.841	ppb	1.1	6515851.78	102.0989	Analog	0.1000	3
Co	59	115	He	2.251	ppb	5.2	4740.94	0.0610	Pulse	0.1000	3
Ni	60	115	He	2.592	ppb	14.1	1883.53	0.0242	Pulse	0.1000	3
Cu	63	115	He	0.963	ppb	10.5	2310.26	0.0297	Pulse	0.1000	3
Zn	66	115	He	2.477	ppb	19.8	2123.55	0.0273	Pulse	0.1000	3
As	75	115	He	0.549	ppb	13.8	191.33	0.0025	Pulse	0.5000	3
Sr	88	115	He	2.478	ppb	10.6	2550.31	0.0328	Pulse	0.1000	3
Mo	98	115	He	2257.884	ppb	0.8	2634164.28	33.8932	Analog	0.1000	3
Ag	107	115	He	0.025	ppb	17.3	110.00	0.0014	Pulse	0.1000	3
Cd	111	115	He	0.426	ppb	4.9	134.67	0.0017	Pulse	0.5000	3
Sn	120	115	He	0.428	ppb	23.1	1473.46	0.0190	Pulse	0.1000	3
Sb	121	72	He	0.438	ppb	11.9	513.36	0.0028	Pulse	0.1000	3
Ba	137	115	He	0.929	ppb	16.8	373.35	0.0048	Pulse	0.1000	3
Tl	205	209	He	0.064	ppb	49.1	320.02	0.0026	Pulse	0.1000	3
Pb	208	209	He	0.465	ppb	9.8	2766.89	0.0229	Pulse	0.1000	3
U	238	209	He	0.057	ppb	14.7	273.34	0.0023	Pulse	0.1000	3

Quantitation Report

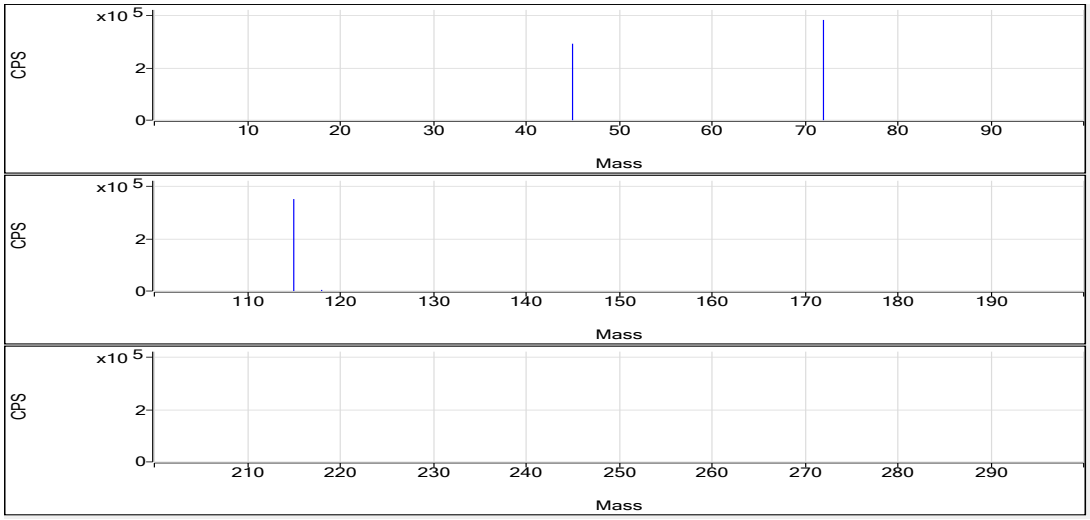
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1480681.07	0.5	99.0	Analog	0.1000	3
No Gas	Ge	72	1119654.57	0.8	100.6	Pulse	0.1000	3
H2	Sc	45	292177.08	1.6	98.6	Pulse	0.1000	3
H2	Ge	72	383094.75	2.6	98.3	Pulse	0.1000	3
H2	In	115	351568.45	1.4	93.6	Pulse	0.1000	3
He	Sc	45	63826.19	1.6	96.7	Pulse	0.1000	3
He	Ge	72	184216.64	0.7	98.1	Pulse	0.1000	3
He	In	115	77722.71	1.1	93.9	Pulse	0.1000	3
He	Tb	159	205789.35	0.3	97.9	Pulse	0.1000	3
He	Bi	209	121088.87	0.9	94.4	Pulse	0.1000	3

No Gas

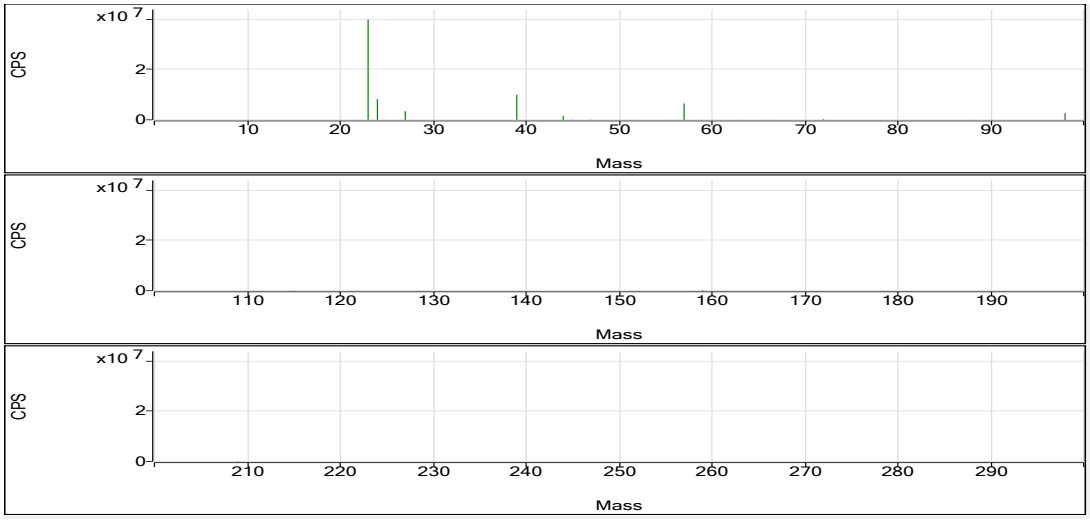


H2



Quantitation Report

He



Quantitation Report

Data File Name	013ICSB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:56:35 AM
Sample Name	icsab 361016
Sample Type	ICSAB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

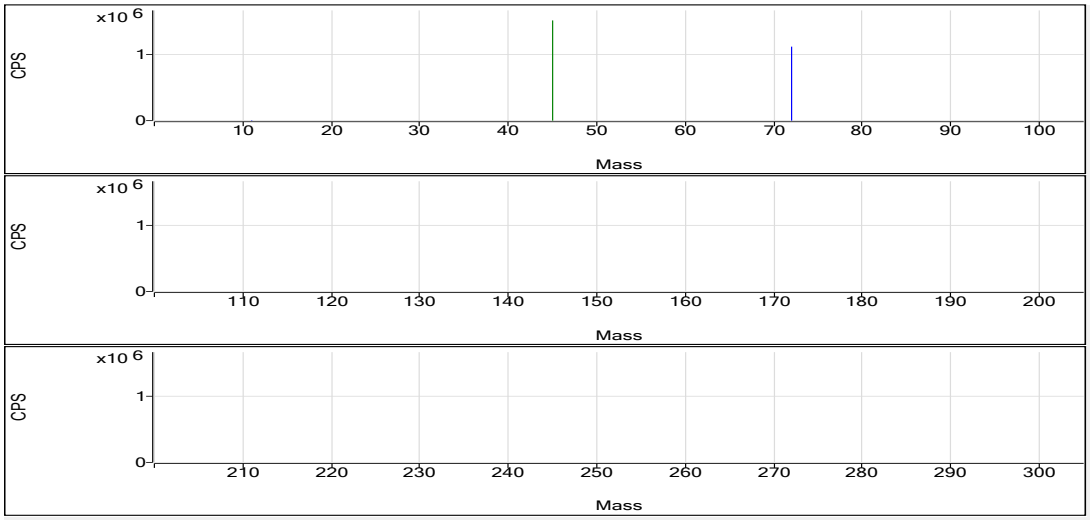
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.006	ppb	192.5	30.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	7.867	ppb	4.2	7120.38	0.0047	Pulse	0.5000	3
Se	78	115	H2	104.332	ppb	0.9	8809.14	0.0247	Pulse	1.5000	3
Na	23	45	He	226066.059	ppb	1.7	40172342.74	613.3255	Analog	0.1000	3
Mg	24	45	He	97165.522	ppb	1.0	8230841.96	125.6579	Analog	0.1000	3
Al	27	45	He	102228.439	ppb	1.8	3405362.55	51.9913	Analog	0.1000	3
K	39	45	He	102760.523	ppb	1.3	10101004.85	154.2112	Analog	0.1000	3
Ca	44	45	He	313600.586	ppb	0.9	1538189.20	23.4800	Analog	0.1000	3
Ti	47	45	He	2041.968	ppb	1.5	66260.10	1.0116	Pulse	0.1000	3
V	51	45	He	201.209	ppb	1.8	218447.24	3.3350	Pulse	0.1000	3
Cr	52	45	He	191.036	ppb	1.4	255718.60	3.9040	Pulse	0.1000	3
Mn	55	45	He	203.094	ppb	0.9	147838.12	2.2569	Pulse	0.1000	3
Fe	57	45	He	251838.796	ppb	0.4	6532345.11	99.7230	Analog	0.1000	3
Co	59	115	He	191.564	ppb	2.3	396139.12	5.0632	Pulse	0.1000	3
Ni	60	115	He	204.023	ppb	2.2	103091.25	1.3176	Pulse	0.1000	3
Cu	63	115	He	200.972	ppb	2.5	274393.55	3.5072	Pulse	0.1000	3
Zn	66	115	He	104.132	ppb	2.8	23743.40	0.3034	Pulse	0.1000	3
As	75	115	He	108.128	ppb	1.8	19270.23	0.2463	Pulse	0.5000	3
Sr	88	115	He	2.457	ppb	11.9	2543.66	0.0326	Pulse	0.1000	3
Mo	98	115	He	2246.454	ppb	2.7	2638194.13	33.7216	Analog	0.1000	3
Ag	107	115	He	50.674	ppb	1.9	110507.67	1.4123	Pulse	0.1000	3
Cd	111	115	He	102.259	ppb	2.5	32119.19	0.4105	Pulse	0.5000	3
Sn	120	115	He	0.290	ppb	7.4	1333.45	0.0170	Pulse	0.1000	3
Sb	121	72	He	0.412	ppb	28.3	486.70	0.0026	Pulse	0.1000	3
Ba	137	115	He	0.826	ppb	12.9	336.68	0.0043	Pulse	0.1000	3
Tl	205	209	He	0.036	ppb	13.5	220.01	0.0018	Pulse	0.1000	3
Pb	208	209	He	0.435	ppb	6.0	2613.53	0.0217	Pulse	0.1000	3
U	238	209	He	0.057	ppb	0.6	270.01	0.0022	Pulse	0.1000	3

Quantitation Report

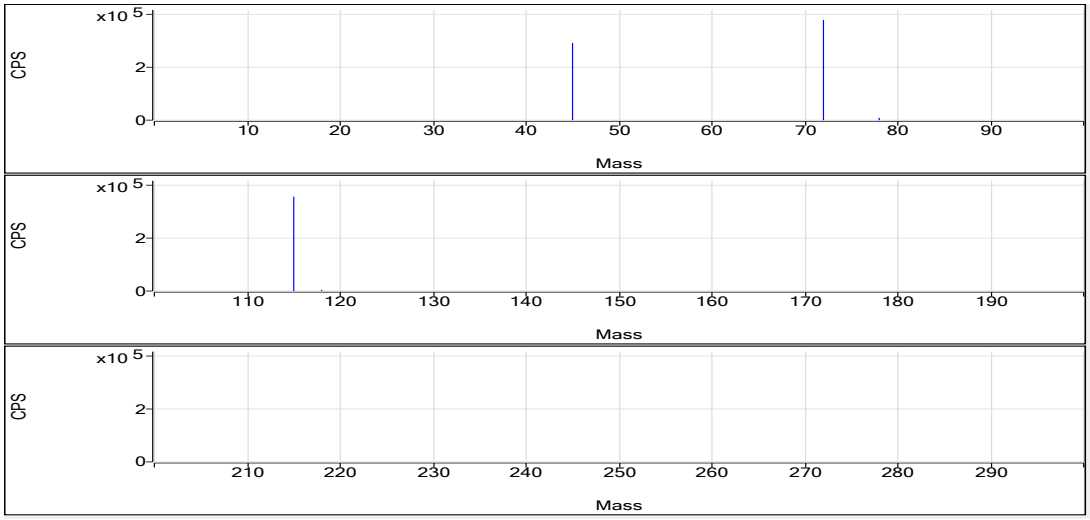
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1517805.60	0.7	101.5	Analog	0.1000	3
No Gas	Ge	72	1120518.42	0.2	100.7	Pulse	0.1000	3
H2	Sc	45	291381.28	1.2	98.3	Pulse	0.1000	3
H2	Ge	72	378327.75	2.0	97.1	Pulse	0.1000	3
H2	In	115	356153.61	1.5	94.9	Pulse	0.1000	3
He	Sc	45	65506.67	1.0	99.3	Pulse	0.1000	3
He	Ge	72	184772.22	0.7	98.4	Pulse	0.1000	3
He	In	115	78272.16	2.7	94.6	Pulse	0.1000	3
He	Tb	159	207359.50	0.9	98.6	Pulse	0.1000	3
He	Bi	209	120641.29	0.5	94.0	Pulse	0.1000	3

No Gas

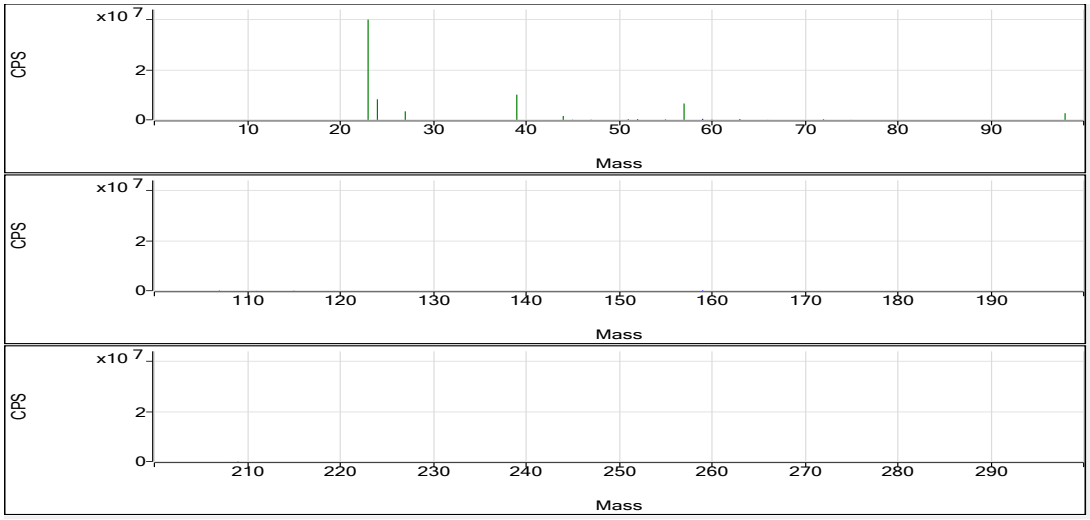


H2



Quantitation Report

He



Quantitation Report

Data File Name	014_LRC.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:58:26 AM
Sample Name	lrc 361017
Sample Type	LRC
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

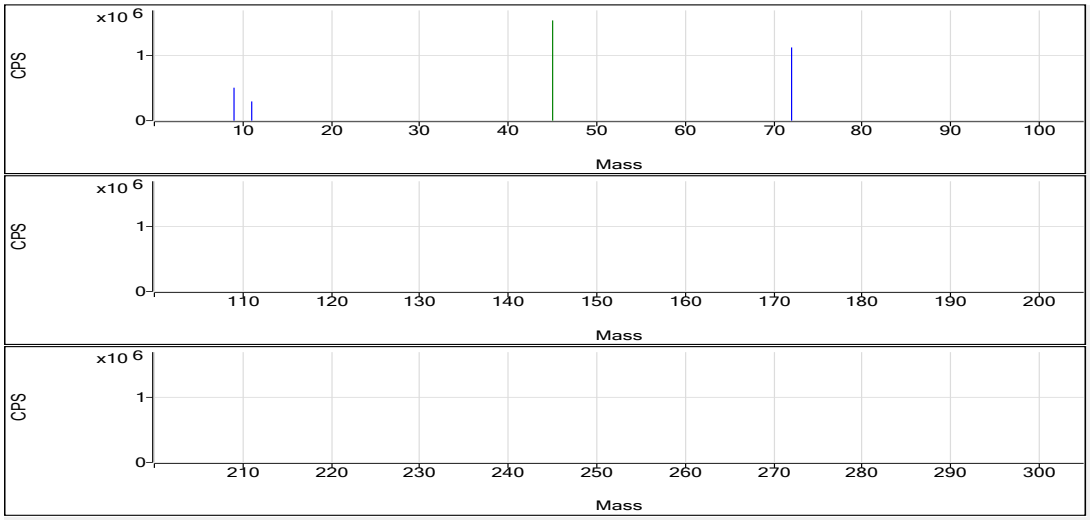
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	503.005	ppb	1.8	503777.73	0.3287	Pulse	0.5000	3
B	11	45	No Gas	509.218	ppb	2.1	293761.74	0.1917	Pulse	0.5000	3
Se	78	115	H2	482.286	ppb	0.8	44979.11	0.1143	Pulse	1.5000	3
Na	23	45	He	47263.426	ppb	1.6	8366240.71	128.3801	Analog	0.1000	3
Mg	24	45	He	50204.742	ppb	2.3	4231133.17	64.9281	Analog	0.1000	3
Al	27	45	He	54047.929	ppb	1.2	1791483.62	27.4889	Analog	0.1000	3
K	39	45	He	52825.616	ppb	2.6	5183706.80	79.5567	Analog	0.1000	3
Ca	44	45	He	50000.334	ppb	1.9	244135.53	3.7464	Pulse	0.1000	3
Ti	47	45	He	509.762	ppb	6.2	16466.46	0.2525	Pulse	0.1000	3
V	51	45	He	505.973	ppb	1.8	544890.51	8.3617	Pulse	0.1000	3
Cr	52	45	He	491.713	ppb	1.8	652510.28	10.0130	Pulse	0.1000	3
Mn	55	45	He	512.544	ppb	2.7	369278.35	5.6675	Pulse	0.1000	3
Fe	57	45	He	50141.140	ppb	2.7	1293842.48	19.8572	Pulse	0.1000	3
Co	59	115	He	455.609	ppb	1.7	1035168.97	12.0400	Pulse	0.1000	3
Ni	60	115	He	489.734	ppb	1.7	271015.18	3.1520	Pulse	0.1000	3
Cu	63	115	He	487.859	ppb	2.0	730381.73	8.4951	Pulse	0.1000	3
Zn	66	115	He	482.260	ppb	0.9	114427.08	1.3306	Pulse	0.1000	3
As	75	115	He	489.602	ppb	1.3	95510.25	1.1108	Pulse	0.5000	3
Sr	88	115	He	487.900	ppb	2.3	540058.23	6.2819	Pulse	0.1000	3
Mo	98	115	He	508.532	ppb	1.8	656340.17	7.6336	Pulse	0.1000	3
Ag	107	115	He	487.058	ppb	2.3	1166508.84	13.5686	Pulse	0.1000	3
Cd	111	115	He	483.107	ppb	1.7	166747.68	1.9394	Pulse	0.5000	3
Sn	120	115	He	482.477	ppb	1.9	581254.71	6.7607	Pulse	0.1000	3
Sb	121	72	He	515.772	ppb	1.4	559797.13	3.0951	Pulse	0.1000	3
Ba	137	115	He	486.035	ppb	0.5	209128.36	2.4320	Pulse	0.1000	3
Tl	205	209	He	541.391	ppb	1.2	1949019.81	15.6942	Analog	0.1000	3
Pb	208	209	He	517.413	ppb	0.3	2578854.55	20.7653	Pulse	0.1000	3
U	238	209	He	5.237	ppb	1.5	24527.31	0.1975	Pulse	0.1000	3

Quantitation Report

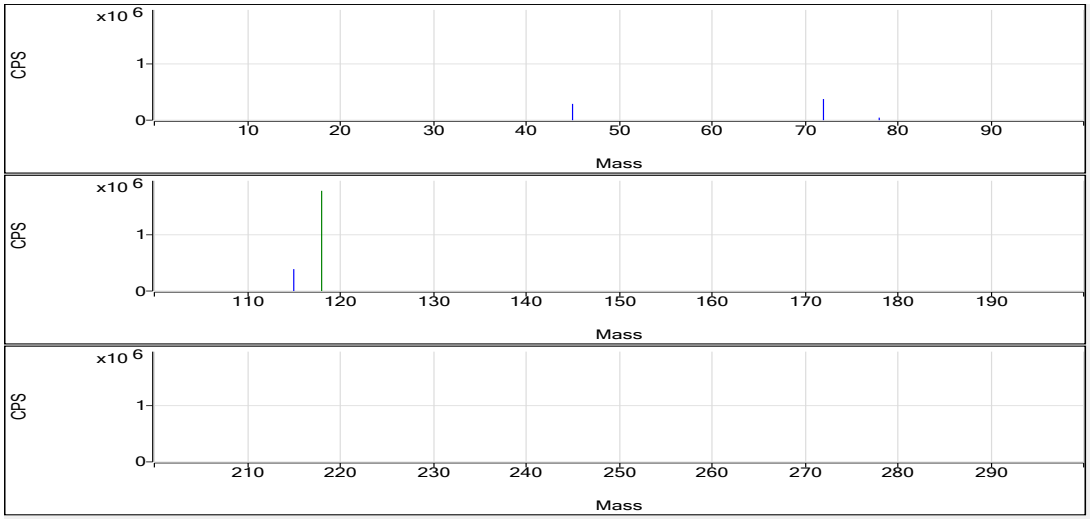
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1532864.66	1.3	102.5	Analog	0.1000	3
No Gas	Ge	72	1119510.25	0.6	100.6	Pulse	0.1000	3
H2	Sc	45	292329.36	0.1	98.7	Pulse	0.1000	3
H2	Ge	72	379490.09	1.3	97.4	Pulse	0.1000	3
H2	In	115	393469.34	1.3	104.8	Pulse	0.1000	3
He	Sc	45	65182.53	2.2	98.8	Pulse	0.1000	3
He	Ge	72	180871.32	0.8	96.3	Pulse	0.1000	3
He	In	115	85994.59	1.8	103.9	Pulse	0.1000	3
He	Tb	159	211210.31	0.5	100.4	Pulse	0.1000	3
He	Bi	209	124191.65	0.5	96.8	Pulse	0.1000	3

No Gas

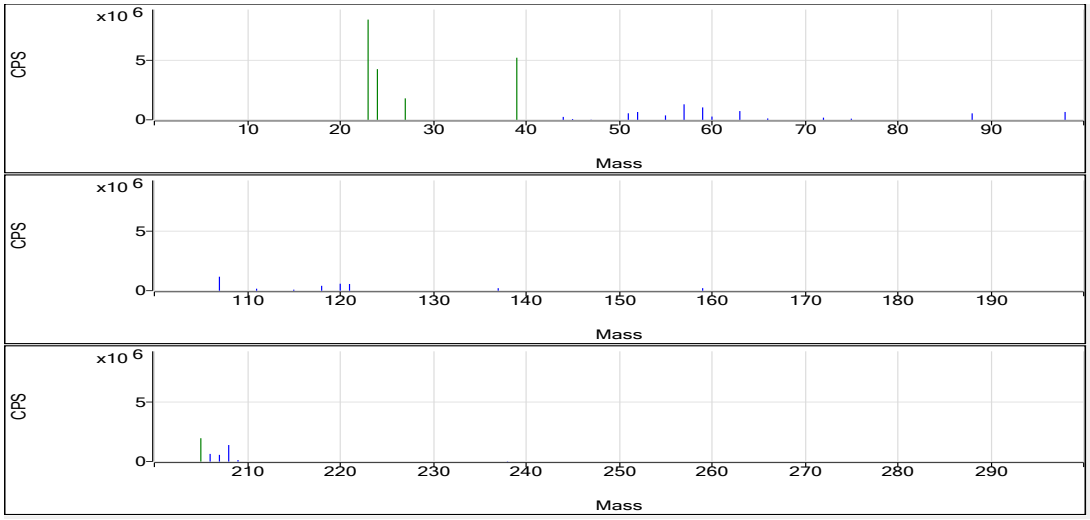


H2



Quantitation Report

He



Quantitation Report

Data File Name	015SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 10:00:19 AM
Sample Name	rinse 360854
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

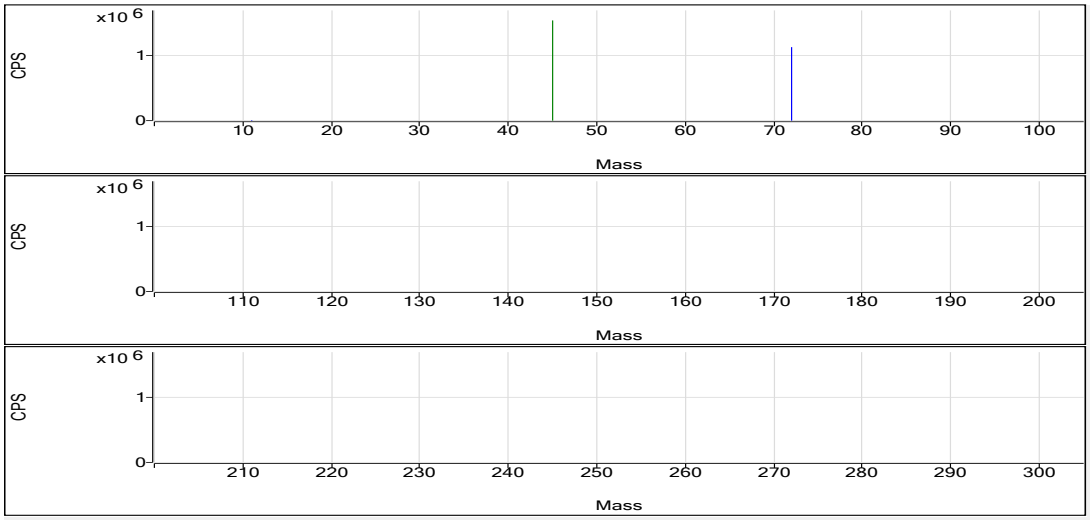
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.312	ppb	8.7	338.01	0.0002	Pulse	0.5000	3
B	11	45	No Gas	11.290	ppb	5.7	9172.83	0.0060	Pulse	0.5000	3
Se	78	115	H2	0.225	ppb	8.9	22.00	0.0001	Pulse	1.5000	3
Na	23	45	He	43.680	ppb	9.2	19663.50	0.3116	Pulse	0.1000	3
Mg	24	45	He	15.724	ppb	18.8	1490.12	0.0236	Pulse	0.1000	3
Al	27	45	He	9.799	ppb	13.4	483.36	0.0077	Pulse	0.1000	3
K	39	45	He	27.136	ppb	153.2	39189.83	0.6211	Pulse	0.1000	3
Ca	44	45	He	15.267	ppb	93.2	280.01	0.0044	Pulse	0.1000	3
Ti	47	45	He	0.532	ppb	34.3	16.67	0.0003	Pulse	0.1000	3
V	51	45	He	0.063	ppb	407.2	1093.41	0.0173	Pulse	0.1000	3
Cr	52	45	He	0.431	ppb	9.6	1980.21	0.0314	Pulse	0.1000	3
Mn	55	45	He	-0.172	ppb	N/A	1050.08	0.0166	Pulse	0.1000	3
Fe	57	45	He	22.595	ppb	10.1	750.04	0.0119	Pulse	0.1000	3
Co	59	115	He	0.084	ppb	28.7	310.02	0.0038	Pulse	0.1000	3
Ni	60	115	He	0.105	ppb	197.9	683.37	0.0083	Pulse	0.1000	3
Cu	63	115	He	0.010	ppb	643.1	1086.75	0.0132	Pulse	0.1000	3
Zn	66	115	He	-0.741	ppb	N/A	1533.47	0.0186	Pulse	0.1000	3
As	75	115	He	0.100	ppb	76.2	119.33	0.0014	Pulse	0.5000	3
Sr	88	115	He	0.110	ppb	72.7	193.34	0.0023	Pulse	0.1000	3
Mo	98	115	He	1.178	ppb	12.2	1460.13	0.0177	Pulse	0.1000	3
Ag	107	115	He	0.084	ppb	48.0	253.35	0.0031	Pulse	0.1000	3
Cd	111	115	He	0.083	ppb	25.9	29.33	0.0004	Pulse	0.5000	3
Sn	120	115	He	0.585	ppb	5.1	1746.83	0.0212	Pulse	0.1000	3
Sb	121	72	He	1.828	ppb	3.7	2030.22	0.0111	Pulse	0.1000	3
Ba	137	115	He	0.137	ppb	63.6	70.00	0.0008	Pulse	0.1000	3
Tl	205	209	He	2.183	ppb	19.0	8226.25	0.0641	Pulse	0.1000	3
Pb	208	209	He	0.085	ppb	21.9	980.05	0.0076	Pulse	0.1000	3
U	238	209	He	0.006	ppb	38.1	40.00	0.0003	Pulse	0.1000	3

Quantitation Report

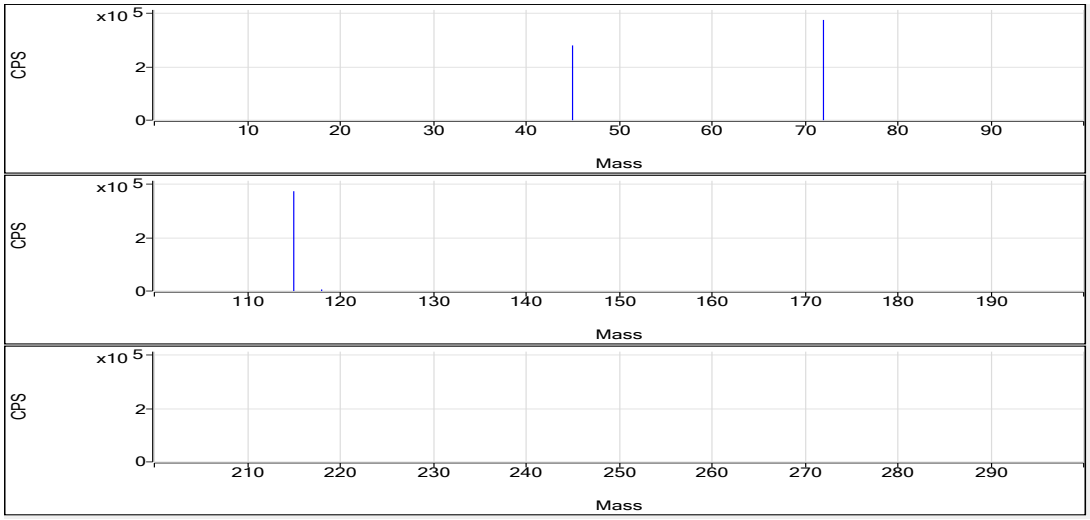
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1537589.51	1.0	102.8	Analog	0.1000	3
No Gas	Ge	72	1127643.63	0.4	101.3	Pulse	0.1000	3
H2	Sc	45	280276.23	1.1	94.6	Pulse	0.1000	3
H2	Ge	72	375838.18	1.1	96.4	Pulse	0.1000	3
H2	In	115	374294.49	1.4	99.7	Pulse	0.1000	3
He	Sc	45	63130.07	1.5	95.7	Pulse	0.1000	3
He	Ge	72	182484.18	0.7	97.2	Pulse	0.1000	3
He	In	115	82546.77	0.6	99.7	Pulse	0.1000	3
He	Tb	159	211430.44	0.9	100.5	Pulse	0.1000	3
He	Bi	209	128582.80	1.0	100.2	Pulse	0.1000	3

No Gas

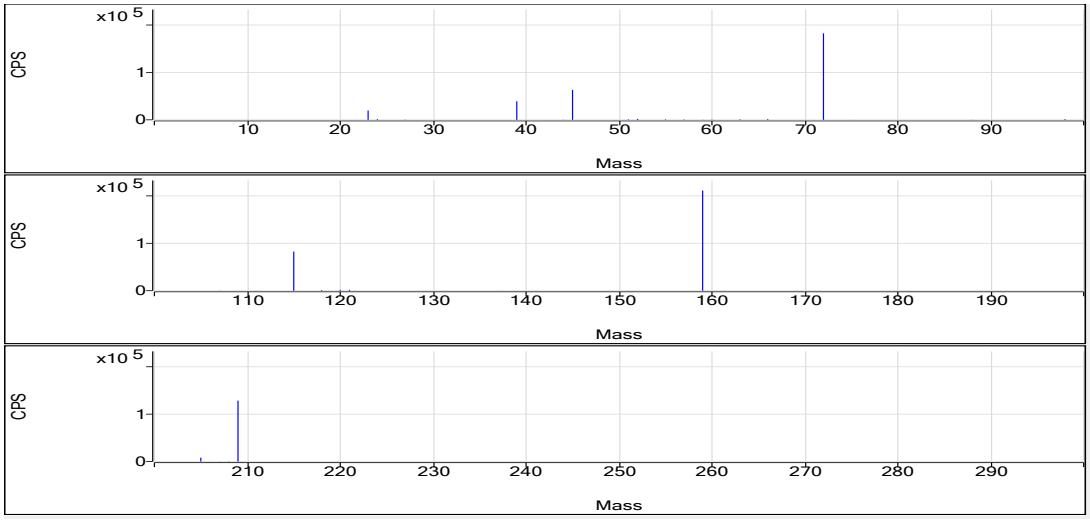


H2



Quantitation Report

He



Quantitation Report

Data File Name	016SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 10:02:12 AM
Sample Name	rinse 360854
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

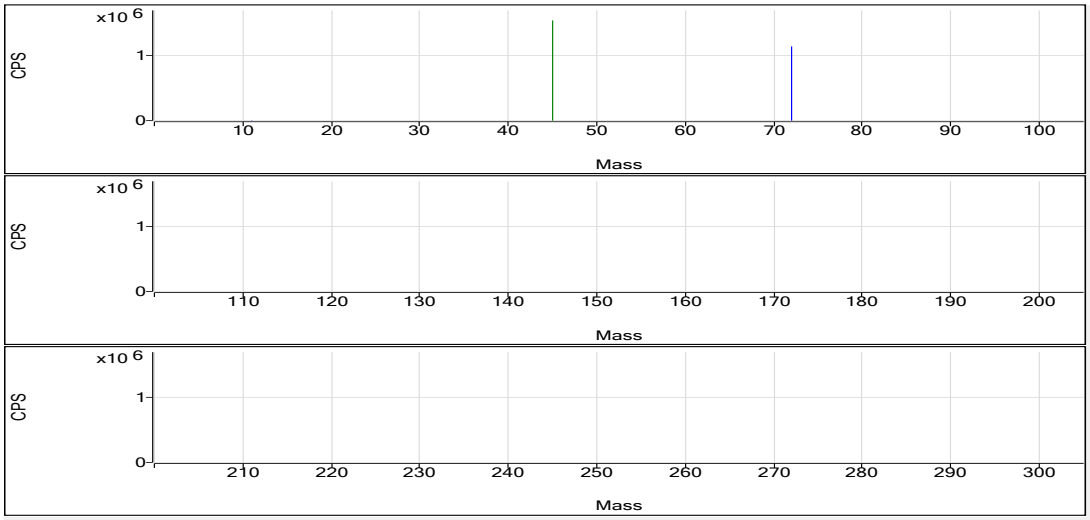
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.103	ppb	18.5	127.33	0.0001	Pulse	0.5000	3
B	11	45	No Gas	2.953	ppb	7.0	4376.66	0.0029	Pulse	0.5000	3
Se	78	115	H2	0.039	ppb	85.8	5.33	0.0000	Pulse	1.5000	3
Na	23	45	He	29.711	ppb	6.7	17500.72	0.2737	Pulse	0.1000	3
Mg	24	45	He	9.801	ppb	0.7	1020.07	0.0160	Pulse	0.1000	3
Al	27	45	He	3.378	ppb	44.2	280.01	0.0044	Pulse	0.1000	3
K	39	45	He	5.088	ppb	596.3	37578.70	0.5881	Pulse	0.1000	3
Ca	44	45	He	15.328	ppb	43.1	283.35	0.0044	Pulse	0.1000	3
Ti	47	45	He	0.518	ppb	124.0	16.67	0.0003	Pulse	0.1000	3
V	51	45	He	0.018	ppb	127.3	1060.08	0.0166	Pulse	0.1000	3
Cr	52	45	He	0.334	ppb	34.3	1880.19	0.0294	Pulse	0.1000	3
Mn	55	45	He	-0.127	ppb	N/A	1096.74	0.0171	Pulse	0.1000	3
Fe	57	45	He	11.963	ppb	17.0	490.03	0.0077	Pulse	0.1000	3
Co	59	115	He	0.031	ppb	63.0	193.34	0.0024	Pulse	0.1000	3
Ni	60	115	He	0.291	ppb	77.1	776.72	0.0095	Pulse	0.1000	3
Cu	63	115	He	-0.080	ppb	N/A	950.06	0.0116	Pulse	0.1000	3
Zn	66	115	He	-1.433	ppb	N/A	1370.12	0.0167	Pulse	0.1000	3
As	75	115	He	0.026	ppb	222.3	104.67	0.0013	Pulse	0.5000	3
Sr	88	115	He	0.017	ppb	118.5	93.33	0.0011	Pulse	0.1000	3
Mo	98	115	He	0.371	ppb	13.4	456.69	0.0056	Pulse	0.1000	3
Ag	107	115	He	0.019	ppb	54.4	103.34	0.0013	Pulse	0.1000	3
Cd	111	115	He	0.020	ppb	17.9	8.67	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.472	ppb	5.1	1606.82	0.0196	Pulse	0.1000	3
Sb	121	72	He	0.365	ppb	37.6	430.02	0.0024	Pulse	0.1000	3
Ba	137	115	He	0.081	ppb	90.1	46.67	0.0006	Pulse	0.1000	3
Tl	205	209	He	0.612	ppb	6.7	2390.31	0.0185	Pulse	0.1000	3
Pb	208	209	He	0.020	ppb	17.7	646.70	0.0050	Pulse	0.1000	3
U	238	209	He	0.004	ppb	28.0	33.33	0.0003	Pulse	0.1000	3

Quantitation Report

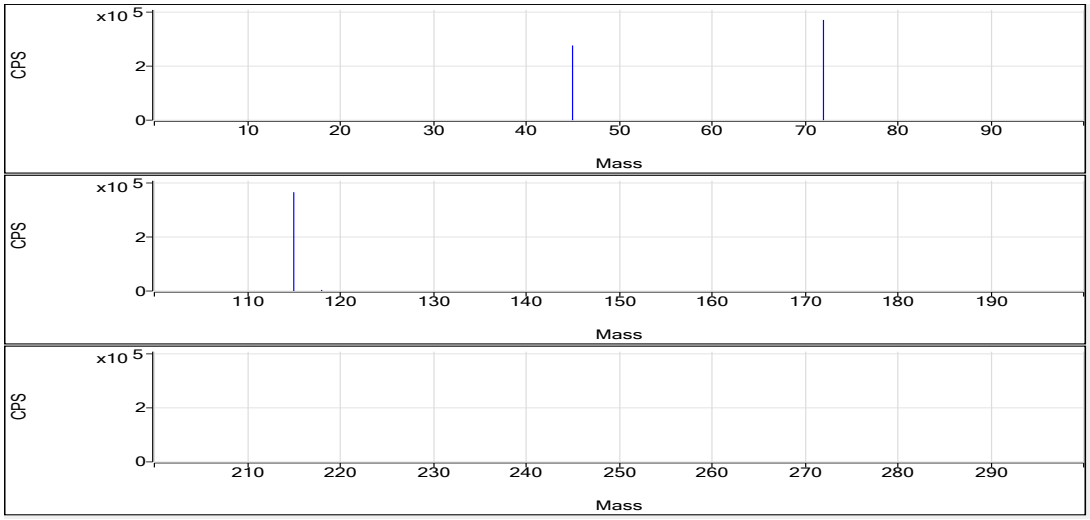
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1531541.17	0.5	102.4	Analog	0.1000	3
No Gas	Ge	72	1134615.24	0.5	102.0	Pulse	0.1000	3
H2	Sc	45	275369.61	1.2	92.9	Pulse	0.1000	3
H2	Ge	72	369503.05	0.9	94.8	Pulse	0.1000	3
H2	In	115	364400.80	0.2	97.0	Pulse	0.1000	3
He	Sc	45	63943.33	1.8	96.9	Pulse	0.1000	3
He	Ge	72	183528.31	1.4	97.7	Pulse	0.1000	3
He	In	115	82053.12	1.2	99.1	Pulse	0.1000	3
He	Tb	159	211212.95	1.0	100.4	Pulse	0.1000	3
He	Bi	209	129073.78	0.7	100.6	Pulse	0.1000	3

No Gas

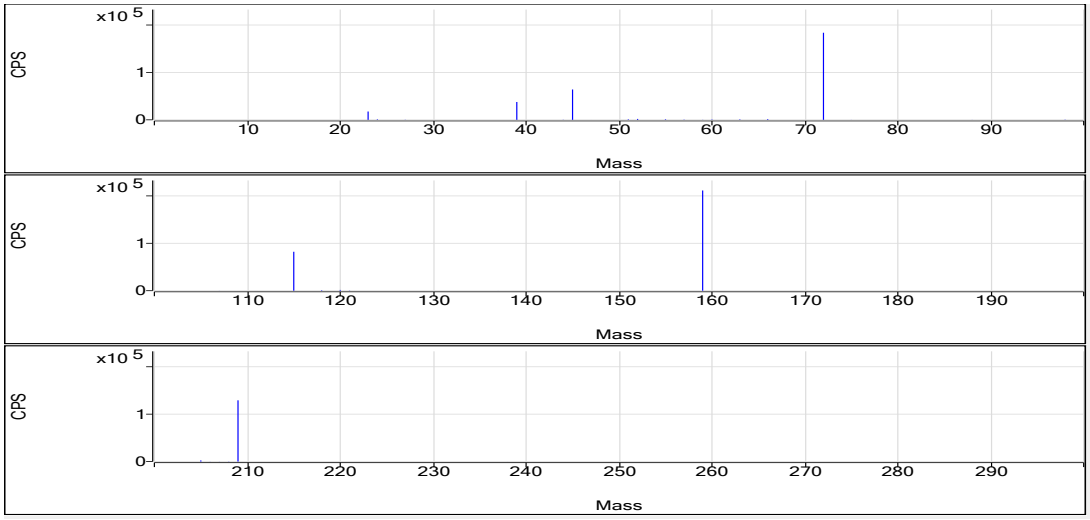


H2



Quantitation Report

He



Quantitation Report

Data File Name	017_CCV.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 10:04:05 AM
Sample Name	ccv 361008
Sample Type	CCV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

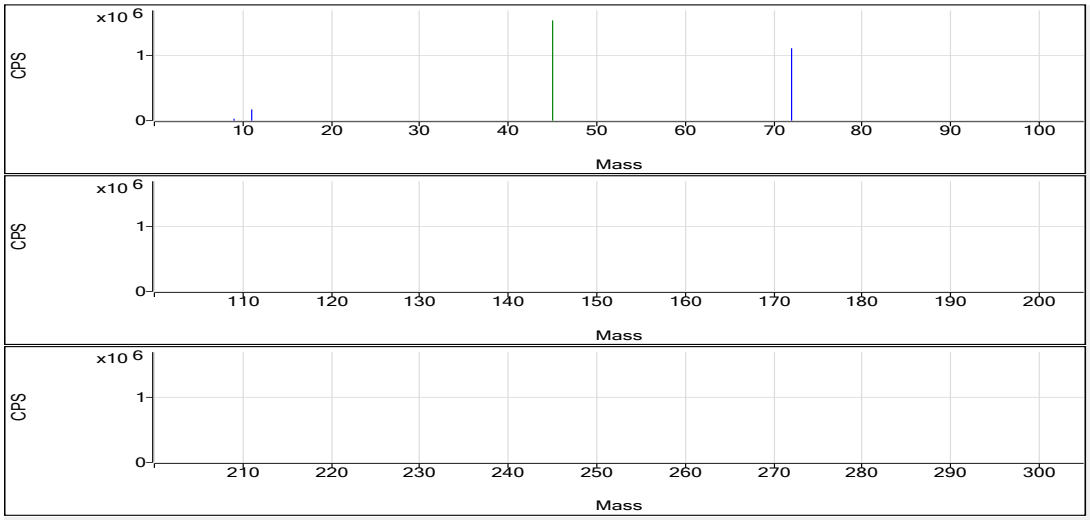
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	29.316	ppb	2.0	29470.69	0.0192	Pulse	0.5000	3
B	11	45	No Gas	295.053	ppb	1.9	171859.06	0.1118	Pulse	0.5000	3
Se	78	115	H2	29.679	ppb	1.2	2610.91	0.0070	Pulse	1.5000	3
Na	23	45	He	4721.534	ppb	0.5	838414.03	12.9988	Pulse	0.1000	3
Mg	24	45	He	5035.166	ppb	0.6	420201.66	6.5148	Pulse	0.1000	3
Al	27	45	He	5003.606	ppb	0.2	164296.66	2.5473	Pulse	0.1000	3
K	39	45	He	5107.867	ppb	1.2	529982.69	8.2170	Pulse	0.1000	3
Ca	44	45	He	5010.278	ppb	1.4	24404.20	0.3784	Pulse	0.1000	3
Ti	47	45	He	297.615	ppb	2.5	9510.05	0.1474	Pulse	0.1000	3
V	51	45	He	302.586	ppb	0.2	322955.58	5.0071	Pulse	0.1000	3
Cr	52	45	He	292.082	ppb	0.7	384226.78	5.9570	Pulse	0.1000	3
Mn	55	45	He	304.635	ppb	1.2	217748.82	3.3760	Pulse	0.1000	3
Fe	57	45	He	5167.826	ppb	0.4	132173.06	2.0492	Pulse	0.1000	3
Co	59	115	He	285.701	ppb	0.6	612518.85	7.5506	Pulse	0.1000	3
Ni	60	115	He	307.454	ppb	0.3	160758.81	1.9817	Pulse	0.1000	3
Cu	63	115	He	305.221	ppb	0.6	431551.24	5.3197	Pulse	0.1000	3
Zn	66	115	He	306.263	ppb	2.2	69155.89	0.8525	Pulse	0.1000	3
As	75	115	He	305.122	ppb	0.8	56194.92	0.6927	Pulse	0.5000	3
Sr	88	115	He	30.943	ppb	3.8	32387.66	0.3993	Pulse	0.1000	3
Mo	98	115	He	31.130	ppb	0.6	37908.11	0.4673	Pulse	0.1000	3
Ag	107	115	He	31.288	ppb	2.6	70758.61	0.8723	Pulse	0.1000	3
Cd	111	115	He	30.171	ppb	1.1	9827.49	0.1211	Pulse	0.5000	3
Sn	120	115	He	31.202	ppb	1.6	36452.00	0.4494	Pulse	0.1000	3
Sb	121	72	He	31.187	ppb	1.8	33380.72	0.1873	Pulse	0.1000	3
Ba	137	115	He	306.652	ppb	0.7	124477.43	1.5345	Pulse	0.1000	3
Tl	205	209	He	30.794	ppb	1.9	114449.77	0.8934	Pulse	0.1000	3
Pb	208	209	He	30.443	ppb	0.6	157021.76	1.2257	Pulse	0.1000	3
U	238	209	He	51.080	ppb	1.1	246641.83	1.9253	Pulse	0.1000	3

Quantitation Report

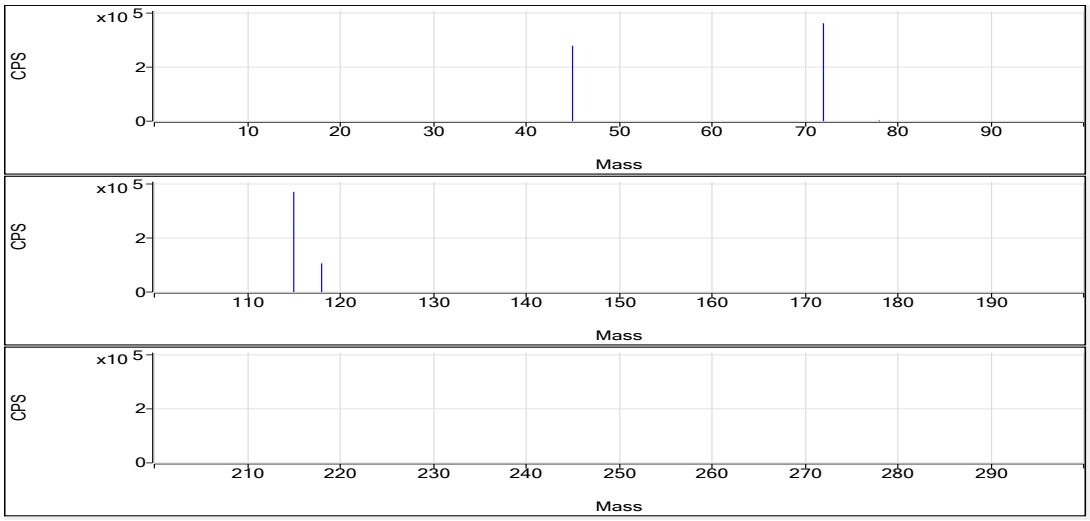
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1537482.43	1.7	102.8	Analog	0.1000	3
No Gas	Ge	72	1110029.36	0.8	99.7	Pulse	0.1000	3
H2	Sc	45	278780.34	2.2	94.1	Pulse	0.1000	3
H2	Ge	72	362224.46	2.4	93.0	Pulse	0.1000	3
H2	In	115	370810.62	2.5	98.8	Pulse	0.1000	3
He	Sc	45	64499.41	0.3	97.7	Pulse	0.1000	3
He	Ge	72	178224.27	0.1	94.9	Pulse	0.1000	3
He	In	115	81122.25	0.3	98.0	Pulse	0.1000	3
He	Tb	159	210873.56	0.4	100.3	Pulse	0.1000	3
He	Bi	209	128107.82	0.5	99.8	Pulse	0.1000	3

No Gas

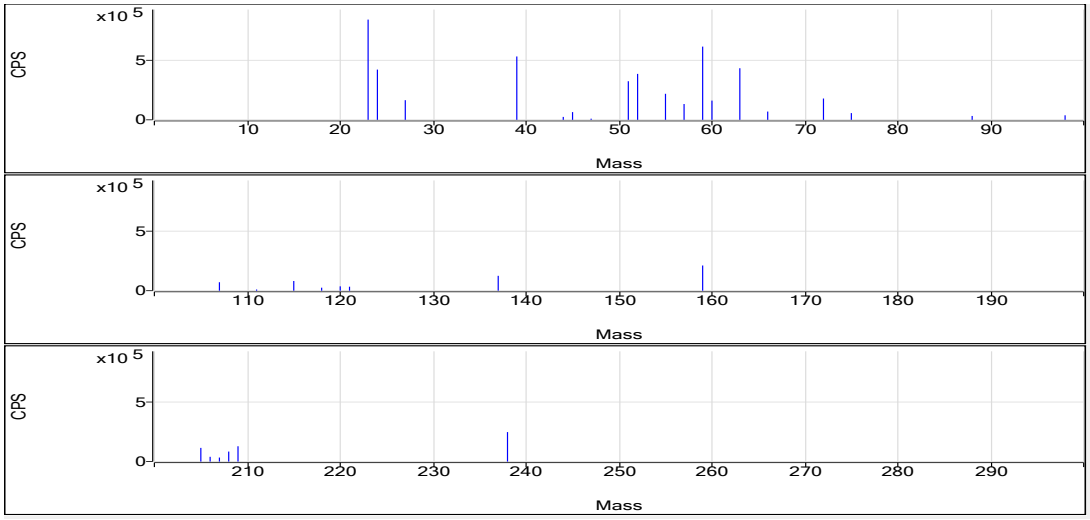


H2



Quantitation Report

He



Quantitation Report

Data File Name	018_CCB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 10:05:58 AM
Sample Name	ccb 360854
Sample Type	CCB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

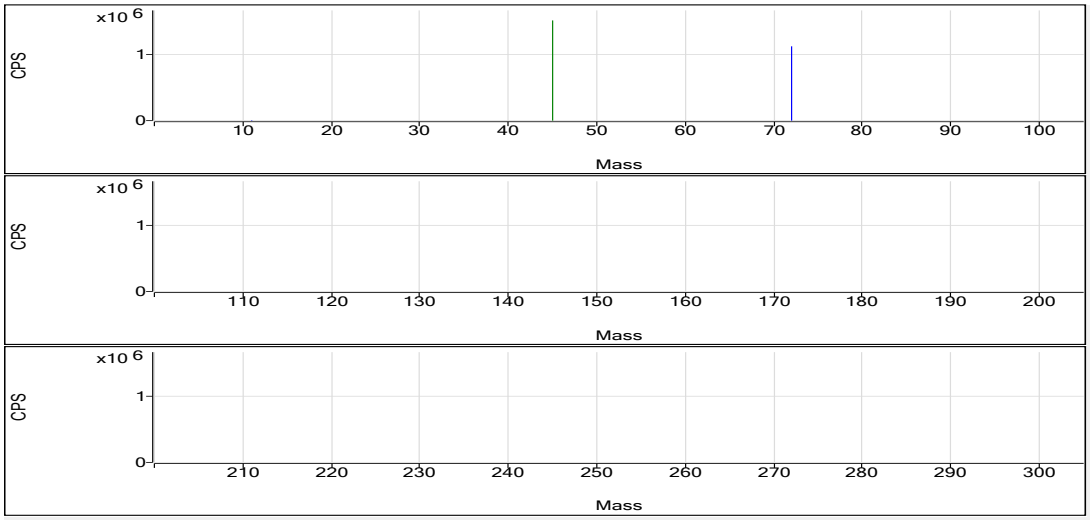
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.069	ppb	20.9	93.33	0.0001	Pulse	0.5000	3
B	11	45	No Gas	8.527	ppb	6.5	7497.91	0.0049	Pulse	0.5000	3
Se	78	115	H2	0.031	ppb	50.9	4.67	0.0000	Pulse	1.5000	3
Na	23	45	He	21.143	ppb	8.9	15928.90	0.2504	Pulse	0.1000	3
Mg	24	45	He	5.084	ppb	4.8	626.70	0.0099	Pulse	0.1000	3
Al	27	45	He	2.074	ppb	53.0	236.68	0.0037	Pulse	0.1000	3
K	39	45	He	4.413	ppb	569.2	37364.85	0.5871	Pulse	0.1000	3
Ca	44	45	He	7.191	ppb	89.0	243.34	0.0038	Pulse	0.1000	3
Ti	47	45	He	0.000	ppb	N/A	0.00	0.0000	Pulse	0.1000	3
V	51	45	He	0.015	ppb	1078.6	1050.08	0.0165	Pulse	0.1000	3
Cr	52	45	He	0.298	ppb	69.4	1820.19	0.0286	Pulse	0.1000	3
Mn	55	45	He	-0.198	ppb	N/A	1040.07	0.0164	Pulse	0.1000	3
Fe	57	45	He	6.353	ppb	10.9	346.68	0.0055	Pulse	0.1000	3
Co	59	115	He	0.063	ppb	18.8	256.68	0.0032	Pulse	0.1000	3
Ni	60	115	He	0.110	ppb	57.3	666.70	0.0083	Pulse	0.1000	3
Cu	63	115	He	0.183	ppb	74.4	1296.78	0.0162	Pulse	0.1000	3
Zn	66	115	He	-1.118	ppb	N/A	1406.78	0.0175	Pulse	0.1000	3
As	75	115	He	0.038	ppb	111.2	104.67	0.0013	Pulse	0.5000	3
Sr	88	115	He	0.002	ppb	978.5	76.67	0.0010	Pulse	0.1000	3
Mo	98	115	He	0.197	ppb	26.2	236.68	0.0030	Pulse	0.1000	3
Ag	107	115	He	-0.004	ppb	N/A	50.00	0.0006	Pulse	0.1000	3
Cd	111	115	He	0.013	ppb	2.1	6.00	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.256	ppb	26.9	1326.78	0.0166	Pulse	0.1000	3
Sb	121	72	He	0.248	ppb	22.3	300.02	0.0016	Pulse	0.1000	3
Ba	137	115	He	0.126	ppb	10.9	63.33	0.0008	Pulse	0.1000	3
Tl	205	209	He	0.372	ppb	12.3	1466.81	0.0116	Pulse	0.1000	3
Pb	208	209	He	-0.012	ppb	N/A	473.36	0.0037	Pulse	0.1000	3
U	238	209	He	0.027	ppb	47.3	140.01	0.0011	Pulse	0.1000	3

Quantitation Report

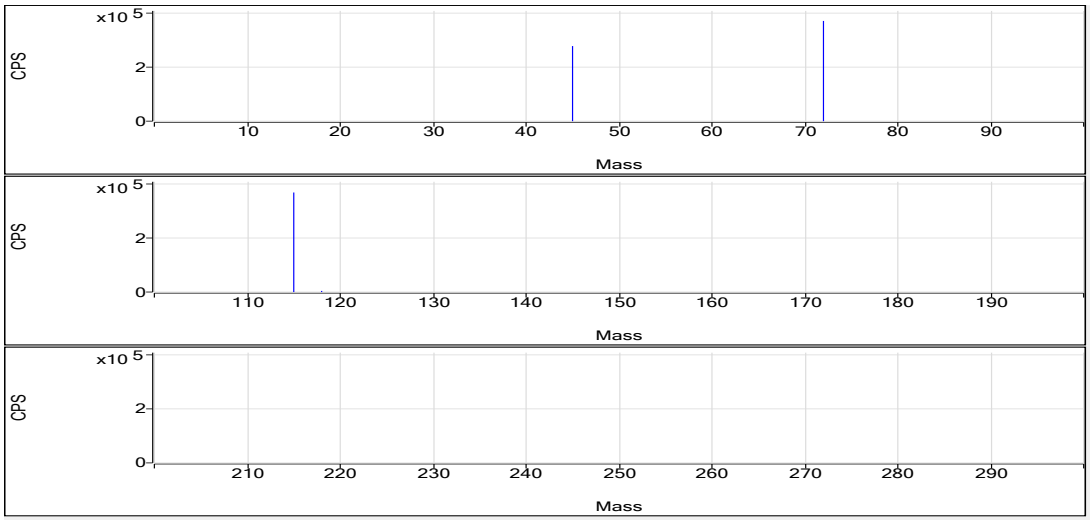
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1518967.53	0.4	101.6	Analog	0.1000	3
No Gas	Ge	72	1126335.87	0.6	101.2	Pulse	0.1000	3
H2	Sc	45	276885.90	1.7	93.5	Pulse	0.1000	3
H2	Ge	72	369547.27	1.1	94.8	Pulse	0.1000	3
H2	In	115	366991.87	1.0	97.7	Pulse	0.1000	3
He	Sc	45	63618.33	1.6	96.4	Pulse	0.1000	3
He	Ge	72	182242.28	0.7	97.0	Pulse	0.1000	3
He	In	115	80146.28	1.4	96.8	Pulse	0.1000	3
He	Tb	159	210077.94	0.5	99.9	Pulse	0.1000	3
He	Bi	209	126852.85	1.0	98.8	Pulse	0.1000	3

No Gas

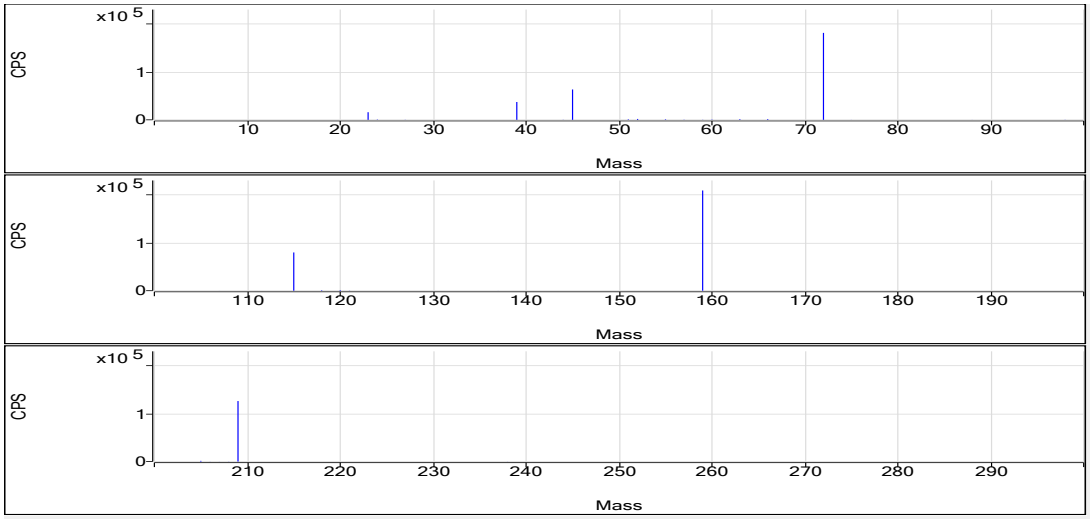


H2



Quantitation Report

He



Quantitation Report

Data File Name	133_CCV.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 2:51:42 PM
Sample Name	ccv 361008
Sample Type	CCV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

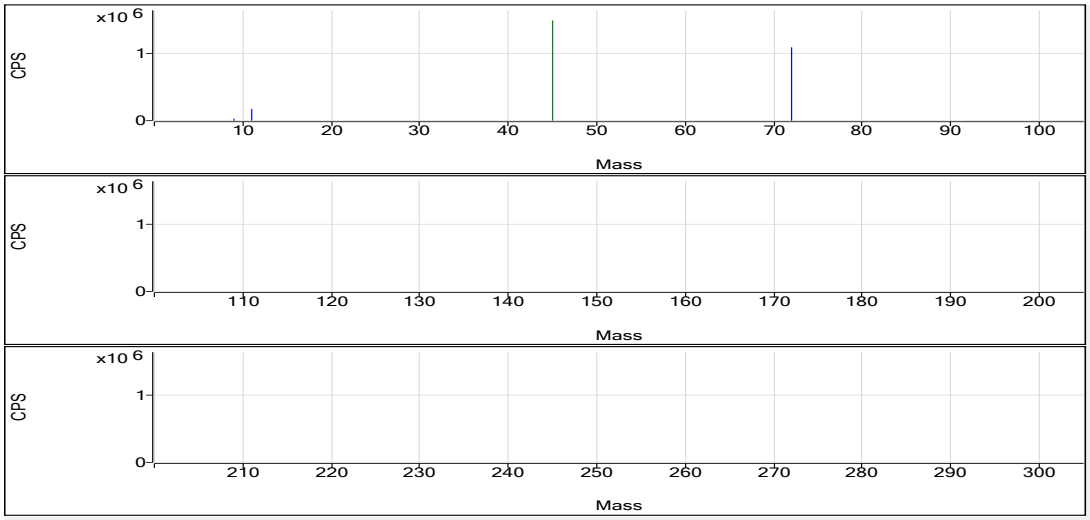
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	31.025	ppb	0.1	30090.58	0.0203	Pulse	0.5000	3
B	11	45	No Gas	307.135	ppb	1.0	172477.53	0.1163	Pulse	0.5000	3
Se	78	115	H2	29.134	ppb	1.3	2677.14	0.0069	Pulse	1.5000	3
Na	23	45	He	4805.181	ppb	0.6	872329.78	13.2256	Pulse	0.1000	3
Mg	24	45	He	5119.442	ppb	0.3	436898.07	6.6237	Pulse	0.1000	3
Al	27	45	He	5128.015	ppb	0.3	172185.51	2.6105	Pulse	0.1000	3
K	39	45	He	5071.293	ppb	0.3	538377.49	8.1623	Pulse	0.1000	3
Ca	44	45	He	5102.565	ppb	0.6	25412.66	0.3853	Pulse	0.1000	3
Ti	47	45	He	312.776	ppb	1.6	10220.53	0.1549	Pulse	0.1000	3
V	51	45	He	305.869	ppb	0.4	333836.82	5.0613	Pulse	0.1000	3
Cr	52	45	He	296.721	ppb	1.0	399134.46	6.0512	Pulse	0.1000	3
Mn	55	45	He	306.895	ppb	0.8	224313.49	3.4009	Pulse	0.1000	3
Fe	57	45	He	5097.025	ppb	0.4	133313.12	2.0212	Pulse	0.1000	3
Co	59	115	He	281.953	ppb	1.4	625945.34	7.4515	Pulse	0.1000	3
Ni	60	115	He	301.602	ppb	1.1	163315.97	1.9441	Pulse	0.1000	3
Cu	63	115	He	301.132	ppb	1.1	440905.88	5.2486	Pulse	0.1000	3
Zn	66	115	He	299.027	ppb	0.8	69966.18	0.8329	Pulse	0.1000	3
As	75	115	He	298.513	ppb	1.3	56933.59	0.6778	Pulse	0.5000	3
Sr	88	115	He	30.384	ppb	0.1	32938.84	0.3921	Pulse	0.1000	3
Mo	98	115	He	30.578	ppb	4.0	38553.54	0.4590	Pulse	0.1000	3
Ag	107	115	He	30.246	ppb	3.5	70828.40	0.8433	Pulse	0.1000	3
Cd	111	115	He	29.742	ppb	1.5	10032.28	0.1194	Pulse	0.5000	3
Sn	120	115	He	29.949	ppb	1.6	36278.02	0.4318	Pulse	0.1000	3
Sb	121	72	He	30.904	ppb	1.3	33678.16	0.1856	Pulse	0.1000	3
Ba	137	115	He	303.078	ppb	1.5	127396.84	1.5166	Pulse	0.1000	3
Tl	205	209	He	30.467	ppb	0.9	117025.36	0.8839	Pulse	0.1000	3
Pb	208	209	He	30.268	ppb	0.7	161338.57	1.2187	Pulse	0.1000	3
U	238	209	He	50.813	ppb	0.9	253549.64	1.9152	Pulse	0.1000	3

Quantitation Report

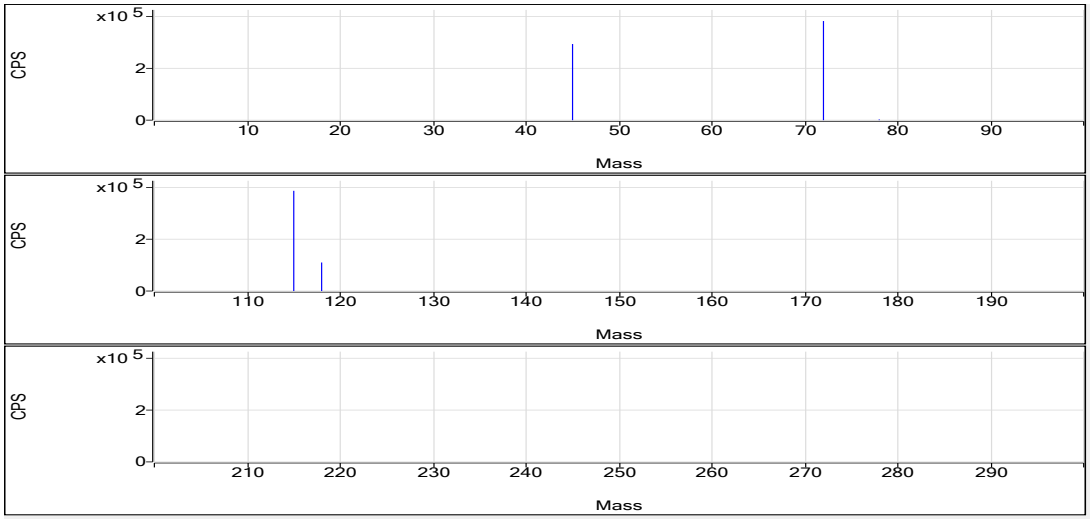
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1483107.06	0.8	99.2	Analog	0.1000	3
No Gas	Ge	72	1085349.36	1.3	97.5	Pulse	0.1000	3
H2	Sc	45	294275.54	0.8	99.3	Pulse	0.1000	3
H2	Ge	72	383143.04	1.5	98.3	Pulse	0.1000	3
H2	In	115	387388.67	1.1	103.2	Pulse	0.1000	3
He	Sc	45	65958.81	0.7	99.9	Pulse	0.1000	3
He	Ge	72	181441.45	0.9	96.6	Pulse	0.1000	3
He	In	115	84012.16	1.2	101.5	Pulse	0.1000	3
He	Tb	159	216875.92	0.9	103.1	Pulse	0.1000	3
He	Bi	209	132389.49	0.5	103.2	Pulse	0.1000	3

No Gas

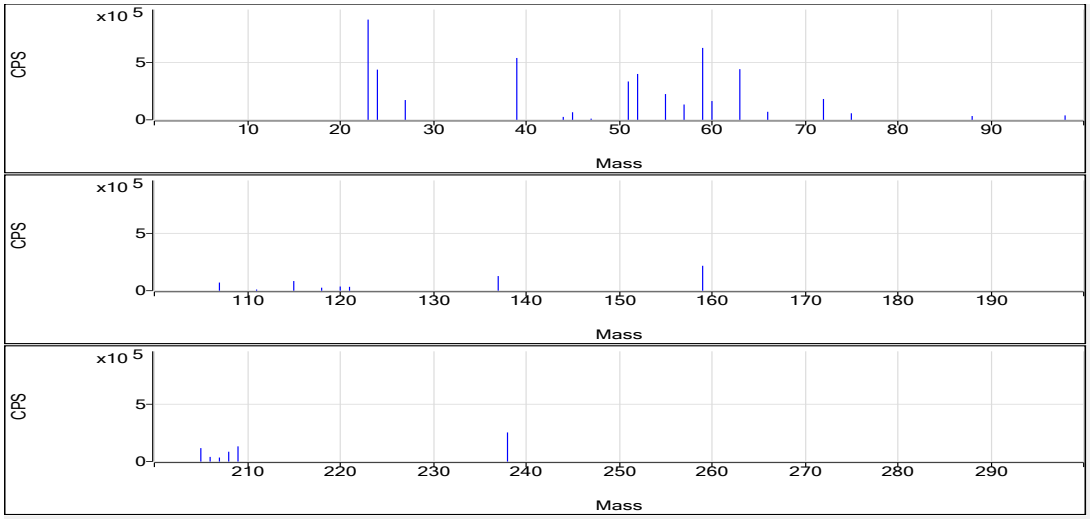


H2



Quantitation Report

He



Quantitation Report

Data File Name	134_CCB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 2:53:36 PM
Sample Name	ccb 360854
Sample Type	CCB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

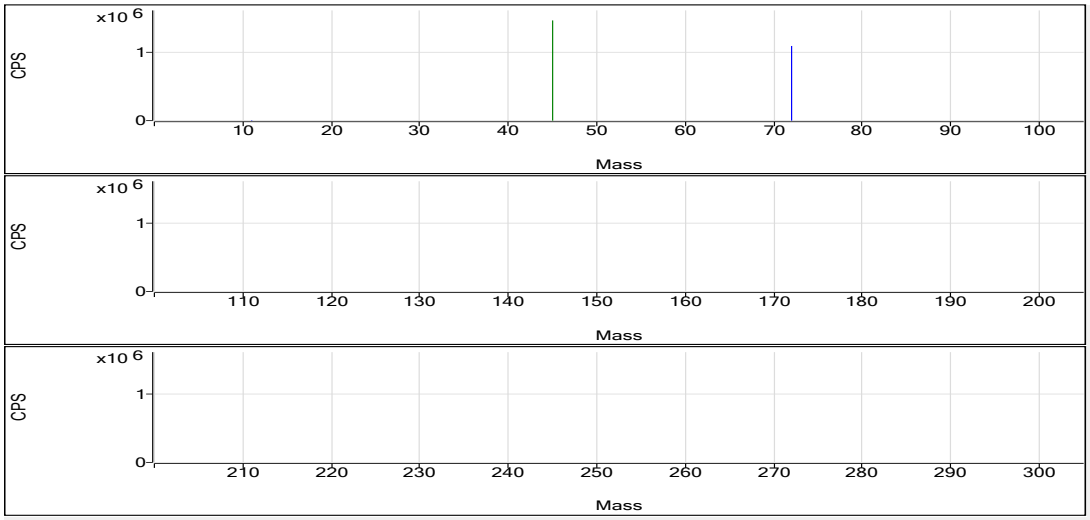
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.016	ppb	28.0	38.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	8.086	ppb	2.4	7037.02	0.0048	Pulse	0.5000	3
Se	78	115	H2	0.014	ppb	104.6	3.33	0.0000	Pulse	1.5000	3
Na	23	45	He	7.163	ppb	21.5	13906.83	0.2125	Pulse	0.1000	3
Mg	24	45	He	1.790	ppb	89.9	366.69	0.0056	Pulse	0.1000	3
Al	27	45	He	0.680	ppb	305.5	196.68	0.0030	Pulse	0.1000	3
K	39	45	He	2.500	ppb	1268.3	38213.62	0.5843	Pulse	0.1000	3
Ca	44	45	He	52.104	ppb	24.9	470.02	0.0072	Pulse	0.1000	3
Ti	47	45	He	0.104	ppb	173.2	3.33	0.0001	Pulse	0.1000	3
V	51	45	He	-0.123	ppb	N/A	933.40	0.0143	Pulse	0.1000	3
Cr	52	45	He	0.228	ppb	48.9	1783.51	0.0272	Pulse	0.1000	3
Mn	55	45	He	0.262	ppb	75.7	1403.45	0.0214	Pulse	0.1000	3
Fe	57	45	He	3.902	ppb	30.1	293.35	0.0045	Pulse	0.1000	3
Co	59	115	He	0.024	ppb	36.4	176.68	0.0022	Pulse	0.1000	3
Ni	60	115	He	0.145	ppb	2.6	696.71	0.0085	Pulse	0.1000	3
Cu	63	115	He	0.171	ppb	59.7	1300.11	0.0160	Pulse	0.1000	3
Zn	66	115	He	-0.536	ppb	N/A	1560.13	0.0191	Pulse	0.1000	3
As	75	115	He	0.040	ppb	203.5	106.67	0.0013	Pulse	0.5000	3
Sr	88	115	He	0.572	ppb	9.8	676.70	0.0083	Pulse	0.1000	3
Mo	98	115	He	0.057	ppb	47.7	70.00	0.0009	Pulse	0.1000	3
Ag	107	115	He	-0.023	ppb	N/A	6.67	0.0001	Pulse	0.1000	3
Cd	111	115	He	-0.002	ppb	N/A	1.33	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.152	ppb	45.9	1233.43	0.0151	Pulse	0.1000	3
Sb	121	72	He	0.146	ppb	19.9	193.34	0.0010	Pulse	0.1000	3
Ba	137	115	He	0.138	ppb	50.6	70.00	0.0009	Pulse	0.1000	3
Tl	205	209	He	0.166	ppb	22.7	743.38	0.0056	Pulse	0.1000	3
Pb	208	209	He	0.042	ppb	24.1	780.04	0.0059	Pulse	0.1000	3
U	238	209	He	0.017	ppb	35.4	96.67	0.0007	Pulse	0.1000	3

Quantitation Report

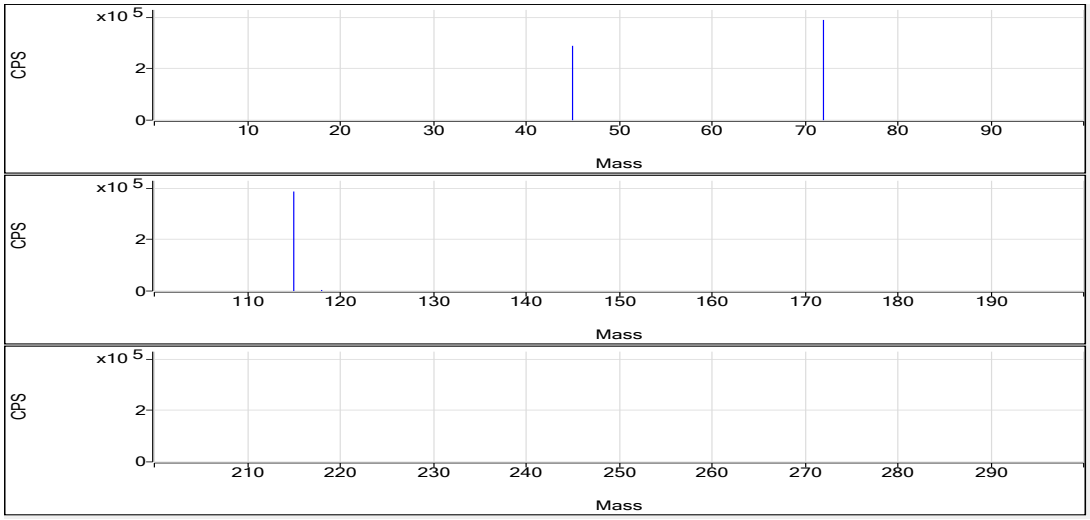
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1474518.26	0.2	98.6	Analog	0.1000	3
No Gas	Ge	72	1098529.99	0.8	98.7	Pulse	0.1000	3
H2	Sc	45	288941.79	2.0	97.5	Pulse	0.1000	3
H2	Ge	72	389550.88	0.9	100.0	Pulse	0.1000	3
H2	In	115	386790.57	1.2	103.0	Pulse	0.1000	3
He	Sc	45	65446.88	1.2	99.2	Pulse	0.1000	3
He	Ge	72	186615.73	1.4	99.4	Pulse	0.1000	3
He	In	115	81607.99	2.4	98.6	Pulse	0.1000	3
He	Tb	159	217310.34	1.3	103.3	Pulse	0.1000	3
He	Bi	209	132727.59	1.3	103.4	Pulse	0.1000	3

No Gas

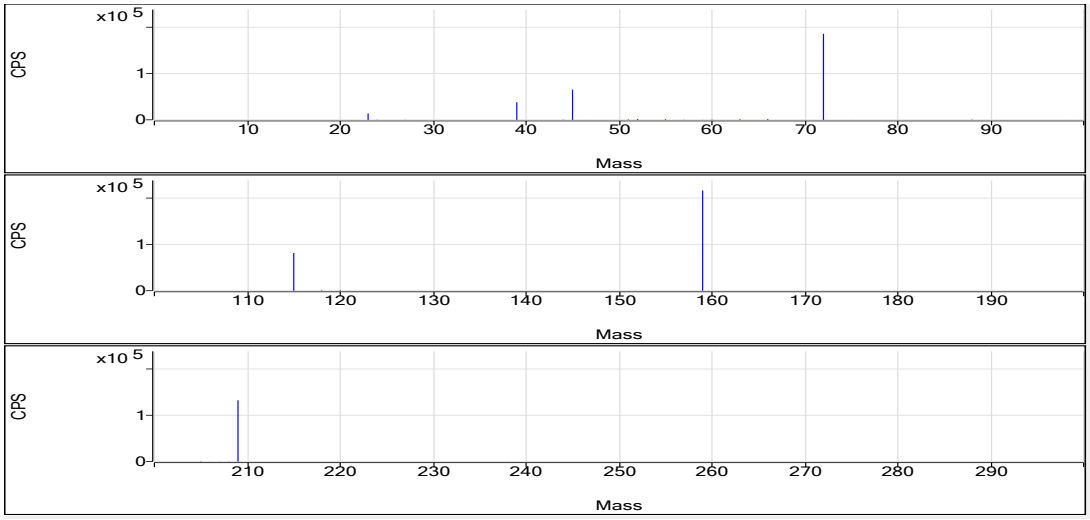


H2



Quantitation Report

He



Quantitation Report

Data File Name	135SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 2:55:29 PM
Sample Name	mb 410-36194/1-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

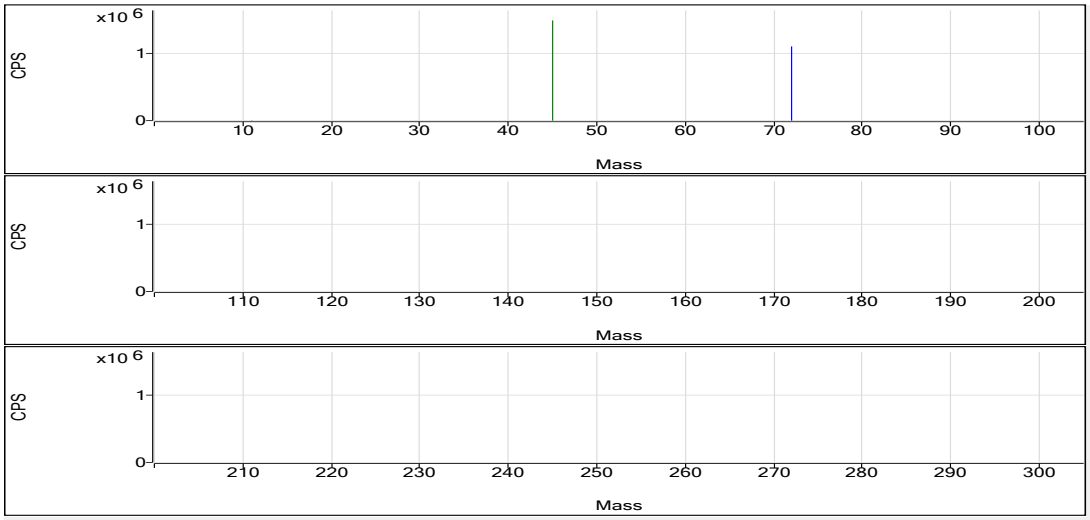
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	-0.002	ppb	N/A	22.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	2.064	ppb	6.5	3765.16	0.0025	Pulse	0.5000	3
Se	78	115	H2	-0.004	ppb	N/A	1.78	0.0000	Pulse	1.5000	3
Na	23	45	He	3.752	ppb	98.9	13786.78	0.2033	Pulse	0.1000	3
Mg	24	45	He	0.851	ppb	47.3	296.68	0.0044	Pulse	0.1000	3
Al	27	45	He	-0.016	ppb	N/A	180.01	0.0027	Pulse	0.1000	3
K	39	45	He	5.880	ppb	438.0	40012.00	0.5893	Pulse	0.1000	3
Ca	44	45	He	21.633	ppb	31.4	333.35	0.0049	Pulse	0.1000	3
Ti	47	45	He	0.200	ppb	86.6	6.67	0.0001	Pulse	0.1000	3
V	51	45	He	-0.423	ppb	N/A	633.37	0.0093	Pulse	0.1000	3
Cr	52	45	He	0.400	ppb	35.6	2086.89	0.0307	Pulse	0.1000	3
Mn	55	45	He	0.242	ppb	29.8	1440.13	0.0212	Pulse	0.1000	3
Fe	57	45	He	3.002	ppb	34.2	280.01	0.0041	Pulse	0.1000	3
Co	59	115	He	-0.015	ppb	N/A	96.67	0.0011	Pulse	0.1000	3
Ni	60	115	He	-0.069	ppb	N/A	610.03	0.0072	Pulse	0.1000	3
Cu	63	115	He	-0.003	ppb	N/A	1103.41	0.0129	Pulse	0.1000	3
Zn	66	115	He	-0.901	ppb	N/A	1546.80	0.0181	Pulse	0.1000	3
As	75	115	He	-0.251	ppb	N/A	55.33	0.0006	Pulse	0.5000	3
Sr	88	115	He	0.372	ppb	4.8	486.70	0.0057	Pulse	0.1000	3
Mo	98	115	He	0.086	ppb	60.7	110.00	0.0013	Pulse	0.1000	3
Ag	107	115	He	-0.010	ppb	N/A	36.67	0.0004	Pulse	0.1000	3
Cd	111	115	He	0.002	ppb	189.1	2.67	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.003	ppb	8094.0	1110.46	0.0130	Pulse	0.1000	3
Sb	121	72	He	0.053	ppb	29.0	90.00	0.0005	Pulse	0.1000	3
Ba	137	115	He	0.069	ppb	39.3	43.33	0.0005	Pulse	0.1000	3
Tl	205	209	He	0.185	ppb	16.2	823.39	0.0061	Pulse	0.1000	3
Pb	208	209	He	-0.011	ppb	N/A	503.35	0.0037	Pulse	0.1000	3
U	238	209	He	0.003	ppb	120.3	26.67	0.0002	Pulse	0.1000	3

Quantitation Report

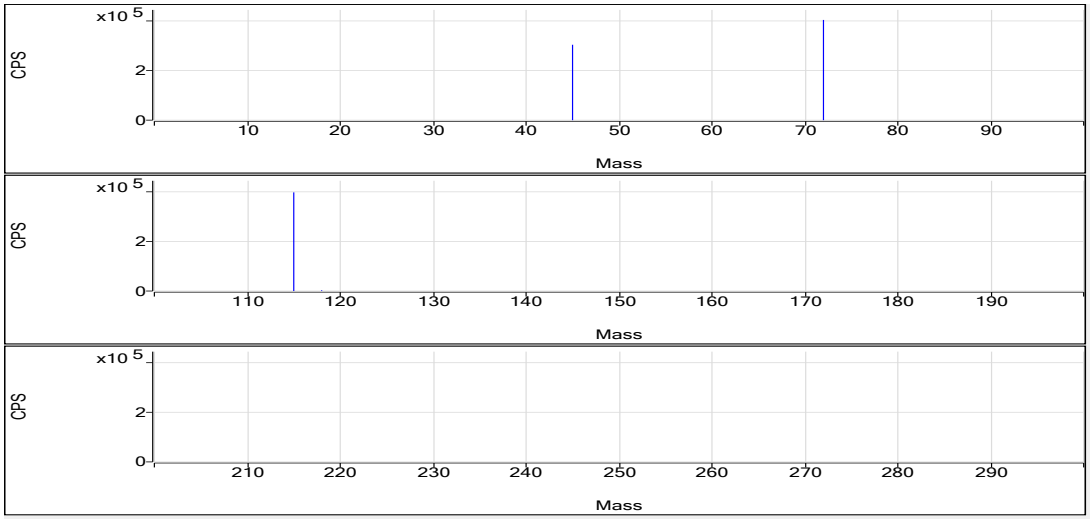
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1490127.74	1.3	99.7	Analog	0.1000	3
No Gas	Ge	72	1104216.08	0.8	99.2	Pulse	0.1000	3
H2	Sc	45	304218.00	0.7	102.7	Pulse	0.1000	3
H2	Ge	72	404334.11	1.3	103.8	Pulse	0.1000	3
H2	In	115	397963.10	0.8	106.0	Pulse	0.1000	3
He	Sc	45	67870.73	2.2	102.8	Pulse	0.1000	3
He	Ge	72	187627.53	0.5	99.9	Pulse	0.1000	3
He	In	115	85276.50	1.2	103.0	Pulse	0.1000	3
He	Tb	159	218975.18	0.3	104.1	Pulse	0.1000	3
He	Bi	209	134265.45	1.2	104.6	Pulse	0.1000	3

No Gas

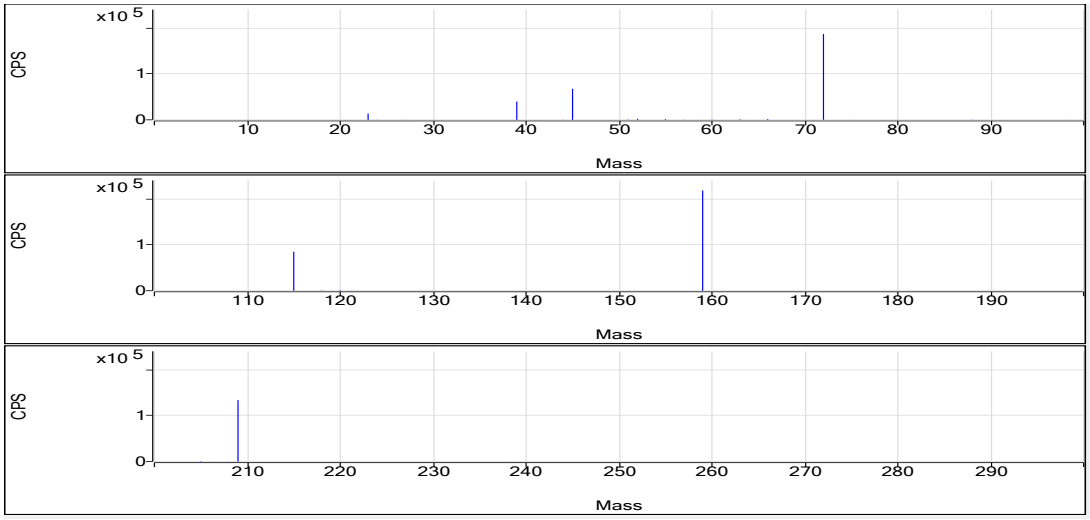


H2



Quantitation Report

He



Quantitation Report

Data File Name	136SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 2:57:21 PM
Sample Name	LCS 410-36194/2-A
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

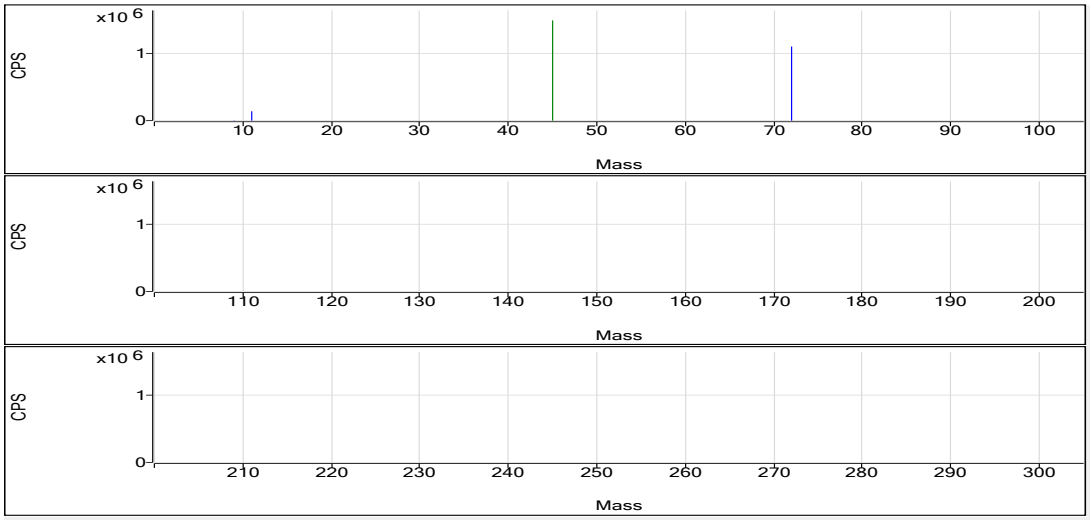
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	4.008	ppb	1.9	3923.87	0.0026	Pulse	0.5000	3
B	11	45	No Gas	244.939	ppb	2.1	138639.07	0.0931	Pulse	0.5000	3
Se	78	115	H2	9.572	ppb	1.3	913.36	0.0023	Pulse	1.5000	3
Na	23	45	He	9907.787	ppb	1.5	1867709.87	27.0648	Analog	0.1000	3
Mg	24	45	He	1994.556	ppb	1.3	178226.63	2.5826	Pulse	0.1000	3
Al	27	45	He	196.856	ppb	5.9	7088.63	0.1028	Pulse	0.1000	3
K	39	45	He	9768.578	ppb	0.9	1047943.63	15.1849	Pulse	0.1000	3
Ca	44	45	He	3912.283	ppb	1.8	20438.15	0.2962	Pulse	0.1000	3
Ti	47	45	He	240.307	ppb	2.1	8215.91	0.1190	Pulse	0.1000	3
V	51	45	He	47.945	ppb	0.7	55699.98	0.8071	Pulse	0.1000	3
Cr	52	45	He	46.765	ppb	1.5	67128.48	0.9728	Pulse	0.1000	3
Mn	55	45	He	48.995	ppb	1.6	38541.81	0.5585	Pulse	0.1000	3
Fe	57	45	He	285.783	ppb	7.1	8005.81	0.1161	Pulse	0.1000	3
Co	59	115	He	225.035	ppb	2.1	515341.95	5.9476	Pulse	0.1000	3
Ni	60	115	He	49.518	ppb	1.8	28211.36	0.3255	Pulse	0.1000	3
Cu	63	115	He	48.830	ppb	1.5	74702.79	0.8620	Pulse	0.1000	3
Zn	66	115	He	483.111	ppb	2.1	115491.80	1.3329	Pulse	0.1000	3
As	75	115	He	9.395	ppb	5.9	1950.14	0.0225	Pulse	0.5000	3
Sr	88	115	He	38.890	ppb	0.5	43470.42	0.5016	Pulse	0.1000	3
Mo	98	115	He	47.609	ppb	2.2	61922.59	0.7147	Pulse	0.1000	3
Ag	107	115	He	47.307	ppb	1.1	114261.99	1.3185	Pulse	0.1000	3
Cd	111	115	He	4.758	ppb	3.8	1656.78	0.0191	Pulse	0.5000	3
Sn	120	115	He	47.007	ppb	1.0	58105.15	0.6704	Pulse	0.1000	3
Sb	121	72	He	4.776	ppb	1.1	5487.93	0.0288	Pulse	0.1000	3
Ba	137	115	He	47.226	ppb	2.0	20489.12	0.2365	Pulse	0.1000	3
Tl	205	209	He	2.040	ppb	4.2	8082.76	0.0599	Pulse	0.1000	3
Pb	208	209	He	4.731	ppb	2.6	26177.83	0.1941	Pulse	0.1000	3
U	238	209	He	0.003	ppb	198.9	26.67	0.0002	Pulse	0.1000	3

Quantitation Report

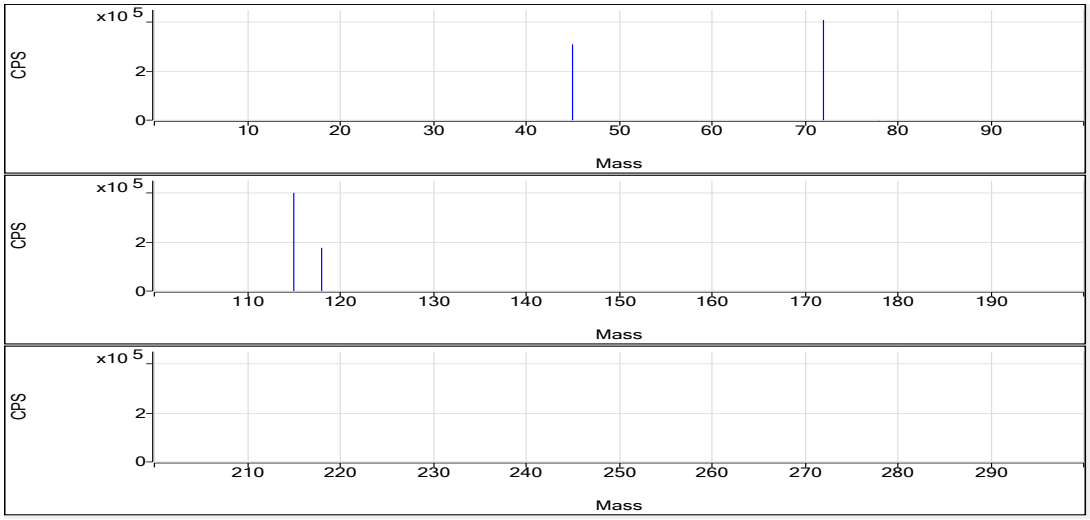
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1489047.01	0.2	99.6	Analog	0.1000	3
No Gas	Ge	72	1100595.38	0.5	98.9	Pulse	0.1000	3
H2	Sc	45	310356.65	0.9	104.8	Pulse	0.1000	3
H2	Ge	72	410073.00	0.7	105.2	Pulse	0.1000	3
H2	In	115	401619.00	0.8	107.0	Pulse	0.1000	3
He	Sc	45	69019.64	1.9	104.6	Pulse	0.1000	3
He	Ge	72	190431.86	1.0	101.4	Pulse	0.1000	3
He	In	115	86667.93	1.8	104.7	Pulse	0.1000	3
He	Tb	159	218704.67	0.6	104.0	Pulse	0.1000	3
He	Bi	209	134894.45	1.0	105.1	Pulse	0.1000	3

No Gas

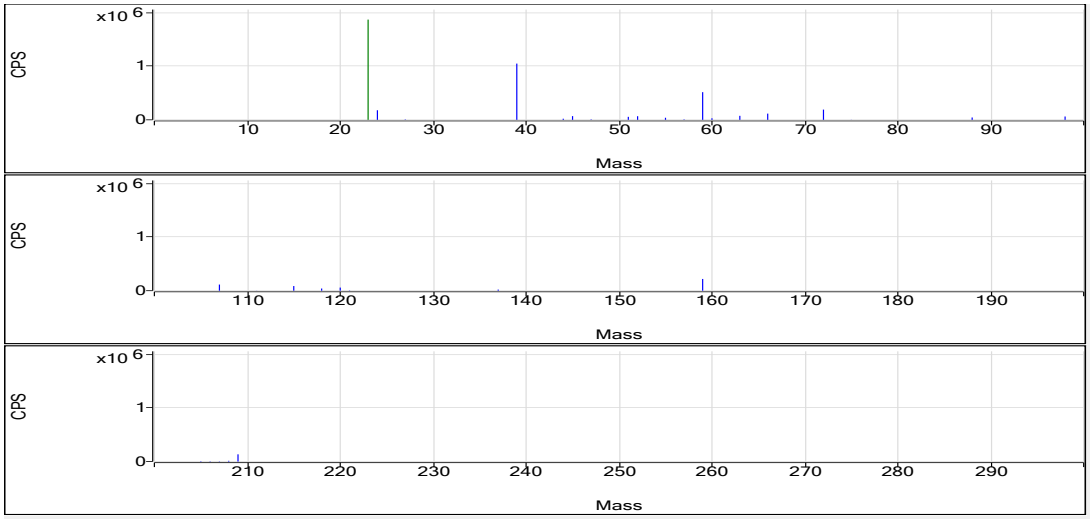


H2



Quantitation Report

He



Quantitation Report

Data File Name	137SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 2:59:13 PM
Sample Name	410-11198-h-20-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

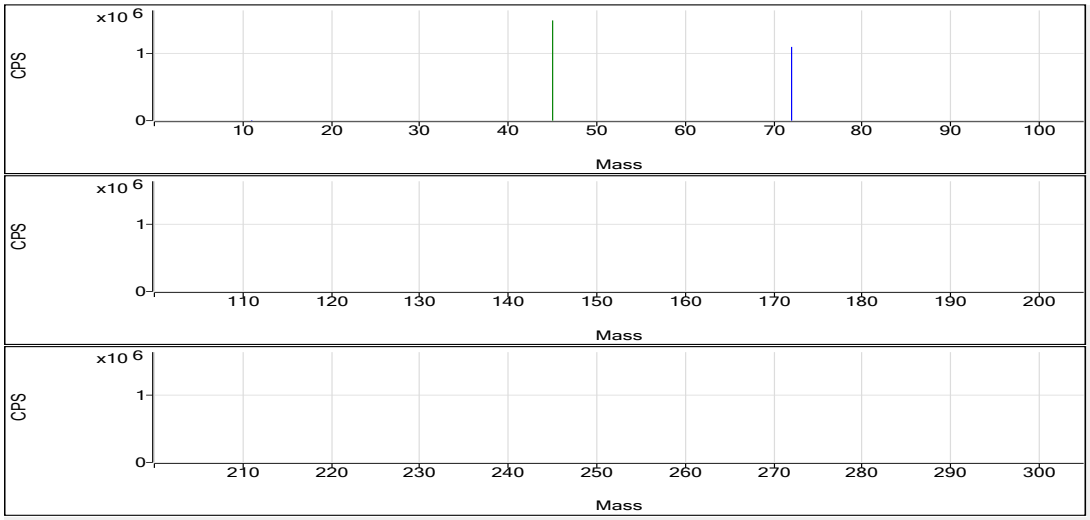
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	-0.004	ppb	N/A	20.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	9.653	ppb	3.8	7969.48	0.0054	Pulse	0.5000	3
Se	78	115	H2	0.006	ppb	316.0	2.67	0.0000	Pulse	1.5000	3
Na	23	45	He	519.778	ppb	0.8	110151.95	1.6028	Pulse	0.1000	3
Mg	24	45	He	43.385	ppb	4.1	4080.69	0.0594	Pulse	0.1000	3
Al	27	45	He	44.823	ppb	6.4	1750.16	0.0255	Pulse	0.1000	3
K	39	45	He	27.036	ppb	97.2	42672.72	0.6209	Pulse	0.1000	3
Ca	44	45	He	548.917	ppb	7.8	3050.41	0.0444	Pulse	0.1000	3
Ti	47	45	He	2.446	ppb	48.3	83.33	0.0012	Pulse	0.1000	3
V	51	45	He	-0.279	ppb	N/A	803.38	0.0117	Pulse	0.1000	3
Cr	52	45	He	0.512	ppb	20.9	2266.91	0.0330	Pulse	0.1000	3
Mn	55	45	He	1.808	ppb	3.7	2643.66	0.0385	Pulse	0.1000	3
Fe	57	45	He	29.339	ppb	13.8	1000.07	0.0146	Pulse	0.1000	3
Co	59	115	He	0.007	ppb	146.2	146.67	0.0017	Pulse	0.1000	3
Ni	60	115	He	-0.001	ppb	N/A	650.03	0.0076	Pulse	0.1000	3
Cu	63	115	He	0.336	ppb	10.2	1610.14	0.0188	Pulse	0.1000	3
Zn	66	115	He	-0.097	ppb	N/A	1736.84	0.0203	Pulse	0.1000	3
As	75	115	He	-0.170	ppb	N/A	71.33	0.0008	Pulse	0.5000	3
Sr	88	115	He	1.231	ppb	9.1	1433.46	0.0168	Pulse	0.1000	3
Mo	98	115	He	0.182	ppb	36.1	233.35	0.0027	Pulse	0.1000	3
Ag	107	115	He	0.008	ppb	239.6	80.00	0.0009	Pulse	0.1000	3
Cd	111	115	He	0.000	ppb	N/A	2.00	0.0000	Pulse	0.5000	3
Sn	120	115	He	3.339	ppb	3.8	5101.13	0.0597	Pulse	0.1000	3
Sb	121	72	He	0.107	ppb	31.0	153.34	0.0008	Pulse	0.1000	3
Ba	137	115	He	0.981	ppb	21.6	433.36	0.0051	Pulse	0.1000	3
Tl	205	209	He	0.030	ppb	30.9	223.34	0.0017	Pulse	0.1000	3
Pb	208	209	He	0.120	ppb	12.7	1216.74	0.0090	Pulse	0.1000	3
U	238	209	He	0.005	ppb	102.8	40.00	0.0003	Pulse	0.1000	3

Quantitation Report

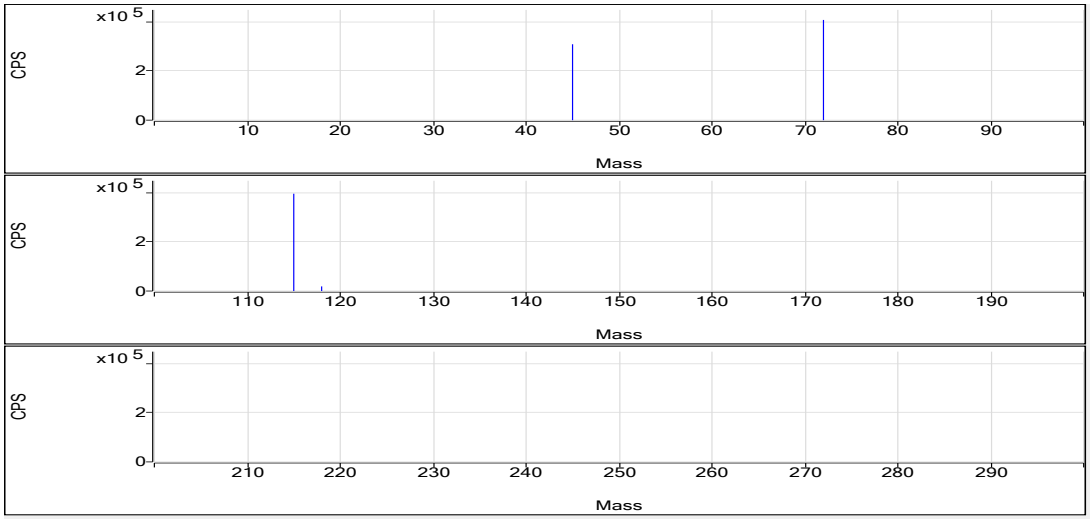
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1487853.99	0.6	99.5	Analog	0.1000	3
No Gas	Ge	72	1094732.56	0.7	98.4	Pulse	0.1000	3
H2	Sc	45	307927.14	0.8	103.9	Pulse	0.1000	3
H2	Ge	72	406578.94	1.0	104.3	Pulse	0.1000	3
H2	In	115	394732.69	0.8	105.1	Pulse	0.1000	3
He	Sc	45	68724.75	0.5	104.1	Pulse	0.1000	3
He	Ge	72	191218.75	0.3	101.8	Pulse	0.1000	3
He	In	115	85480.55	0.5	103.3	Pulse	0.1000	3
He	Tb	159	217952.14	1.3	103.7	Pulse	0.1000	3
He	Bi	209	134763.12	1.0	105.0	Pulse	0.1000	3

No Gas

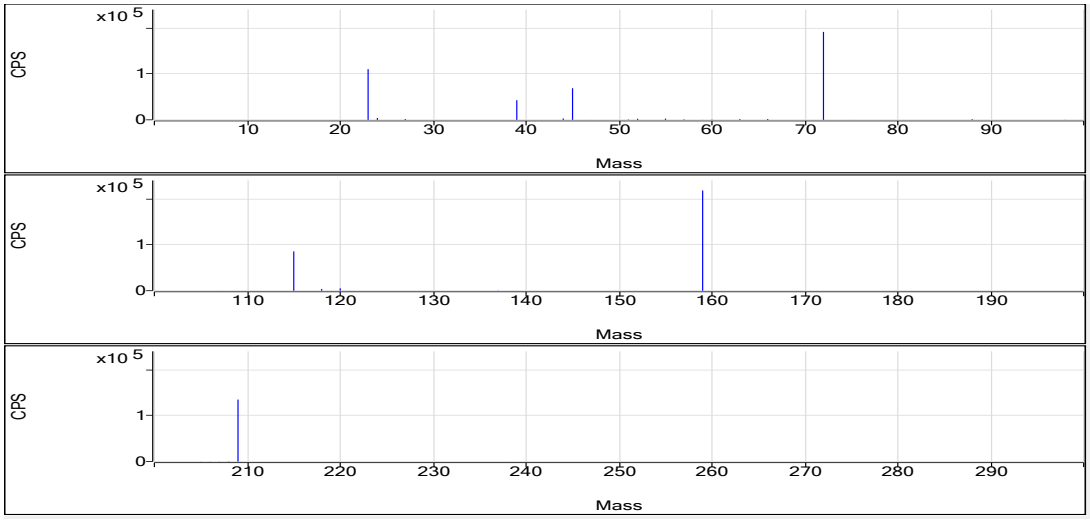


H2



Quantitation Report

He



Quantitation Report

Data File Name	138SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:01:05 PM
Sample Name	410-11198-h-20-a PDS
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

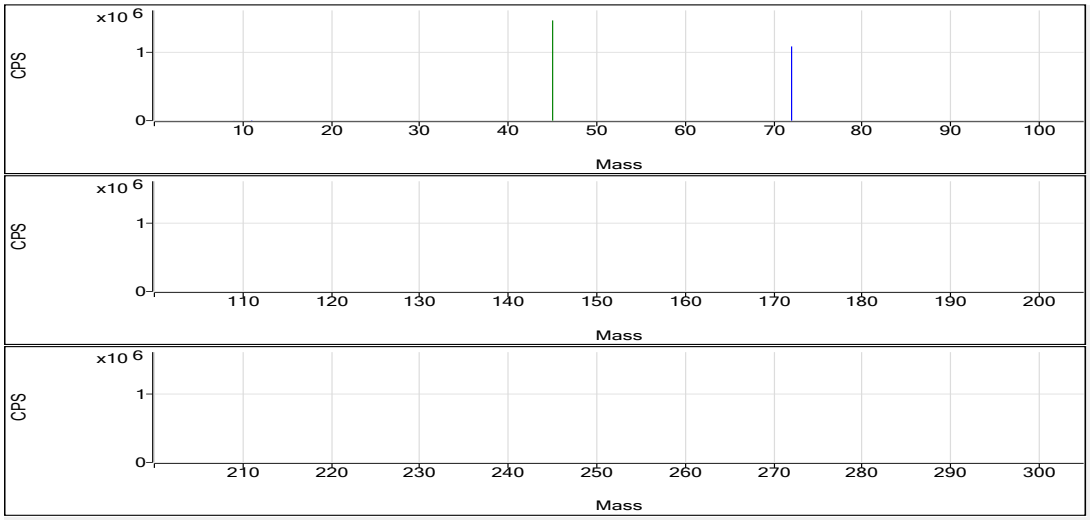
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	1.034	ppb	4.5	1018.71	0.0007	Pulse	0.5000	3
B	11	45	No Gas	4.654	ppb	1.3	5141.58	0.0035	Pulse	0.5000	3
Se	78	115	H2	1.717	ppb	6.7	164.00	0.0004	Pulse	1.5000	3
Na	23	45	He	877.148	ppb	1.9	178248.61	2.5721	Pulse	0.1000	3
Mg	24	45	He	138.099	ppb	4.5	12602.38	0.1819	Pulse	0.1000	3
Al	27	45	He	100.889	ppb	7.0	3740.60	0.0540	Pulse	0.1000	3
K	39	45	He	410.535	ppb	7.1	82775.88	1.1943	Pulse	0.1000	3
Ca	44	45	He	774.516	ppb	5.7	4247.43	0.0613	Pulse	0.1000	3
Ti	47	45	He	22.334	ppb	2.7	766.71	0.0111	Pulse	0.1000	3
V	51	45	He	0.643	ppb	10.1	1863.52	0.0269	Pulse	0.1000	3
Cr	52	45	He	2.361	ppb	3.0	4890.99	0.0706	Pulse	0.1000	3
Mn	55	45	He	5.731	ppb	8.6	5664.60	0.0817	Pulse	0.1000	3
Fe	57	45	He	131.587	ppb	3.9	3813.96	0.0550	Pulse	0.1000	3
Co	59	115	He	0.938	ppb	2.0	2240.24	0.0263	Pulse	0.1000	3
Ni	60	115	He	2.170	ppb	16.8	1833.51	0.0215	Pulse	0.1000	3
Cu	63	115	He	2.366	ppb	12.1	4604.25	0.0541	Pulse	0.1000	3
Zn	66	115	He	20.936	ppb	1.6	6591.75	0.0775	Pulse	0.1000	3
As	75	115	He	3.598	ppb	5.8	798.03	0.0094	Pulse	0.5000	3
Sr	88	115	He	3.316	ppb	7.4	3713.93	0.0436	Pulse	0.1000	3
Mo	98	115	He	1.083	ppb	4.4	1383.45	0.0163	Pulse	0.1000	3
Ag	107	115	He	0.923	ppb	3.9	2250.27	0.0264	Pulse	0.1000	3
Cd	111	115	He	0.991	ppb	2.0	340.68	0.0040	Pulse	0.5000	3
Sn	120	115	He	7.068	ppb	6.6	9513.58	0.1118	Pulse	0.1000	3
Sb	121	72	He	2.246	ppb	5.7	2583.66	0.0136	Pulse	0.1000	3
Ba	137	115	He	4.938	ppb	4.7	2116.90	0.0249	Pulse	0.1000	3
Tl	205	209	He	1.011	ppb	5.9	4030.74	0.0301	Pulse	0.1000	3
Pb	208	209	He	1.073	ppb	1.0	6334.17	0.0473	Pulse	0.1000	3
U	238	209	He	1.927	ppb	2.8	9747.44	0.0727	Pulse	0.1000	3

Quantitation Report

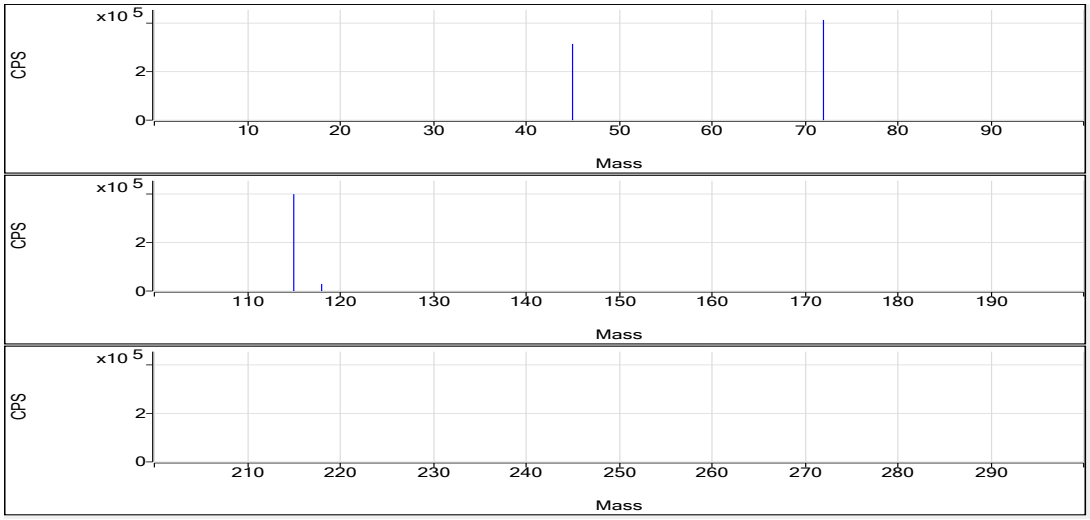
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1472216.49	1.0	98.5	Analog	0.1000	3
No Gas	Ge	72	1089972.95	0.2	97.9	Pulse	0.1000	3
H2	Sc	45	313330.84	0.4	105.8	Pulse	0.1000	3
H2	Ge	72	411630.03	0.3	105.6	Pulse	0.1000	3
H2	In	115	397758.12	0.8	105.9	Pulse	0.1000	3
He	Sc	45	69307.60	0.9	105.0	Pulse	0.1000	3
He	Ge	72	189433.78	0.6	100.9	Pulse	0.1000	3
He	In	115	85112.03	1.2	102.8	Pulse	0.1000	3
He	Tb	159	216438.53	0.4	102.9	Pulse	0.1000	3
He	Bi	209	133989.50	0.4	104.4	Pulse	0.1000	3

No Gas

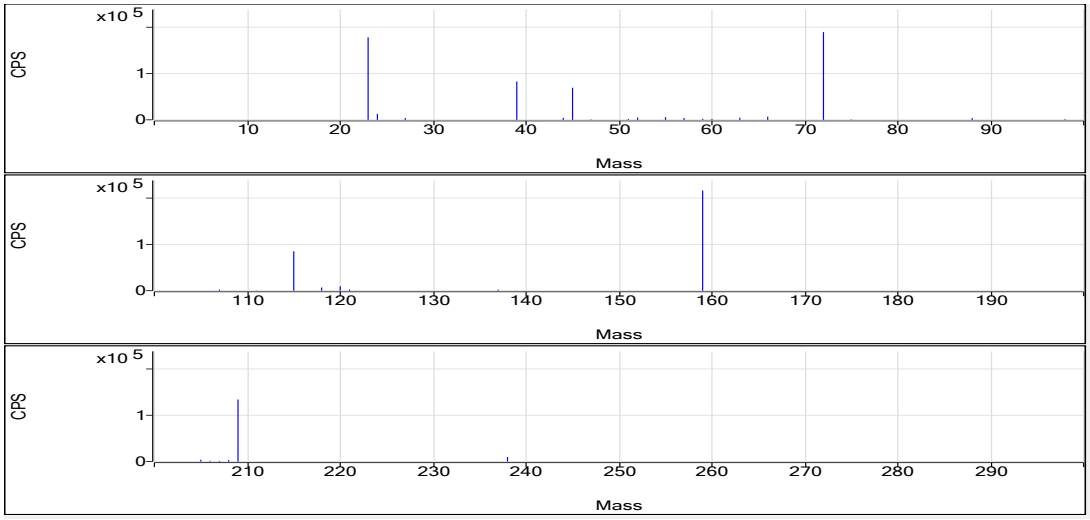


H2



Quantitation Report

He



Quantitation Report

Data File Name	139SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:02:58 PM
Sample Name	410-11198-H-20-B DU
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

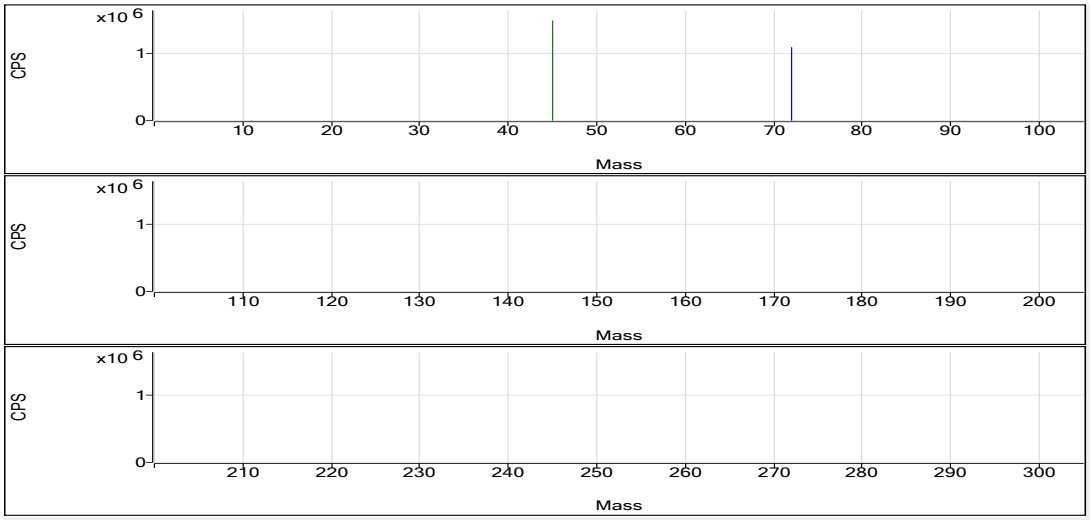
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	-0.003	ppb	N/A	20.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	1.903	ppb	9.5	3667.80	0.0025	Pulse	0.5000	3
Se	78	115	H2	-0.008	ppb	N/A	1.33	0.0000	Pulse	1.5000	3
Na	23	45	He	457.086	ppb	2.9	99299.85	1.4328	Pulse	0.1000	3
Mg	24	45	He	31.068	ppb	9.7	3013.75	0.0435	Pulse	0.1000	3
Al	27	45	He	47.081	ppb	13.2	1843.52	0.0266	Pulse	0.1000	3
K	39	45	He	23.949	ppb	85.9	42732.91	0.6163	Pulse	0.1000	3
Ca	44	45	He	497.888	ppb	4.5	2810.37	0.0406	Pulse	0.1000	3
Ti	47	45	He	1.551	ppb	53.9	53.33	0.0008	Pulse	0.1000	3
V	51	45	He	-0.337	ppb	N/A	743.38	0.0107	Pulse	0.1000	3
Cr	52	45	He	0.595	ppb	26.7	2403.62	0.0347	Pulse	0.1000	3
Mn	55	45	He	1.541	ppb	17.3	2463.63	0.0355	Pulse	0.1000	3
Fe	57	45	He	33.791	ppb	10.7	1130.08	0.0163	Pulse	0.1000	3
Co	59	115	He	-0.003	ppb	N/A	123.34	0.0014	Pulse	0.1000	3
Ni	60	115	He	0.053	ppb	549.6	673.38	0.0079	Pulse	0.1000	3
Cu	63	115	He	0.314	ppb	20.7	1566.80	0.0185	Pulse	0.1000	3
Zn	66	115	He	0.151	ppb	401.8	1783.50	0.0210	Pulse	0.1000	3
As	75	115	He	-0.277	ppb	N/A	50.00	0.0006	Pulse	0.5000	3
Sr	88	115	He	1.115	ppb	4.2	1296.78	0.0153	Pulse	0.1000	3
Mo	98	115	He	0.115	ppb	26.8	146.67	0.0017	Pulse	0.1000	3
Ag	107	115	He	-0.004	ppb	N/A	53.33	0.0006	Pulse	0.1000	3
Cd	111	115	He	0.006	ppb	103.8	4.00	0.0000	Pulse	0.5000	3
Sn	120	115	He	3.410	ppb	4.5	5151.16	0.0607	Pulse	0.1000	3
Sb	121	72	He	0.061	ppb	80.6	100.00	0.0005	Pulse	0.1000	3
Ba	137	115	He	0.964	ppb	14.0	423.36	0.0050	Pulse	0.1000	3
Tl	205	209	He	0.015	ppb	8.3	163.34	0.0012	Pulse	0.1000	3
Pb	208	209	He	0.098	ppb	15.8	1096.74	0.0081	Pulse	0.1000	3
U	238	209	He	-0.001	ppb	N/A	10.00	0.0001	Pulse	0.1000	3

Quantitation Report

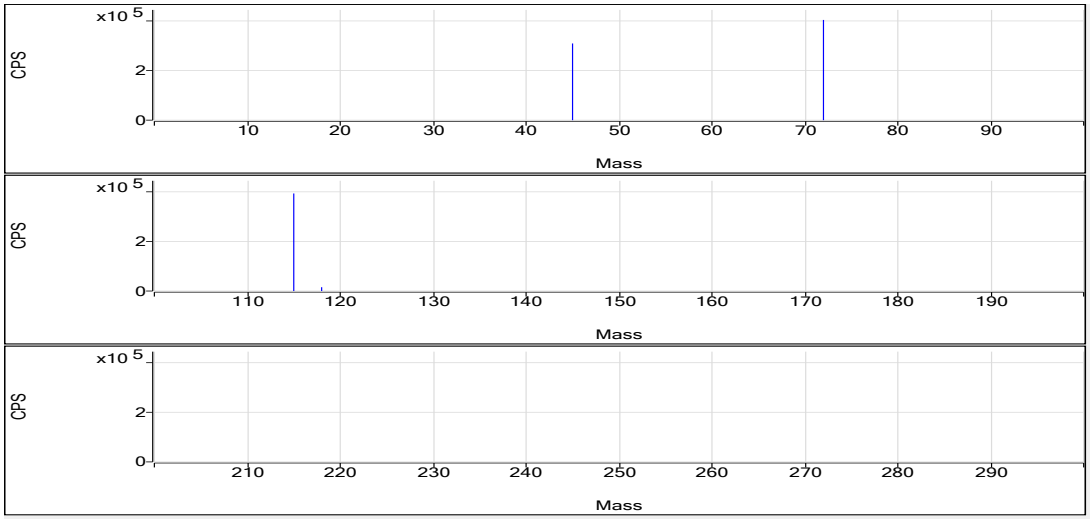
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1487566.90	1.6	99.5	Analog	0.1000	3
No Gas	Ge	72	1089043.16	0.6	97.9	Pulse	0.1000	3
H2	Sc	45	309428.55	1.6	104.4	Pulse	0.1000	3
H2	Ge	72	404327.39	1.3	103.8	Pulse	0.1000	3
H2	In	115	393601.04	0.3	104.8	Pulse	0.1000	3
He	Sc	45	69311.17	1.2	105.0	Pulse	0.1000	3
He	Ge	72	190852.35	0.7	101.6	Pulse	0.1000	3
He	In	115	84930.50	1.4	102.6	Pulse	0.1000	3
He	Tb	159	217811.92	0.7	103.6	Pulse	0.1000	3
He	Bi	209	134935.13	0.6	105.1	Pulse	0.1000	3

No Gas

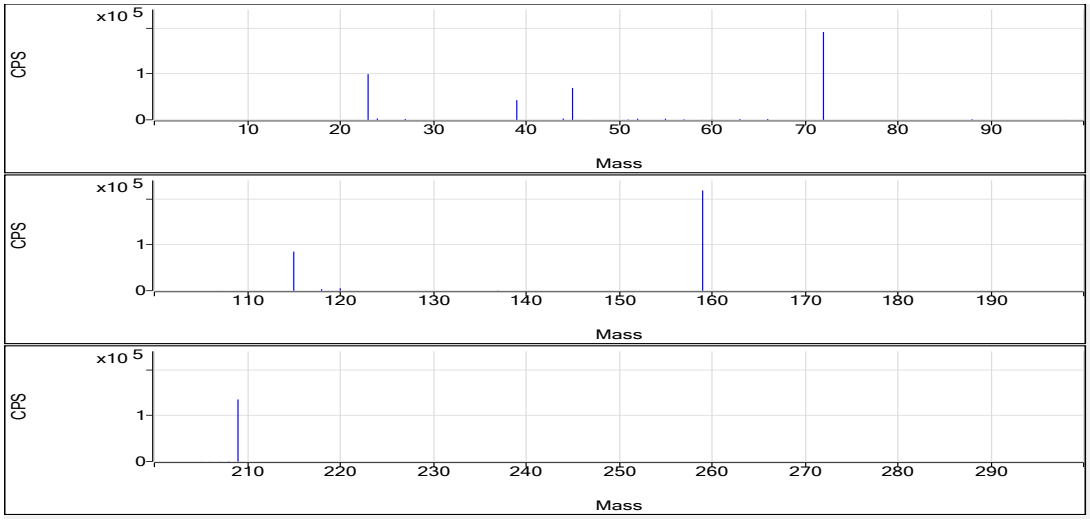


H2



Quantitation Report

He



Quantitation Report

Data File Name	140SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:04:50 PM
Sample Name	410-11198-H-20-C MS
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

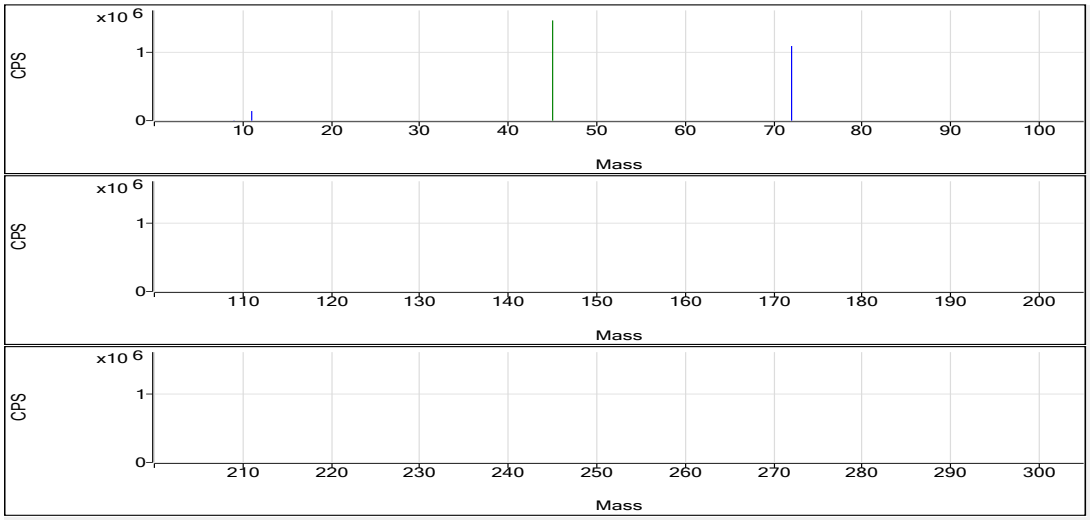
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	4.157	ppb	2.0	3992.55	0.0027	Pulse	0.5000	3
B	11	45	No Gas	251.769	ppb	1.8	139770.75	0.0957	Pulse	0.5000	3
Se	78	115	H2	9.338	ppb	2.5	894.47	0.0022	Pulse	1.5000	3
Na	23	45	He	10482.421	ppb	2.3	1962656.12	28.6233	Analog	0.1000	3
Mg	24	45	He	2041.434	ppb	1.7	181248.27	2.6433	Pulse	0.1000	3
Al	27	45	He	251.477	ppb	3.4	8956.37	0.1306	Pulse	0.1000	3
K	39	45	He	9952.322	ppb	2.5	1059958.06	15.4596	Pulse	0.1000	3
Ca	44	45	He	4430.752	ppb	2.0	22968.53	0.3350	Pulse	0.1000	3
Ti	47	45	He	249.828	ppb	2.1	8486.04	0.1238	Pulse	0.1000	3
V	51	45	He	47.861	ppb	1.5	55251.88	0.8057	Pulse	0.1000	3
Cr	52	45	He	47.679	ppb	1.7	67975.36	0.9913	Pulse	0.1000	3
Mn	55	45	He	51.419	ppb	2.6	40126.16	0.5852	Pulse	0.1000	3
Fe	57	45	He	331.486	ppb	3.6	9199.86	0.1342	Pulse	0.1000	3
Co	59	115	He	226.916	ppb	0.8	518996.61	5.9973	Pulse	0.1000	3
Ni	60	115	He	48.267	ppb	0.9	27476.61	0.3175	Pulse	0.1000	3
Cu	63	115	He	49.470	ppb	2.0	75550.47	0.8731	Pulse	0.1000	3
Zn	66	115	He	489.711	ppb	1.9	116889.29	1.3508	Pulse	0.1000	3
As	75	115	He	9.404	ppb	5.2	1949.48	0.0225	Pulse	0.5000	3
Sr	88	115	He	39.442	ppb	2.1	44018.79	0.5087	Pulse	0.1000	3
Mo	98	115	He	47.817	ppb	0.9	62113.33	0.7178	Pulse	0.1000	3
Ag	107	115	He	47.642	ppb	0.9	114906.49	1.3279	Pulse	0.1000	3
Cd	111	115	He	4.884	ppb	1.7	1698.78	0.0196	Pulse	0.5000	3
Sn	120	115	He	51.079	ppb	1.6	62939.29	0.7273	Pulse	0.1000	3
Sb	121	72	He	5.009	ppb	1.8	5824.75	0.0302	Pulse	0.1000	3
Ba	137	115	He	46.923	ppb	2.4	20328.97	0.2349	Pulse	0.1000	3
Tl	205	209	He	1.897	ppb	2.9	7502.40	0.0558	Pulse	0.1000	3
Pb	208	209	He	4.870	ppb	3.4	26841.57	0.1996	Pulse	0.1000	3
U	238	209	He	0.004	ppb	67.1	36.67	0.0003	Pulse	0.1000	3

Quantitation Report

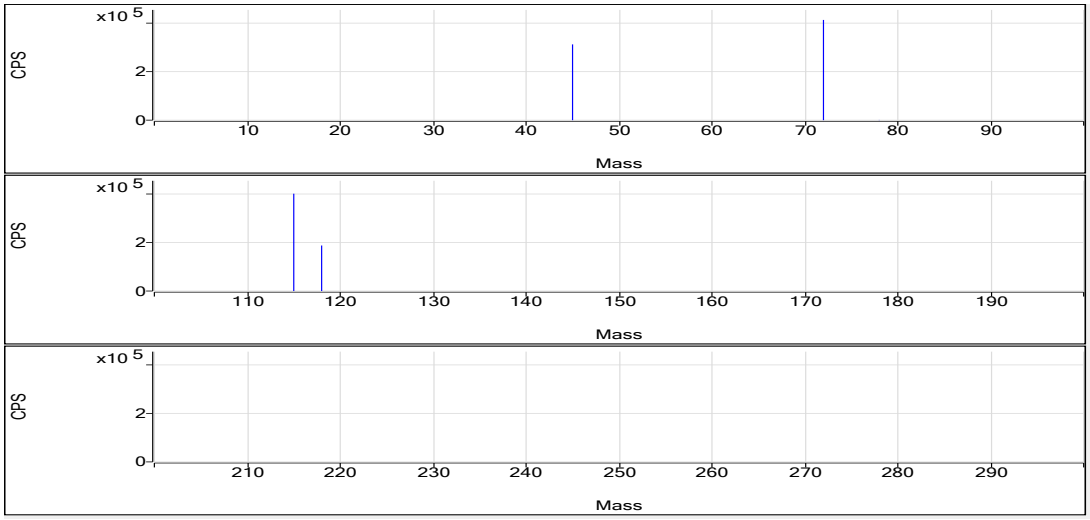
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1461459.35	1.2	97.7	Analog	0.1000	3
No Gas	Ge	72	1088102.38	0.9	97.8	Pulse	0.1000	3
H2	Sc	45	313886.88	0.5	105.9	Pulse	0.1000	3
H2	Ge	72	415156.22	0.8	106.5	Pulse	0.1000	3
H2	In	115	403184.17	0.7	107.4	Pulse	0.1000	3
He	Sc	45	68584.25	1.9	103.9	Pulse	0.1000	3
He	Ge	72	192772.75	0.3	102.6	Pulse	0.1000	3
He	In	115	86537.40	0.5	104.6	Pulse	0.1000	3
He	Tb	159	218764.64	0.6	104.0	Pulse	0.1000	3
He	Bi	209	134480.64	0.7	104.8	Pulse	0.1000	3

No Gas

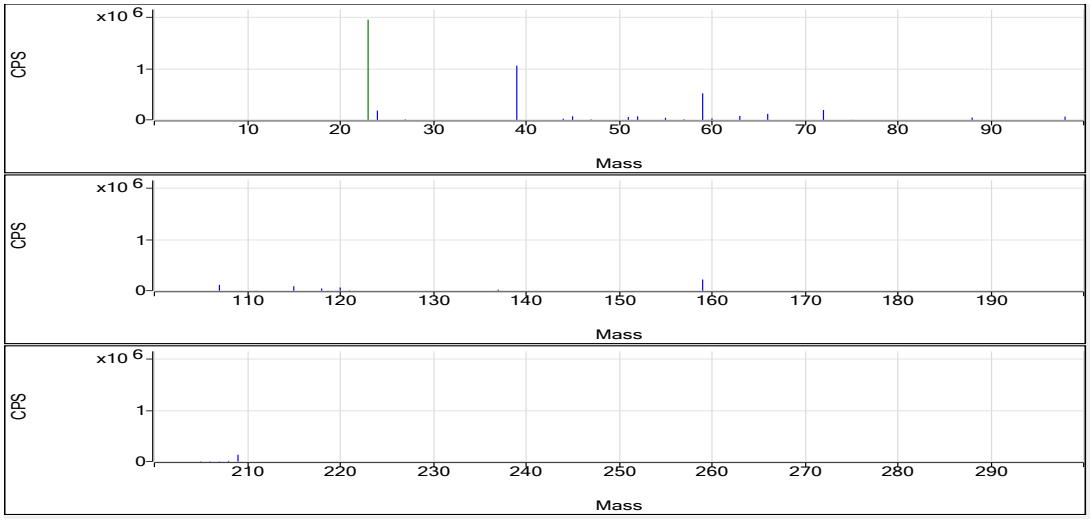


H2



Quantitation Report

He



Quantitation Report

Data File Name	141SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:06:43 PM
Sample Name	410-11198-H-20-D MSD
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

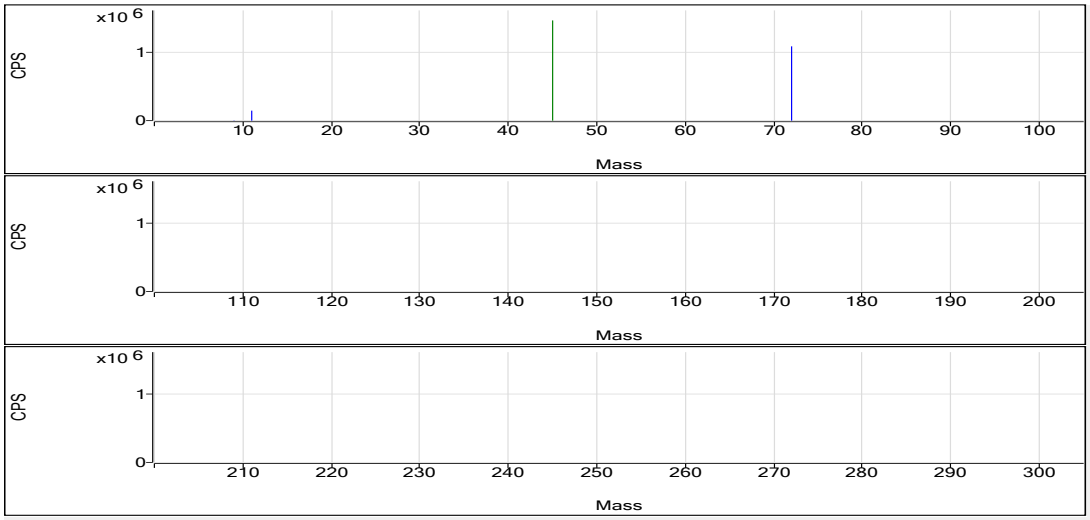
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	4.191	ppb	3.1	4032.57	0.0028	Pulse	0.5000	3
B	11	45	No Gas	262.784	ppb	1.0	146040.62	0.0998	Pulse	0.5000	3
Se	78	115	H2	9.518	ppb	2.2	908.48	0.0023	Pulse	1.5000	3
Na	23	45	He	10168.238	ppb	2.9	1951975.55	27.7712	Analog	0.1000	3
Mg	24	45	He	2015.299	ppb	2.3	183428.24	2.6095	Pulse	0.1000	3
Al	27	45	He	245.688	ppb	1.4	8972.99	0.1276	Pulse	0.1000	3
K	39	45	He	9732.851	ppb	3.1	1063542.82	15.1315	Pulse	0.1000	3
Ca	44	45	He	4384.260	ppb	4.3	23295.87	0.3315	Pulse	0.1000	3
Ti	47	45	He	256.330	ppb	4.8	8923.08	0.1270	Pulse	0.1000	3
V	51	45	He	47.894	ppb	1.7	56683.86	0.8062	Pulse	0.1000	3
Cr	52	45	He	46.288	ppb	2.1	67700.71	0.9631	Pulse	0.1000	3
Mn	55	45	He	50.392	ppb	2.7	40350.13	0.5739	Pulse	0.1000	3
Fe	57	45	He	327.252	ppb	6.9	9309.93	0.1325	Pulse	0.1000	3
Co	59	115	He	226.970	ppb	0.5	521200.85	5.9987	Pulse	0.1000	3
Ni	60	115	He	48.584	ppb	1.4	27764.06	0.3195	Pulse	0.1000	3
Cu	63	115	He	48.698	ppb	0.3	74692.67	0.8597	Pulse	0.1000	3
Zn	66	115	He	493.188	ppb	1.8	118183.79	1.3603	Pulse	0.1000	3
As	75	115	He	9.498	ppb	0.3	1976.15	0.0227	Pulse	0.5000	3
Sr	88	115	He	39.746	ppb	3.2	44533.90	0.5126	Pulse	0.1000	3
Mo	98	115	He	48.015	ppb	0.6	62622.59	0.7208	Pulse	0.1000	3
Ag	107	115	He	47.394	ppb	0.8	114772.00	1.3210	Pulse	0.1000	3
Cd	111	115	He	4.707	ppb	1.4	1644.11	0.0189	Pulse	0.5000	3
Sn	120	115	He	51.241	ppb	2.1	63391.45	0.7296	Pulse	0.1000	3
Sb	121	72	He	4.985	ppb	3.8	5841.41	0.0301	Pulse	0.1000	3
Ba	137	115	He	49.056	ppb	3.5	21340.46	0.2456	Pulse	0.1000	3
Tl	205	209	He	1.990	ppb	1.3	7832.59	0.0585	Pulse	0.1000	3
Pb	208	209	He	4.931	ppb	2.3	27071.77	0.2021	Pulse	0.1000	3
U	238	209	He	0.006	ppb	34.6	46.67	0.0003	Pulse	0.1000	3

Quantitation Report

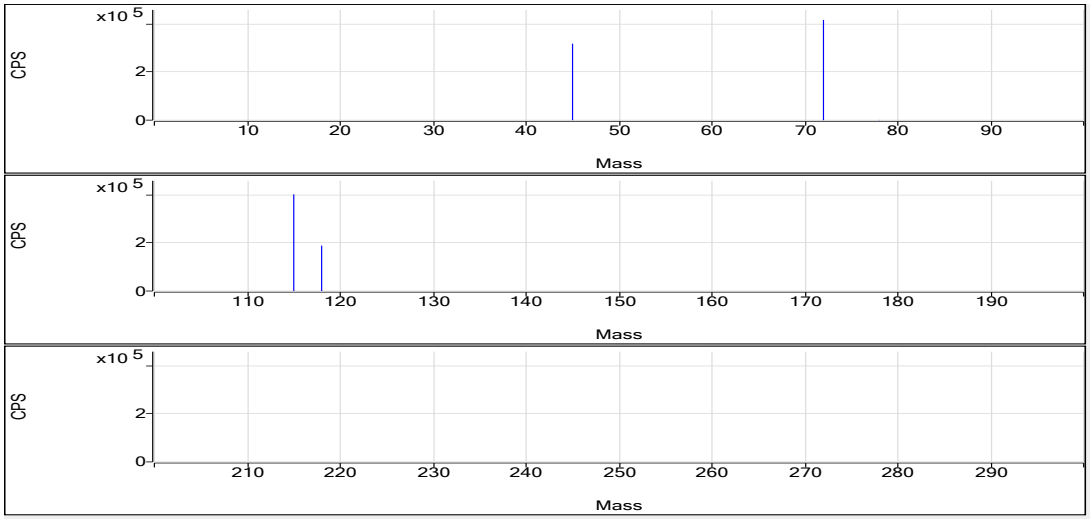
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1463992.53	0.6	97.9	Analog	0.1000	3
No Gas	Ge	72	1085147.69	0.7	97.5	Pulse	0.1000	3
H2	Sc	45	317982.81	0.7	107.3	Pulse	0.1000	3
H2	Ge	72	416685.22	1.4	106.9	Pulse	0.1000	3
H2	In	115	401814.77	2.3	107.0	Pulse	0.1000	3
He	Sc	45	70318.96	2.3	106.6	Pulse	0.1000	3
He	Ge	72	194258.97	0.3	103.4	Pulse	0.1000	3
He	In	115	86885.90	0.3	105.0	Pulse	0.1000	3
He	Tb	159	218944.82	0.8	104.1	Pulse	0.1000	3
He	Bi	209	133986.23	0.4	104.4	Pulse	0.1000	3

No Gas

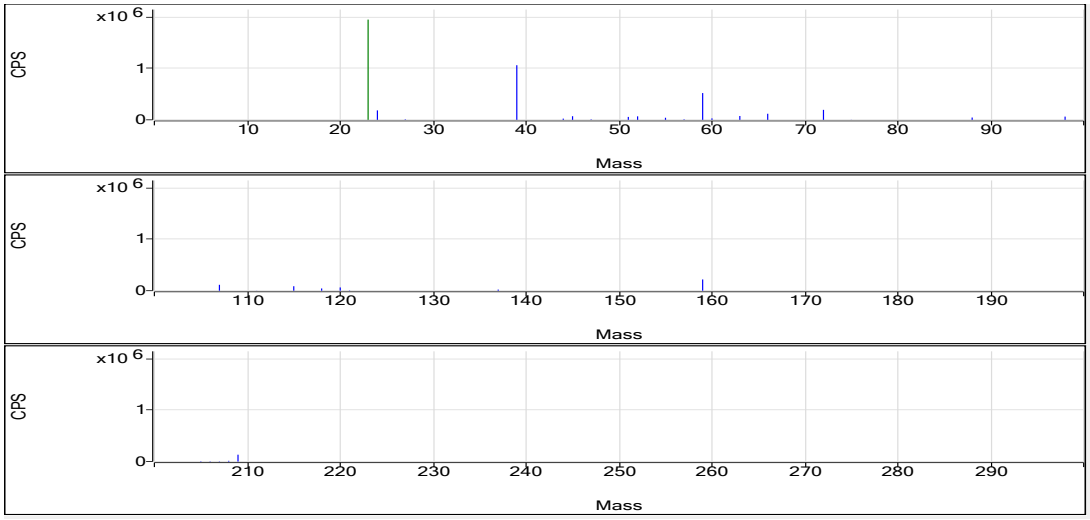


H2



Quantitation Report

He



Quantitation Report

Data File Name	142SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:08:36 PM
Sample Name	410-11198-H-20-A SD@5
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

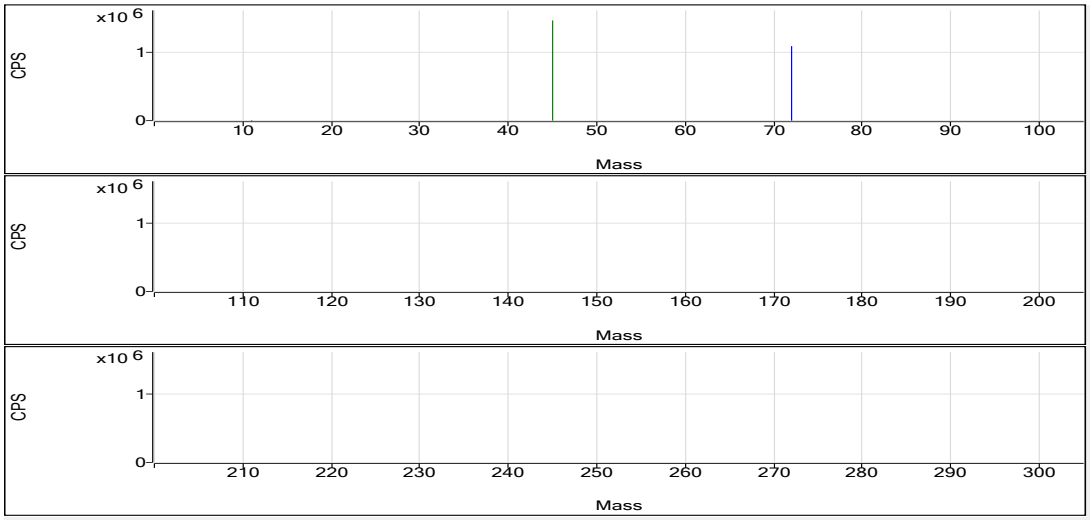
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	-0.006	ppb	N/A	18.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	8.834	ppb	10.6	7396.52	0.0051	Pulse	0.5000	3
Se	78	115	H2	0.007	ppb	111.2	2.67	0.0000	Pulse	1.5000	3
Na	23	45	He	108.392	ppb	1.3	32178.69	0.4871	Pulse	0.1000	3
Mg	24	45	He	9.245	ppb	11.0	1006.74	0.0152	Pulse	0.1000	3
Al	27	45	He	12.828	ppb	26.4	606.72	0.0092	Pulse	0.1000	3
K	39	45	He	26.342	ppb	117.8	40937.80	0.6199	Pulse	0.1000	3
Ca	44	45	He	113.882	ppb	8.5	780.05	0.0118	Pulse	0.1000	3
Ti	47	45	He	0.613	ppb	100.5	20.00	0.0003	Pulse	0.1000	3
V	51	45	He	-0.085	ppb	N/A	983.41	0.0149	Pulse	0.1000	3
Cr	52	45	He	0.326	ppb	24.9	1930.20	0.0292	Pulse	0.1000	3
Mn	55	45	He	0.493	ppb	25.0	1583.47	0.0240	Pulse	0.1000	3
Fe	57	45	He	9.268	ppb	27.6	436.69	0.0066	Pulse	0.1000	3
Co	59	115	He	0.028	ppb	116.0	190.01	0.0023	Pulse	0.1000	3
Ni	60	115	He	0.044	ppb	73.8	660.04	0.0079	Pulse	0.1000	3
Cu	63	115	He	0.099	ppb	70.3	1230.09	0.0147	Pulse	0.1000	3
Zn	66	115	He	1.004	ppb	23.0	1950.19	0.0233	Pulse	0.1000	3
As	75	115	He	-0.042	ppb	N/A	94.00	0.0011	Pulse	0.5000	3
Sr	88	115	He	0.409	ppb	31.0	516.70	0.0062	Pulse	0.1000	3
Mo	98	115	He	0.159	ppb	14.6	200.01	0.0024	Pulse	0.1000	3
Ag	107	115	He	-0.005	ppb	N/A	50.00	0.0006	Pulse	0.1000	3
Cd	111	115	He	-0.002	ppb	N/A	1.33	0.0000	Pulse	0.5000	3
Sn	120	115	He	1.398	ppb	10.2	2720.37	0.0325	Pulse	0.1000	3
Sb	121	72	He	0.095	ppb	44.1	136.67	0.0007	Pulse	0.1000	3
Ba	137	115	He	0.182	ppb	25.4	90.00	0.0011	Pulse	0.1000	3
Tl	205	209	He	-0.019	ppb	N/A	30.00	0.0002	Pulse	0.1000	3
Pb	208	209	He	-0.006	ppb	N/A	523.36	0.0040	Pulse	0.1000	3
U	238	209	He	0.003	ppb	89.2	26.67	0.0002	Pulse	0.1000	3

Quantitation Report

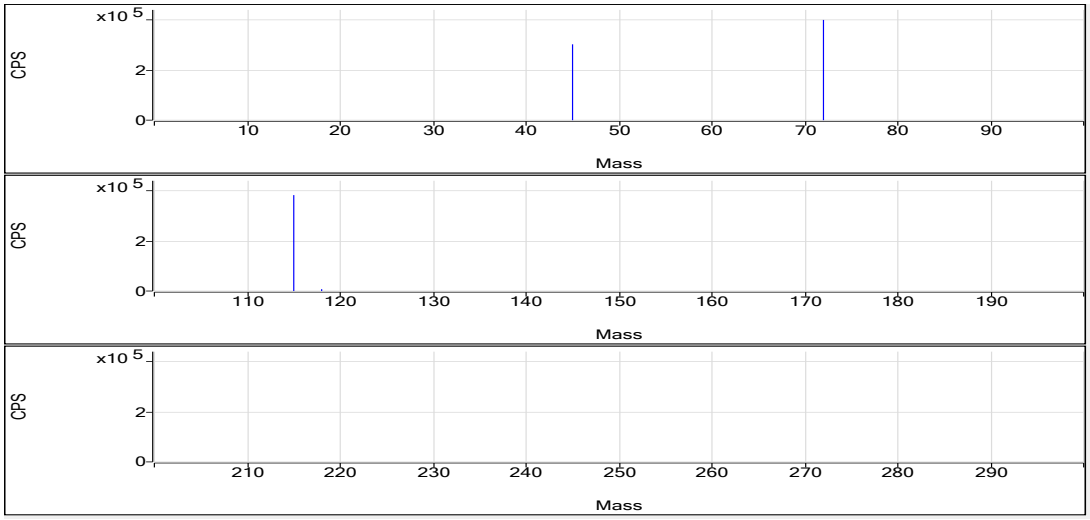
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1464369.35	1.0	97.9	Analog	0.1000	3
No Gas	Ge	72	1088648.11	0.6	97.8	Pulse	0.1000	3
H2	Sc	45	303787.04	0.7	102.5	Pulse	0.1000	3
H2	Ge	72	401414.77	0.7	103.0	Pulse	0.1000	3
H2	In	115	384173.88	0.9	102.3	Pulse	0.1000	3
He	Sc	45	66063.10	0.7	100.1	Pulse	0.1000	3
He	Ge	72	188188.72	0.6	100.2	Pulse	0.1000	3
He	In	115	83650.18	0.7	101.1	Pulse	0.1000	3
He	Tb	159	215076.14	0.9	102.3	Pulse	0.1000	3
He	Bi	209	131884.63	0.8	102.8	Pulse	0.1000	3

No Gas

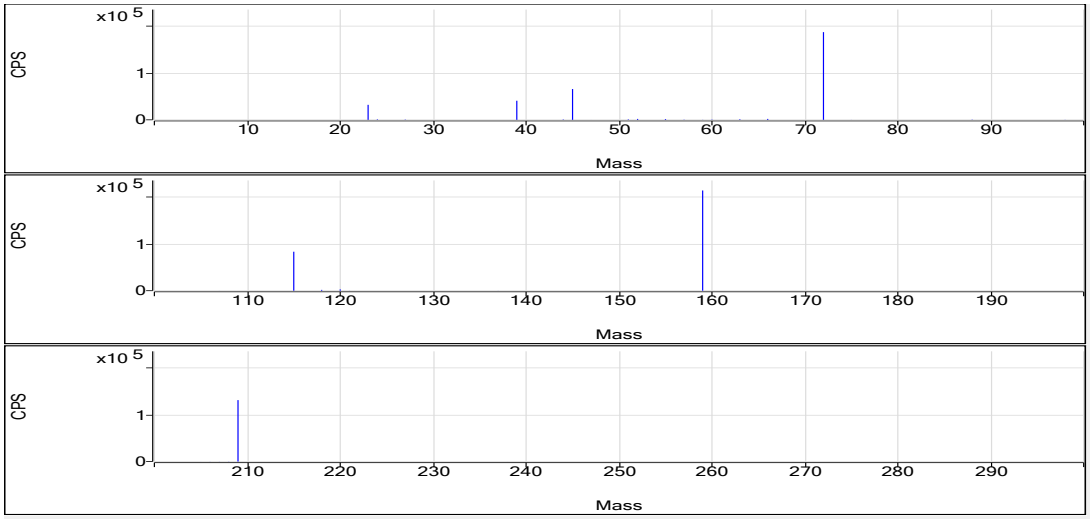


H2



Quantitation Report

He



Quantitation Report

Data File Name	143SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:10:28 PM
Sample Name	410-11261-o-1-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

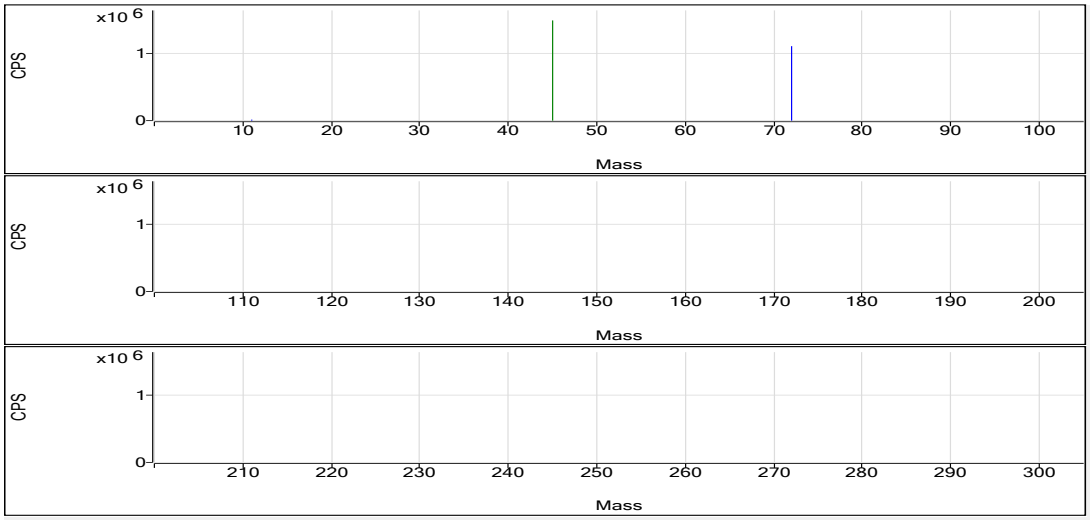
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.015	ppb	87.5	38.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	22.494	ppb	0.5	15070.23	0.0101	Pulse	0.5000	3
Se	78	115	H2	1.509	ppb	1.3	142.89	0.0004	Pulse	1.5000	3
Na	23	45	He	26473.707	ppb	0.2	5010444.93	71.9946	Analog	0.1000	3
Mg	24	45	He	10781.068	ppb	0.4	970514.72	13.9454	Pulse	0.1000	3
Al	27	45	He	510.751	ppb	12.8	18257.61	0.2624	Pulse	0.1000	3
K	39	45	He	2541.656	ppb	1.0	304846.99	4.3804	Pulse	0.1000	3
Ca	44	45	He	51515.235	ppb	0.1	268625.85	3.8598	Pulse	0.1000	3
Ti	47	45	He	14.980	ppb	10.0	516.70	0.0074	Pulse	0.1000	3
V	51	45	He	4.593	ppb	3.7	6404.98	0.0920	Pulse	0.1000	3
Cr	52	45	He	3.800	ppb	6.8	6945.27	0.0998	Pulse	0.1000	3
Mn	55	45	He	9.850	ppb	0.8	8846.29	0.1271	Pulse	0.1000	3
Fe	57	45	He	779.445	ppb	1.4	21683.38	0.3116	Pulse	0.1000	3
Co	59	115	He	0.203	ppb	18.2	590.03	0.0069	Pulse	0.1000	3
Ni	60	115	He	1.839	ppb	5.1	1663.49	0.0194	Pulse	0.1000	3
Cu	63	115	He	1.277	ppb	7.2	3017.09	0.0352	Pulse	0.1000	3
Zn	66	115	He	4.194	ppb	5.0	2740.35	0.0320	Pulse	0.1000	3
As	75	115	He	0.290	ppb	34.6	160.67	0.0019	Pulse	0.5000	3
Sr	88	115	He	391.198	ppb	1.4	431554.71	5.0370	Pulse	0.1000	3
Mo	98	115	He	3.439	ppb	4.9	4424.19	0.0516	Pulse	0.1000	3
Ag	107	115	He	0.606	ppb	11.7	1510.13	0.0176	Pulse	0.1000	3
Cd	111	115	He	0.002	ppb	392.1	2.67	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.040	ppb	56.6	1160.09	0.0135	Pulse	0.1000	3
Sb	121	72	He	0.108	ppb	39.2	156.67	0.0008	Pulse	0.1000	3
Ba	137	115	He	75.347	ppb	1.5	32318.67	0.3772	Pulse	0.1000	3
Tl	205	209	He	0.004	ppb	111.5	120.00	0.0009	Pulse	0.1000	3
Pb	208	209	He	0.352	ppb	3.6	2456.86	0.0183	Pulse	0.1000	3
U	238	209	He	0.602	ppb	1.6	3060.46	0.0228	Pulse	0.1000	3

Quantitation Report

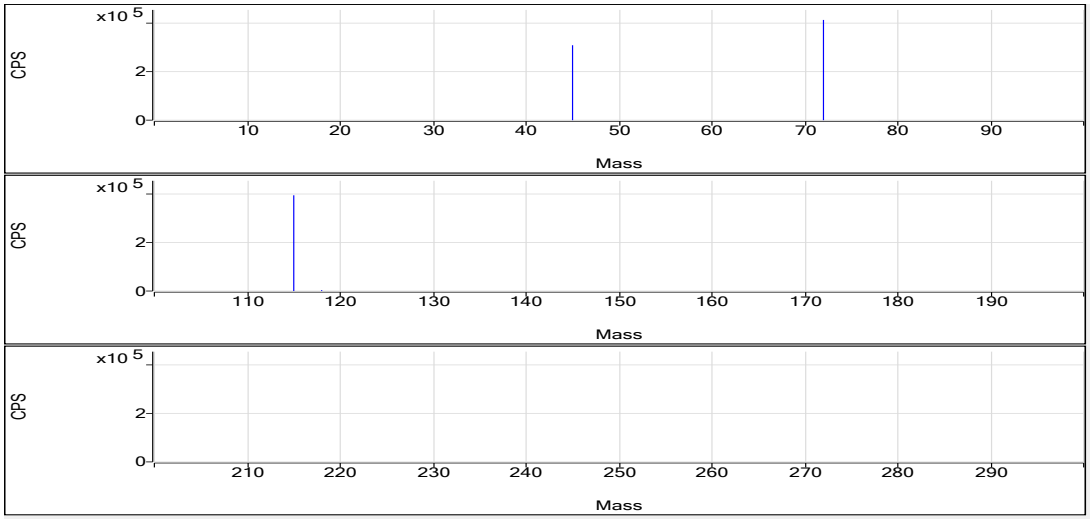
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1485429.30	0.5	99.3	Analog	0.1000	3
No Gas	Ge	72	1103724.39	0.5	99.2	Pulse	0.1000	3
H2	Sc	45	307981.47	1.2	104.0	Pulse	0.1000	3
H2	Ge	72	411920.12	0.1	105.7	Pulse	0.1000	3
H2	In	115	393496.64	0.9	104.8	Pulse	0.1000	3
He	Sc	45	69595.24	0.6	105.5	Pulse	0.1000	3
He	Ge	72	193107.86	0.8	102.8	Pulse	0.1000	3
He	In	115	85685.87	1.1	103.5	Pulse	0.1000	3
He	Tb	159	218097.25	0.5	103.7	Pulse	0.1000	3
He	Bi	209	134190.94	0.5	104.6	Pulse	0.1000	3

No Gas

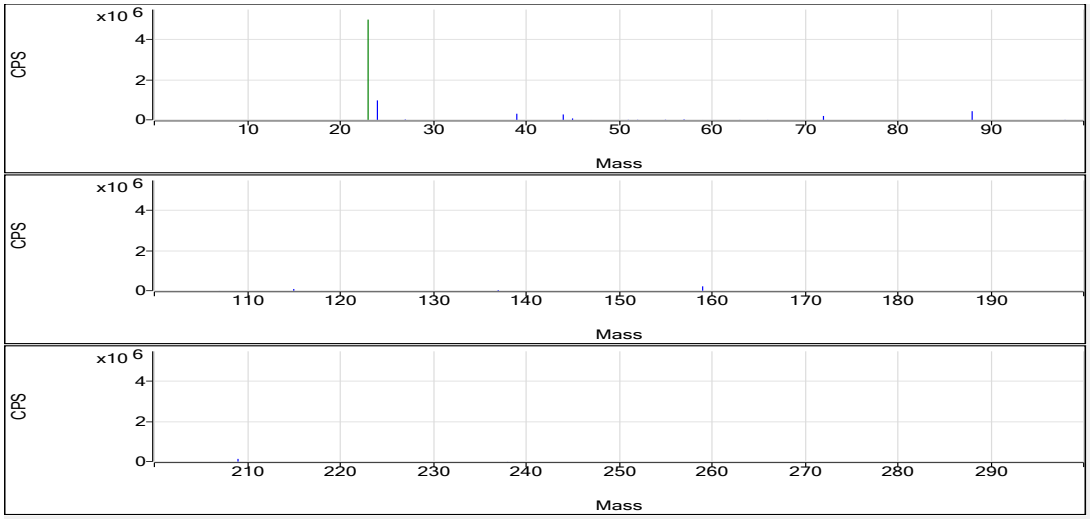


H2



Quantitation Report

He



Quantitation Report

Data File Name	144SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:12:21 PM
Sample Name	410-11539-o-1-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

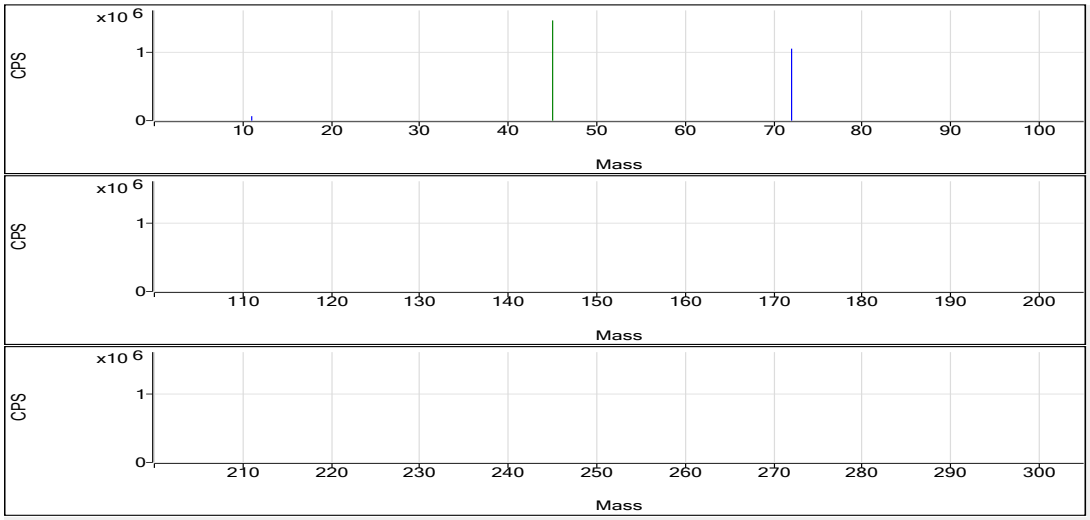
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.128	ppb	8.0	146.00	0.0001	Pulse	0.5000	3
B	11	45	No Gas	114.370	ppb	2.1	64982.49	0.0444	Pulse	0.5000	3
Se	78	115	H2	0.484	ppb	7.8	44.44	0.0001	Pulse	1.5000	3
Na	23	45	He	8620.803	ppb	2.2	1569333.62	23.5743	Analog	0.1000	3
Mg	24	45	He	35654.962	ppb	1.9	3069758.39	46.1123	Analog	0.1000	3
Al	27	45	He	2449.334	ppb	2.7	83092.92	1.2483	Pulse	0.1000	3
K	39	45	He	252.719	ppb	14.7	63809.12	0.9583	Pulse	0.1000	3
Ca	44	45	He	1965566.854	ppb	2.1	9795757.56	147.1493	Analog	0.1000	3
Ti	47	45	He	91.299	ppb	4.8	3010.43	0.0452	Pulse	0.1000	3
V	51	45	He	17.614	ppb	4.6	20421.50	0.3068	Pulse	0.1000	3
Cr	52	45	He	41.949	ppb	3.0	58237.05	0.8749	Pulse	0.1000	3
Mn	55	45	He	92.245	ppb	3.6	68903.54	1.0352	Pulse	0.1000	3
Fe	57	45	He	3705.154	ppb	2.0	97865.30	1.4701	Pulse	0.1000	3
Co	59	115	He	0.780	ppb	6.7	1753.51	0.0221	Pulse	0.1000	3
Ni	60	115	He	5.355	ppb	0.8	3323.83	0.0420	Pulse	0.1000	3
Cu	63	115	He	4.826	ppb	7.2	7668.99	0.0969	Pulse	0.1000	3
Zn	66	115	He	50.248	ppb	1.8	12435.80	0.1571	Pulse	0.1000	3
As	75	115	He	10.582	ppb	1.7	1994.82	0.0252	Pulse	0.5000	3
Sr	88	115	He	22527.975	ppb	1.2	22957859.66	290.0140	Analog	0.1000	3
Mo	98	115	He	0.920	ppb	8.4	1093.41	0.0138	Pulse	0.1000	3
Ag	107	115	He	0.015	ppb	55.2	90.00	0.0011	Pulse	0.1000	3
Cd	111	115	He	0.502	ppb	9.8	161.33	0.0020	Pulse	0.5000	3
Sn	120	115	He	8.280	ppb	2.2	10194.06	0.1288	Pulse	0.1000	3
Sb	121	72	He	0.374	ppb	13.8	430.02	0.0024	Pulse	0.1000	3
Ba	137	115	He	47.979	ppb	3.1	19013.68	0.2402	Pulse	0.1000	3
Tl	205	209	He	-0.017	ppb	N/A	36.67	0.0003	Pulse	0.1000	3
Pb	208	209	He	745.381	ppb	1.4	3690616.09	29.9125	Analog	0.1000	3
U	238	209	He	13.044	ppb	1.3	60682.81	0.4917	Pulse	0.1000	3

Quantitation Report

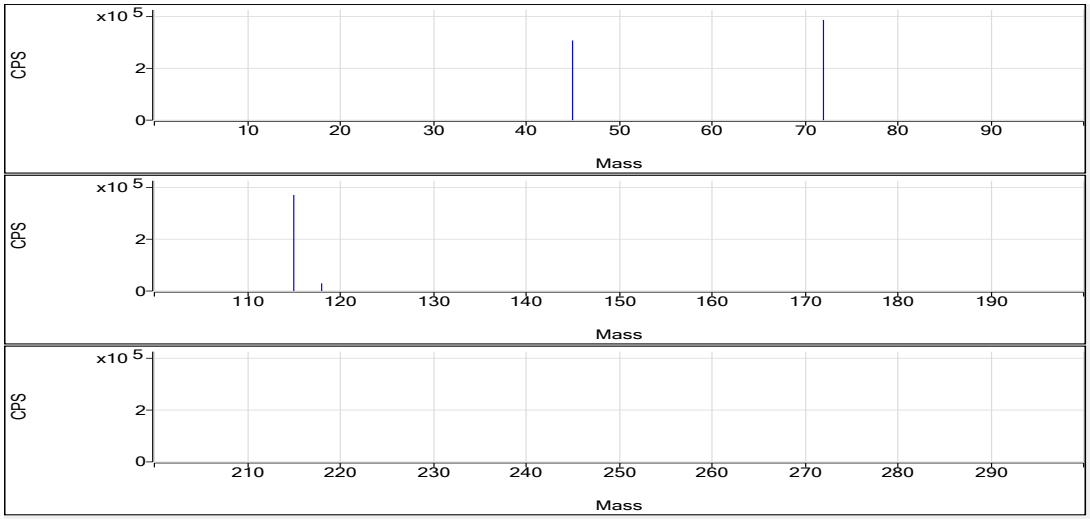
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1463391.13	0.8	97.9	Analog	0.1000	3
No Gas	Ge	72	1050966.00	0.5	94.4	Pulse	0.1000	3
H2	Sc	45	306973.15	1.3	103.6	Pulse	0.1000	3
H2	Ge	72	386040.59	1.3	99.1	Pulse	0.1000	3
H2	In	115	370148.51	1.5	98.6	Pulse	0.1000	3
He	Sc	45	66584.79	1.6	100.9	Pulse	0.1000	3
He	Ge	72	178728.88	1.1	95.2	Pulse	0.1000	3
He	In	115	79167.42	1.1	95.7	Pulse	0.1000	3
He	Tb	159	210569.01	0.8	100.1	Pulse	0.1000	3
He	Bi	209	123393.67	1.2	96.1	Pulse	0.1000	3

No Gas

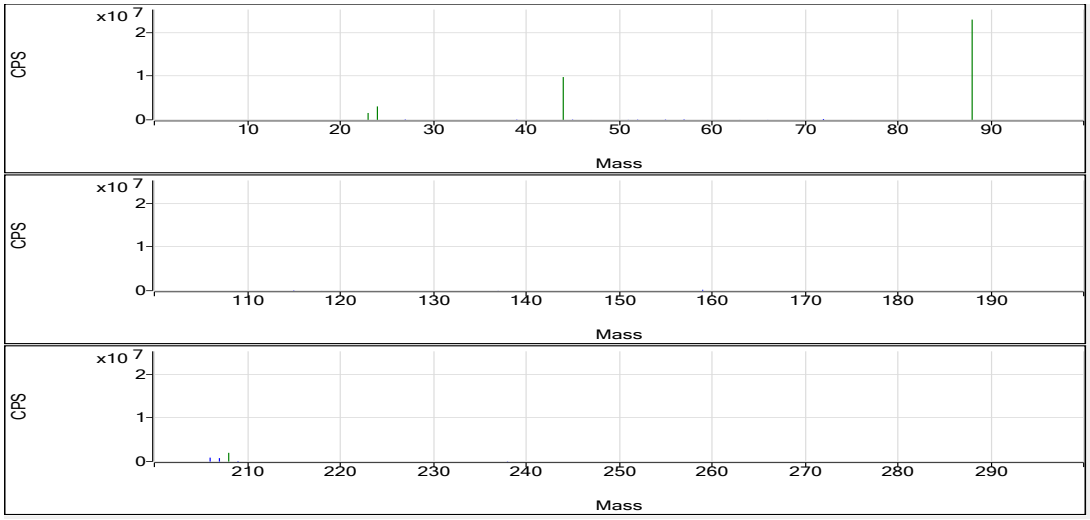


H2



Quantitation Report

He



Quantitation Report

Data File Name	145_CCV.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:14:13 PM
Sample Name	ccv 361008
Sample Type	CCV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

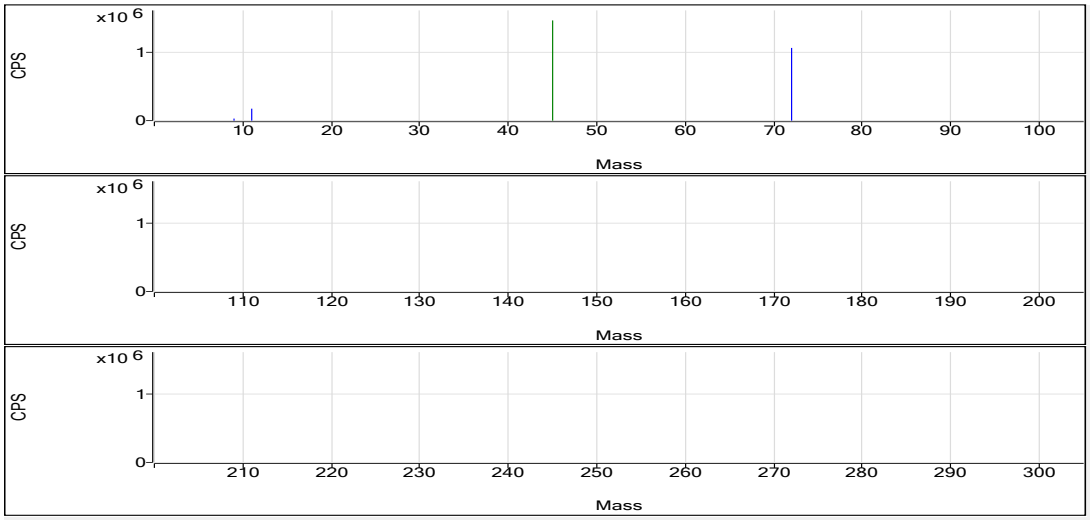
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	31.461	ppb	0.8	30390.51	0.0206	Pulse	0.5000	3
B	11	45	No Gas	315.471	ppb	1.9	176377.59	0.1194	Pulse	0.5000	3
Se	78	115	H2	29.481	ppb	0.4	2686.48	0.0070	Pulse	1.5000	3
Na	23	45	He	4799.916	ppb	2.1	881653.66	13.2113	Pulse	0.1000	3
Mg	24	45	He	5132.435	ppb	2.2	443144.43	6.6406	Pulse	0.1000	3
Al	27	45	He	5181.995	ppb	2.2	176052.17	2.6380	Pulse	0.1000	3
K	39	45	He	5085.844	ppb	1.3	546227.14	8.1840	Pulse	0.1000	3
Ca	44	45	He	5378.728	ppb	4.8	27092.61	0.4059	Pulse	0.1000	3
Ti	47	45	He	311.764	ppb	2.6	10307.25	0.1544	Pulse	0.1000	3
V	51	45	He	302.338	ppb	1.4	333913.95	5.0030	Pulse	0.1000	3
Cr	52	45	He	290.752	ppb	2.4	395715.42	5.9300	Pulse	0.1000	3
Mn	55	45	He	303.256	ppb	2.5	224266.95	3.3608	Pulse	0.1000	3
Fe	57	45	He	5110.407	ppb	2.9	135219.90	2.0265	Pulse	0.1000	3
Co	59	115	He	289.540	ppb	0.1	631337.66	7.6520	Pulse	0.1000	3
Ni	60	115	He	307.713	ppb	1.0	163626.96	1.9833	Pulse	0.1000	3
Cu	63	115	He	307.928	ppb	1.2	442754.33	5.3668	Pulse	0.1000	3
Zn	66	115	He	308.540	ppb	2.5	70840.63	0.8587	Pulse	0.1000	3
As	75	115	He	305.435	ppb	0.5	57214.81	0.6934	Pulse	0.5000	3
Sr	88	115	He	34.742	ppb	2.2	36982.28	0.4482	Pulse	0.1000	3
Mo	98	115	He	30.731	ppb	1.2	38058.70	0.4613	Pulse	0.1000	3
Ag	107	115	He	30.432	ppb	1.0	69997.29	0.8484	Pulse	0.1000	3
Cd	111	115	He	30.352	ppb	3.2	10052.98	0.1219	Pulse	0.5000	3
Sn	120	115	He	30.886	ppb	2.3	36705.71	0.4449	Pulse	0.1000	3
Sb	121	72	He	30.595	ppb	2.3	33668.19	0.1837	Pulse	0.1000	3
Ba	137	115	He	306.890	ppb	2.4	126684.81	1.5357	Pulse	0.1000	3
Tl	205	209	He	29.776	ppb	0.9	114355.34	0.8639	Pulse	0.1000	3
Pb	208	209	He	29.885	ppb	0.1	159295.30	1.2033	Pulse	0.1000	3
U	238	209	He	50.545	ppb	1.4	252167.25	1.9052	Pulse	0.1000	3

Quantitation Report

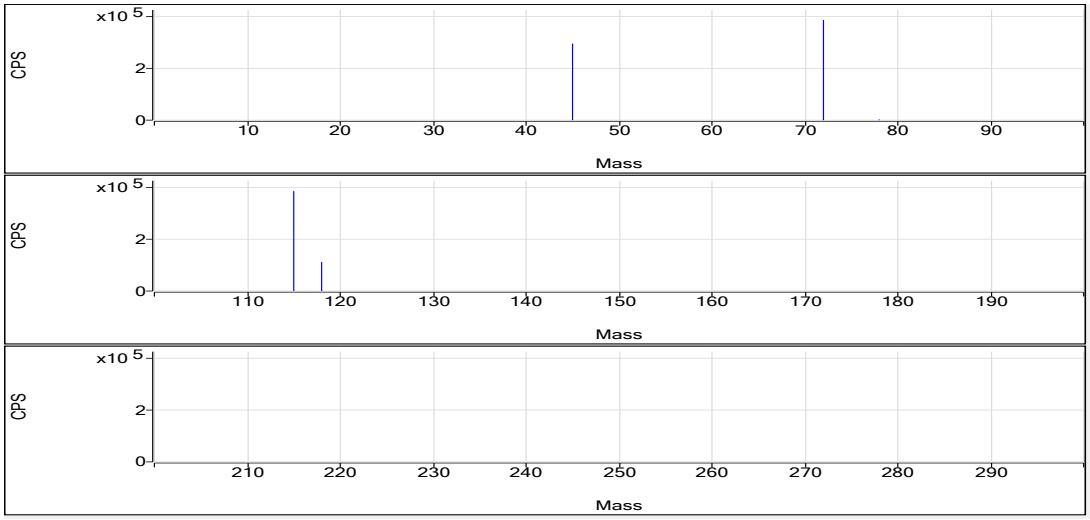
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1477149.20	0.2	98.8	Analog	0.1000	3
No Gas	Ge	72	1071905.22	1.3	96.3	Pulse	0.1000	3
H2	Sc	45	294356.39	0.3	99.4	Pulse	0.1000	3
H2	Ge	72	385286.44	1.4	98.9	Pulse	0.1000	3
H2	In	115	384169.24	1.4	102.3	Pulse	0.1000	3
He	Sc	45	66755.49	2.3	101.2	Pulse	0.1000	3
He	Ge	72	183266.07	1.5	97.6	Pulse	0.1000	3
He	In	115	82505.98	1.0	99.7	Pulse	0.1000	3
He	Tb	159	215145.23	1.2	102.3	Pulse	0.1000	3
He	Bi	209	132378.94	1.5	103.1	Pulse	0.1000	3

No Gas

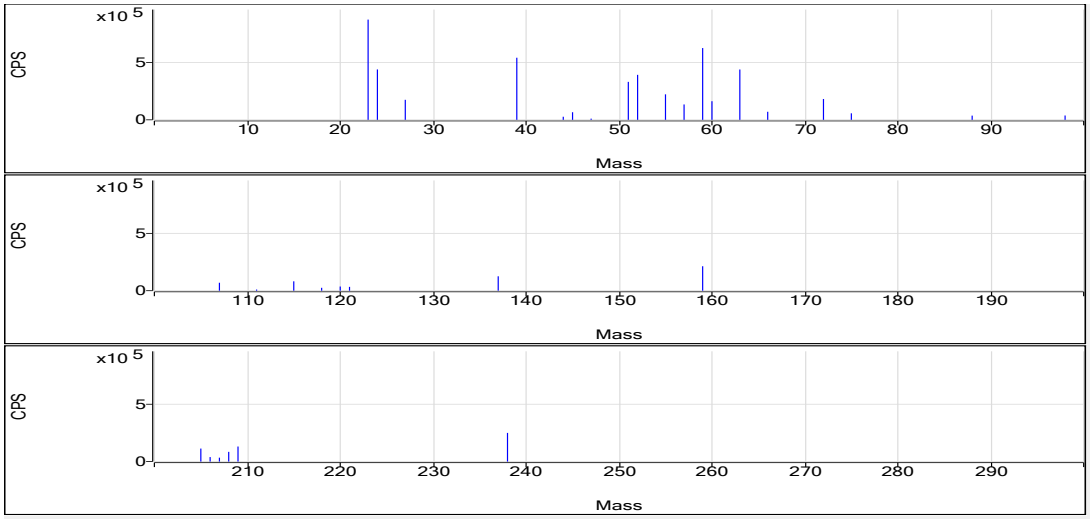


H2



Quantitation Report

He



Quantitation Report

Data File Name	146_CCB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:16:06 PM
Sample Name	ccb 360854
Sample Type	CCB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

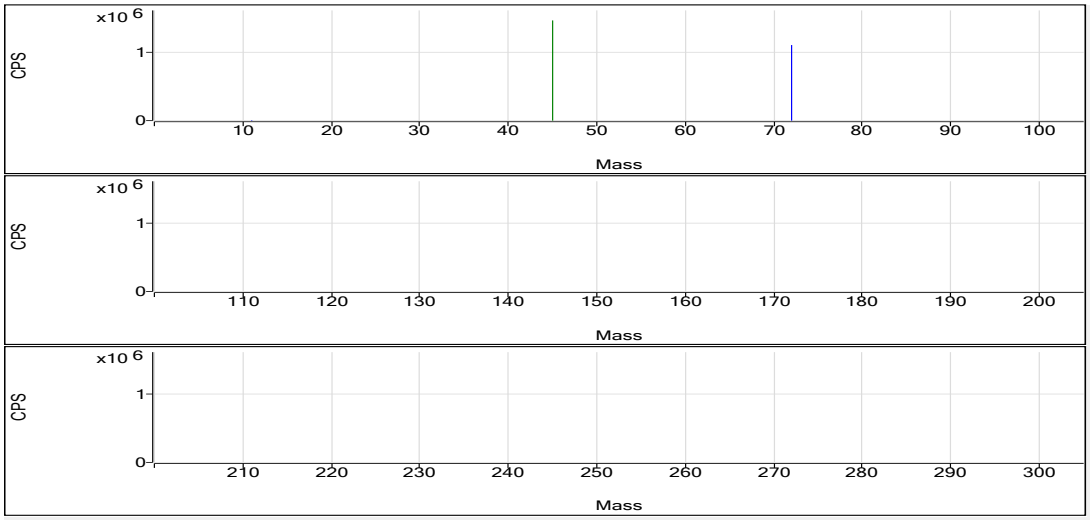
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.021	ppb	61.3	44.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	9.372	ppb	4.8	7713.34	0.0053	Pulse	0.5000	3
Se	78	115	H2	0.007	ppb	180.4	2.67	0.0000	Pulse	1.5000	3
Na	23	45	He	9.036	ppb	37.6	14283.96	0.2176	Pulse	0.1000	3
Mg	24	45	He	2.965	ppb	36.8	466.69	0.0071	Pulse	0.1000	3
Al	27	45	He	-0.455	ppb	N/A	160.01	0.0024	Pulse	0.1000	3
K	39	45	He	10.935	ppb	295.0	39176.20	0.5969	Pulse	0.1000	3
Ca	44	45	He	78.921	ppb	20.5	603.37	0.0092	Pulse	0.1000	3
Ti	47	45	He	0.103	ppb	173.2	3.33	0.0001	Pulse	0.1000	3
V	51	45	He	-0.058	ppb	N/A	1006.74	0.0153	Pulse	0.1000	3
Cr	52	45	He	0.245	ppb	32.3	1810.17	0.0276	Pulse	0.1000	3
Mn	55	45	He	0.474	ppb	57.8	1560.14	0.0238	Pulse	0.1000	3
Fe	57	45	He	1.182	ppb	200.2	223.34	0.0034	Pulse	0.1000	3
Co	59	115	He	0.050	ppb	18.7	233.34	0.0029	Pulse	0.1000	3
Ni	60	115	He	0.239	ppb	34.1	746.71	0.0091	Pulse	0.1000	3
Cu	63	115	He	0.112	ppb	101.2	1220.09	0.0149	Pulse	0.1000	3
Zn	66	115	He	-0.796	ppb	N/A	1503.47	0.0184	Pulse	0.1000	3
As	75	115	He	-0.063	ppb	N/A	88.00	0.0011	Pulse	0.5000	3
Sr	88	115	He	1.056	ppb	4.3	1186.77	0.0145	Pulse	0.1000	3
Mo	98	115	He	0.084	ppb	55.6	103.34	0.0013	Pulse	0.1000	3
Ag	107	115	He	-0.016	ppb	N/A	23.33	0.0003	Pulse	0.1000	3
Cd	111	115	He	0.008	ppb	154.0	4.67	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.275	ppb	29.2	1376.78	0.0168	Pulse	0.1000	3
Sb	121	72	He	0.102	ppb	62.9	143.34	0.0008	Pulse	0.1000	3
Ba	137	115	He	0.082	ppb	46.5	46.67	0.0006	Pulse	0.1000	3
Tl	205	209	He	0.089	ppb	24.5	440.02	0.0034	Pulse	0.1000	3
Pb	208	209	He	0.058	ppb	72.0	853.37	0.0065	Pulse	0.1000	3
U	238	209	He	0.018	ppb	22.7	103.34	0.0008	Pulse	0.1000	3

Quantitation Report

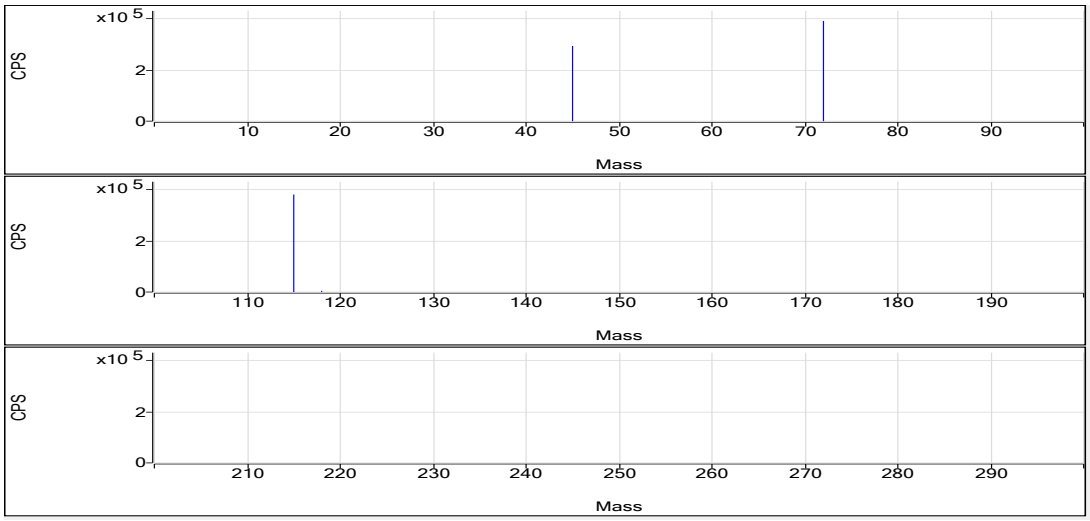
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1468436.18	0.8	98.2	Analog	0.1000	3
No Gas	Ge	72	1107520.12	0.1	99.5	Pulse	0.1000	3
H2	Sc	45	293667.36	0.9	99.1	Pulse	0.1000	3
H2	Ge	72	391382.53	1.4	100.4	Pulse	0.1000	3
H2	In	115	380801.61	0.8	101.4	Pulse	0.1000	3
He	Sc	45	65647.30	0.5	99.5	Pulse	0.1000	3
He	Ge	72	185715.66	2.1	98.9	Pulse	0.1000	3
He	In	115	81752.42	2.6	98.8	Pulse	0.1000	3
He	Tb	159	213074.67	0.4	101.3	Pulse	0.1000	3
He	Bi	209	131190.81	1.1	102.2	Pulse	0.1000	3

No Gas

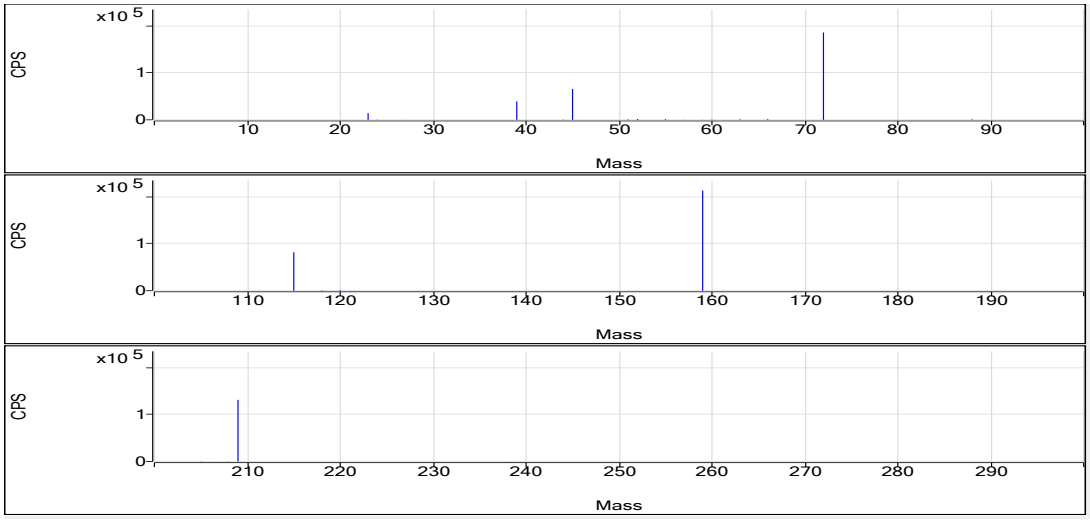


H2



Quantitation Report

He



Quantitation Report

Data File Name	147SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:17:58 PM
Sample Name	410-11389-g-1-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

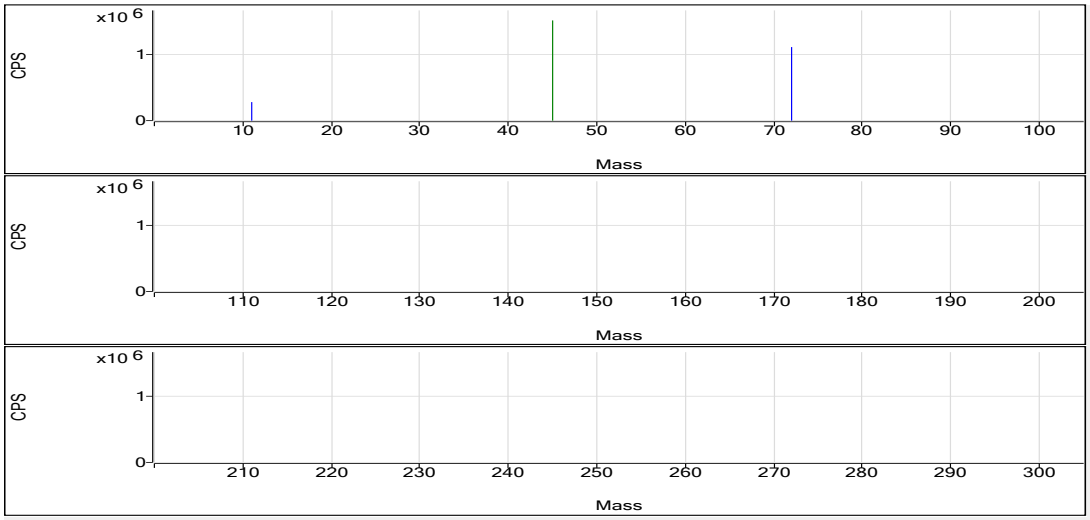
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.003	ppb	148.0	27.33	0.0000	Pulse	0.5000	3
B	11	45	No Gas	491.104	ppb	1.4	278093.95	0.1849	Pulse	0.5000	3
Se	78	115	H2	0.273	ppb	39.6	27.34	0.0001	Pulse	1.5000	3
Na	23	45	He	123951.964	ppb	1.0	23089416.32	336.3734	Analog	0.1000	3
Mg	24	45	He	18063.612	ppb	1.1	1603772.63	23.3632	Analog	0.1000	3
Al	27	45	He	5.744	ppb	32.7	383.35	0.0056	Pulse	0.1000	3
K	39	45	He	10178.446	ppb	0.9	1084390.95	15.7977	Pulse	0.1000	3
Ca	44	45	He	66585.084	ppb	1.1	342385.39	4.9880	Pulse	0.1000	3
Ti	47	45	He	0.295	ppb	173.2	10.00	0.0001	Pulse	0.1000	3
V	51	45	He	0.149	ppb	115.1	1286.78	0.0188	Pulse	0.1000	3
Cr	52	45	He	0.604	ppb	10.0	2393.63	0.0349	Pulse	0.1000	3
Mn	55	45	He	171.935	ppb	0.9	131355.41	1.9135	Pulse	0.1000	3
Fe	57	45	He	7789.766	ppb	1.5	211923.37	3.0874	Pulse	0.1000	3
Co	59	115	He	0.108	ppb	46.9	370.02	0.0044	Pulse	0.1000	3
Ni	60	115	He	0.304	ppb	53.9	806.72	0.0096	Pulse	0.1000	3
Cu	63	115	He	0.286	ppb	34.4	1516.80	0.0180	Pulse	0.1000	3
Zn	66	115	He	0.756	ppb	36.7	1913.53	0.0226	Pulse	0.1000	3
As	75	115	He	76.920	ppb	2.5	14831.01	0.1755	Pulse	0.5000	3
Sr	88	115	He	503.069	ppb	1.9	547097.56	6.4772	Pulse	0.1000	3
Mo	98	115	He	0.111	ppb	33.1	140.01	0.0017	Pulse	0.1000	3
Ag	107	115	He	-0.008	ppb	N/A	43.33	0.0005	Pulse	0.1000	3
Cd	111	115	He	0.008	ppb	118.9	4.67	0.0001	Pulse	0.5000	3
Sn	120	115	He	-0.107	ppb	N/A	970.07	0.0115	Pulse	0.1000	3
Sb	121	72	He	1.378	ppb	10.9	1616.81	0.0084	Pulse	0.1000	3
Ba	137	115	He	197.925	ppb	3.2	83643.90	0.9905	Pulse	0.1000	3
Tl	205	209	He	0.061	ppb	9.0	333.35	0.0026	Pulse	0.1000	3
Pb	208	209	He	0.743	ppb	2.3	4433.79	0.0340	Pulse	0.1000	3
U	238	209	He	0.004	ppb	74.6	33.33	0.0003	Pulse	0.1000	3

Quantitation Report

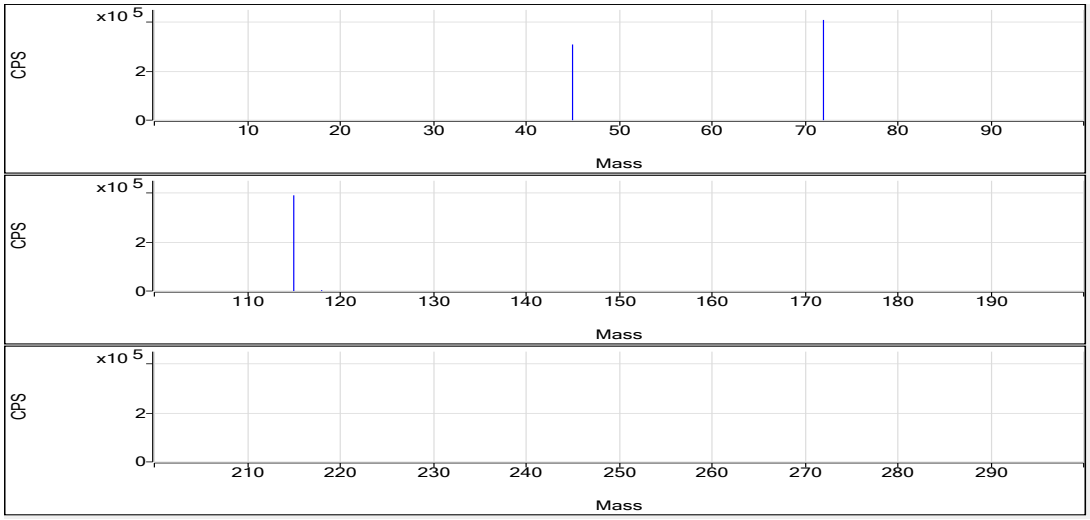
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1503925.81	0.6	100.6	Analog	0.1000	3
No Gas	Ge	72	1103905.97	0.3	99.2	Pulse	0.1000	3
H2	Sc	45	308692.37	0.9	104.2	Pulse	0.1000	3
H2	Ge	72	408798.13	0.9	104.9	Pulse	0.1000	3
H2	In	115	390406.70	1.0	104.0	Pulse	0.1000	3
He	Sc	45	68644.75	0.6	104.0	Pulse	0.1000	3
He	Ge	72	191908.87	0.7	102.2	Pulse	0.1000	3
He	In	115	84488.71	2.2	102.1	Pulse	0.1000	3
He	Tb	159	217015.04	0.7	103.2	Pulse	0.1000	3
He	Bi	209	130380.93	1.9	101.6	Pulse	0.1000	3

No Gas

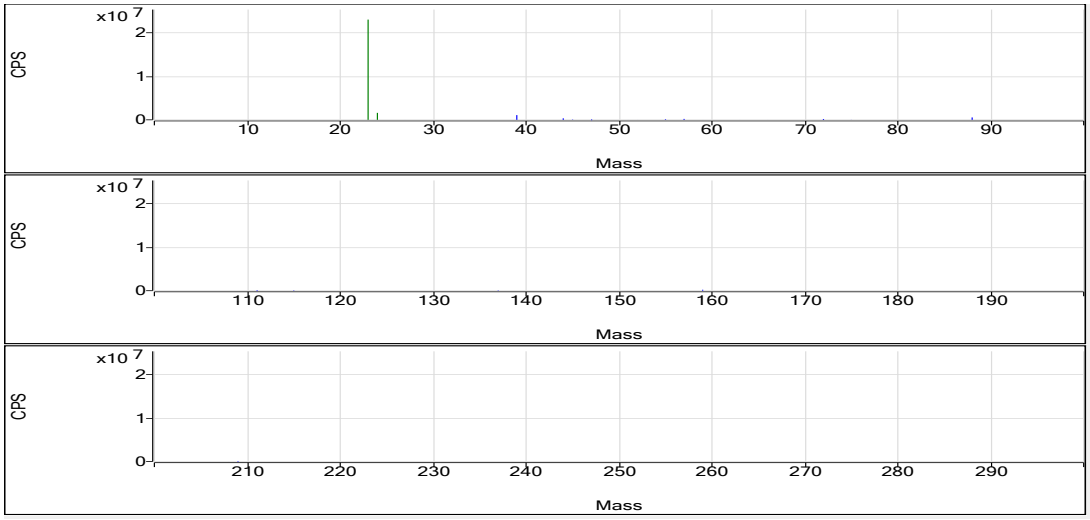


H2



Quantitation Report

He



Quantitation Report

Data File Name	148SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:19:49 PM
Sample Name	410-11389-e-3-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

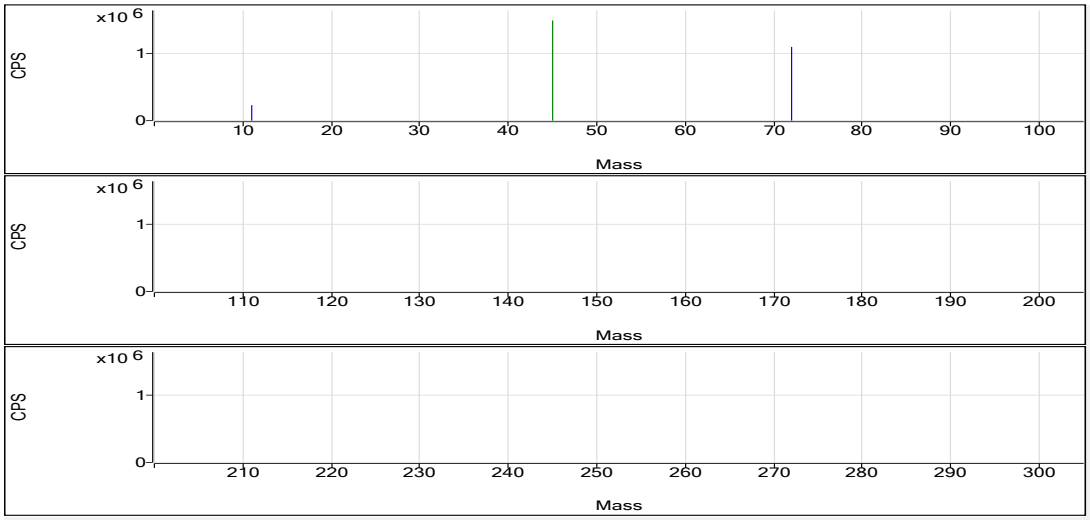
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	-0.001	ppb	N/A	22.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	409.828	ppb	0.3	231171.99	0.1546	Pulse	0.5000	3
Se	78	115	H2	0.141	ppb	11.1	15.11	0.0000	Pulse	1.5000	3
Na	23	45	He	147524.339	ppb	0.8	27636269.59	400.3060	Analog	0.1000	3
Mg	24	45	He	18647.131	ppb	0.9	1665067.84	24.1178	Analog	0.1000	3
Al	27	45	He	2.155	ppb	89.7	260.01	0.0038	Pulse	0.1000	3
K	39	45	He	14838.692	ppb	1.3	1571719.51	22.7649	Analog	0.1000	3
Ca	44	45	He	69308.410	ppb	0.3	358440.58	5.1918	Pulse	0.1000	3
Ti	47	45	He	0.196	ppb	173.2	6.67	0.0001	Pulse	0.1000	3
V	51	45	He	-0.232	ppb	N/A	860.05	0.0125	Pulse	0.1000	3
Cr	52	45	He	0.433	ppb	22.4	2166.91	0.0314	Pulse	0.1000	3
Mn	55	45	He	652.199	ppb	1.6	497520.05	7.2066	Pulse	0.1000	3
Fe	57	45	He	27261.534	ppb	1.4	745440.43	10.7976	Pulse	0.1000	3
Co	59	115	He	0.118	ppb	29.9	393.35	0.0046	Pulse	0.1000	3
Ni	60	115	He	0.232	ppb	34.2	770.04	0.0091	Pulse	0.1000	3
Cu	63	115	He	0.168	ppb	50.7	1346.78	0.0159	Pulse	0.1000	3
Zn	66	115	He	-0.035	ppb	N/A	1733.50	0.0205	Pulse	0.1000	3
As	75	115	He	252.075	ppb	1.9	48443.61	0.5725	Pulse	0.5000	3
Sr	88	115	He	477.974	ppb	1.5	520752.34	6.1541	Pulse	0.1000	3
Mo	98	115	He	1.622	ppb	8.5	2060.22	0.0244	Pulse	0.1000	3
Ag	107	115	He	-0.017	ppb	N/A	20.00	0.0002	Pulse	0.1000	3
Cd	111	115	He	0.004	ppb	180.5	3.33	0.0000	Pulse	0.5000	3
Sn	120	115	He	-0.030	ppb	N/A	1063.42	0.0126	Pulse	0.1000	3
Sb	121	72	He	0.454	ppb	23.4	550.03	0.0029	Pulse	0.1000	3
Ba	137	115	He	413.915	ppb	1.1	175264.87	2.0711	Pulse	0.1000	3
Tl	205	209	He	0.006	ppb	209.3	123.34	0.0009	Pulse	0.1000	3
Pb	208	209	He	0.568	ppb	3.9	3493.67	0.0270	Pulse	0.1000	3
U	238	209	He	0.011	ppb	12.0	66.67	0.0005	Pulse	0.1000	3

Quantitation Report

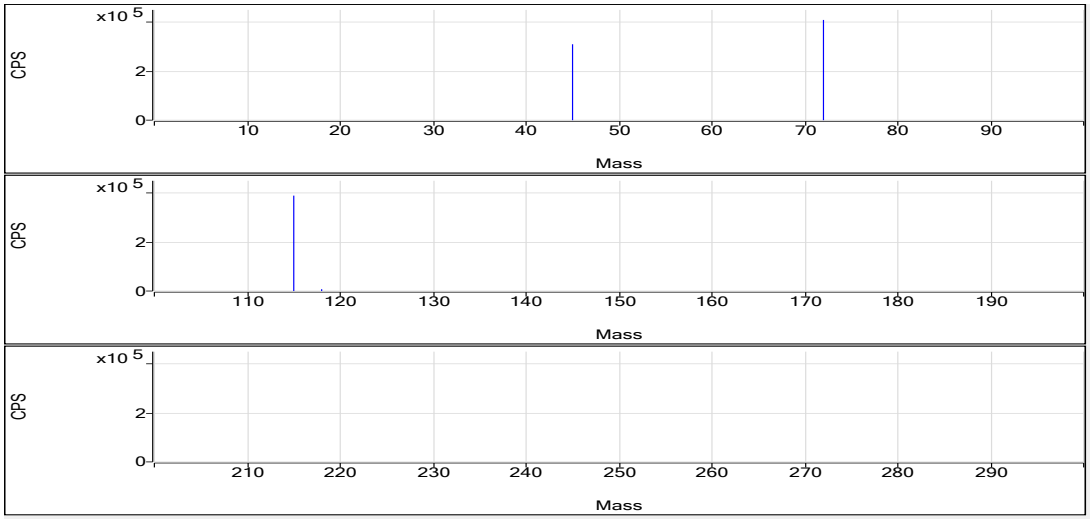
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1495299.15	0.9	100.0	Analog	0.1000	3
No Gas	Ge	72	1099466.34	0.4	98.8	Pulse	0.1000	3
H2	Sc	45	310050.51	1.4	104.7	Pulse	0.1000	3
H2	Ge	72	409370.51	1.3	105.1	Pulse	0.1000	3
H2	In	115	389688.06	1.8	103.8	Pulse	0.1000	3
He	Sc	45	69039.75	0.5	104.6	Pulse	0.1000	3
He	Ge	72	190800.13	0.4	101.6	Pulse	0.1000	3
He	In	115	84629.35	1.3	102.2	Pulse	0.1000	3
He	Tb	159	217753.64	2.4	103.6	Pulse	0.1000	3
He	Bi	209	129515.45	1.3	100.9	Pulse	0.1000	3

No Gas

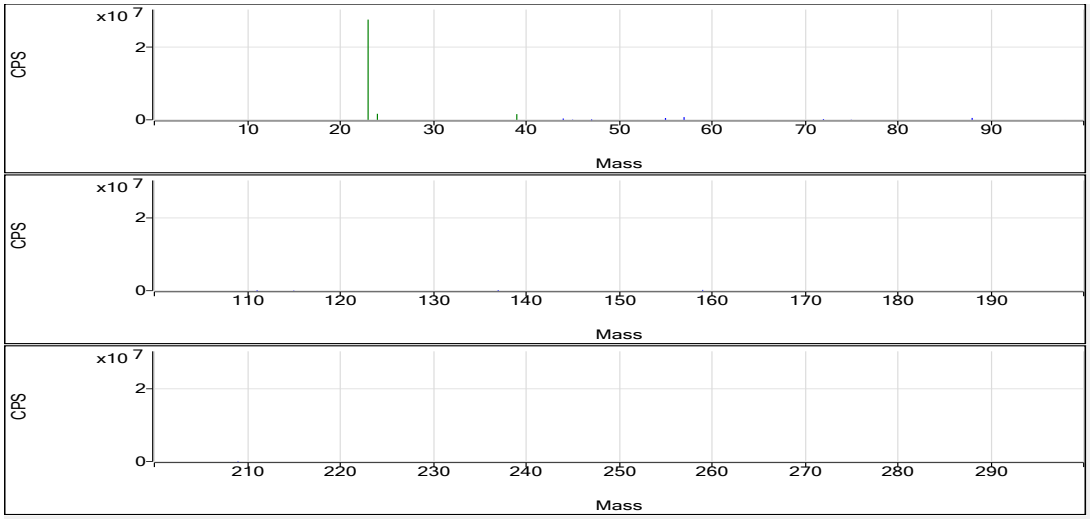


H2



Quantitation Report

He



Quantitation Report

Data File Name	149SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:21:40 PM
Sample Name	410-11389-q-5-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

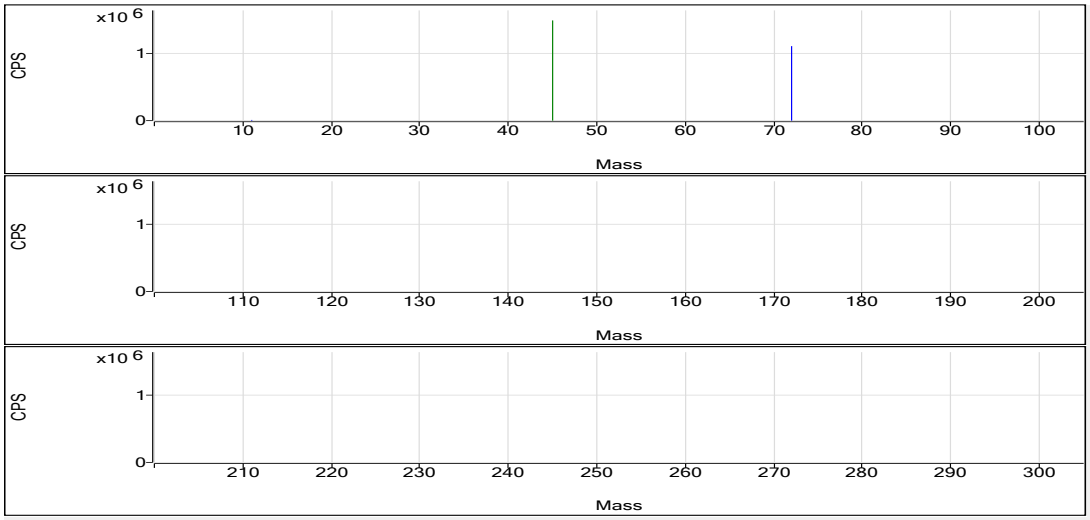
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	-0.001	ppb	N/A	22.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	13.970	ppb	4.9	10348.93	0.0070	Pulse	0.5000	3
Se	78	115	H2	-0.006	ppb	N/A	1.56	0.0000	Pulse	1.5000	3
Na	23	45	He	534.510	ppb	0.5	111578.59	1.6428	Pulse	0.1000	3
Mg	24	45	He	15.836	ppb	3.8	1613.47	0.0238	Pulse	0.1000	3
Al	27	45	He	4.788	ppb	30.2	346.68	0.0051	Pulse	0.1000	3
K	39	45	He	26.731	ppb	122.5	42134.65	0.6205	Pulse	0.1000	3
Ca	44	45	He	179.072	ppb	20.6	1133.42	0.0167	Pulse	0.1000	3
Ti	47	45	He	0.000	ppb	N/A	0.00	0.0000	Pulse	0.1000	3
V	51	45	He	-0.360	ppb	N/A	703.38	0.0104	Pulse	0.1000	3
Cr	52	45	He	0.351	ppb	41.9	2020.21	0.0297	Pulse	0.1000	3
Mn	55	45	He	0.554	ppb	32.5	1673.49	0.0246	Pulse	0.1000	3
Fe	57	45	He	9.454	ppb	44.1	453.36	0.0067	Pulse	0.1000	3
Co	59	115	He	-0.018	ppb	N/A	90.00	0.0010	Pulse	0.1000	3
Ni	60	115	He	0.099	ppb	187.9	713.38	0.0082	Pulse	0.1000	3
Cu	63	115	He	0.186	ppb	69.4	1403.46	0.0162	Pulse	0.1000	3
Zn	66	115	He	1.515	ppb	66.2	2133.55	0.0247	Pulse	0.1000	3
As	75	115	He	-0.136	ppb	N/A	78.67	0.0009	Pulse	0.5000	3
Sr	88	115	He	0.762	ppb	18.6	926.73	0.0107	Pulse	0.1000	3
Mo	98	115	He	0.049	ppb	8.4	63.33	0.0007	Pulse	0.1000	3
Ag	107	115	He	-0.015	ppb	N/A	26.67	0.0003	Pulse	0.1000	3
Cd	111	115	He	-0.004	ppb	N/A	0.67	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.507	ppb	26.0	1733.55	0.0201	Pulse	0.1000	3
Sb	121	72	He	0.037	ppb	36.9	73.33	0.0004	Pulse	0.1000	3
Ba	137	115	He	0.631	ppb	16.4	286.68	0.0033	Pulse	0.1000	3
Tl	205	209	He	0.021	ppb	29.8	186.68	0.0014	Pulse	0.1000	3
Pb	208	209	He	0.005	ppb	429.7	590.03	0.0044	Pulse	0.1000	3
U	238	209	He	0.003	ppb	2.0	30.00	0.0002	Pulse	0.1000	3

Quantitation Report

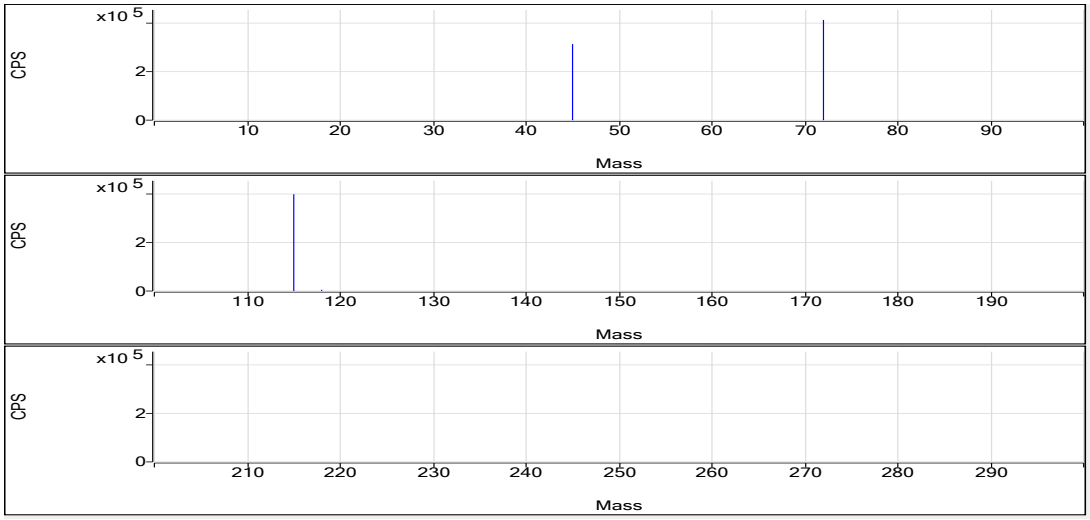
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1485211.90	0.9	99.3	Analog	0.1000	3
No Gas	Ge	72	1103962.98	0.7	99.2	Pulse	0.1000	3
H2	Sc	45	313139.19	0.8	105.7	Pulse	0.1000	3
H2	Ge	72	412660.06	0.7	105.9	Pulse	0.1000	3
H2	In	115	398407.08	1.1	106.1	Pulse	0.1000	3
He	Sc	45	67921.35	0.5	102.9	Pulse	0.1000	3
He	Ge	72	191172.52	1.3	101.8	Pulse	0.1000	3
He	In	115	86449.95	1.5	104.4	Pulse	0.1000	3
He	Tb	159	218443.11	0.8	103.9	Pulse	0.1000	3
He	Bi	209	134611.72	1.1	104.9	Pulse	0.1000	3

No Gas

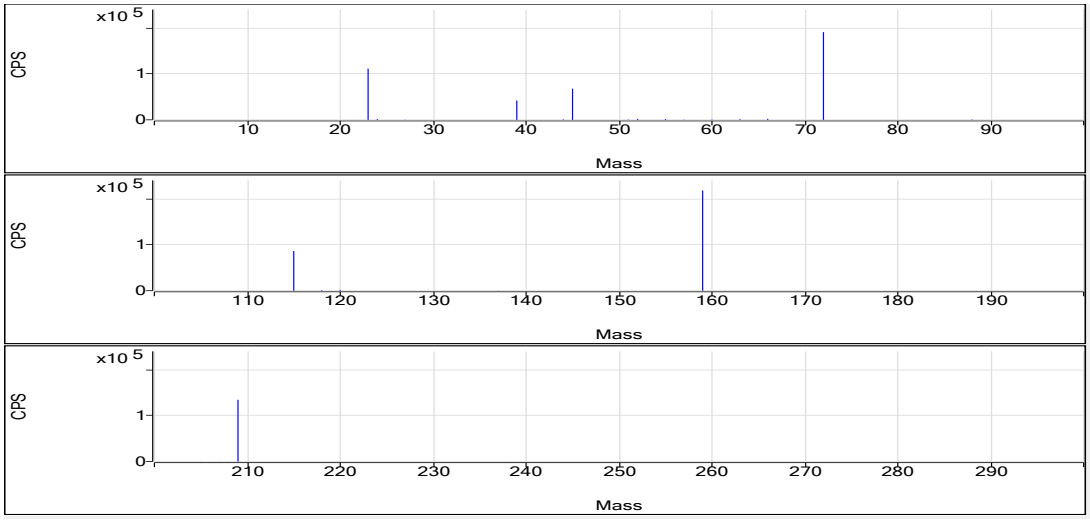


H2



Quantitation Report

He



Quantitation Report

Data File Name	150SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:23:33 PM
Sample Name	410-11198-g-21-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

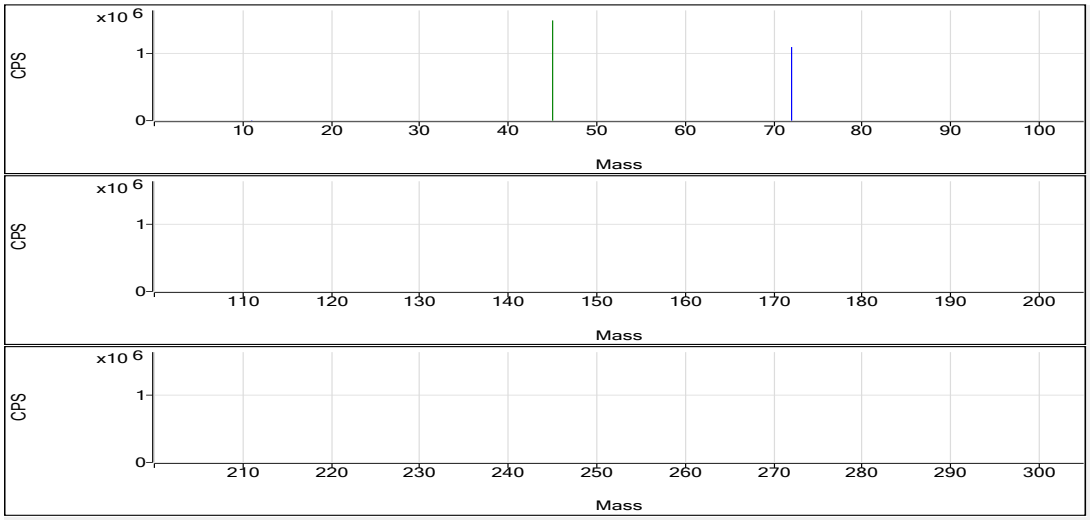
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	-0.004	ppb	N/A	20.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	5.203	ppb	5.9	5512.37	0.0037	Pulse	0.5000	3
Se	78	115	H2	-0.011	ppb	N/A	1.11	0.0000	Pulse	1.5000	3
Na	23	45	He	331.734	ppb	3.3	76037.62	1.0928	Pulse	0.1000	3
Mg	24	45	He	8.550	ppb	15.4	996.74	0.0143	Pulse	0.1000	3
Al	27	45	He	8.239	ppb	40.3	476.69	0.0069	Pulse	0.1000	3
K	39	45	He	12.152	ppb	241.6	41636.60	0.5987	Pulse	0.1000	3
Ca	44	45	He	104.530	ppb	8.7	773.38	0.0111	Pulse	0.1000	3
Ti	47	45	He	0.388	ppb	44.9	13.33	0.0002	Pulse	0.1000	3
V	51	45	He	-0.438	ppb	N/A	630.03	0.0091	Pulse	0.1000	3
Cr	52	45	He	0.656	ppb	10.1	2500.31	0.0359	Pulse	0.1000	3
Mn	55	45	He	0.809	ppb	16.2	1910.19	0.0275	Pulse	0.1000	3
Fe	57	45	He	9.364	ppb	43.6	463.36	0.0066	Pulse	0.1000	3
Co	59	115	He	-0.015	ppb	N/A	96.67	0.0011	Pulse	0.1000	3
Ni	60	115	He	0.055	ppb	294.3	676.71	0.0080	Pulse	0.1000	3
Cu	63	115	He	0.104	ppb	87.1	1260.10	0.0148	Pulse	0.1000	3
Zn	66	115	He	-0.198	ppb	N/A	1706.82	0.0200	Pulse	0.1000	3
As	75	115	He	-0.111	ppb	N/A	82.00	0.0010	Pulse	0.5000	3
Sr	88	115	He	0.529	ppb	18.0	656.71	0.0077	Pulse	0.1000	3
Mo	98	115	He	0.070	ppb	27.4	90.00	0.0011	Pulse	0.1000	3
Ag	107	115	He	-0.012	ppb	N/A	33.33	0.0004	Pulse	0.1000	3
Cd	111	115	He	0.006	ppb	3.9	4.00	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.456	ppb	7.6	1646.82	0.0194	Pulse	0.1000	3
Sb	121	72	He	0.000	ppb	N/A	30.00	0.0002	Pulse	0.1000	3
Ba	137	115	He	0.478	ppb	26.7	216.68	0.0026	Pulse	0.1000	3
Tl	205	209	He	0.013	ppb	84.7	153.34	0.0011	Pulse	0.1000	3
Pb	208	209	He	0.008	ppb	182.7	606.69	0.0045	Pulse	0.1000	3
U	238	209	He	0.002	ppb	60.1	23.33	0.0002	Pulse	0.1000	3

Quantitation Report

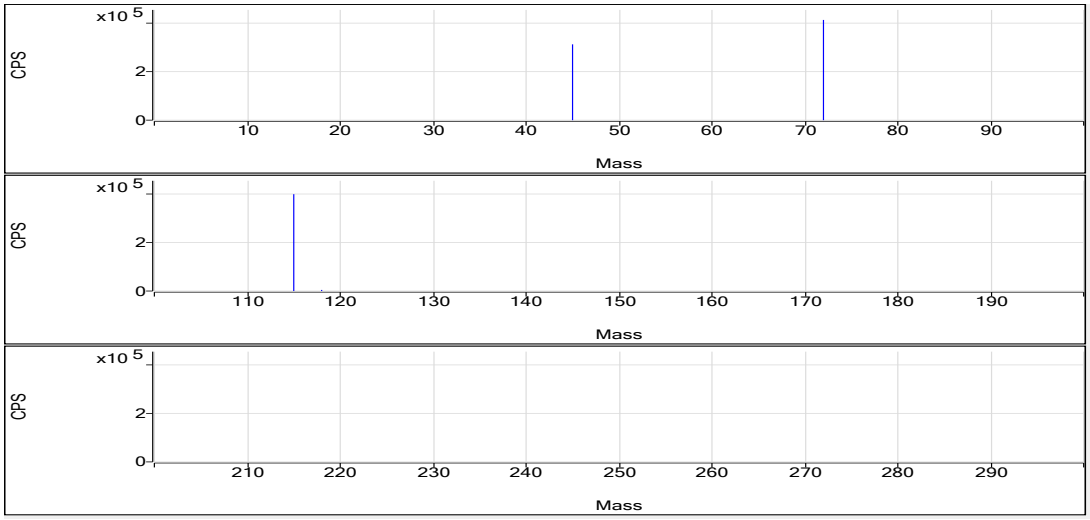
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1491056.17	0.6	99.7	Analog	0.1000	3
No Gas	Ge	72	1095031.42	0.6	98.4	Pulse	0.1000	3
H2	Sc	45	311049.08	0.8	105.0	Pulse	0.1000	3
H2	Ge	72	411134.36	1.4	105.5	Pulse	0.1000	3
H2	In	115	397230.59	0.7	105.8	Pulse	0.1000	3
He	Sc	45	69599.04	1.5	105.5	Pulse	0.1000	3
He	Ge	72	190297.54	0.5	101.3	Pulse	0.1000	3
He	In	115	85125.69	1.9	102.8	Pulse	0.1000	3
He	Tb	159	216764.34	1.5	103.1	Pulse	0.1000	3
He	Bi	209	133588.16	0.3	104.1	Pulse	0.1000	3

No Gas

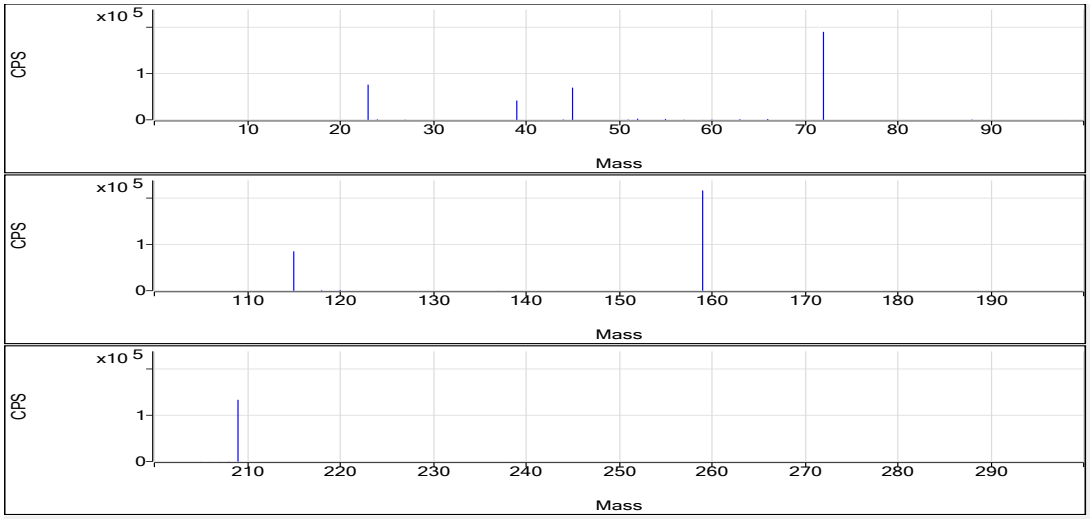


H2



Quantitation Report

He



Quantitation Report

Data File Name	151SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:25:25 PM
Sample Name	410-11195-f-8-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

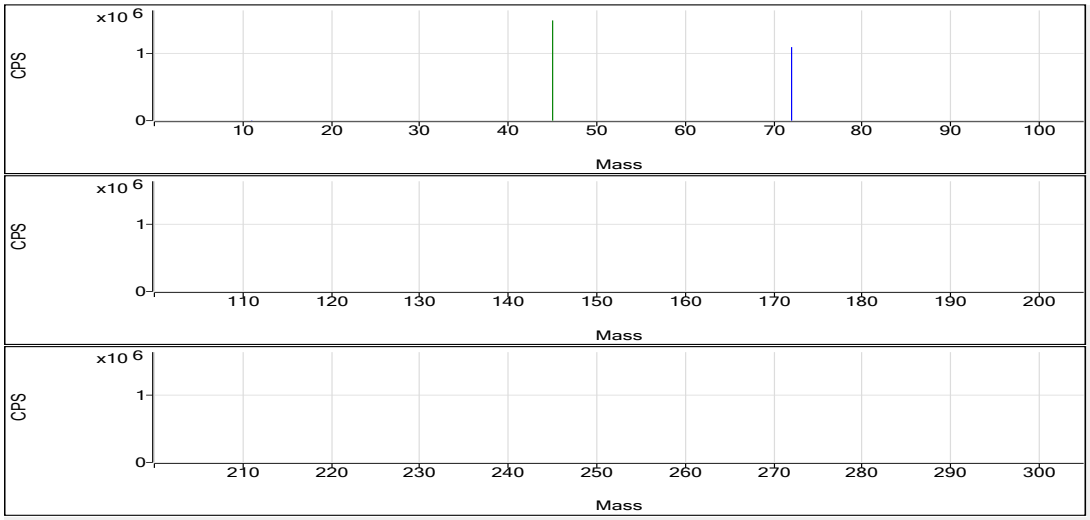
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	-0.009	ppb	N/A	14.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	3.583	ppb	4.7	4582.05	0.0031	Pulse	0.5000	3
Se	78	115	H2	-0.006	ppb	N/A	1.56	0.0000	Pulse	1.5000	3
Na	23	45	He	498.832	ppb	3.4	107516.72	1.5460	Pulse	0.1000	3
Mg	24	45	He	13.402	ppb	50.8	1433.47	0.0206	Pulse	0.1000	3
Al	27	45	He	10.596	ppb	55.9	560.03	0.0081	Pulse	0.1000	3
K	39	45	He	16.705	ppb	108.5	42131.07	0.6055	Pulse	0.1000	3
Ca	44	45	He	257.187	ppb	64.5	1566.83	0.0225	Pulse	0.1000	3
Ti	47	45	He	0.389	ppb	45.1	13.33	0.0002	Pulse	0.1000	3
V	51	45	He	-0.336	ppb	N/A	746.71	0.0107	Pulse	0.1000	3
Cr	52	45	He	0.599	ppb	35.6	2420.29	0.0348	Pulse	0.1000	3
Mn	55	45	He	0.640	ppb	35.7	1780.17	0.0256	Pulse	0.1000	3
Fe	57	45	He	35.705	ppb	74.6	1186.77	0.0171	Pulse	0.1000	3
Co	59	115	He	0.006	ppb	500.4	146.67	0.0017	Pulse	0.1000	3
Ni	60	115	He	0.124	ppb	81.9	730.04	0.0084	Pulse	0.1000	3
Cu	63	115	He	0.050	ppb	212.6	1203.42	0.0139	Pulse	0.1000	3
Zn	66	115	He	0.174	ppb	603.9	1826.85	0.0211	Pulse	0.1000	3
As	75	115	He	-0.131	ppb	N/A	80.00	0.0009	Pulse	0.5000	3
Sr	88	115	He	1.693	ppb	91.6	1966.98	0.0227	Pulse	0.1000	3
Mo	98	115	He	0.092	ppb	29.3	120.00	0.0014	Pulse	0.1000	3
Ag	107	115	He	-0.008	ppb	N/A	43.33	0.0005	Pulse	0.1000	3
Cd	111	115	He	0.000	ppb	N/A	2.00	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.066	ppb	64.2	1206.81	0.0139	Pulse	0.1000	3
Sb	121	72	He	0.046	ppb	55.7	83.33	0.0004	Pulse	0.1000	3
Ba	137	115	He	0.489	ppb	14.6	226.68	0.0026	Pulse	0.1000	3
Tl	205	209	He	0.002	ppb	434.8	110.00	0.0008	Pulse	0.1000	3
Pb	208	209	He	0.090	ppb	107.6	1046.72	0.0078	Pulse	0.1000	3
U	238	209	He	0.006	ppb	118.5	43.33	0.0003	Pulse	0.1000	3

Quantitation Report

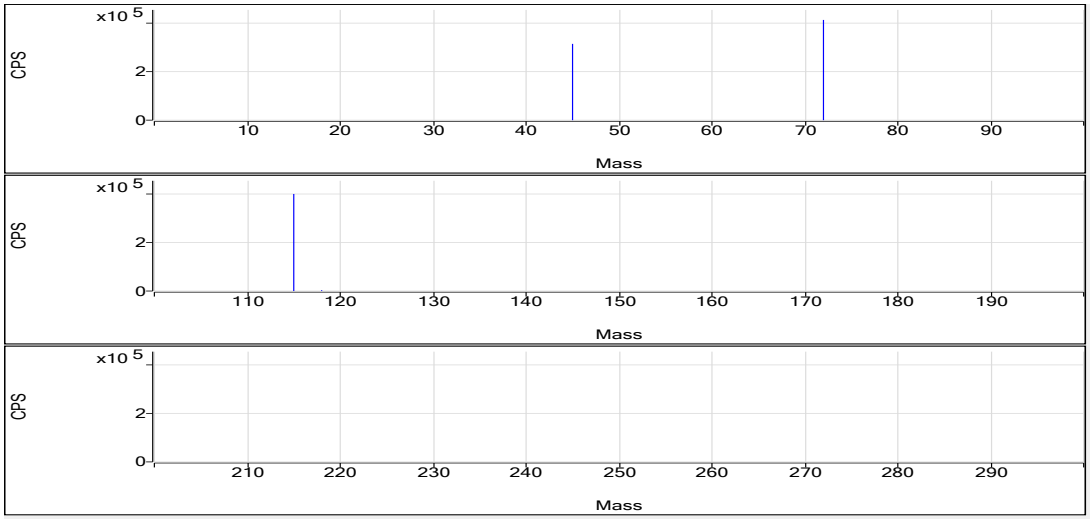
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1481551.23	0.9	99.1	Analog	0.1000	3
No Gas	Ge	72	1087089.15	0.9	97.7	Pulse	0.1000	3
H2	Sc	45	314530.76	0.8	106.2	Pulse	0.1000	3
H2	Ge	72	413240.87	0.9	106.0	Pulse	0.1000	3
H2	In	115	400187.60	0.8	106.6	Pulse	0.1000	3
He	Sc	45	69562.22	1.8	105.4	Pulse	0.1000	3
He	Ge	72	191866.19	0.9	102.2	Pulse	0.1000	3
He	In	115	86832.63	1.1	104.9	Pulse	0.1000	3
He	Tb	159	217001.41	0.6	103.2	Pulse	0.1000	3
He	Bi	209	133325.73	1.0	103.9	Pulse	0.1000	3

No Gas

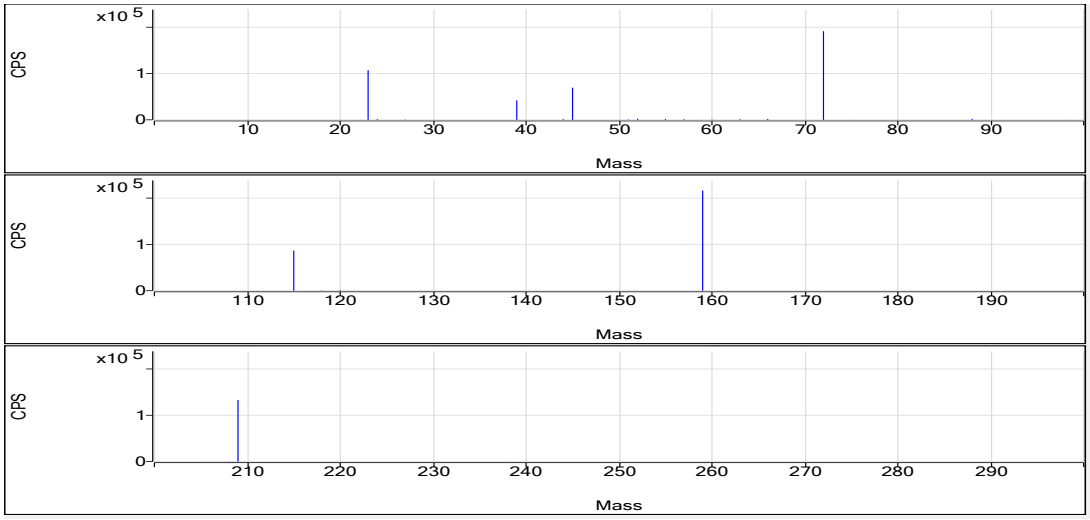


H2



Quantitation Report

He



Quantitation Report

Data File Name	152SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:27:17 PM
Sample Name	410-11319-d-14-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

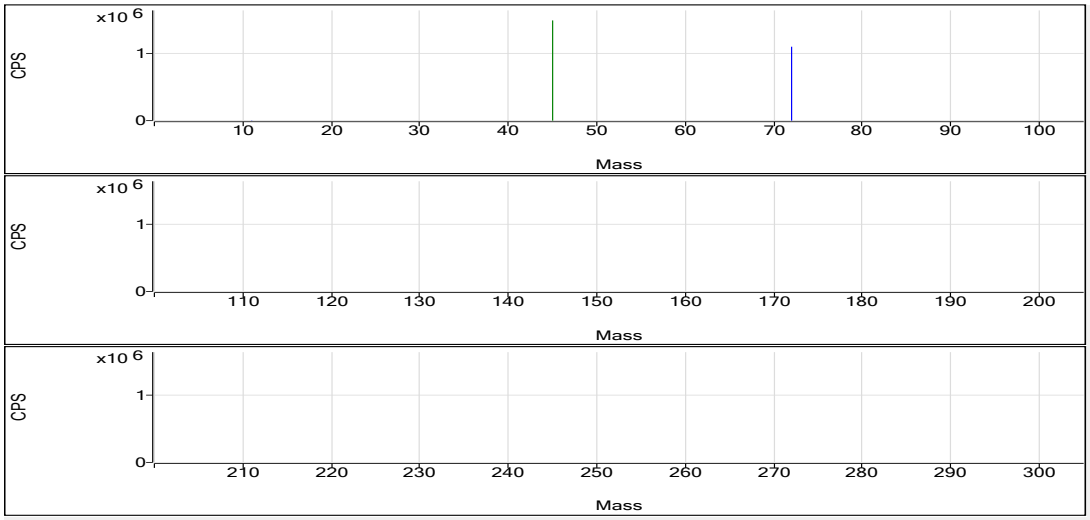
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	-0.007	ppb	N/A	16.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	2.406	ppb	11.0	3951.88	0.0027	Pulse	0.5000	3
Se	78	115	H2	-0.008	ppb	N/A	1.33	0.0000	Pulse	1.5000	3
Na	23	45	He	476.489	ppb	0.1	101229.60	1.4854	Pulse	0.1000	3
Mg	24	45	He	14.379	ppb	11.7	1490.12	0.0219	Pulse	0.1000	3
Al	27	45	He	12.454	ppb	6.8	613.37	0.0090	Pulse	0.1000	3
K	39	45	He	26.986	ppb	85.9	42315.07	0.6209	Pulse	0.1000	3
Ca	44	45	He	161.375	ppb	15.3	1046.74	0.0154	Pulse	0.1000	3
Ti	47	45	He	0.198	ppb	86.6	6.67	0.0001	Pulse	0.1000	3
V	51	45	He	-0.392	ppb	N/A	670.04	0.0098	Pulse	0.1000	3
Cr	52	45	He	0.496	ppb	55.8	2226.91	0.0327	Pulse	0.1000	3
Mn	55	45	He	0.794	ppb	25.9	1860.19	0.0273	Pulse	0.1000	3
Fe	57	45	He	4.941	ppb	23.5	333.35	0.0049	Pulse	0.1000	3
Co	59	115	He	-0.015	ppb	N/A	96.67	0.0011	Pulse	0.1000	3
Ni	60	115	He	0.115	ppb	182.8	716.71	0.0083	Pulse	0.1000	3
Cu	63	115	He	0.068	ppb	86.5	1220.09	0.0142	Pulse	0.1000	3
Zn	66	115	He	0.012	ppb	7666.5	1773.50	0.0206	Pulse	0.1000	3
As	75	115	He	-0.261	ppb	N/A	54.00	0.0006	Pulse	0.5000	3
Sr	88	115	He	0.467	ppb	7.3	596.70	0.0069	Pulse	0.1000	3
Mo	98	115	He	0.065	ppb	7.7	83.33	0.0010	Pulse	0.1000	3
Ag	107	115	He	0.000	ppb	2730.7	63.34	0.0007	Pulse	0.1000	3
Cd	111	115	He	-0.004	ppb	N/A	0.67	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.537	ppb	10.0	1763.51	0.0205	Pulse	0.1000	3
Sb	121	72	He	0.020	ppb	177.3	53.33	0.0003	Pulse	0.1000	3
Ba	137	115	He	0.565	ppb	30.6	256.68	0.0030	Pulse	0.1000	3
Tl	205	209	He	-0.001	ppb	N/A	100.00	0.0008	Pulse	0.1000	3
Pb	208	209	He	-0.007	ppb	N/A	523.36	0.0039	Pulse	0.1000	3
U	238	209	He	-0.001	ppb	N/A	10.00	0.0001	Pulse	0.1000	3

Quantitation Report

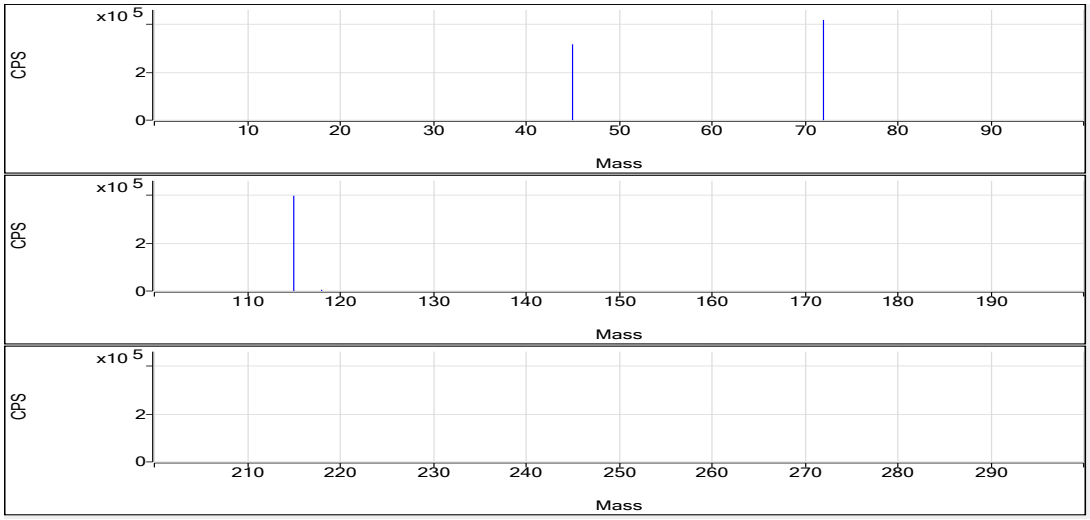
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1489395.76	1.3	99.6	Analog	0.1000	3
No Gas	Ge	72	1098494.67	1.3	98.7	Pulse	0.1000	3
H2	Sc	45	317602.44	0.8	107.2	Pulse	0.1000	3
H2	Ge	72	419673.47	0.2	107.7	Pulse	0.1000	3
H2	In	115	399083.69	0.9	106.3	Pulse	0.1000	3
He	Sc	45	68148.87	0.5	103.3	Pulse	0.1000	3
He	Ge	72	191313.76	0.2	101.9	Pulse	0.1000	3
He	In	115	86031.46	1.6	103.9	Pulse	0.1000	3
He	Tb	159	215961.96	0.4	102.7	Pulse	0.1000	3
He	Bi	209	133281.53	0.0	103.9	Pulse	0.1000	3

No Gas

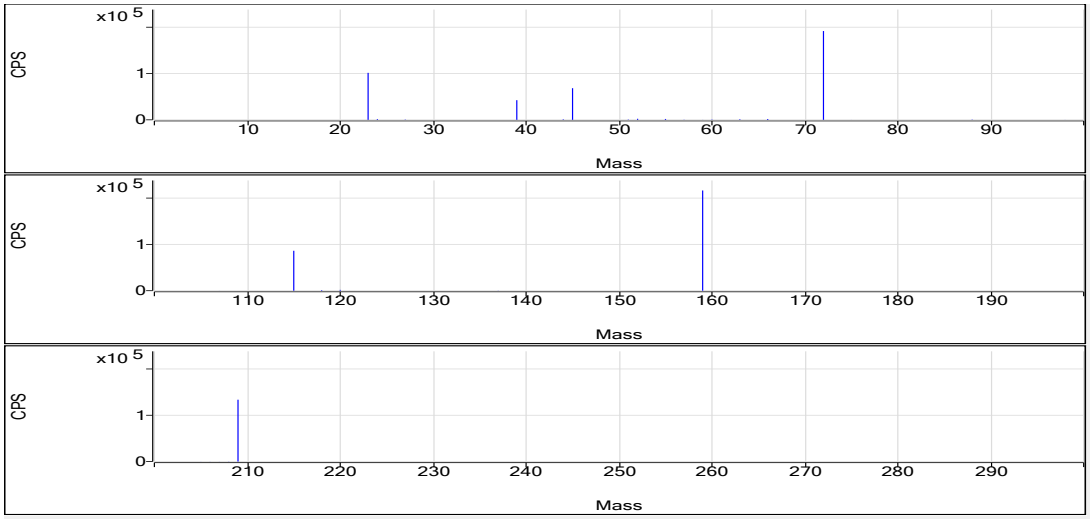


H2



Quantitation Report

He



Quantitation Report

Data File Name	153_CCV.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:29:10 PM
Sample Name	ccv 361008
Sample Type	CCV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

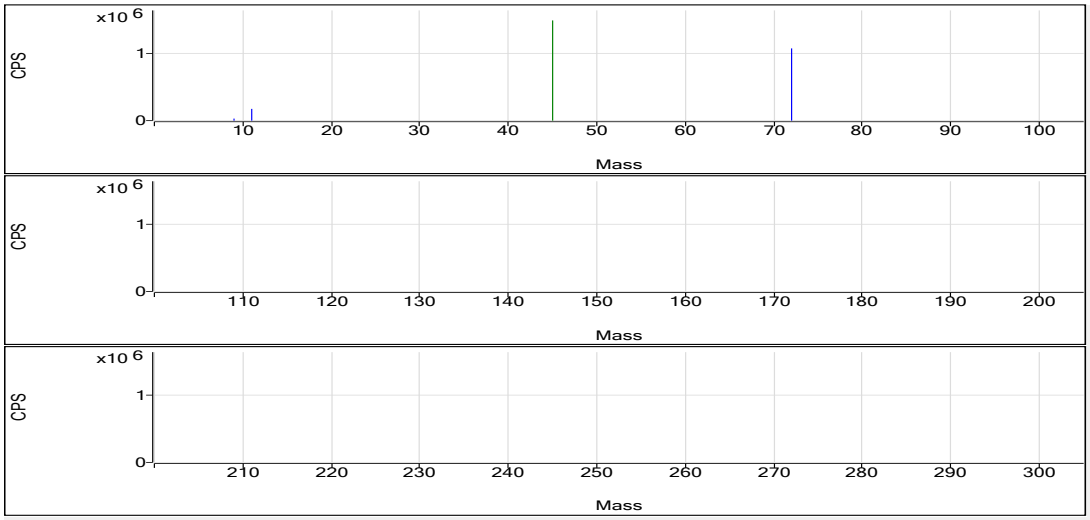
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	31.261	ppb	2.4	30412.59	0.0204	Pulse	0.5000	3
B	11	45	No Gas	309.935	ppb	2.8	174557.14	0.1173	Pulse	0.5000	3
Se	78	115	H2	30.106	ppb	0.6	2784.50	0.0071	Pulse	1.5000	3
Na	23	45	He	4811.613	ppb	0.9	897906.78	13.2431	Pulse	0.1000	3
Mg	24	45	He	5163.654	ppb	1.7	452953.25	6.6809	Pulse	0.1000	3
Al	27	45	He	5184.645	ppb	0.8	178953.89	2.6393	Pulse	0.1000	3
K	39	45	He	5141.620	ppb	1.4	560531.48	8.2674	Pulse	0.1000	3
Ca	44	45	He	5290.067	ppb	0.9	27075.61	0.3993	Pulse	0.1000	3
Ti	47	45	He	300.259	ppb	4.8	10083.83	0.1487	Pulse	0.1000	3
V	51	45	He	303.360	ppb	0.9	340359.45	5.0199	Pulse	0.1000	3
Cr	52	45	He	294.184	ppb	1.2	406781.81	5.9997	Pulse	0.1000	3
Mn	55	45	He	305.957	ppb	1.4	229880.24	3.3906	Pulse	0.1000	3
Fe	57	45	He	5130.681	ppb	1.1	137942.93	2.0345	Pulse	0.1000	3
Co	59	115	He	282.345	ppb	0.4	636459.05	7.4619	Pulse	0.1000	3
Ni	60	115	He	305.626	ppb	0.6	168029.79	1.9699	Pulse	0.1000	3
Cu	63	115	He	301.643	ppb	1.1	448420.45	5.2575	Pulse	0.1000	3
Zn	66	115	He	302.198	ppb	2.8	71765.09	0.8415	Pulse	0.1000	3
As	75	115	He	302.473	ppb	1.1	58572.24	0.6867	Pulse	0.5000	3
Sr	88	115	He	30.839	ppb	0.5	33941.20	0.3979	Pulse	0.1000	3
Mo	98	115	He	30.440	ppb	3.3	38971.05	0.4569	Pulse	0.1000	3
Ag	107	115	He	30.393	ppb	0.9	72276.18	0.8474	Pulse	0.1000	3
Cd	111	115	He	30.094	ppb	0.8	10306.48	0.1208	Pulse	0.5000	3
Sn	120	115	He	30.007	ppb	0.6	36903.05	0.4326	Pulse	0.1000	3
Sb	121	72	He	30.553	ppb	1.2	34316.39	0.1835	Pulse	0.1000	3
Ba	137	115	He	306.440	ppb	1.4	130785.06	1.5334	Pulse	0.1000	3
Tl	205	209	He	30.487	ppb	1.0	116176.71	0.8845	Pulse	0.1000	3
Pb	208	209	He	30.398	ppb	1.1	160750.31	1.2239	Pulse	0.1000	3
U	238	209	He	50.903	ppb	0.7	252006.29	1.9186	Pulse	0.1000	3

Quantitation Report

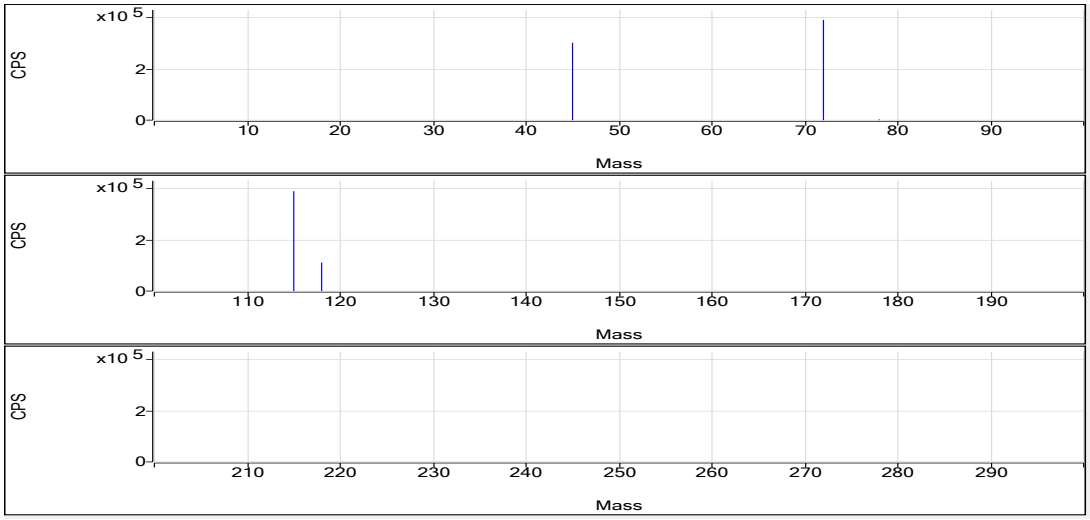
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1487859.93	1.1	99.5	Analog	0.1000	3
No Gas	Ge	72	1072454.28	0.9	96.4	Pulse	0.1000	3
H2	Sc	45	302333.96	1.0	102.0	Pulse	0.1000	3
H2	Ge	72	391433.59	0.4	100.4	Pulse	0.1000	3
H2	In	115	389896.75	1.2	103.8	Pulse	0.1000	3
He	Sc	45	67807.43	1.3	102.8	Pulse	0.1000	3
He	Ge	72	187031.10	1.1	99.6	Pulse	0.1000	3
He	In	115	85296.10	0.7	103.1	Pulse	0.1000	3
He	Tb	159	218465.62	0.5	103.9	Pulse	0.1000	3
He	Bi	209	131352.33	1.0	102.3	Pulse	0.1000	3

No Gas

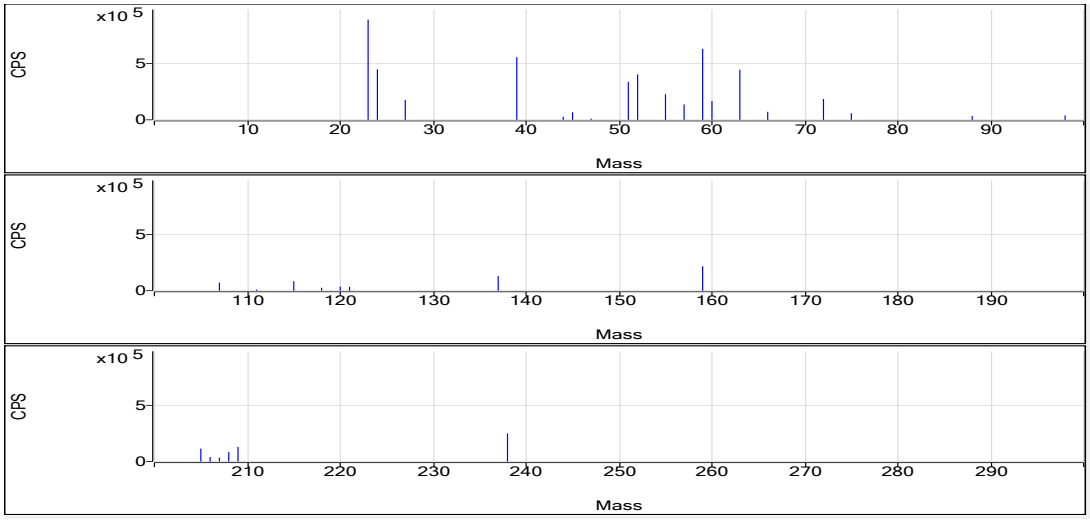


H2



Quantitation Report

He



Quantitation Report

Data File Name	154_CCB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:31:04 PM
Sample Name	ccb 360854
Sample Type	CCB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

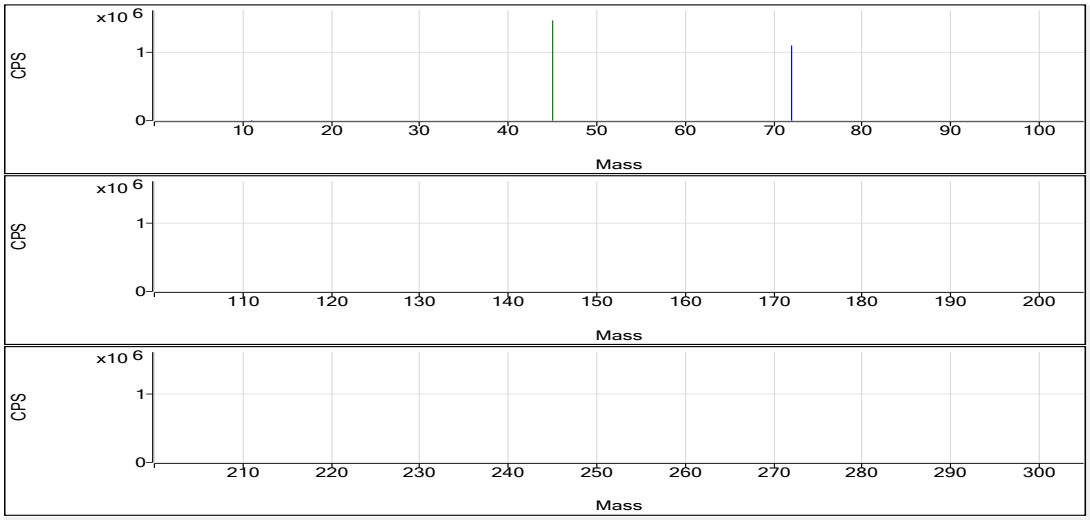
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.006	ppb	172.6	29.33	0.0000	Pulse	0.5000	3
B	11	45	No Gas	9.567	ppb	4.7	7773.38	0.0053	Pulse	0.5000	3
Se	78	115	H2	0.028	ppb	67.5	4.67	0.0000	Pulse	1.5000	3
Na	23	45	He	8.588	ppb	27.1	14424.01	0.2164	Pulse	0.1000	3
Mg	24	45	He	2.839	ppb	22.6	463.35	0.0069	Pulse	0.1000	3
Al	27	45	He	-0.320	ppb	N/A	166.68	0.0025	Pulse	0.1000	3
K	39	45	He	3.312	ppb	381.7	39025.72	0.5855	Pulse	0.1000	3
Ca	44	45	He	8.277	ppb	93.7	260.01	0.0039	Pulse	0.1000	3
Ti	47	45	He	0.405	ppb	44.2	13.33	0.0002	Pulse	0.1000	3
V	51	45	He	0.031	ppb	118.7	1120.08	0.0168	Pulse	0.1000	3
Cr	52	45	He	0.205	ppb	29.7	1783.50	0.0268	Pulse	0.1000	3
Mn	55	45	He	0.252	ppb	79.3	1420.12	0.0213	Pulse	0.1000	3
Fe	57	45	He	2.319	ppb	42.4	256.68	0.0039	Pulse	0.1000	3
Co	59	115	He	0.031	ppb	121.5	196.67	0.0024	Pulse	0.1000	3
Ni	60	115	He	0.290	ppb	64.7	790.05	0.0095	Pulse	0.1000	3
Cu	63	115	He	0.047	ppb	150.2	1153.42	0.0138	Pulse	0.1000	3
Zn	66	115	He	-0.977	ppb	N/A	1496.80	0.0179	Pulse	0.1000	3
As	75	115	He	-0.002	ppb	N/A	101.33	0.0012	Pulse	0.5000	3
Sr	88	115	He	0.279	ppb	19.7	376.69	0.0045	Pulse	0.1000	3
Mo	98	115	He	0.074	ppb	42.8	93.34	0.0011	Pulse	0.1000	3
Ag	107	115	He	-0.007	ppb	N/A	43.33	0.0005	Pulse	0.1000	3
Cd	111	115	He	-0.004	ppb	N/A	0.67	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.228	ppb	38.5	1350.12	0.0162	Pulse	0.1000	3
Sb	121	72	He	0.118	ppb	16.6	163.34	0.0009	Pulse	0.1000	3
Ba	137	115	He	0.087	ppb	47.7	50.00	0.0006	Pulse	0.1000	3
Tl	205	209	He	0.138	ppb	6.8	623.37	0.0048	Pulse	0.1000	3
Pb	208	209	He	-0.016	ppb	N/A	463.36	0.0035	Pulse	0.1000	3
U	238	209	He	0.012	ppb	19.2	73.33	0.0006	Pulse	0.1000	3

Quantitation Report

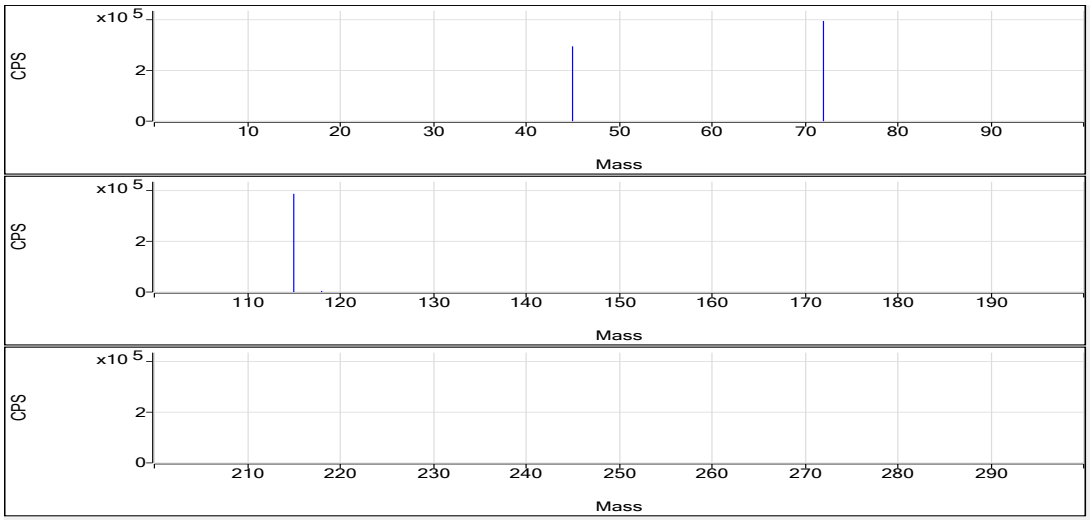
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1459967.74	0.6	97.6	Analog	0.1000	3
No Gas	Ge	72	1094717.85	1.8	98.4	Pulse	0.1000	3
H2	Sc	45	296214.55	2.1	100.0	Pulse	0.1000	3
H2	Ge	72	396733.76	1.8	101.8	Pulse	0.1000	3
H2	In	115	388953.85	0.5	103.6	Pulse	0.1000	3
He	Sc	45	66655.56	1.2	101.0	Pulse	0.1000	3
He	Ge	72	188389.24	0.9	100.3	Pulse	0.1000	3
He	In	115	83508.95	0.7	100.9	Pulse	0.1000	3
He	Tb	159	213858.34	0.6	101.7	Pulse	0.1000	3
He	Bi	209	130547.54	0.3	101.7	Pulse	0.1000	3

No Gas

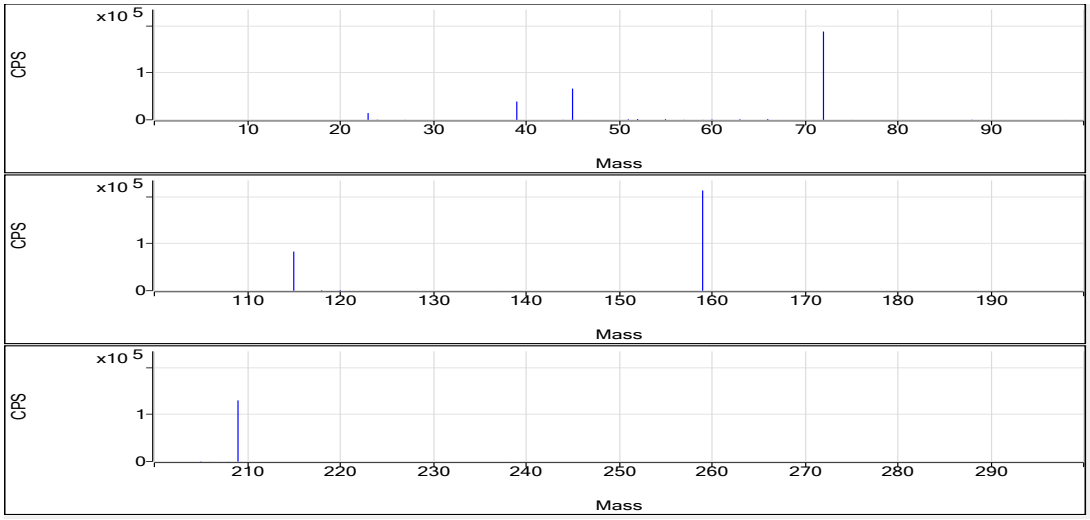


H2



Quantitation Report

He



Quantitation Report

Data File Name	155SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:34:36 PM
Sample Name	mb 410-32636/1-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

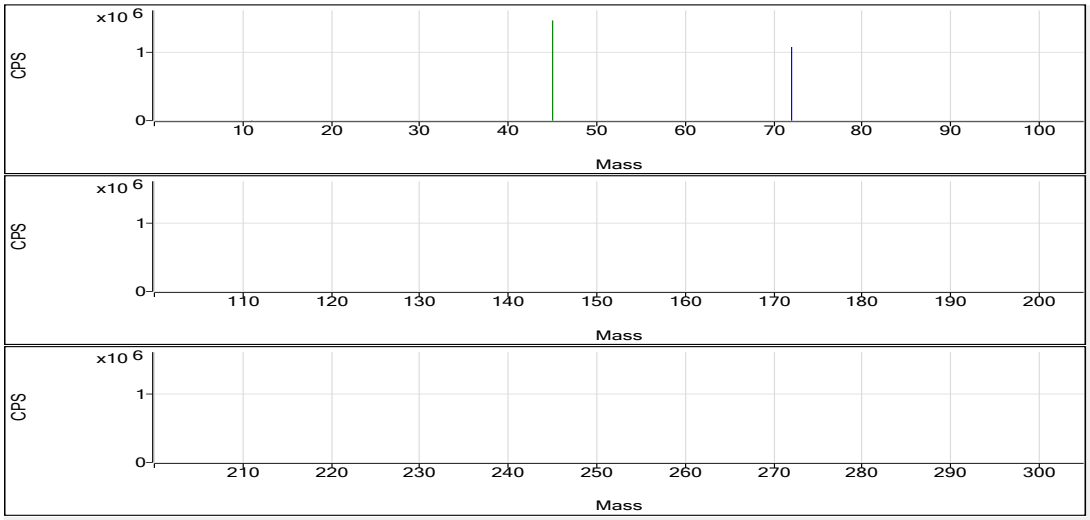
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	-0.009	ppb	N/A	14.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	2.003	ppb	3.7	3685.80	0.0025	Pulse	0.5000	3
Se	78	115	H2	-0.006	ppb	N/A	1.56	0.0000	Pulse	1.5000	3
Na	23	45	He	7.306	ppb	40.1	14631.02	0.2129	Pulse	0.1000	3
Mg	24	45	He	1.556	ppb	76.6	363.35	0.0053	Pulse	0.1000	3
Al	27	45	He	-1.057	ppb	N/A	146.67	0.0021	Pulse	0.1000	3
K	39	45	He	12.561	ppb	169.3	41194.86	0.5993	Pulse	0.1000	3
Ca	44	45	He	-1.044	ppb	N/A	220.01	0.0032	Pulse	0.1000	3
Ti	47	45	He	0.099	ppb	173.2	3.33	0.0000	Pulse	0.1000	3
V	51	45	He	-0.335	ppb	N/A	740.05	0.0108	Pulse	0.1000	3
Cr	52	45	He	0.363	ppb	46.9	2060.21	0.0300	Pulse	0.1000	3
Mn	55	45	He	0.421	ppb	30.5	1593.50	0.0232	Pulse	0.1000	3
Fe	57	45	He	1.165	ppb	164.2	233.34	0.0034	Pulse	0.1000	3
Co	59	115	He	-0.017	ppb	N/A	93.33	0.0011	Pulse	0.1000	3
Ni	60	115	He	-0.036	ppb	N/A	630.03	0.0074	Pulse	0.1000	3
Cu	63	115	He	0.000	ppb	N/A	1110.09	0.0130	Pulse	0.1000	3
Zn	66	115	He	-0.919	ppb	N/A	1546.81	0.0181	Pulse	0.1000	3
As	75	115	He	-0.004	ppb	N/A	103.33	0.0012	Pulse	0.5000	3
Sr	88	115	He	0.162	ppb	34.7	256.68	0.0030	Pulse	0.1000	3
Mo	98	115	He	0.127	ppb	55.4	163.34	0.0019	Pulse	0.1000	3
Ag	107	115	He	-0.008	ppb	N/A	43.33	0.0005	Pulse	0.1000	3
Cd	111	115	He	-0.002	ppb	N/A	1.33	0.0000	Pulse	0.5000	3
Sn	120	115	He	-0.120	ppb	N/A	966.74	0.0113	Pulse	0.1000	3
Sb	121	72	He	0.020	ppb	92.5	53.33	0.0003	Pulse	0.1000	3
Ba	137	115	He	0.053	ppb	90.4	36.67	0.0004	Pulse	0.1000	3
Tl	205	209	He	0.038	ppb	18.9	250.01	0.0019	Pulse	0.1000	3
Pb	208	209	He	-0.017	ppb	N/A	466.68	0.0035	Pulse	0.1000	3
U	238	209	He	0.001	ppb	389.7	16.67	0.0001	Pulse	0.1000	3

Quantitation Report

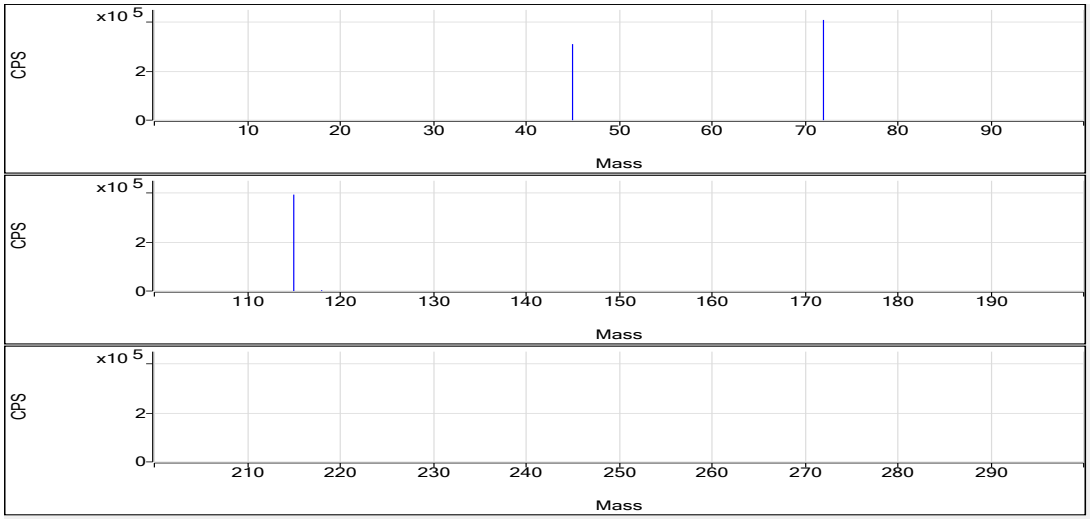
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1472206.64	1.9	98.5	Analog	0.1000	3
No Gas	Ge	72	1081969.05	0.4	97.2	Pulse	0.1000	3
H2	Sc	45	311137.32	0.5	105.0	Pulse	0.1000	3
H2	Ge	72	410063.94	0.9	105.2	Pulse	0.1000	3
H2	In	115	394482.16	0.5	105.1	Pulse	0.1000	3
He	Sc	45	68728.47	0.7	104.1	Pulse	0.1000	3
He	Ge	72	192319.84	0.5	102.4	Pulse	0.1000	3
He	In	115	85524.24	0.7	103.3	Pulse	0.1000	3
He	Tb	159	214966.21	1.0	102.2	Pulse	0.1000	3
He	Bi	209	132342.82	1.7	103.1	Pulse	0.1000	3

No Gas

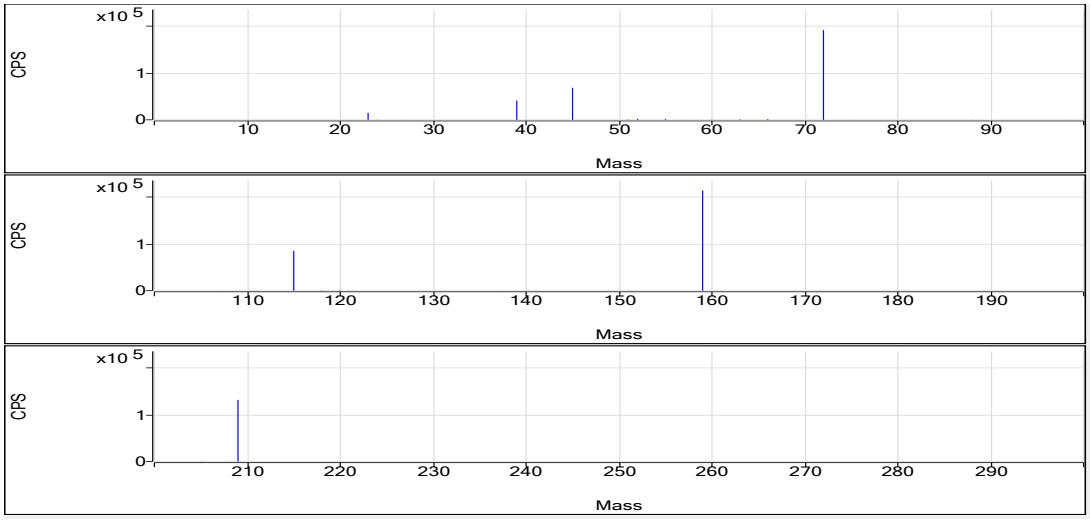


H2



Quantitation Report

He



Quantitation Report

Data File Name	156SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:39:50 PM
Sample Name	lcs 410-32636/2-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

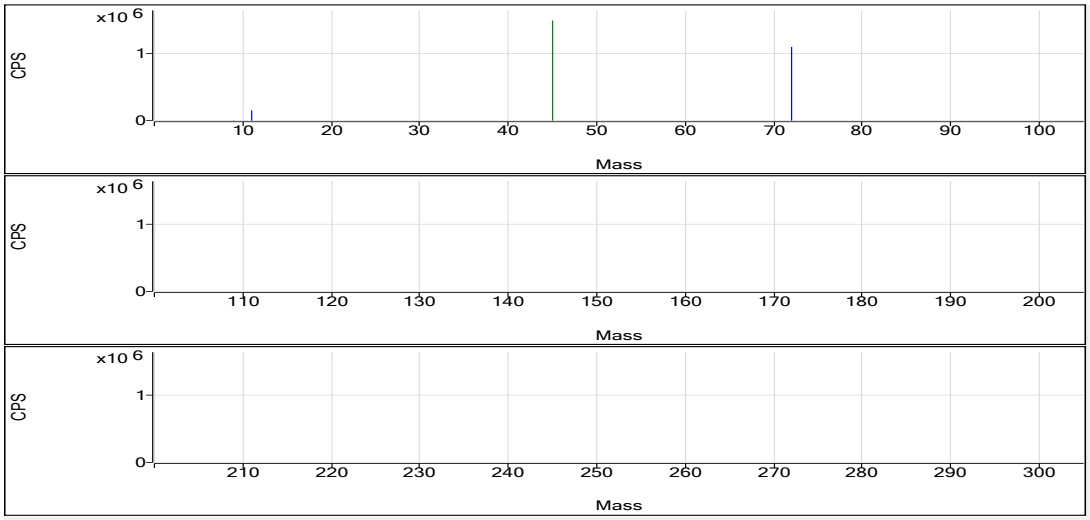
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	4.488	ppb	3.1	4394.00	0.0029	Pulse	0.5000	3
B	11	45	No Gas	272.132	ppb	3.3	153834.19	0.1032	Pulse	0.5000	3
Se	78	115	H2	10.422	ppb	1.6	994.93	0.0025	Pulse	1.5000	3
Na	23	45	He	10656.315	ppb	3.7	2034533.88	29.0950	Analog	0.1000	3
Mg	24	45	He	2197.456	ppb	2.4	198977.78	2.8450	Pulse	0.1000	3
Al	27	45	He	224.408	ppb	4.0	8175.87	0.1168	Pulse	0.1000	3
K	39	45	He	11281.239	ppb	4.6	1221289.18	17.4464	Mix	0.1000	3
Ca	44	45	He	4389.090	ppb	1.9	23212.24	0.3319	Pulse	0.1000	3
Ti	47	45	He	259.780	ppb	4.2	8999.75	0.1287	Pulse	0.1000	3
V	51	45	He	53.055	ppb	4.4	62323.53	0.8914	Pulse	0.1000	3
Cr	52	45	He	51.338	ppb	3.1	74524.20	1.0657	Pulse	0.1000	3
Mn	55	45	He	53.882	ppb	2.0	42836.85	0.6124	Pulse	0.1000	3
Fe	57	45	He	321.877	ppb	2.9	9119.80	0.1304	Pulse	0.1000	3
Co	59	115	He	252.946	ppb	1.7	576690.62	6.6851	Pulse	0.1000	3
Ni	60	115	He	53.792	ppb	3.2	30452.66	0.3530	Pulse	0.1000	3
Cu	63	115	He	54.116	ppb	3.0	82293.73	0.9539	Pulse	0.1000	3
Zn	66	115	He	543.319	ppb	1.7	129088.64	1.4964	Pulse	0.1000	3
As	75	115	He	10.700	ppb	2.4	2196.85	0.0255	Pulse	0.5000	3
Sr	88	115	He	43.171	ppb	2.0	48021.74	0.5567	Pulse	0.1000	3
Mo	98	115	He	52.738	ppb	2.3	68288.44	0.7917	Pulse	0.1000	3
Ag	107	115	He	52.273	ppb	1.8	125675.49	1.4569	Pulse	0.1000	3
Cd	111	115	He	5.292	ppb	1.9	1834.80	0.0213	Pulse	0.5000	3
Sn	120	115	He	52.092	ppb	1.3	63967.44	0.7415	Pulse	0.1000	3
Sb	121	72	He	5.678	ppb	2.4	6605.09	0.0342	Pulse	0.1000	3
Ba	137	115	He	52.684	ppb	0.6	22755.96	0.2638	Pulse	0.1000	3
Tl	205	209	He	2.254	ppb	3.0	8533.05	0.0661	Pulse	0.1000	3
Pb	208	209	He	5.413	ppb	0.4	28579.90	0.2214	Pulse	0.1000	3
U	238	209	He	0.000	ppb	N/A	13.33	0.0001	Pulse	0.1000	3

Quantitation Report

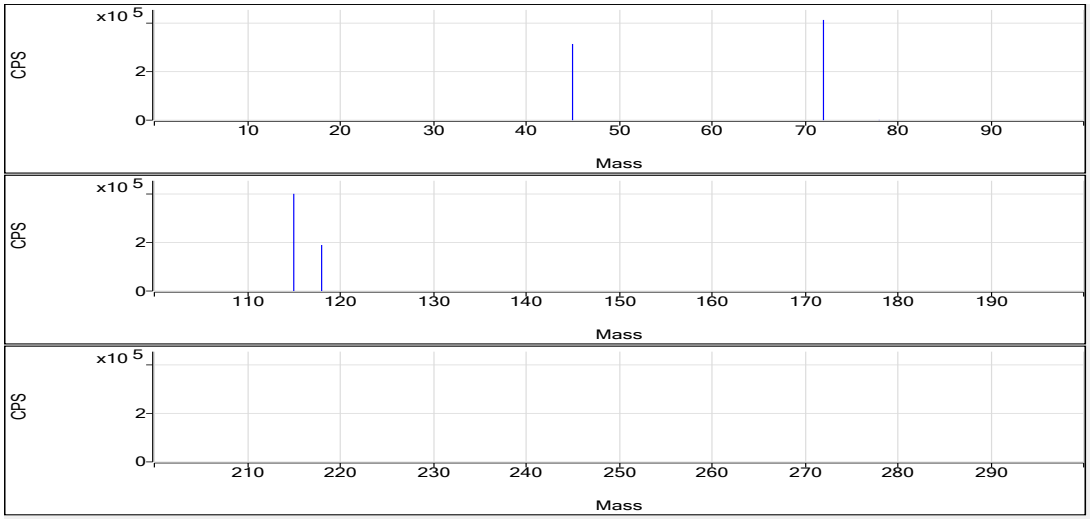
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1490609.61	1.9	99.7	Analog	0.1000	3
No Gas	Ge	72	1096213.06	1.1	98.5	Pulse	0.1000	3
H2	Sc	45	314953.37	1.9	106.3	Pulse	0.1000	3
H2	Ge	72	414386.18	2.0	106.3	Pulse	0.1000	3
H2	In	115	401932.17	1.1	107.0	Pulse	0.1000	3
He	Sc	45	69964.09	2.3	106.0	Pulse	0.1000	3
He	Ge	72	192914.47	1.6	102.7	Pulse	0.1000	3
He	In	115	86272.38	0.9	104.2	Pulse	0.1000	3
He	Tb	159	215172.92	0.2	102.3	Pulse	0.1000	3
He	Bi	209	129081.63	1.2	100.6	Pulse	0.1000	3

No Gas

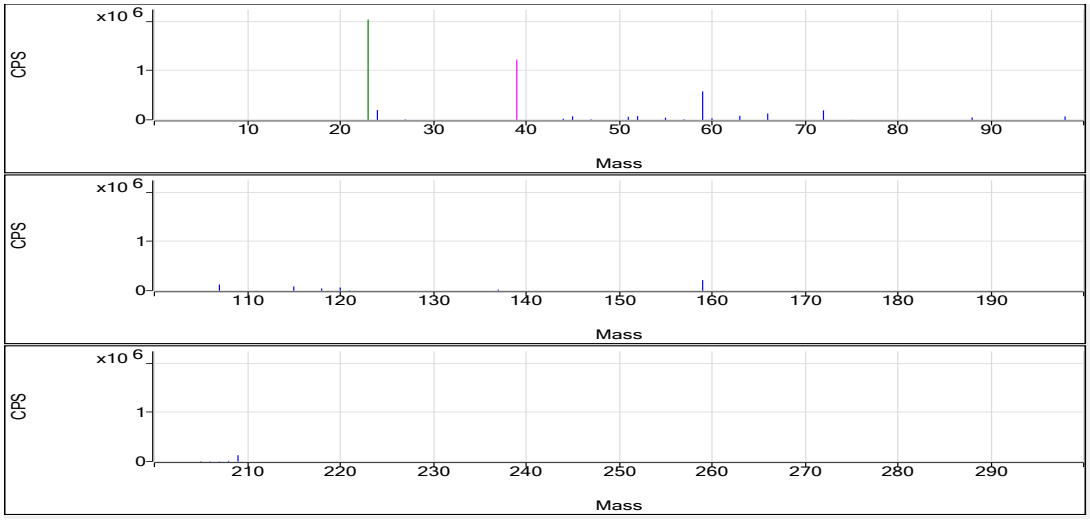


H2



Quantitation Report

He



Quantitation Report

Data File Name	157SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:41:43 PM
Sample Name	410-10452-i-4-a @20
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

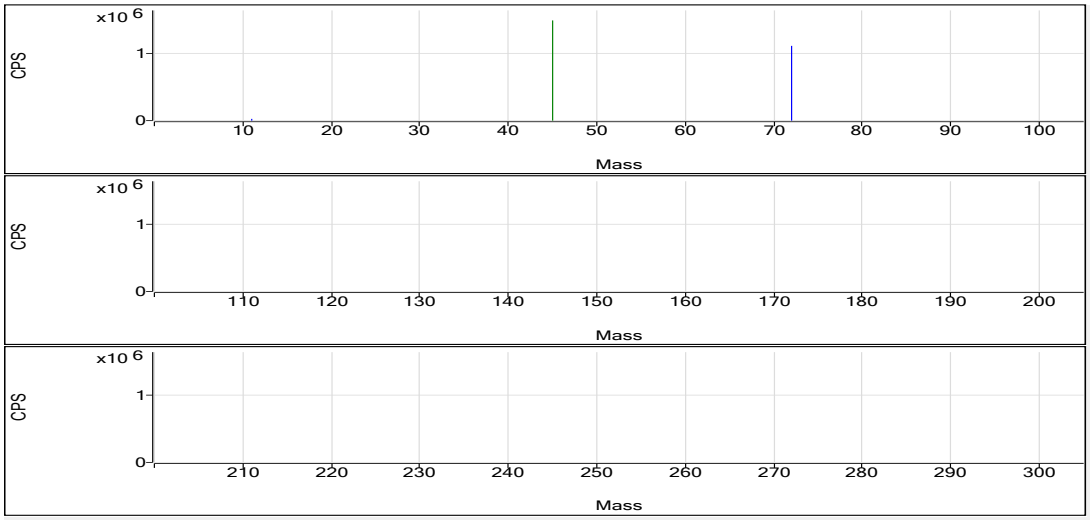
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	-0.005	ppb	N/A	19.33	0.0000	Pulse	0.5000	3
B	11	45	No Gas	42.622	ppb	3.1	26221.47	0.0177	Pulse	0.5000	3
Se	78	115	H2	0.082	ppb	48.0	9.78	0.0000	Pulse	1.5000	3
Na	23	45	He	38372.635	ppb	2.3	7123356.98	104.2667	Analog	0.1000	3
Mg	24	45	He	5906.721	ppb	2.0	522070.34	7.6419	Pulse	0.1000	3
Al	27	45	He	1.084	ppb	39.9	220.01	0.0032	Pulse	0.1000	3
K	39	45	He	129.398	ppb	23.9	52858.82	0.7740	Pulse	0.1000	3
Ca	44	45	He	32772.925	ppb	3.0	167816.41	2.4567	Pulse	0.1000	3
Ti	47	45	He	0.598	ppb	86.6	20.00	0.0003	Pulse	0.1000	3
V	51	45	He	3.679	ppb	3.2	5261.16	0.0770	Pulse	0.1000	3
Cr	52	45	He	0.847	ppb	4.5	2720.36	0.0398	Pulse	0.1000	3
Mn	55	45	He	301.024	ppb	2.1	227928.92	3.3362	Pulse	0.1000	3
Fe	57	45	He	20.426	ppb	6.0	753.38	0.0110	Pulse	0.1000	3
Co	59	115	He	0.105	ppb	13.2	370.02	0.0043	Pulse	0.1000	3
Ni	60	115	He	4.360	ppb	1.9	3057.09	0.0356	Pulse	0.1000	3
Cu	63	115	He	-0.051	ppb	N/A	1040.08	0.0121	Pulse	0.1000	3
Zn	66	115	He	-0.371	ppb	N/A	1680.15	0.0196	Pulse	0.1000	3
As	75	115	He	6392.389	ppb	0.5	1244157.00	14.4886	Pulse	0.5000	3
Sr	88	115	He	57.063	ppb	1.4	63157.38	0.7355	Pulse	0.1000	3
Mo	98	115	He	1.104	ppb	6.2	1423.45	0.0166	Pulse	0.1000	3
Ag	107	115	He	-0.015	ppb	N/A	26.67	0.0003	Pulse	0.1000	3
Cd	111	115	He	0.000	ppb	N/A	2.00	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.468	ppb	26.9	1676.83	0.0195	Pulse	0.1000	3
Sb	121	72	He	0.748	ppb	16.1	893.39	0.0046	Pulse	0.1000	3
Ba	137	115	He	1.713	ppb	9.3	750.05	0.0087	Pulse	0.1000	3
Tl	205	209	He	-0.015	ppb	N/A	43.33	0.0003	Pulse	0.1000	3
Pb	208	209	He	0.024	ppb	52.1	673.37	0.0052	Pulse	0.1000	3
U	238	209	He	0.001	ppb	153.8	20.00	0.0002	Pulse	0.1000	3

Quantitation Report

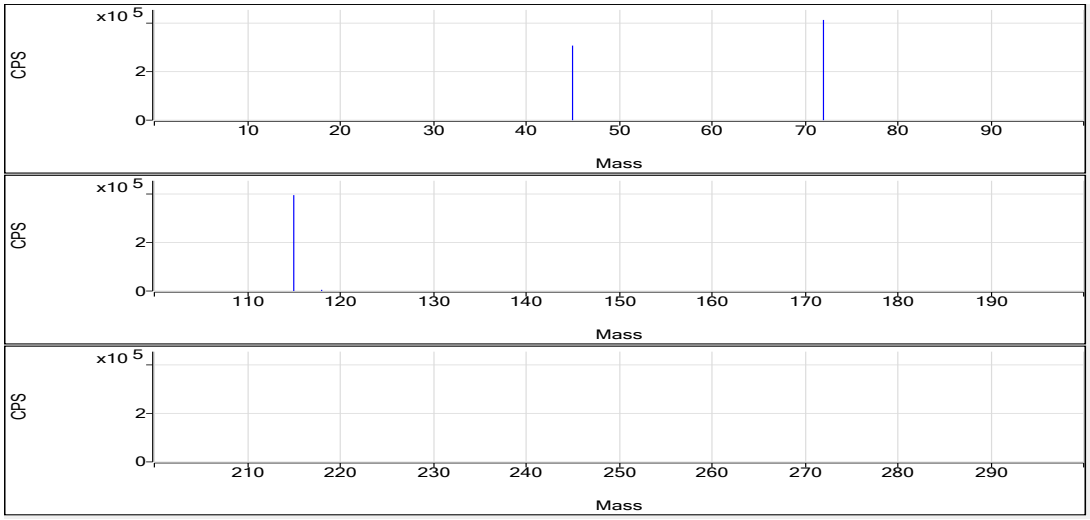
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1485832.48	1.4	99.4	Analog	0.1000	3
No Gas	Ge	72	1108574.31	0.6	99.6	Pulse	0.1000	3
H2	Sc	45	305984.46	2.2	103.3	Pulse	0.1000	3
H2	Ge	72	411248.83	1.8	105.5	Pulse	0.1000	3
H2	In	115	393469.19	2.0	104.8	Pulse	0.1000	3
He	Sc	45	68336.23	2.1	103.6	Pulse	0.1000	3
He	Ge	72	192358.26	0.6	102.4	Pulse	0.1000	3
He	In	115	85873.39	0.9	103.8	Pulse	0.1000	3
He	Tb	159	215030.87	0.7	102.3	Pulse	0.1000	3
He	Bi	209	130780.54	1.0	101.9	Pulse	0.1000	3

No Gas

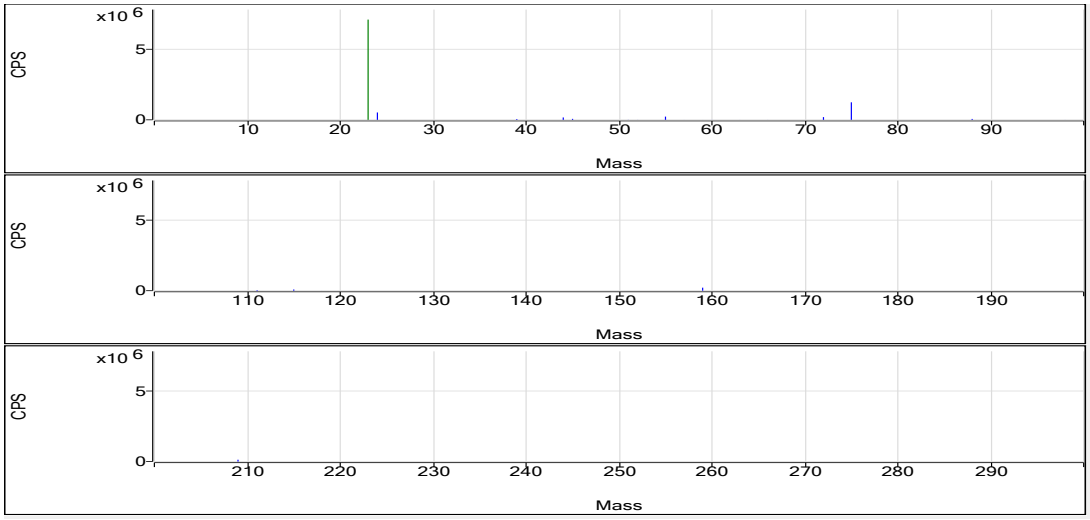


H2



Quantitation Report

He



Quantitation Report

Data File Name	158SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:43:36 PM
Sample Name	PDS 410-10452-i-4-a @20
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

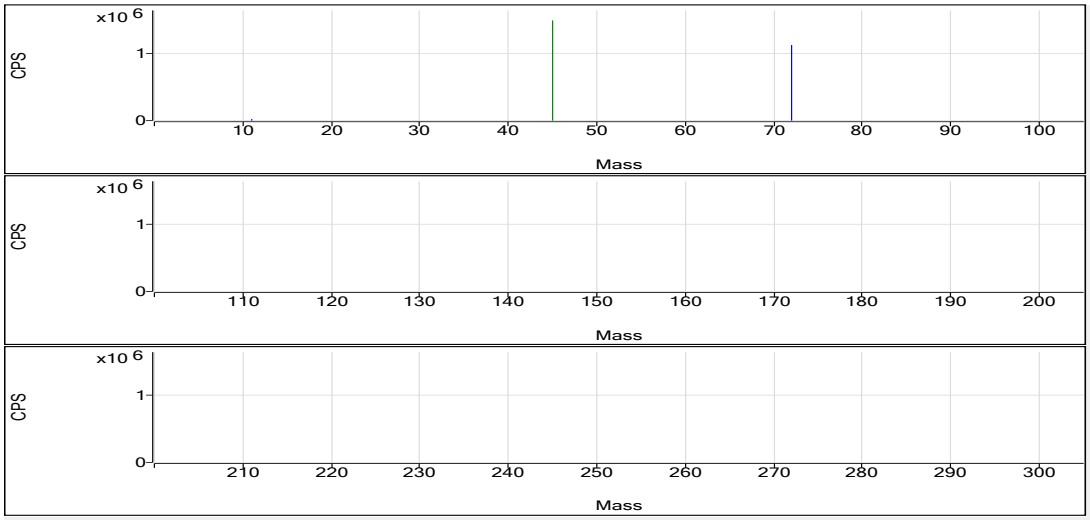
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	1.043	ppb	3.8	1036.04	0.0007	Pulse	0.5000	3
B	11	45	No Gas	38.190	ppb	0.3	23755.40	0.0160	Pulse	0.5000	3
Se	78	115	H2	2.065	ppb	3.9	194.45	0.0005	Pulse	1.5000	3
Na	23	45	He	39415.165	ppb	1.7	7278895.31	107.0942	Analog	0.1000	3
Mg	24	45	He	6087.911	ppb	1.7	535320.66	7.8762	Pulse	0.1000	3
Al	27	45	He	53.042	ppb	8.1	2016.87	0.0296	Pulse	0.1000	3
K	39	45	He	523.997	ppb	7.6	92674.36	1.3639	Pulse	0.1000	3
Ca	44	45	He	33454.822	ppb	1.5	170452.53	2.5078	Pulse	0.1000	3
Ti	47	45	He	19.296	ppb	10.2	650.04	0.0096	Pulse	0.1000	3
V	51	45	He	4.847	ppb	5.4	6541.69	0.0962	Pulse	0.1000	3
Cr	52	45	He	2.898	ppb	2.5	5537.90	0.0815	Pulse	0.1000	3
Mn	55	45	He	308.268	ppb	3.0	232145.13	3.4161	Pulse	0.1000	3
Fe	57	45	He	121.429	ppb	11.8	3463.88	0.0510	Pulse	0.1000	3
Co	59	115	He	1.014	ppb	12.8	2440.30	0.0283	Pulse	0.1000	3
Ni	60	115	He	6.650	ppb	5.5	4327.47	0.0503	Pulse	0.1000	3
Cu	63	115	He	2.017	ppb	3.1	4134.05	0.0481	Pulse	0.1000	3
Zn	66	115	He	21.051	ppb	3.2	6685.10	0.0778	Pulse	0.1000	3
As	75	115	He	6423.497	ppb	2.5	1251526.25	14.5591	Pulse	0.5000	3
Sr	88	115	He	60.071	ppb	3.5	66545.46	0.7742	Pulse	0.1000	3
Mo	98	115	He	2.038	ppb	3.6	2630.36	0.0306	Pulse	0.1000	3
Ag	107	115	He	0.900	ppb	6.7	2216.93	0.0258	Pulse	0.1000	3
Cd	111	115	He	0.957	ppb	9.3	332.68	0.0039	Pulse	0.5000	3
Sn	120	115	He	4.445	ppb	4.9	6458.40	0.0751	Pulse	0.1000	3
Sb	121	72	He	2.491	ppb	4.2	2930.41	0.0151	Pulse	0.1000	3
Ba	137	115	He	5.502	ppb	11.7	2380.29	0.0277	Pulse	0.1000	3
Tl	205	209	He	1.003	ppb	7.5	3927.38	0.0299	Pulse	0.1000	3
Pb	208	209	He	1.061	ppb	2.2	6154.13	0.0468	Pulse	0.1000	3
U	238	209	He	1.989	ppb	4.5	9877.43	0.0751	Pulse	0.1000	3

Quantitation Report

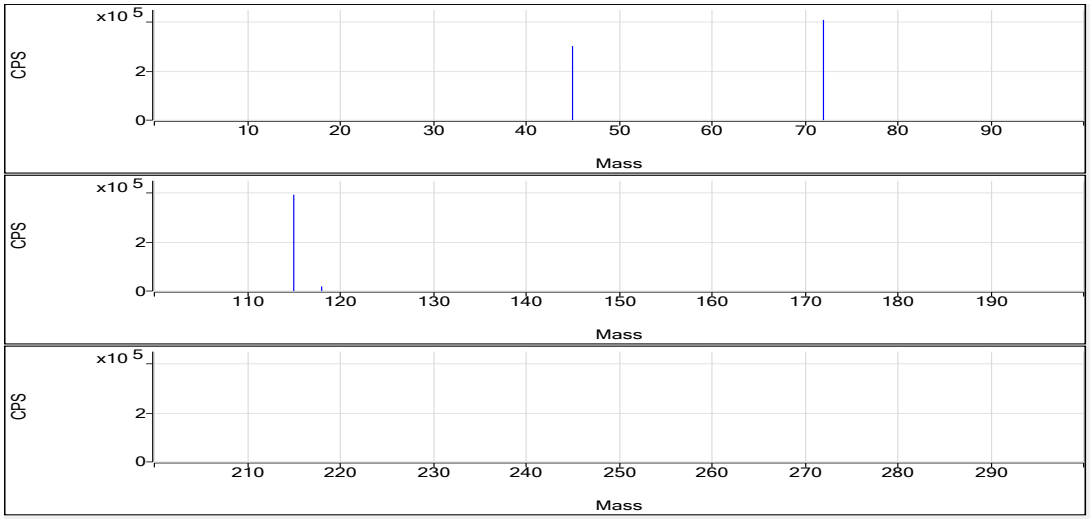
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1484776.85	0.2	99.3	Analog	0.1000	3
No Gas	Ge	72	1120419.57	0.7	100.7	Pulse	0.1000	3
H2	Sc	45	302448.90	0.7	102.1	Pulse	0.1000	3
H2	Ge	72	408964.00	1.5	104.9	Pulse	0.1000	3
H2	In	115	392998.93	1.1	104.7	Pulse	0.1000	3
He	Sc	45	67981.54	1.8	103.0	Pulse	0.1000	3
He	Ge	72	193923.72	1.3	103.2	Pulse	0.1000	3
He	In	115	85993.92	2.3	103.9	Pulse	0.1000	3
He	Tb	159	215561.18	0.4	102.5	Pulse	0.1000	3
He	Bi	209	131578.09	0.7	102.5	Pulse	0.1000	3

No Gas

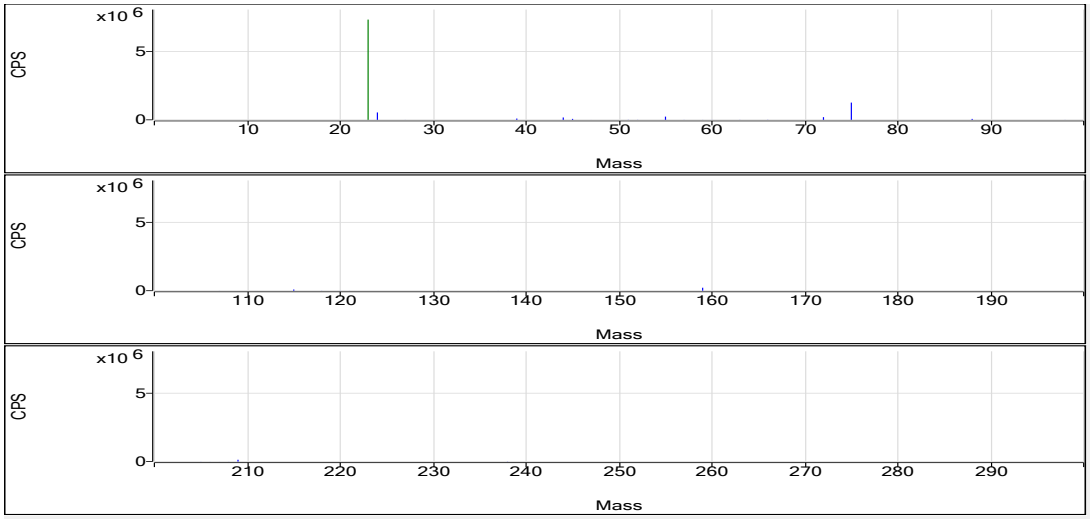


H2



Quantitation Report

He



Quantitation Report

Data File Name	159SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:45:28 PM
Sample Name	410-10452-i-4-b du @20
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

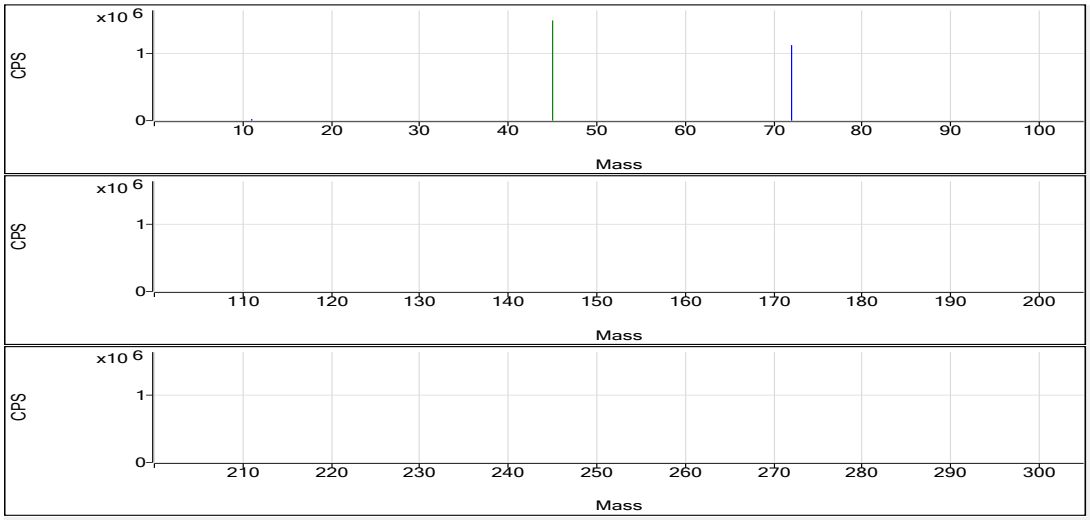
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	-0.008	ppb	N/A	16.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	38.797	ppb	3.4	24253.55	0.0162	Pulse	0.5000	3
Se	78	115	H2	0.079	ppb	44.5	9.55	0.0000	Pulse	1.5000	3
Na	23	45	He	40896.817	ppb	1.9	7423060.30	111.1127	Analog	0.1000	3
Mg	24	45	He	6253.838	ppb	1.4	540530.97	8.0908	Pulse	0.1000	3
Al	27	45	He	1.719	ppb	97.1	236.68	0.0035	Pulse	0.1000	3
K	39	45	He	138.766	ppb	24.7	52624.79	0.7880	Pulse	0.1000	3
Ca	44	45	He	35126.918	ppb	2.3	175885.38	2.6330	Pulse	0.1000	3
Ti	47	45	He	0.099	ppb	173.2	3.33	0.0000	Pulse	0.1000	3
V	51	45	He	4.121	ppb	6.1	5627.95	0.0843	Pulse	0.1000	3
Cr	52	45	He	1.140	ppb	2.3	3057.11	0.0458	Pulse	0.1000	3
Mn	55	45	He	322.695	ppb	2.3	238824.01	3.5751	Pulse	0.1000	3
Fe	57	45	He	21.612	ppb	19.7	766.72	0.0115	Pulse	0.1000	3
Co	59	115	He	0.073	ppb	25.8	290.01	0.0035	Pulse	0.1000	3
Ni	60	115	He	4.531	ppb	6.0	3063.76	0.0367	Pulse	0.1000	3
Cu	63	115	He	0.061	ppb	114.1	1173.43	0.0141	Pulse	0.1000	3
Zn	66	115	He	-0.440	ppb	N/A	1620.14	0.0194	Pulse	0.1000	3
As	75	115	He	7428.037	ppb	1.4	1405697.67	16.8357	Pulse	0.5000	3
Sr	88	115	He	62.902	ppb	1.6	67691.05	0.8107	Pulse	0.1000	3
Mo	98	115	He	1.241	ppb	15.2	1553.47	0.0186	Pulse	0.1000	3
Ag	107	115	He	-0.015	ppb	N/A	26.67	0.0003	Pulse	0.1000	3
Cd	111	115	He	0.000	ppb	N/A	2.00	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.471	ppb	6.3	1633.49	0.0196	Pulse	0.1000	3
Sb	121	72	He	0.751	ppb	8.3	900.07	0.0047	Pulse	0.1000	3
Ba	137	115	He	1.556	ppb	10.5	663.38	0.0079	Pulse	0.1000	3
Tl	205	209	He	-0.015	ppb	N/A	46.67	0.0004	Pulse	0.1000	3
Pb	208	209	He	0.020	ppb	56.1	663.36	0.0050	Pulse	0.1000	3
U	238	209	He	0.002	ppb	120.7	23.33	0.0002	Pulse	0.1000	3

Quantitation Report

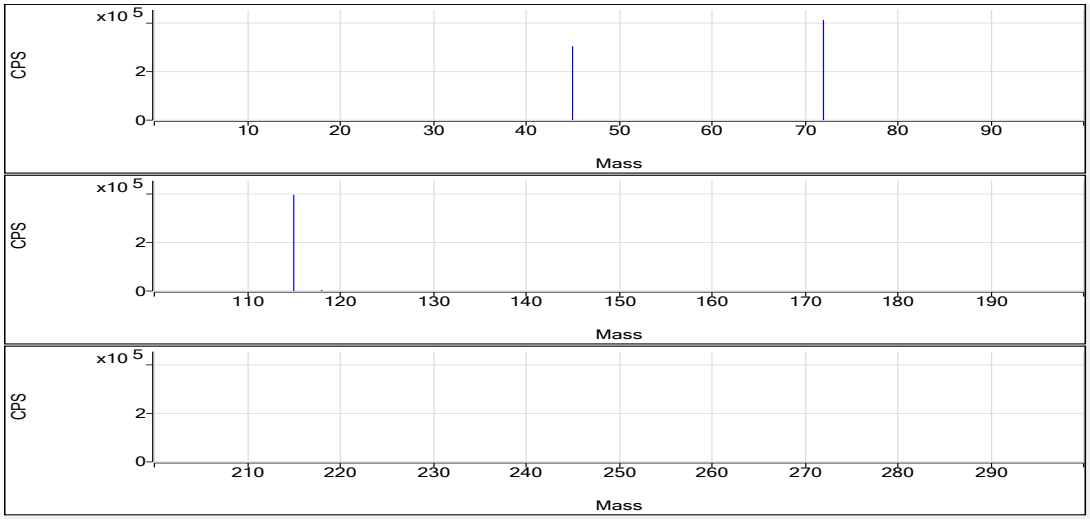
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1494935.03	0.5	100.0	Analog	0.1000	3
No Gas	Ge	72	1126661.63	0.3	101.2	Pulse	0.1000	3
H2	Sc	45	304622.14	1.5	102.8	Pulse	0.1000	3
H2	Ge	72	413201.19	0.6	106.0	Pulse	0.1000	3
H2	In	115	396884.15	0.7	105.7	Pulse	0.1000	3
He	Sc	45	66818.89	1.7	101.3	Pulse	0.1000	3
He	Ge	72	192806.17	0.7	102.7	Pulse	0.1000	3
He	In	115	83505.68	1.4	100.9	Pulse	0.1000	3
He	Tb	159	216165.43	0.7	102.8	Pulse	0.1000	3
He	Bi	209	132645.38	0.9	103.4	Pulse	0.1000	3

No Gas

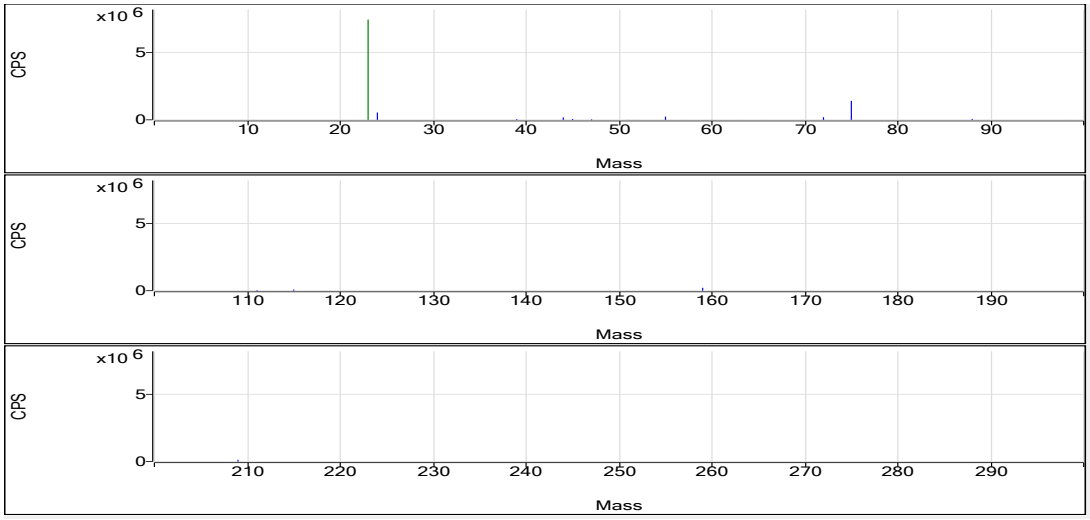


H2



Quantitation Report

He



Quantitation Report

Data File Name	160SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:47:20 PM
Sample Name	410-10452-i-4-c ms @20
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

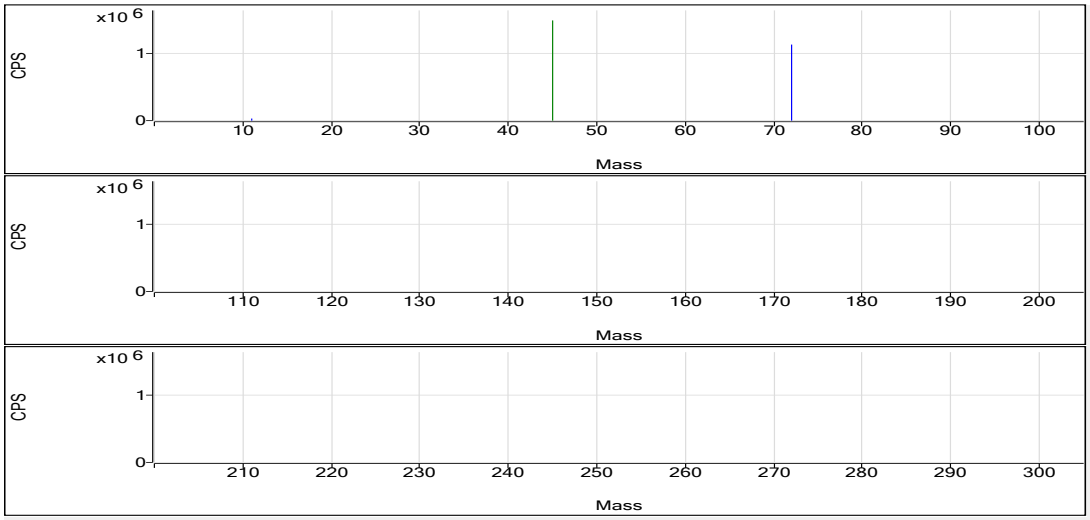
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.209	ppb	15.6	226.67	0.0002	Pulse	0.5000	3
B	11	45	No Gas	51.399	ppb	2.9	31078.01	0.0209	Pulse	0.5000	3
Se	78	115	H2	0.350	ppb	25.8	34.89	0.0001	Pulse	1.5000	3
Na	23	45	He	40048.920	ppb	1.0	7351044.68	108.8131	Analog	0.1000	3
Mg	24	45	He	6177.495	ppb	1.8	539880.02	7.9920	Pulse	0.1000	3
Al	27	45	He	12.034	ppb	20.4	593.37	0.0088	Pulse	0.1000	3
K	39	45	He	657.063	ppb	7.0	105549.33	1.5629	Pulse	0.1000	3
Ca	44	45	He	34139.826	ppb	0.4	172901.99	2.5591	Pulse	0.1000	3
Ti	47	45	He	14.245	ppb	5.3	476.69	0.0071	Pulse	0.1000	3
V	51	45	He	6.440	ppb	2.9	8275.92	0.1225	Pulse	0.1000	3
Cr	52	45	He	3.452	ppb	1.3	6264.87	0.0927	Pulse	0.1000	3
Mn	55	45	He	313.916	ppb	0.9	234986.53	3.4783	Pulse	0.1000	3
Fe	57	45	He	40.208	ppb	6.2	1273.43	0.0189	Pulse	0.1000	3
Co	59	115	He	12.822	ppb	0.9	28896.11	0.3403	Pulse	0.1000	3
Ni	60	115	He	7.242	ppb	7.6	4594.22	0.0541	Pulse	0.1000	3
Cu	63	115	He	2.674	ppb	4.7	5051.05	0.0595	Pulse	0.1000	3
Zn	66	115	He	26.292	ppb	1.6	7812.40	0.0920	Pulse	0.1000	3
As	75	115	He	6989.213	ppb	0.8	1345075.75	15.8412	Pulse	0.5000	3
Sr	88	115	He	61.832	ppb	2.1	67661.03	0.7969	Pulse	0.1000	3
Mo	98	115	He	3.768	ppb	8.7	4800.96	0.0566	Pulse	0.1000	3
Ag	107	115	He	2.605	ppb	4.2	6221.63	0.0733	Pulse	0.1000	3
Cd	111	115	He	0.270	ppb	7.6	94.00	0.0011	Pulse	0.5000	3
Sn	120	115	He	3.056	ppb	4.1	4730.98	0.0557	Pulse	0.1000	3
Sb	121	72	He	1.021	ppb	4.5	1230.11	0.0063	Pulse	0.1000	3
Ba	137	115	He	4.353	ppb	5.9	1863.52	0.0219	Pulse	0.1000	3
Tl	205	209	He	0.085	ppb	33.2	426.69	0.0032	Pulse	0.1000	3
Pb	208	209	He	0.287	ppb	6.9	2066.81	0.0157	Pulse	0.1000	3
U	238	209	He	0.009	ppb	27.0	56.67	0.0004	Pulse	0.1000	3

Quantitation Report

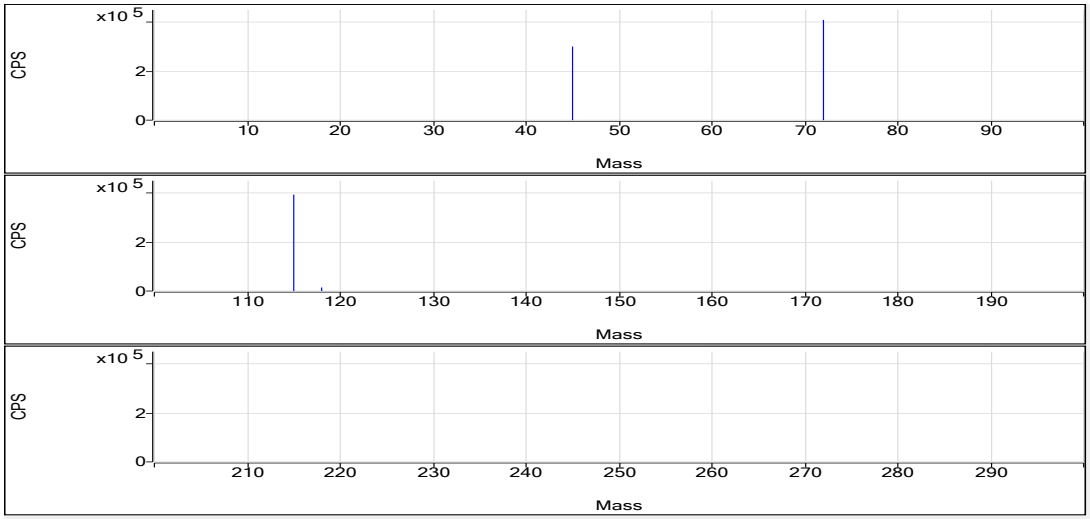
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1485401.65	1.0	99.3	Analog	0.1000	3
No Gas	Ge	72	1127444.75	0.9	101.3	Pulse	0.1000	3
H2	Sc	45	301641.55	1.0	101.8	Pulse	0.1000	3
H2	Ge	72	410656.58	1.6	105.4	Pulse	0.1000	3
H2	In	115	395147.44	0.0	105.2	Pulse	0.1000	3
He	Sc	45	67562.66	1.3	102.4	Pulse	0.1000	3
He	Ge	72	195630.48	0.4	104.2	Pulse	0.1000	3
He	In	115	84913.21	0.8	102.6	Pulse	0.1000	3
He	Tb	159	215231.10	0.7	102.4	Pulse	0.1000	3
He	Bi	209	131457.18	0.8	102.4	Pulse	0.1000	3

No Gas

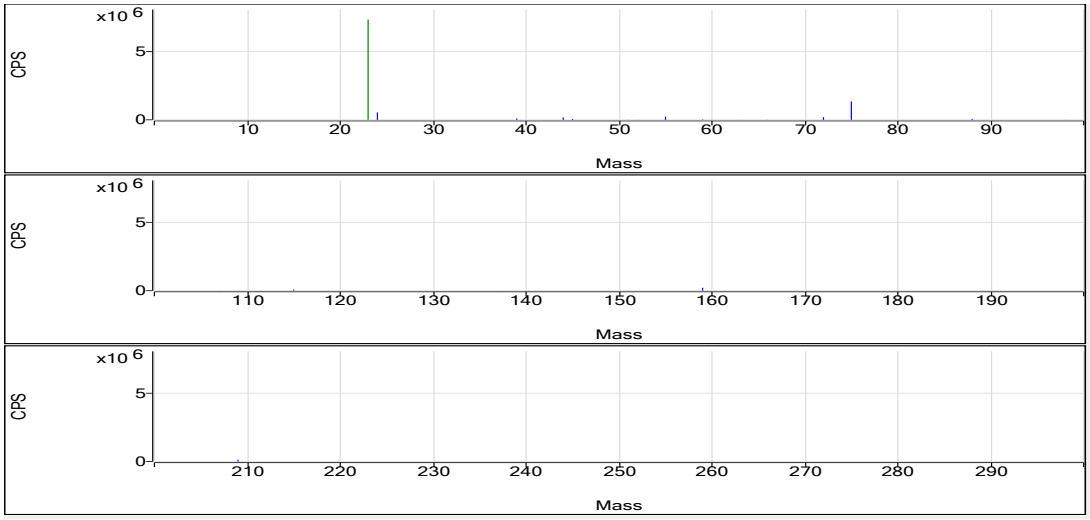


H2



Quantitation Report

He



Quantitation Report

Data File Name	161SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:49:13 PM
Sample Name	410-10452-i-4-d msd @20
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

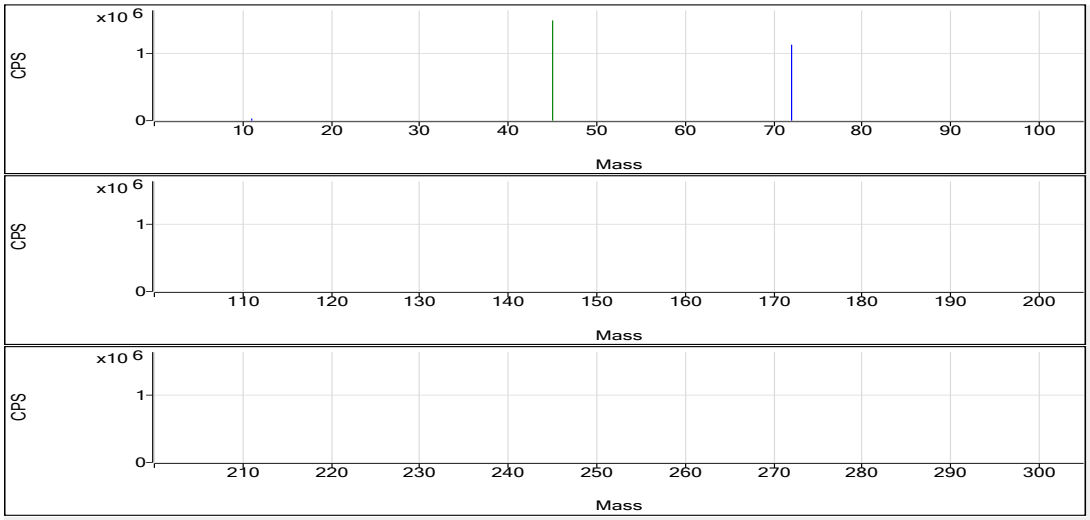
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.207	ppb	5.9	224.00	0.0002	Pulse	0.5000	3
B	11	45	No Gas	52.005	ppb	1.3	31355.86	0.0212	Pulse	0.5000	3
Se	78	115	H2	0.365	ppb	13.5	36.00	0.0001	Pulse	1.5000	3
Na	23	45	He	40874.525	ppb	1.5	7515824.47	111.0523	Analog	0.1000	3
Mg	24	45	He	6349.598	ppb	1.6	555942.06	8.2146	Pulse	0.1000	3
Al	27	45	He	13.645	ppb	14.5	650.04	0.0096	Pulse	0.1000	3
K	39	45	He	676.085	ppb	4.9	107681.19	1.5913	Pulse	0.1000	3
Ca	44	45	He	34804.610	ppb	1.9	176554.06	2.6088	Pulse	0.1000	3
Ti	47	45	He	12.340	ppb	11.2	413.35	0.0061	Pulse	0.1000	3
V	51	45	He	6.820	ppb	6.7	8722.89	0.1288	Pulse	0.1000	3
Cr	52	45	He	3.453	ppb	3.6	6278.23	0.0928	Pulse	0.1000	3
Mn	55	45	He	322.693	ppb	1.1	241966.19	3.5750	Pulse	0.1000	3
Fe	57	45	He	39.390	ppb	8.7	1253.43	0.0185	Pulse	0.1000	3
Co	59	115	He	13.290	ppb	1.7	29600.86	0.3527	Pulse	0.1000	3
Ni	60	115	He	7.656	ppb	4.4	4764.28	0.0568	Pulse	0.1000	3
Cu	63	115	He	2.923	ppb	8.8	5357.87	0.0638	Pulse	0.1000	3
Zn	66	115	He	27.405	ppb	2.4	7975.77	0.0950	Pulse	0.1000	3
As	75	115	He	7776.378	ppb	3.8	1479605.67	17.6252	Mix	0.5000	3
Sr	88	115	He	63.142	ppb	2.2	68300.94	0.8138	Pulse	0.1000	3
Mo	98	115	He	4.149	ppb	2.6	5227.80	0.0623	Pulse	0.1000	3
Ag	107	115	He	2.473	ppb	5.7	5841.39	0.0696	Pulse	0.1000	3
Cd	111	115	He	0.253	ppb	10.7	87.33	0.0010	Pulse	0.5000	3
Sn	120	115	He	2.985	ppb	6.7	4594.27	0.0547	Pulse	0.1000	3
Sb	121	72	He	0.959	ppb	12.0	1146.75	0.0059	Pulse	0.1000	3
Ba	137	115	He	4.174	ppb	5.2	1766.85	0.0210	Pulse	0.1000	3
Tl	205	209	He	0.099	ppb	15.5	483.36	0.0037	Pulse	0.1000	3
Pb	208	209	He	0.286	ppb	2.8	2073.49	0.0157	Pulse	0.1000	3
U	238	209	He	0.007	ppb	73.4	50.00	0.0004	Pulse	0.1000	3

Quantitation Report

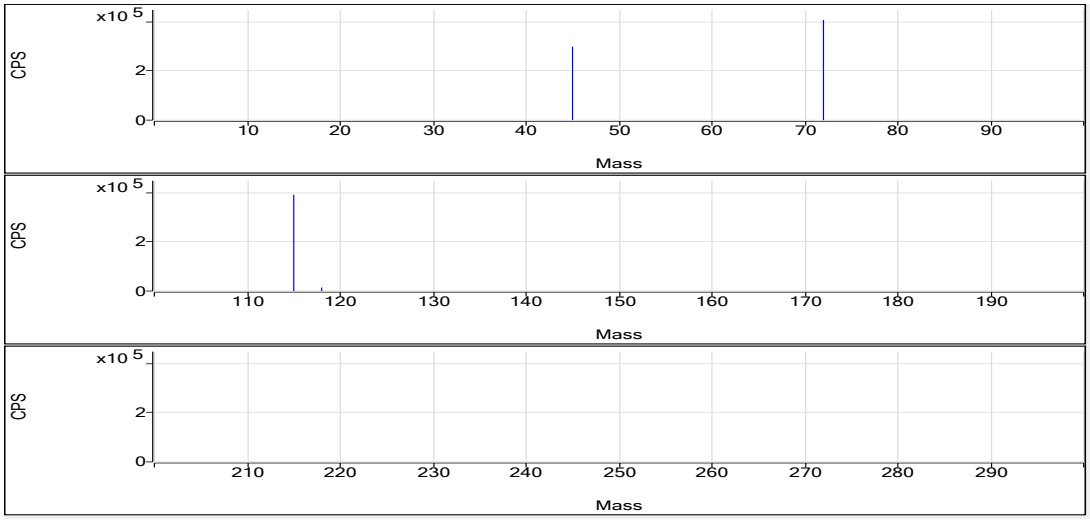
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1482481.02	0.7	99.1	Analog	0.1000	3
No Gas	Ge	72	1123222.69	0.4	100.9	Pulse	0.1000	3
H2	Sc	45	299447.83	1.0	101.1	Pulse	0.1000	3
H2	Ge	72	407985.45	1.5	104.7	Pulse	0.1000	3
H2	In	115	392111.15	1.4	104.4	Pulse	0.1000	3
He	Sc	45	67690.43	1.8	102.6	Pulse	0.1000	3
He	Ge	72	193858.57	0.3	103.2	Pulse	0.1000	3
He	In	115	83938.15	0.7	101.4	Pulse	0.1000	3
He	Tb	159	216504.94	1.2	103.0	Pulse	0.1000	3
He	Bi	209	132329.03	0.3	103.1	Pulse	0.1000	3

No Gas

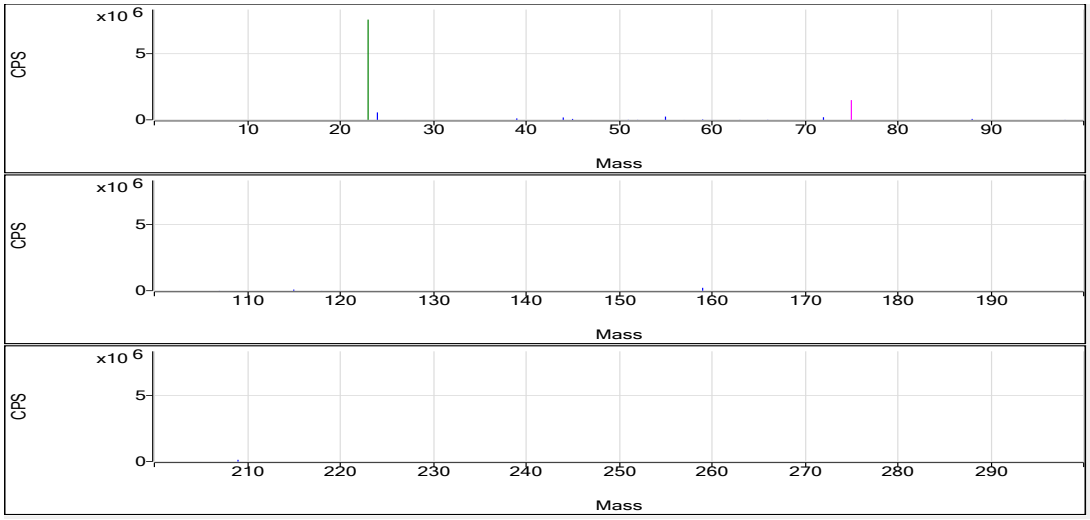


H2



Quantitation Report

He



Quantitation Report

Data File Name	162SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:51:04 PM
Sample Name	SD 410-10452-i-4-a @100
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

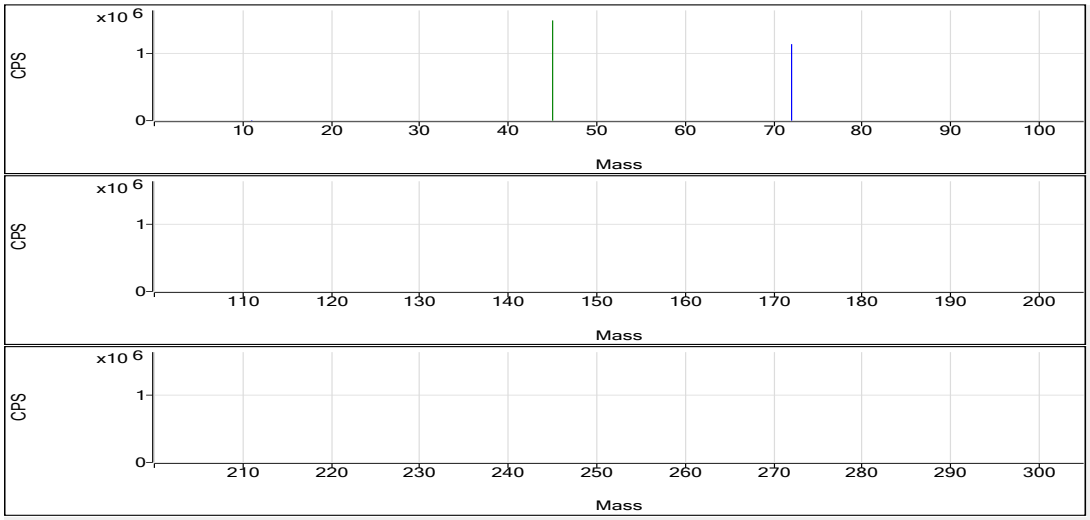
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	-0.011	ppb	N/A	12.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	8.923	ppb	2.4	7535.91	0.0051	Pulse	0.5000	3
Se	78	115	H2	0.009	ppb	95.7	2.89	0.0000	Pulse	1.5000	3
Na	23	45	He	8496.260	ppb	0.5	1577803.83	23.2365	Analog	0.1000	3
Mg	24	45	He	1257.123	ppb	1.4	110609.49	1.6290	Pulse	0.1000	3
Al	27	45	He	2.379	ppb	15.3	263.34	0.0039	Pulse	0.1000	3
K	39	45	He	19.337	ppb	181.5	41355.74	0.6094	Pulse	0.1000	3
Ca	44	45	He	6950.442	ppb	0.6	35553.87	0.5236	Pulse	0.1000	3
Ti	47	45	He	0.000	ppb	N/A	0.00	0.0000	Pulse	0.1000	3
V	51	45	He	0.737	ppb	27.9	1930.19	0.0284	Pulse	0.1000	3
Cr	52	45	He	0.448	ppb	20.0	2153.56	0.0317	Pulse	0.1000	3
Mn	55	45	He	64.667	ppb	1.9	49648.62	0.7313	Pulse	0.1000	3
Fe	57	45	He	10.448	ppb	11.4	480.02	0.0071	Pulse	0.1000	3
Co	59	115	He	-0.011	ppb	N/A	103.34	0.0012	Pulse	0.1000	3
Ni	60	115	He	0.852	ppb	30.6	1093.41	0.0131	Pulse	0.1000	3
Cu	63	115	He	0.030	ppb	483.4	1130.09	0.0135	Pulse	0.1000	3
Zn	66	115	He	-1.065	ppb	N/A	1480.13	0.0177	Pulse	0.1000	3
As	75	115	He	1378.046	ppb	0.3	261363.08	3.1243	Pulse	0.5000	3
Sr	88	115	He	12.103	ppb	3.8	13109.79	0.1567	Pulse	0.1000	3
Mo	98	115	He	0.226	ppb	12.1	283.34	0.0034	Pulse	0.1000	3
Ag	107	115	He	-0.015	ppb	N/A	26.67	0.0003	Pulse	0.1000	3
Cd	111	115	He	-0.004	ppb	N/A	0.67	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.260	ppb	12.2	1390.12	0.0166	Pulse	0.1000	3
Sb	121	72	He	0.153	ppb	39.0	206.67	0.0011	Pulse	0.1000	3
Ba	137	115	He	0.334	ppb	41.7	153.34	0.0018	Pulse	0.1000	3
Tl	205	209	He	-0.023	ppb	N/A	16.67	0.0001	Pulse	0.1000	3
Pb	208	209	He	-0.003	ppb	N/A	543.36	0.0041	Pulse	0.1000	3
U	238	209	He	0.001	ppb	527.4	16.67	0.0001	Pulse	0.1000	3

Quantitation Report

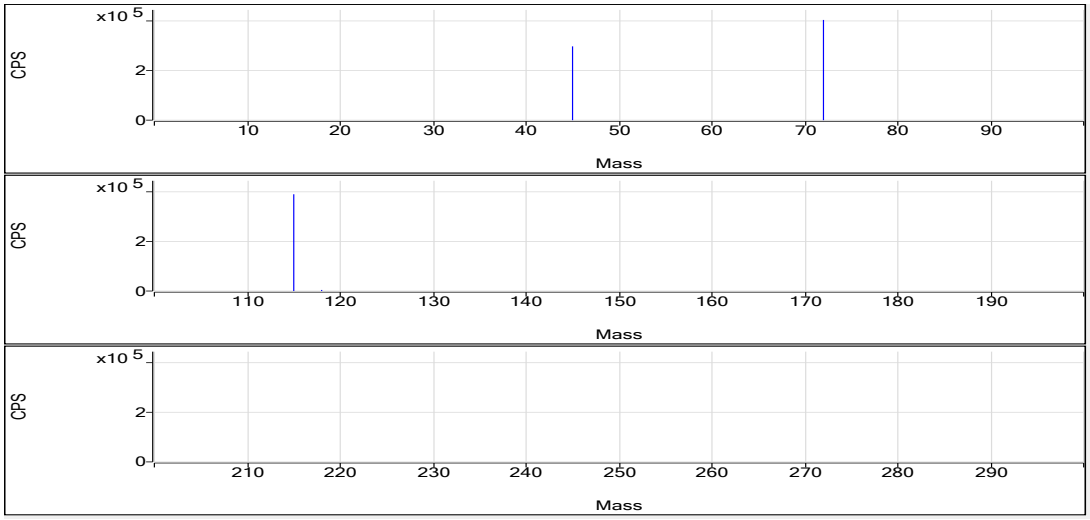
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1482358.05	1.4	99.1	Analog	0.1000	3
No Gas	Ge	72	1131417.43	0.0	101.7	Pulse	0.1000	3
H2	Sc	45	298397.16	0.8	100.7	Pulse	0.1000	3
H2	Ge	72	405220.24	1.7	104.0	Pulse	0.1000	3
H2	In	115	391251.84	1.0	104.2	Pulse	0.1000	3
He	Sc	45	67904.33	1.1	102.9	Pulse	0.1000	3
He	Ge	72	191880.34	1.1	102.2	Pulse	0.1000	3
He	In	115	83653.47	0.3	101.1	Pulse	0.1000	3
He	Tb	159	216903.87	1.0	103.2	Pulse	0.1000	3
He	Bi	209	133067.08	1.1	103.7	Pulse	0.1000	3

No Gas

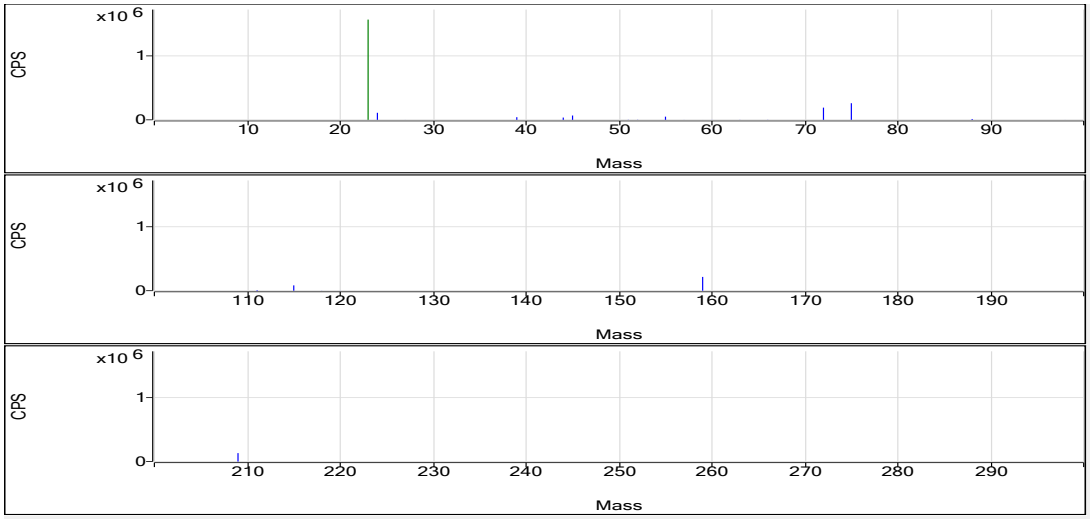


H2



Quantitation Report

He



Quantitation Report

Data File Name	163_CCV.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:52:57 PM
Sample Name	ccv 361008
Sample Type	CCV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

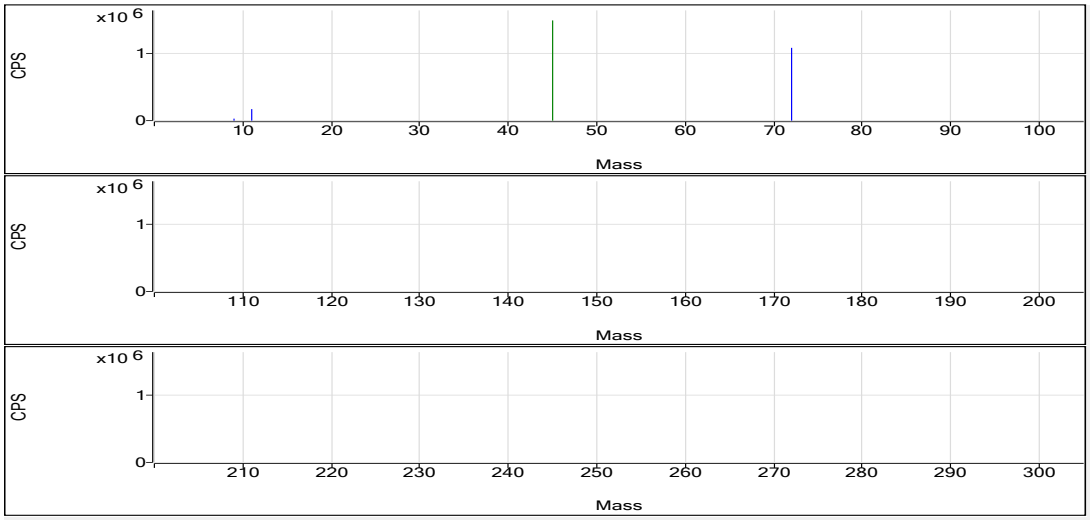
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	30.536	ppb	1.2	29932.96	0.0200	Pulse	0.5000	3
B	11	45	No Gas	303.555	ppb	0.9	172322.10	0.1150	Pulse	0.5000	3
Se	78	115	H2	29.728	ppb	3.4	2763.16	0.0071	Pulse	1.5000	3
Na	23	45	He	4748.054	ppb	1.4	875487.02	13.0707	Pulse	0.1000	3
Mg	24	45	He	5113.857	ppb	1.4	443171.23	6.6165	Pulse	0.1000	3
Al	27	45	He	5139.206	ppb	1.0	175248.36	2.6162	Pulse	0.1000	3
K	39	45	He	5072.495	ppb	2.2	546783.68	8.1641	Pulse	0.1000	3
Ca	44	45	He	5105.401	ppb	2.4	25816.73	0.3855	Pulse	0.1000	3
Ti	47	45	He	313.314	ppb	1.7	10397.39	0.1552	Pulse	0.1000	3
V	51	45	He	305.660	ppb	1.8	338754.29	5.0578	Pulse	0.1000	3
Cr	52	45	He	293.667	ppb	2.2	401117.65	5.9892	Pulse	0.1000	3
Mn	55	45	He	307.502	ppb	2.5	228211.70	3.4076	Pulse	0.1000	3
Fe	57	45	He	5139.314	ppb	2.3	136486.24	2.0379	Pulse	0.1000	3
Co	59	115	He	286.068	ppb	1.6	636799.40	7.5603	Pulse	0.1000	3
Ni	60	115	He	304.150	ppb	1.1	165139.68	1.9605	Pulse	0.1000	3
Cu	63	115	He	301.684	ppb	1.2	442910.21	5.2582	Pulse	0.1000	3
Zn	66	115	He	299.651	ppb	2.3	70290.71	0.8345	Pulse	0.1000	3
As	75	115	He	302.807	ppb	1.3	57908.26	0.6875	Pulse	0.5000	3
Sr	88	115	He	30.637	ppb	1.2	33299.46	0.3953	Pulse	0.1000	3
Mo	98	115	He	29.933	ppb	1.4	37848.03	0.4493	Pulse	0.1000	3
Ag	107	115	He	30.147	ppb	1.5	70798.15	0.8405	Pulse	0.1000	3
Cd	111	115	He	29.777	ppb	3.0	10070.31	0.1196	Pulse	0.5000	3
Sn	120	115	He	30.607	ppb	2.3	37146.78	0.4410	Pulse	0.1000	3
Sb	121	72	He	30.809	ppb	1.6	33968.91	0.1850	Pulse	0.1000	3
Ba	137	115	He	305.499	ppb	1.3	128766.46	1.5287	Pulse	0.1000	3
Tl	205	209	He	30.356	ppb	1.2	115497.76	0.8807	Pulse	0.1000	3
Pb	208	209	He	30.260	ppb	1.2	159773.56	1.2184	Pulse	0.1000	3
U	238	209	He	51.242	ppb	0.4	253278.65	1.9314	Pulse	0.1000	3

Quantitation Report

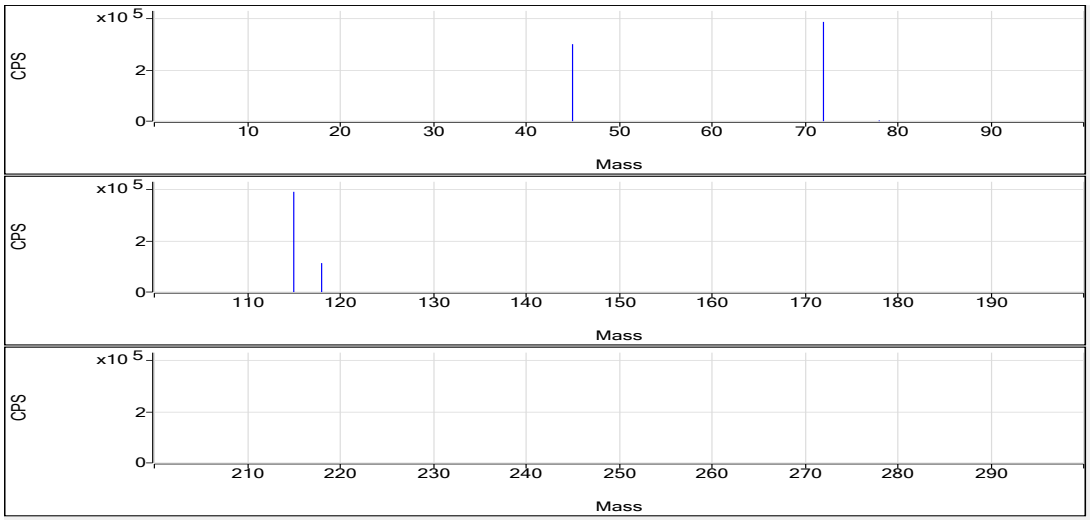
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1498877.74	1.2	100.2	Analog	0.1000	3
No Gas	Ge	72	1088892.95	0.8	97.8	Pulse	0.1000	3
H2	Sc	45	301011.47	1.5	101.6	Pulse	0.1000	3
H2	Ge	72	388081.77	1.1	99.6	Pulse	0.1000	3
H2	In	115	391832.09	0.7	104.4	Pulse	0.1000	3
He	Sc	45	66989.97	1.7	101.5	Pulse	0.1000	3
He	Ge	72	183577.21	0.4	97.7	Pulse	0.1000	3
He	In	115	84242.90	1.5	101.8	Pulse	0.1000	3
He	Tb	159	217145.37	0.9	103.3	Pulse	0.1000	3
He	Bi	209	131136.85	0.5	102.2	Pulse	0.1000	3

No Gas

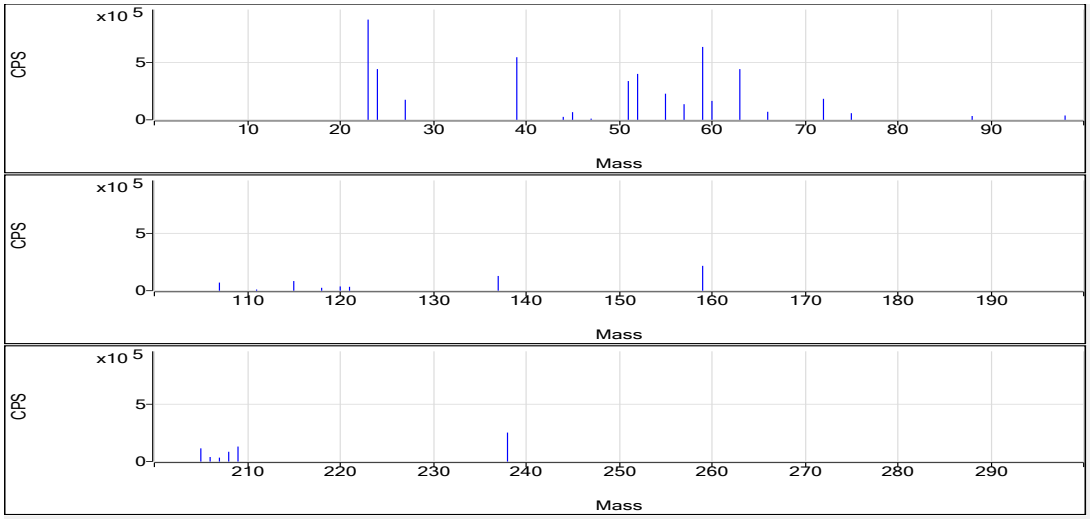


H2



Quantitation Report

He



Quantitation Report

Data File Name	164_CCB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:54:51 PM
Sample Name	ccb 360854
Sample Type	CCB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

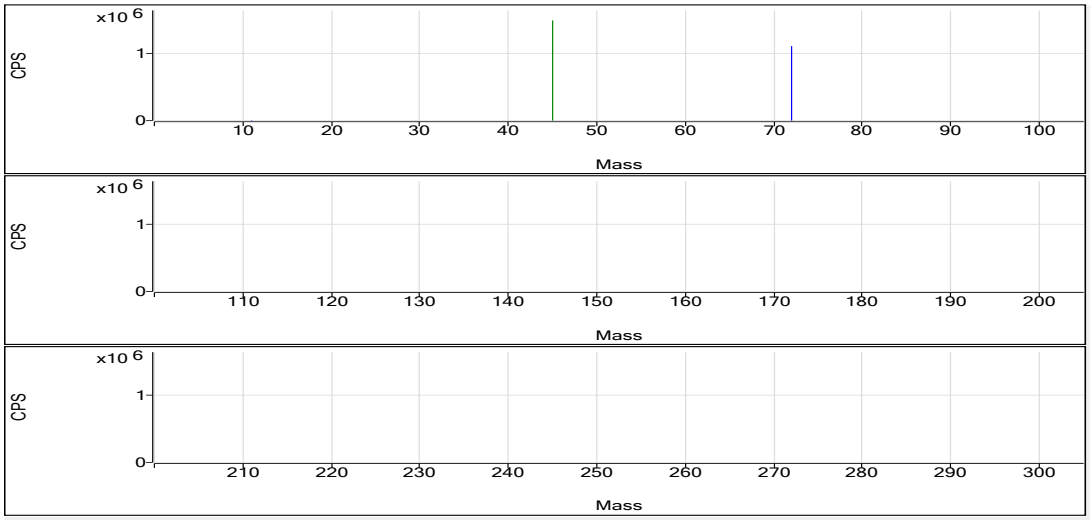
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.006	ppb	66.9	30.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	7.126	ppb	8.2	6588.81	0.0044	Pulse	0.5000	3
Se	78	115	H2	0.011	ppb	97.0	3.11	0.0000	Pulse	1.5000	3
Na	23	45	He	11.176	ppb	32.7	14861.15	0.2234	Pulse	0.1000	3
Mg	24	45	He	1.648	ppb	20.5	360.02	0.0054	Pulse	0.1000	3
Al	27	45	He	-0.403	ppb	N/A	163.34	0.0025	Pulse	0.1000	3
K	39	45	He	3.314	ppb	829.0	38935.65	0.5855	Pulse	0.1000	3
Ca	44	45	He	-9.017	ppb	N/A	173.34	0.0026	Pulse	0.1000	3
Ti	47	45	He	0.201	ppb	173.2	6.67	0.0001	Pulse	0.1000	3
V	51	45	He	0.014	ppb	547.6	1100.08	0.0165	Pulse	0.1000	3
Cr	52	45	He	0.295	ppb	40.7	1903.52	0.0286	Pulse	0.1000	3
Mn	55	45	He	0.264	ppb	52.4	1426.79	0.0215	Pulse	0.1000	3
Fe	57	45	He	2.205	ppb	51.7	253.34	0.0038	Pulse	0.1000	3
Co	59	115	He	0.044	ppb	47.0	223.35	0.0027	Pulse	0.1000	3
Ni	60	115	He	0.214	ppb	43.1	743.38	0.0090	Pulse	0.1000	3
Cu	63	115	He	0.157	ppb	35.7	1300.11	0.0157	Pulse	0.1000	3
Zn	66	115	He	-0.741	ppb	N/A	1536.80	0.0186	Pulse	0.1000	3
As	75	115	He	0.636	ppb	24.7	220.00	0.0027	Pulse	0.5000	3
Sr	88	115	He	0.107	ppb	8.7	190.01	0.0023	Pulse	0.1000	3
Mo	98	115	He	0.081	ppb	11.2	100.00	0.0012	Pulse	0.1000	3
Ag	107	115	He	-0.013	ppb	N/A	30.00	0.0004	Pulse	0.1000	3
Cd	111	115	He	-0.002	ppb	N/A	1.33	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.271	ppb	22.8	1386.79	0.0168	Pulse	0.1000	3
Sb	121	72	He	0.130	ppb	31.5	176.68	0.0009	Pulse	0.1000	3
Ba	137	115	He	0.064	ppb	35.2	40.00	0.0005	Pulse	0.1000	3
Tl	205	209	He	0.148	ppb	12.0	663.38	0.0051	Pulse	0.1000	3
Pb	208	209	He	-0.009	ppb	N/A	500.02	0.0038	Pulse	0.1000	3
U	238	209	He	0.013	ppb	9.1	76.67	0.0006	Pulse	0.1000	3

Quantitation Report

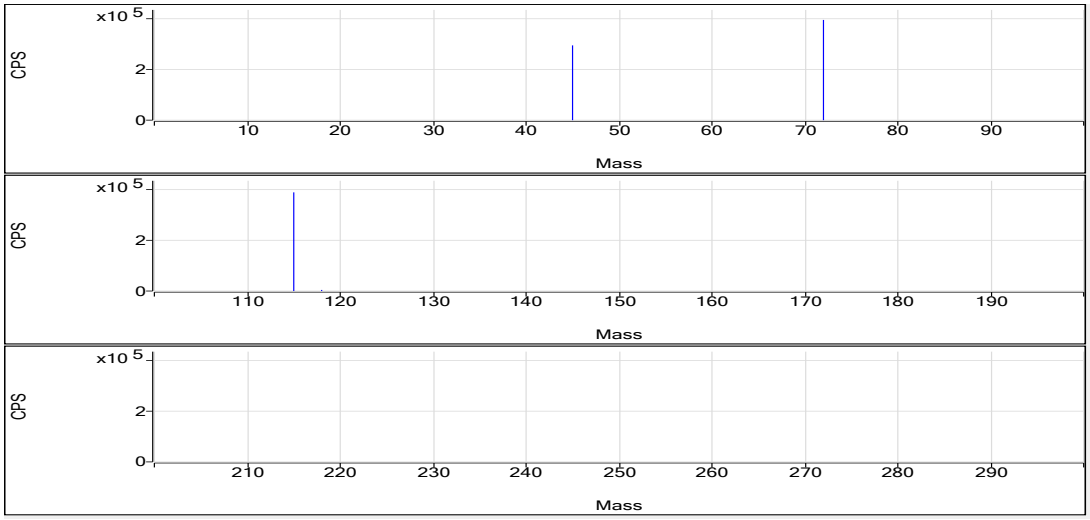
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1492805.55	0.5	99.8	Analog	0.1000	3
No Gas	Ge	72	1109745.94	0.3	99.7	Pulse	0.1000	3
H2	Sc	45	295851.99	1.5	99.9	Pulse	0.1000	3
H2	Ge	72	396464.43	2.6	101.7	Pulse	0.1000	3
H2	In	115	390328.33	1.1	104.0	Pulse	0.1000	3
He	Sc	45	66544.59	1.4	100.8	Pulse	0.1000	3
He	Ge	72	187747.73	0.3	100.0	Pulse	0.1000	3
He	In	115	82721.22	1.7	99.9	Pulse	0.1000	3
He	Tb	159	215159.73	0.2	102.3	Pulse	0.1000	3
He	Bi	209	130517.79	0.4	101.7	Pulse	0.1000	3

No Gas

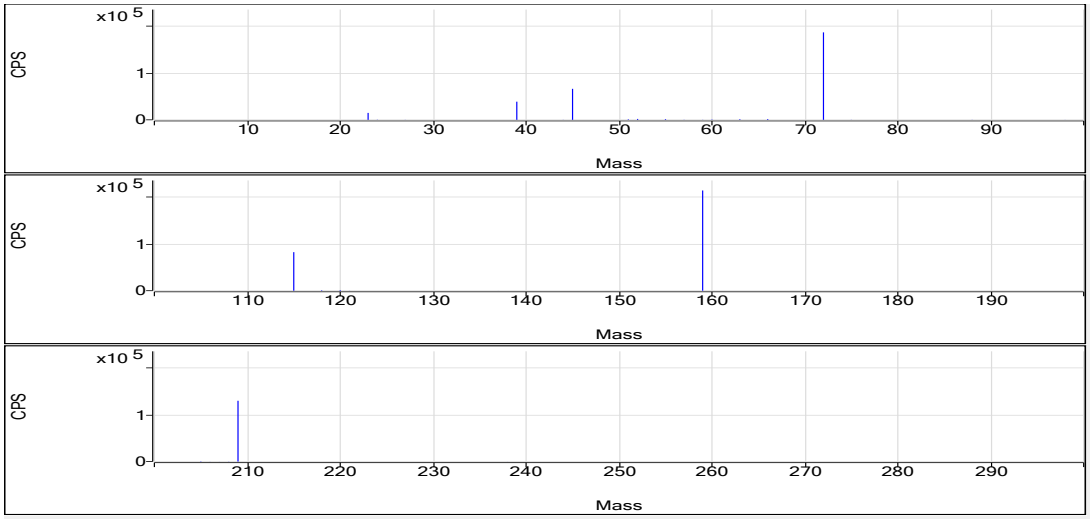


H2



Quantitation Report

He



Quantitation Report

Data File Name	165SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:56:43 PM
Sample Name	410-9831-f-4-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

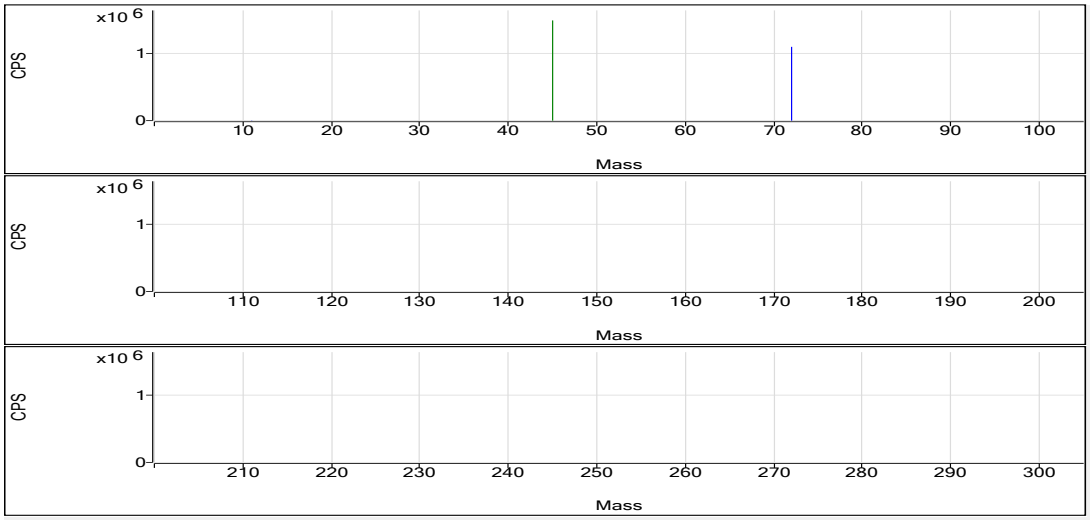
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	-0.003	ppb	N/A	20.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	2.002	ppb	15.9	3759.83	0.0025	Pulse	0.5000	3
Se	78	115	H2	-0.011	ppb	N/A	1.11	0.0000	Pulse	1.5000	3
Na	23	45	He	708.360	ppb	1.1	145885.80	2.1143	Pulse	0.1000	3
Mg	24	45	He	26.943	ppb	4.7	2630.33	0.0381	Pulse	0.1000	3
Al	27	45	He	17.554	ppb	16.8	800.05	0.0116	Pulse	0.1000	3
K	39	45	He	39.808	ppb	67.5	44160.27	0.6400	Pulse	0.1000	3
Ca	44	45	He	209.744	ppb	5.1	1310.11	0.0190	Pulse	0.1000	3
Ti	47	45	He	0.780	ppb	21.6	26.67	0.0004	Pulse	0.1000	3
V	51	45	He	-0.302	ppb	N/A	780.05	0.0113	Pulse	0.1000	3
Cr	52	45	He	0.514	ppb	11.7	2280.26	0.0330	Pulse	0.1000	3
Mn	55	45	He	0.759	ppb	10.8	1856.85	0.0269	Pulse	0.1000	3
Fe	57	45	He	6.251	ppb	6.8	373.35	0.0054	Pulse	0.1000	3
Co	59	115	He	-0.002	ppb	N/A	126.67	0.0015	Pulse	0.1000	3
Ni	60	115	He	0.750	ppb	20.7	1060.08	0.0124	Pulse	0.1000	3
Cu	63	115	He	0.737	ppb	4.0	2200.26	0.0258	Pulse	0.1000	3
Zn	66	115	He	-0.295	ppb	N/A	1686.82	0.0198	Pulse	0.1000	3
As	75	115	He	0.449	ppb	3.3	190.67	0.0022	Pulse	0.5000	3
Sr	88	115	He	0.951	ppb	16.0	1123.41	0.0132	Pulse	0.1000	3
Mo	98	115	He	0.102	ppb	21.2	130.00	0.0015	Pulse	0.1000	3
Ag	107	115	He	-0.009	ppb	N/A	40.00	0.0005	Pulse	0.1000	3
Cd	111	115	He	0.006	ppb	271.7	4.00	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.243	ppb	18.4	1396.79	0.0164	Pulse	0.1000	3
Sb	121	72	He	0.051	ppb	34.5	90.00	0.0005	Pulse	0.1000	3
Ba	137	115	He	0.717	ppb	10.7	320.02	0.0037	Pulse	0.1000	3
Tl	205	209	He	0.079	ppb	40.7	413.36	0.0031	Pulse	0.1000	3
Pb	208	209	He	-0.009	ppb	N/A	516.69	0.0038	Pulse	0.1000	3
U	238	209	He	0.006	ppb	34.8	46.67	0.0003	Pulse	0.1000	3

Quantitation Report

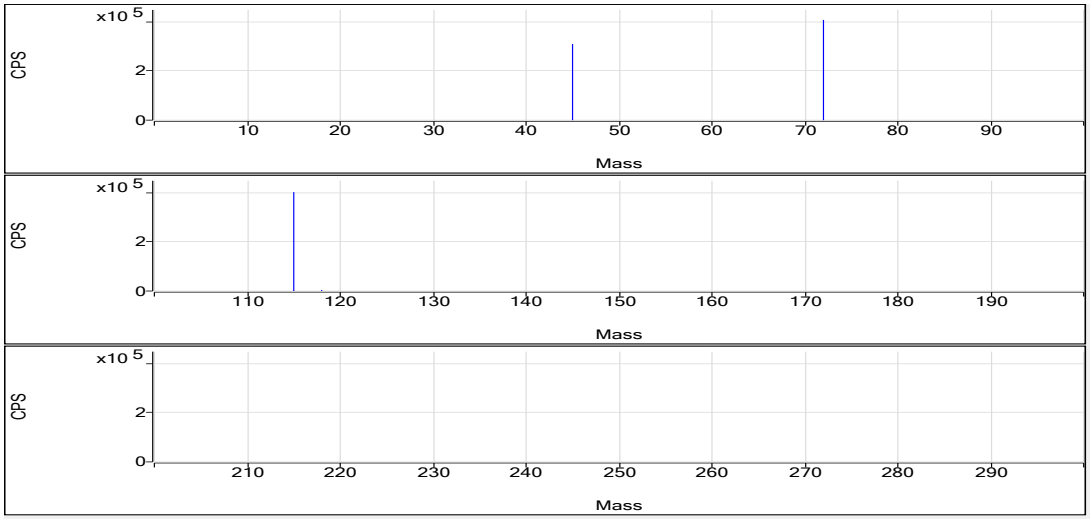
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1502469.09	1.1	100.5	Analog	0.1000	3
No Gas	Ge	72	1106334.52	0.5	99.4	Pulse	0.1000	3
H2	Sc	45	309059.05	1.3	104.3	Pulse	0.1000	3
H2	Ge	72	406897.31	0.8	104.4	Pulse	0.1000	3
H2	In	115	401511.85	1.1	106.9	Pulse	0.1000	3
He	Sc	45	68999.69	0.1	104.6	Pulse	0.1000	3
He	Ge	72	193462.57	1.0	103.0	Pulse	0.1000	3
He	In	115	85286.49	1.1	103.0	Pulse	0.1000	3
He	Tb	159	218675.34	0.7	104.0	Pulse	0.1000	3
He	Bi	209	135093.04	0.7	105.3	Pulse	0.1000	3

No Gas

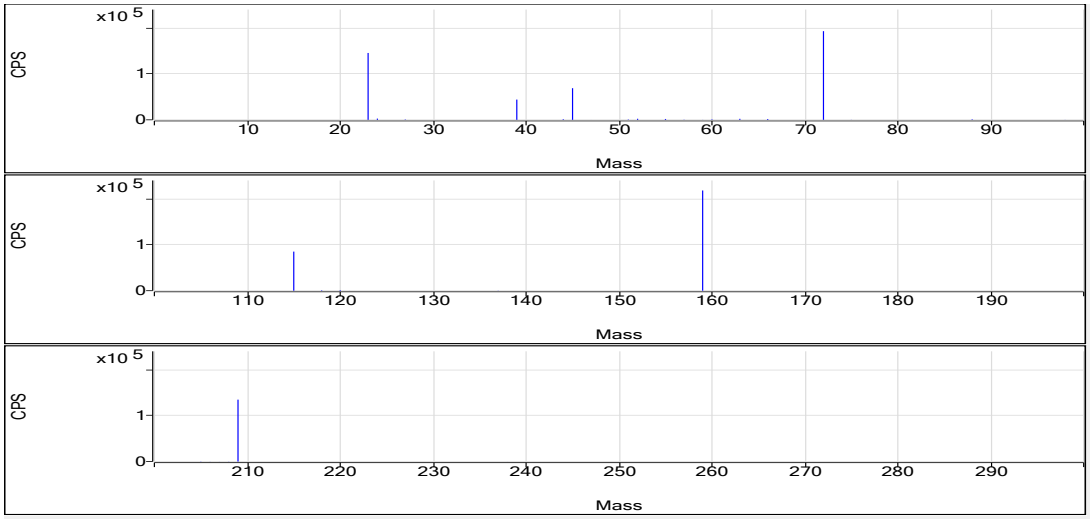


H2



Quantitation Report

He



Quantitation Report

Data File Name	166SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 3:58:37 PM
Sample Name	RINSE
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

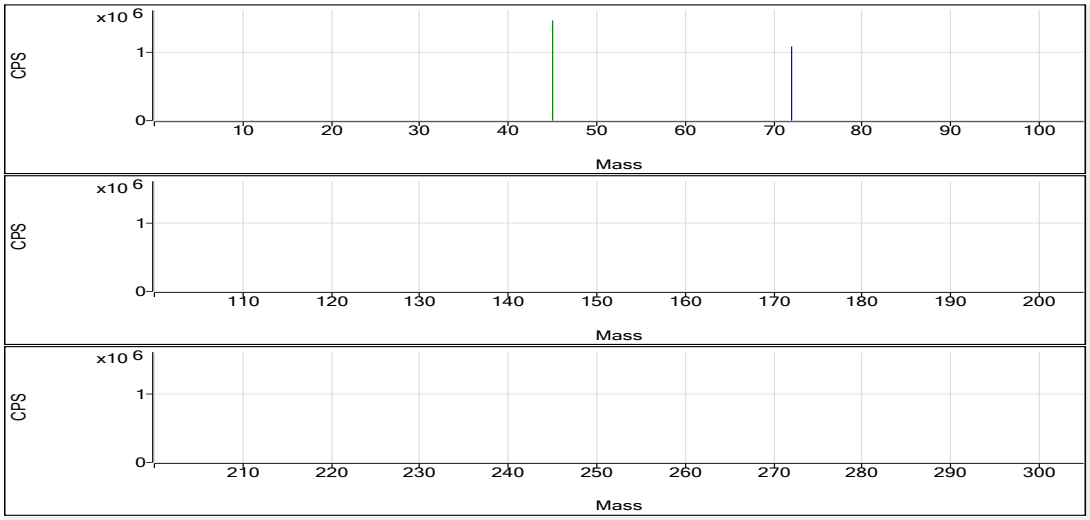
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	-0.004	ppb	N/A	20.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	-0.031	ppb	N/A	2577.57	0.0017	Pulse	0.5000	3
Se	78	115	H2	-0.001	ppb	N/A	2.00	0.0000	Pulse	1.5000	3
Na	23	45	He	10.200	ppb	48.2	14717.73	0.2208	Pulse	0.1000	3
Mg	24	45	He	1.719	ppb	34.9	366.68	0.0055	Pulse	0.1000	3
Al	27	45	He	-0.113	ppb	N/A	173.34	0.0026	Pulse	0.1000	3
K	39	45	He	-4.135	ppb	N/A	38310.56	0.5743	Pulse	0.1000	3
Ca	44	45	He	-10.516	ppb	N/A	166.68	0.0025	Pulse	0.1000	3
Ti	47	45	He	0.103	ppb	173.2	3.33	0.0001	Pulse	0.1000	3
V	51	45	He	-0.003	ppb	N/A	1083.41	0.0162	Pulse	0.1000	3
Cr	52	45	He	0.149	ppb	78.2	1710.16	0.0256	Pulse	0.1000	3
Mn	55	45	He	0.062	ppb	351.5	1280.10	0.0192	Pulse	0.1000	3
Fe	57	45	He	3.071	ppb	25.5	276.68	0.0042	Pulse	0.1000	3
Co	59	115	He	-0.014	ppb	N/A	96.67	0.0011	Pulse	0.1000	3
Ni	60	115	He	-0.006	ppb	N/A	636.70	0.0076	Pulse	0.1000	3
Cu	63	115	He	0.007	ppb	611.8	1103.42	0.0131	Pulse	0.1000	3
Zn	66	115	He	-0.894	ppb	N/A	1526.80	0.0182	Pulse	0.1000	3
As	75	115	He	0.298	ppb	69.8	159.33	0.0019	Pulse	0.5000	3
Sr	88	115	He	0.104	ppb	34.6	190.01	0.0023	Pulse	0.1000	3
Mo	98	115	He	0.026	ppb	18.4	33.33	0.0004	Pulse	0.1000	3
Ag	107	115	He	-0.022	ppb	N/A	10.00	0.0001	Pulse	0.1000	3
Cd	111	115	He	-0.004	ppb	N/A	0.67	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.268	ppb	57.9	1406.79	0.0167	Pulse	0.1000	3
Sb	121	72	He	0.018	ppb	47.9	50.00	0.0003	Pulse	0.1000	3
Ba	137	115	He	0.055	ppb	25.5	36.67	0.0004	Pulse	0.1000	3
Tl	205	209	He	-0.010	ppb	N/A	63.33	0.0005	Pulse	0.1000	3
Pb	208	209	He	0.004	ppb	187.9	576.69	0.0044	Pulse	0.1000	3
U	238	209	He	0.003	ppb	60.9	30.00	0.0002	Pulse	0.1000	3

Quantitation Report

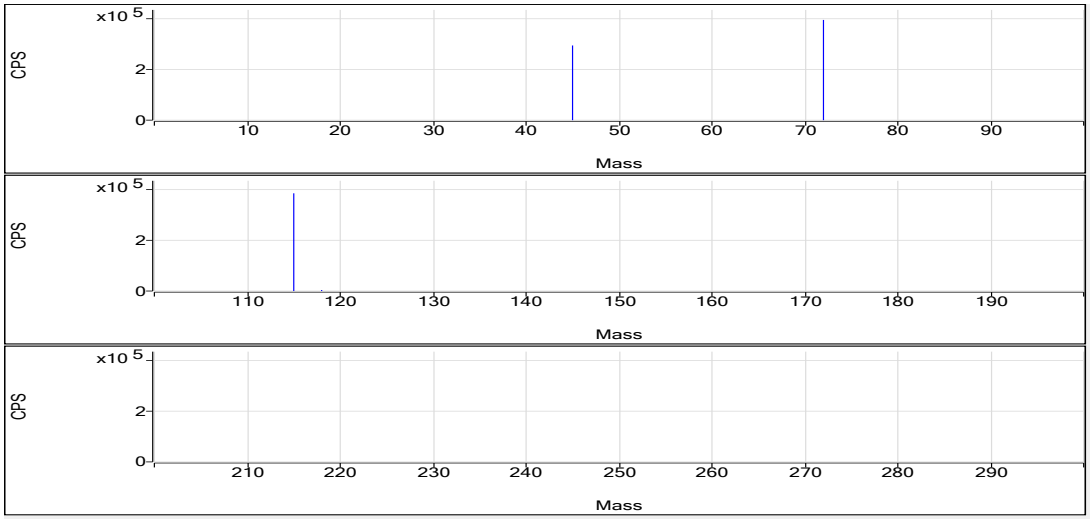
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1477437.17	1.8	98.8	Analog	0.1000	3
No Gas	Ge	72	1093920.79	1.4	98.3	Pulse	0.1000	3
H2	Sc	45	295357.68	0.3	99.7	Pulse	0.1000	3
H2	Ge	72	396292.06	1.0	101.7	Pulse	0.1000	3
H2	In	115	386416.90	0.2	102.9	Pulse	0.1000	3
He	Sc	45	66709.09	2.0	101.1	Pulse	0.1000	3
He	Ge	72	186044.90	1.4	99.1	Pulse	0.1000	3
He	In	115	84119.11	1.0	101.6	Pulse	0.1000	3
He	Tb	159	211852.85	0.6	100.8	Pulse	0.1000	3
He	Bi	209	131650.28	0.6	102.6	Pulse	0.1000	3

No Gas

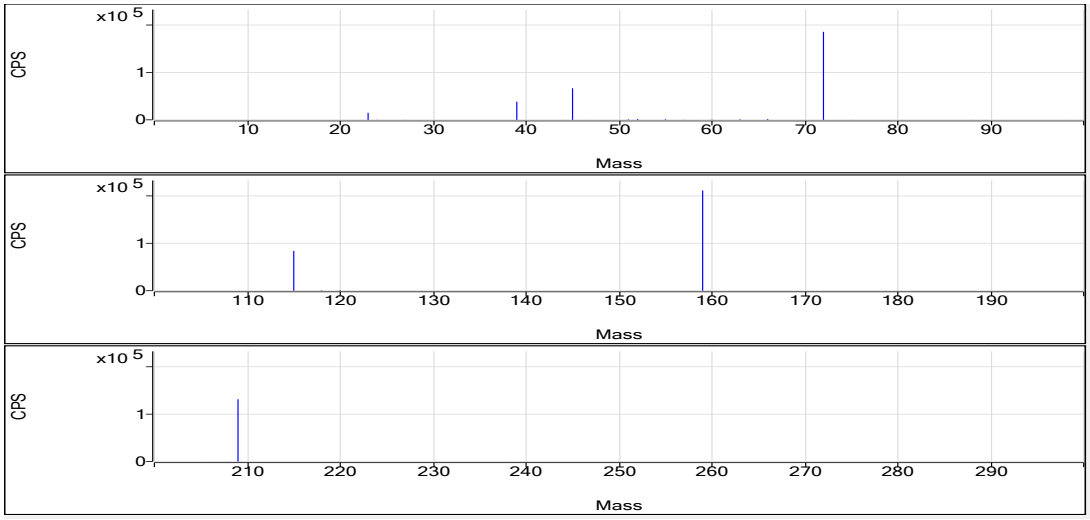


H2



Quantitation Report

He



Quantitation Report

Data File Name	167SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 4:00:30 PM
Sample Name	RINSE
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

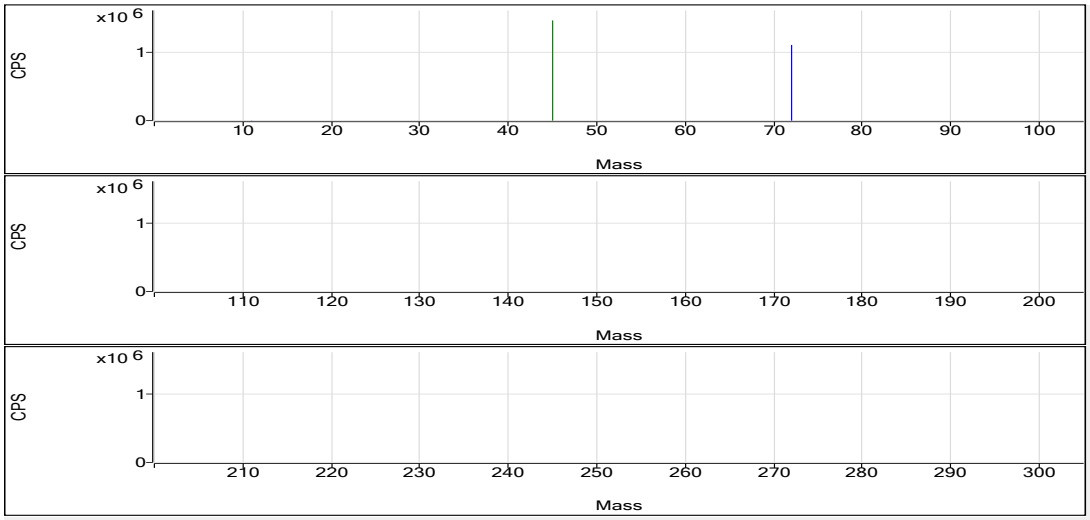
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	-0.010	ppb	N/A	14.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	-0.281	ppb	N/A	2410.20	0.0017	Pulse	0.5000	3
Se	78	115	H2	-0.010	ppb	N/A	1.11	0.0000	Pulse	1.5000	3
Na	23	45	He	10.941	ppb	4.3	14847.80	0.2228	Pulse	0.1000	3
Mg	24	45	He	1.602	ppb	50.5	356.68	0.0053	Pulse	0.1000	3
Al	27	45	He	0.166	ppb	132.6	183.34	0.0028	Pulse	0.1000	3
K	39	45	He	-1.643	ppb	N/A	38507.90	0.5781	Pulse	0.1000	3
Ca	44	45	He	6.190	ppb	158.5	250.01	0.0037	Pulse	0.1000	3
Ti	47	45	He	0.000	ppb	N/A	0.00	0.0000	Pulse	0.1000	3
V	51	45	He	-0.023	ppb	N/A	1060.09	0.0159	Pulse	0.1000	3
Cr	52	45	He	0.226	ppb	56.1	1813.50	0.0272	Pulse	0.1000	3
Mn	55	45	He	0.350	ppb	25.8	1493.46	0.0224	Pulse	0.1000	3
Fe	57	45	He	0.157	ppb	824.3	200.01	0.0030	Pulse	0.1000	3
Co	59	115	He	-0.006	ppb	N/A	113.33	0.0014	Pulse	0.1000	3
Ni	60	115	He	-0.071	ppb	N/A	593.36	0.0072	Pulse	0.1000	3
Cu	63	115	He	0.032	ppb	150.4	1123.42	0.0136	Pulse	0.1000	3
Zn	66	115	He	-1.095	ppb	N/A	1460.12	0.0176	Pulse	0.1000	3
As	75	115	He	0.283	ppb	26.0	154.00	0.0019	Pulse	0.5000	3
Sr	88	115	He	0.138	ppb	59.4	223.34	0.0027	Pulse	0.1000	3
Mo	98	115	He	0.032	ppb	90.6	40.00	0.0005	Pulse	0.1000	3
Ag	107	115	He	-0.023	ppb	N/A	6.67	0.0001	Pulse	0.1000	3
Cd	111	115	He	0.000	ppb	11253.5	2.00	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.364	ppb	38.0	1496.81	0.0181	Pulse	0.1000	3
Sb	121	72	He	0.003	ppb	319.2	33.33	0.0002	Pulse	0.1000	3
Ba	137	115	He	0.064	ppb	98.9	40.00	0.0005	Pulse	0.1000	3
Tl	205	209	He	-0.015	ppb	N/A	43.33	0.0003	Pulse	0.1000	3
Pb	208	209	He	-0.021	ppb	N/A	436.69	0.0033	Pulse	0.1000	3
U	238	209	He	0.003	ppb	116.5	26.67	0.0002	Pulse	0.1000	3

Quantitation Report

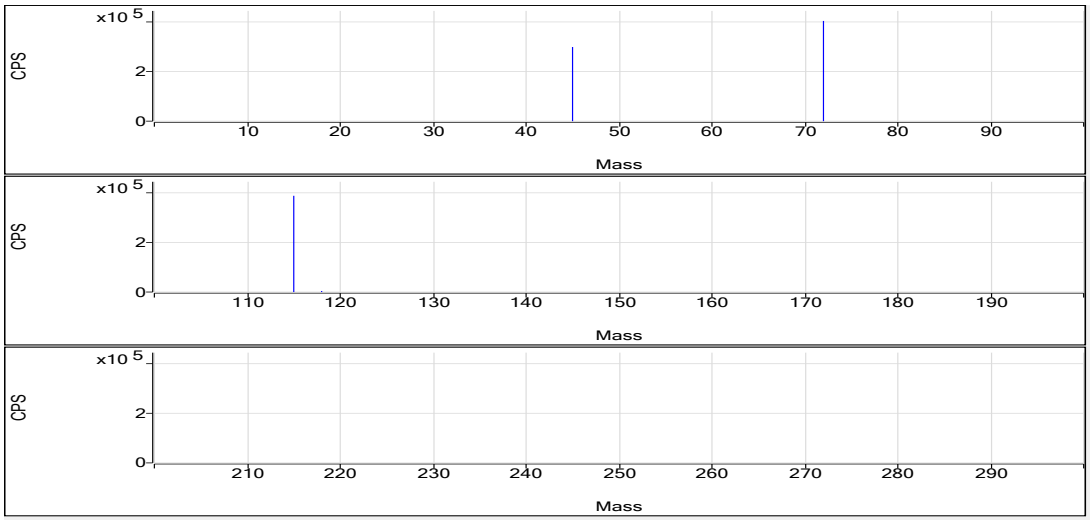
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1459021.86	0.5	97.6	Analog	0.1000	3
No Gas	Ge	72	1101893.50	0.8	99.0	Pulse	0.1000	3
H2	Sc	45	297463.37	1.2	100.4	Pulse	0.1000	3
H2	Ge	72	402143.81	0.7	103.2	Pulse	0.1000	3
H2	In	115	386185.50	0.6	102.8	Pulse	0.1000	3
He	Sc	45	66652.22	1.0	101.0	Pulse	0.1000	3
He	Ge	72	186058.49	0.5	99.1	Pulse	0.1000	3
He	In	115	82852.00	1.3	100.1	Pulse	0.1000	3
He	Tb	159	213930.08	0.2	101.7	Pulse	0.1000	3
He	Bi	209	130669.65	0.6	101.8	Pulse	0.1000	3

No Gas

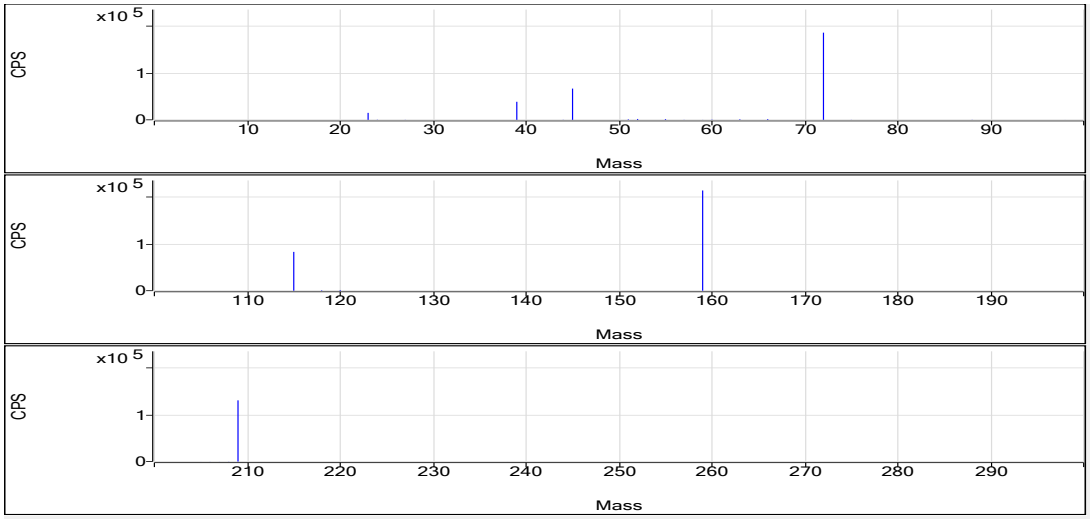


H2



Quantitation Report

He



Quantitation Report

Data File Name	168_CCV.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 4:02:23 PM
Sample Name	ccv 361008
Sample Type	CCV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

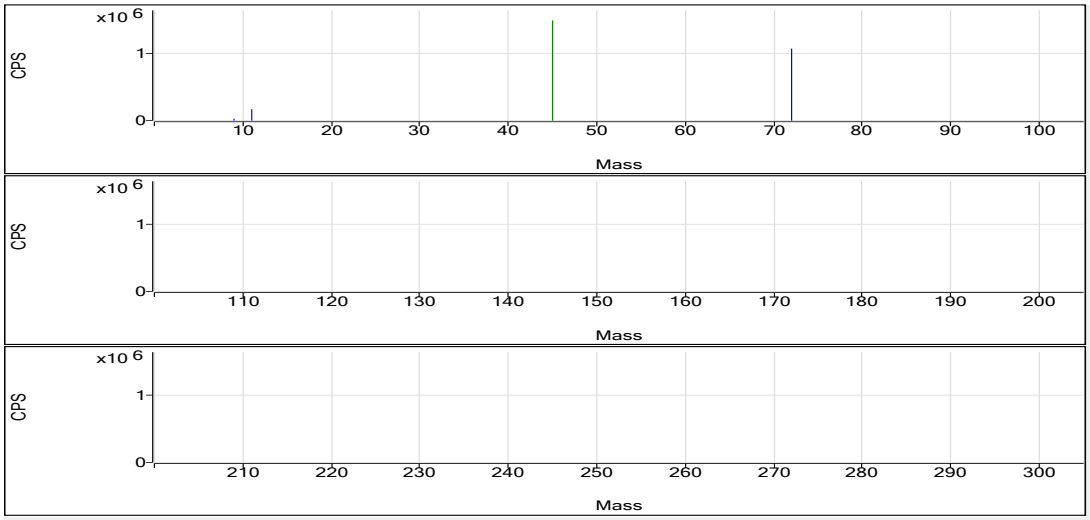
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	30.085	ppb	1.6	29394.59	0.0197	Pulse	0.5000	3
B	11	45	No Gas	301.954	ppb	1.7	170867.20	0.1144	Pulse	0.5000	3
Se	78	115	H2	29.321	ppb	1.4	2705.37	0.0070	Pulse	1.5000	3
Na	23	45	He	4725.955	ppb	1.7	883391.47	13.0107	Pulse	0.1000	3
Mg	24	45	He	5056.582	ppb	2.3	444196.99	6.5425	Pulse	0.1000	3
Al	27	45	He	5108.581	ppb	3.1	176552.15	2.6007	Pulse	0.1000	3
K	39	45	He	5036.791	ppb	1.2	550723.25	8.1107	Pulse	0.1000	3
Ca	44	45	He	4991.302	ppb	2.1	25593.05	0.3769	Pulse	0.1000	3
Ti	47	45	He	308.823	ppb	1.8	10390.73	0.1530	Pulse	0.1000	3
V	51	45	He	298.480	ppb	1.1	335390.60	4.9394	Pulse	0.1000	3
Cr	52	45	He	288.705	ppb	1.4	399813.04	5.8884	Pulse	0.1000	3
Mn	55	45	He	303.042	ppb	1.6	228035.37	3.3585	Pulse	0.1000	3
Fe	57	45	He	5060.931	ppb	0.3	136280.59	2.0069	Pulse	0.1000	3
Co	59	115	He	283.818	ppb	0.9	631990.69	7.5008	Pulse	0.1000	3
Ni	60	115	He	306.003	ppb	0.5	166187.87	1.9724	Pulse	0.1000	3
Cu	63	115	He	303.026	ppb	1.0	445003.73	5.2815	Pulse	0.1000	3
Zn	66	115	He	297.033	ppb	0.3	69718.63	0.8274	Pulse	0.1000	3
As	75	115	He	300.933	ppb	1.2	57566.87	0.6832	Pulse	0.5000	3
Sr	88	115	He	30.156	ppb	2.7	32785.14	0.3891	Pulse	0.1000	3
Mo	98	115	He	30.068	ppb	0.9	38031.81	0.4513	Pulse	0.1000	3
Ag	107	115	He	30.701	ppb	0.6	72122.20	0.8559	Pulse	0.1000	3
Cd	111	115	He	30.508	ppb	1.0	10321.16	0.1225	Pulse	0.5000	3
Sn	120	115	He	30.206	ppb	1.9	36685.73	0.4354	Pulse	0.1000	3
Sb	121	72	He	30.987	ppb	1.1	34212.83	0.1861	Pulse	0.1000	3
Ba	137	115	He	308.513	ppb	0.9	130074.91	1.5438	Pulse	0.1000	3
Tl	205	209	He	30.128	ppb	1.0	116161.34	0.8741	Pulse	0.1000	3
Pb	208	209	He	29.894	ppb	1.4	159950.89	1.2037	Pulse	0.1000	3
U	238	209	He	49.903	ppb	1.2	249945.43	1.8809	Pulse	0.1000	3

Quantitation Report

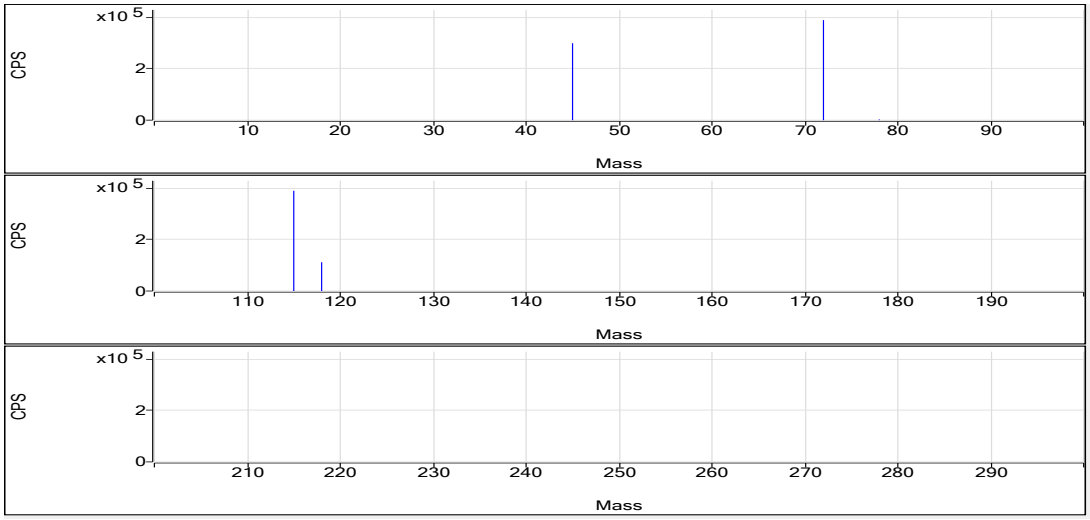
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1494136.80	1.4	99.9	Analog	0.1000	3
No Gas	Ge	72	1074649.28	1.6	96.6	Pulse	0.1000	3
H2	Sc	45	298592.46	1.0	100.8	Pulse	0.1000	3
H2	Ge	72	388219.76	1.4	99.6	Pulse	0.1000	3
H2	In	115	389011.79	1.5	103.6	Pulse	0.1000	3
He	Sc	45	67907.83	1.5	102.9	Pulse	0.1000	3
He	Ge	72	183857.99	1.2	97.9	Pulse	0.1000	3
He	In	115	84259.68	0.6	101.8	Pulse	0.1000	3
He	Tb	159	215441.91	0.8	102.5	Pulse	0.1000	3
He	Bi	209	132891.21	0.8	103.5	Pulse	0.1000	3

No Gas

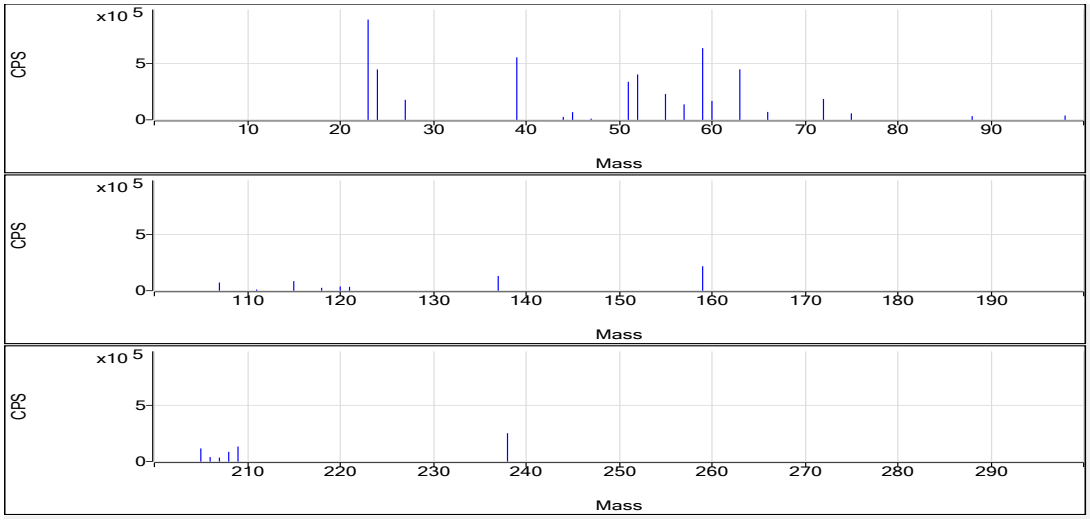


H2



Quantitation Report

He



Quantitation Report

Data File Name	169_CCB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 4:04:16 PM
Sample Name	ccb 360854
Sample Type	CCB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

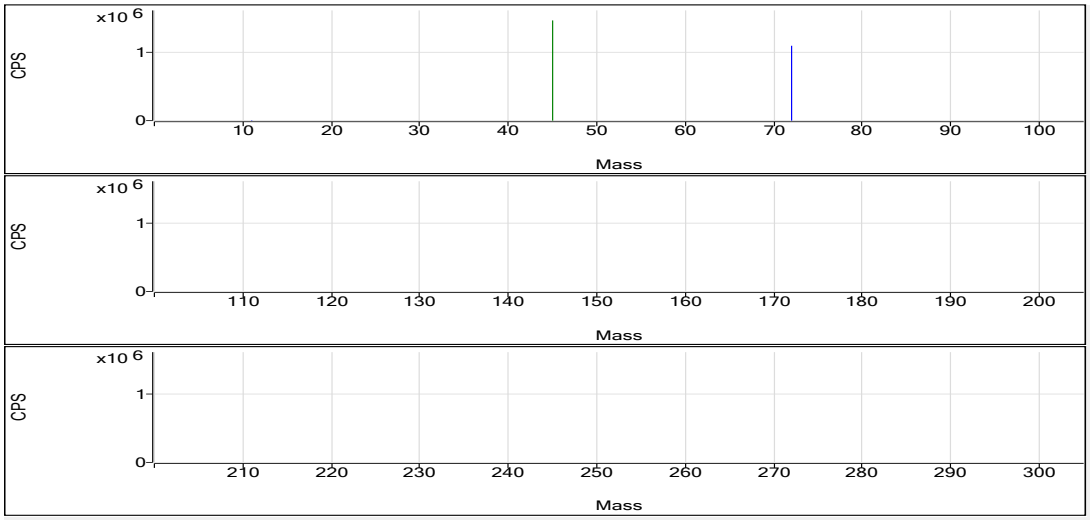
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.005	ppb	283.3	28.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	7.054	ppb	9.7	6464.76	0.0044	Pulse	0.5000	3
Se	78	115	H2	0.007	ppb	284.4	2.67	0.0000	Pulse	1.5000	3
Na	23	45	He	7.255	ppb	46.7	14190.50	0.2128	Pulse	0.1000	3
Mg	24	45	He	2.074	ppb	67.7	396.69	0.0060	Pulse	0.1000	3
Al	27	45	He	-1.509	ppb	N/A	126.67	0.0019	Pulse	0.1000	3
K	39	45	He	-2.280	ppb	N/A	38477.57	0.5771	Pulse	0.1000	3
Ca	44	45	He	4.215	ppb	135.0	240.01	0.0036	Pulse	0.1000	3
Ti	47	45	He	0.100	ppb	173.2	3.33	0.0000	Pulse	0.1000	3
V	51	45	He	0.007	ppb	789.5	1093.42	0.0164	Pulse	0.1000	3
Cr	52	45	He	0.319	ppb	13.2	1940.19	0.0291	Pulse	0.1000	3
Mn	55	45	He	0.353	ppb	18.1	1496.80	0.0224	Pulse	0.1000	3
Fe	57	45	He	0.149	ppb	1507.1	200.01	0.0030	Pulse	0.1000	3
Co	59	115	He	0.045	ppb	41.1	226.68	0.0027	Pulse	0.1000	3
Ni	60	115	He	-0.077	ppb	N/A	590.04	0.0071	Pulse	0.1000	3
Cu	63	115	He	0.004	ppb	373.4	1083.41	0.0131	Pulse	0.1000	3
Zn	66	115	He	-1.056	ppb	N/A	1470.12	0.0177	Pulse	0.1000	3
As	75	115	He	0.225	ppb	67.7	143.33	0.0017	Pulse	0.5000	3
Sr	88	115	He	0.116	ppb	7.9	200.01	0.0024	Pulse	0.1000	3
Mo	98	115	He	0.096	ppb	16.9	120.00	0.0014	Pulse	0.1000	3
Ag	107	115	He	-0.013	ppb	N/A	30.00	0.0004	Pulse	0.1000	3
Cd	111	115	He	0.008	ppb	114.8	4.67	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.270	ppb	37.4	1390.14	0.0167	Pulse	0.1000	3
Sb	121	72	He	0.148	ppb	27.8	196.68	0.0010	Pulse	0.1000	3
Ba	137	115	He	0.104	ppb	70.9	56.67	0.0007	Pulse	0.1000	3
Tl	205	209	He	0.148	ppb	34.0	660.05	0.0051	Pulse	0.1000	3
Pb	208	209	He	-0.008	ppb	N/A	506.68	0.0039	Pulse	0.1000	3
U	238	209	He	0.012	ppb	79.6	73.33	0.0006	Pulse	0.1000	3

Quantitation Report

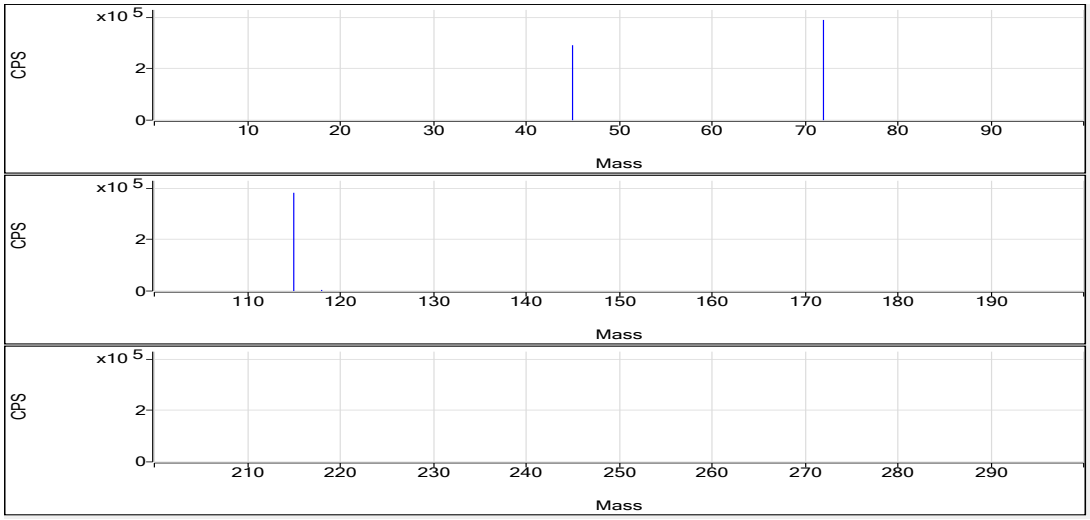
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1473987.48	1.2	98.6	Analog	0.1000	3
No Gas	Ge	72	1101182.32	0.6	98.9	Pulse	0.1000	3
H2	Sc	45	292196.69	0.7	98.6	Pulse	0.1000	3
H2	Ge	72	390719.21	1.0	100.3	Pulse	0.1000	3
H2	In	115	383051.31	0.5	102.0	Pulse	0.1000	3
He	Sc	45	66702.23	1.1	101.1	Pulse	0.1000	3
He	Ge	72	188016.92	0.2	100.1	Pulse	0.1000	3
He	In	115	82979.51	0.6	100.3	Pulse	0.1000	3
He	Tb	159	213015.65	0.2	101.3	Pulse	0.1000	3
He	Bi	209	130767.40	1.1	101.9	Pulse	0.1000	3

No Gas

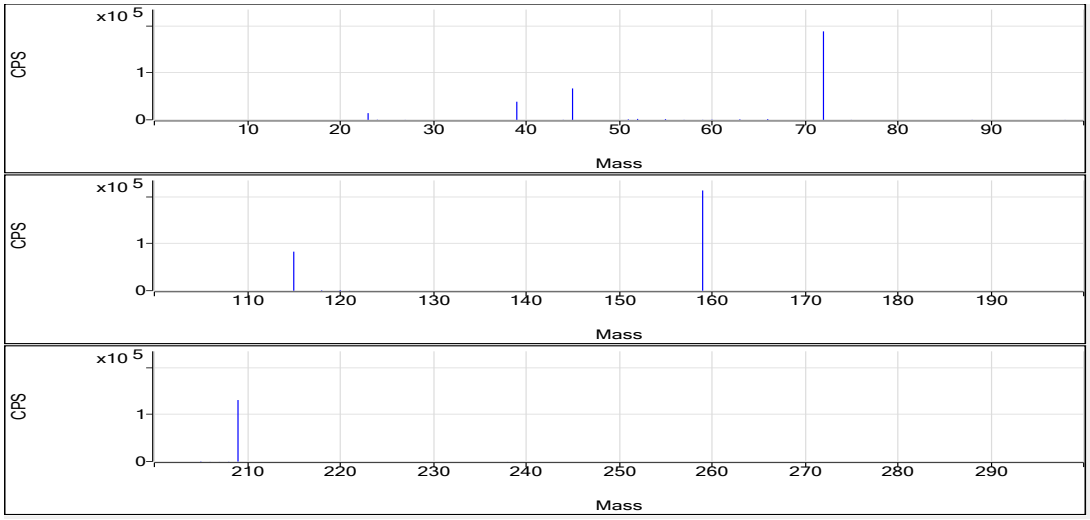


H2



Quantitation Report

He



Quantitation Report

Data File Name	170SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 4:06:08 PM
Sample Name	410-11219-I-1-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

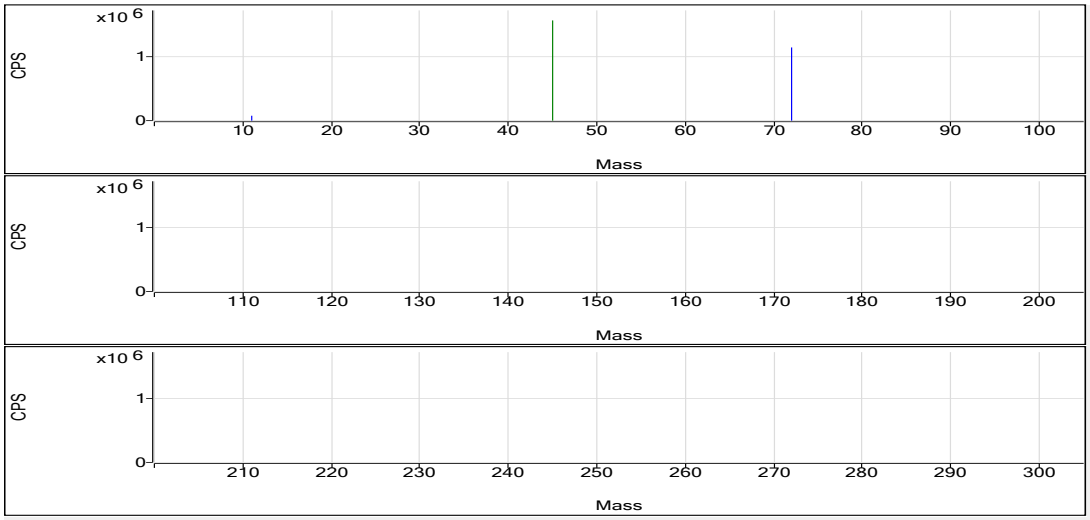
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	-0.002	ppb	N/A	22.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	126.357	ppb	1.1	76175.82	0.0489	Pulse	0.5000	3
Se	78	115	H2	0.573	ppb	9.1	56.67	0.0001	Pulse	1.5000	3
Na	23	45	He	62258.790	ppb	1.5	11752436.07	169.0503	Analog	0.1000	3
Mg	24	45	He	12365.634	ppb	1.7	1111934.15	15.9945	Mix	0.1000	3
Al	27	45	He	11.532	ppb	5.6	593.37	0.0085	Pulse	0.1000	3
K	39	45	He	11551.340	ppb	4.2	1241033.34	17.8502	Mix	0.1000	3
Ca	44	45	He	37527.354	ppb	1.9	195531.91	2.8127	Pulse	0.1000	3
Ti	47	45	He	0.287	ppb	173.2	10.00	0.0001	Pulse	0.1000	3
V	51	45	He	-0.180	ppb	N/A	926.73	0.0133	Pulse	0.1000	3
Cr	52	45	He	3.477	ppb	4.6	6481.64	0.0932	Pulse	0.1000	3
Mn	55	45	He	33.813	ppb	3.6	27196.29	0.3912	Pulse	0.1000	3
Fe	57	45	He	279.902	ppb	1.8	7909.09	0.1138	Pulse	0.1000	3
Co	59	115	He	0.186	ppb	9.3	556.70	0.0064	Pulse	0.1000	3
Ni	60	115	He	5.411	ppb	9.5	3660.58	0.0424	Pulse	0.1000	3
Cu	63	115	He	13.583	ppb	0.6	21523.33	0.2491	Pulse	0.1000	3
Zn	66	115	He	23.946	ppb	6.4	7395.47	0.0856	Pulse	0.1000	3
As	75	115	He	0.568	ppb	25.3	216.67	0.0025	Pulse	0.5000	3
Sr	88	115	He	240.189	ppb	0.7	267189.65	3.0930	Pulse	0.1000	3
Mo	98	115	He	6.649	ppb	6.0	8619.60	0.0998	Pulse	0.1000	3
Ag	107	115	He	-0.016	ppb	N/A	23.33	0.0003	Pulse	0.1000	3
Cd	111	115	He	0.083	ppb	22.3	30.67	0.0004	Pulse	0.5000	3
Sn	120	115	He	0.118	ppb	6.8	1263.43	0.0146	Pulse	0.1000	3
Sb	121	72	He	0.522	ppb	18.3	633.37	0.0033	Pulse	0.1000	3
Ba	137	115	He	31.886	ppb	3.0	13794.00	0.1597	Pulse	0.1000	3
Tl	205	209	He	0.017	ppb	13.8	170.01	0.0013	Pulse	0.1000	3
Pb	208	209	He	0.229	ppb	16.2	1806.78	0.0134	Pulse	0.1000	3
U	238	209	He	0.138	ppb	8.7	716.71	0.0053	Pulse	0.1000	3

Quantitation Report

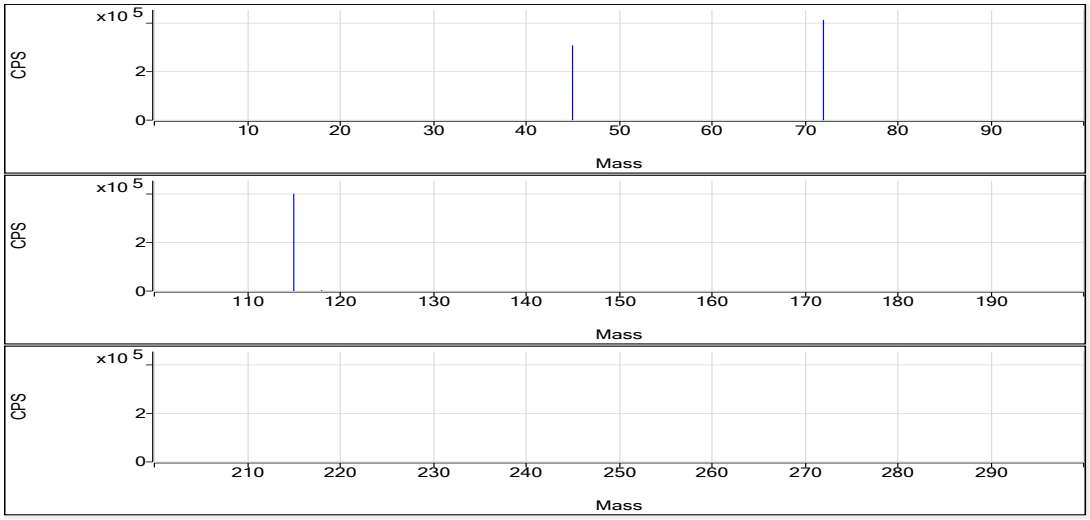
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1558447.89	0.3	104.2	Analog	0.1000	3
No Gas	Ge	72	1138176.67	0.7	102.3	Pulse	0.1000	3
H2	Sc	45	308741.75	0.7	104.2	Pulse	0.1000	3
H2	Ge	72	413594.25	0.9	106.1	Pulse	0.1000	3
H2	In	115	401244.72	1.1	106.9	Pulse	0.1000	3
He	Sc	45	69528.43	1.2	105.4	Pulse	0.1000	3
He	Ge	72	192506.40	0.9	102.5	Pulse	0.1000	3
He	In	115	86389.63	1.1	104.4	Pulse	0.1000	3
He	Tb	159	218433.49	0.3	103.9	Pulse	0.1000	3
He	Bi	209	135039.02	0.8	105.2	Pulse	0.1000	3

No Gas

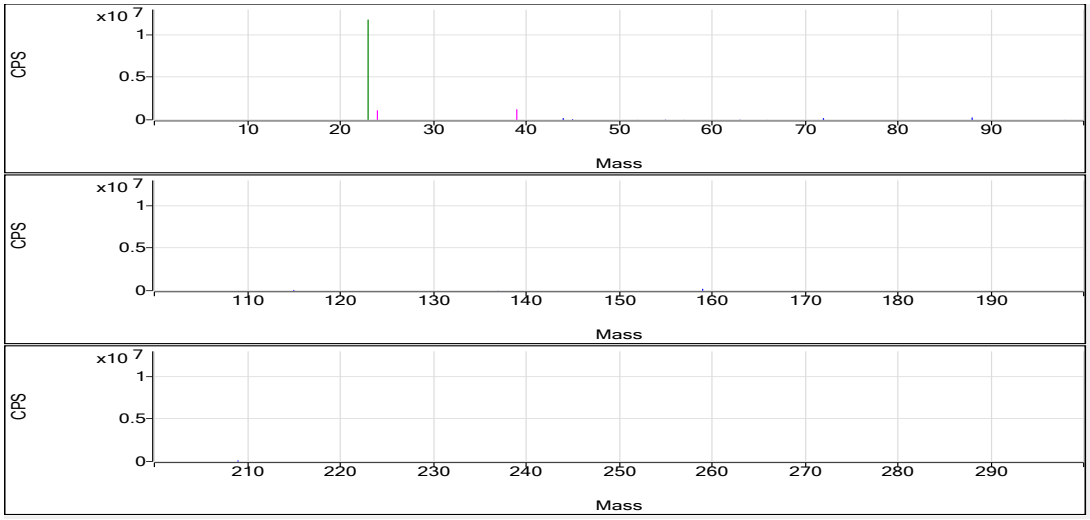


H2



Quantitation Report

He



Quantitation Report

Data File Name	171SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 4:08:01 PM
Sample Name	410-11239-X-1-A
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

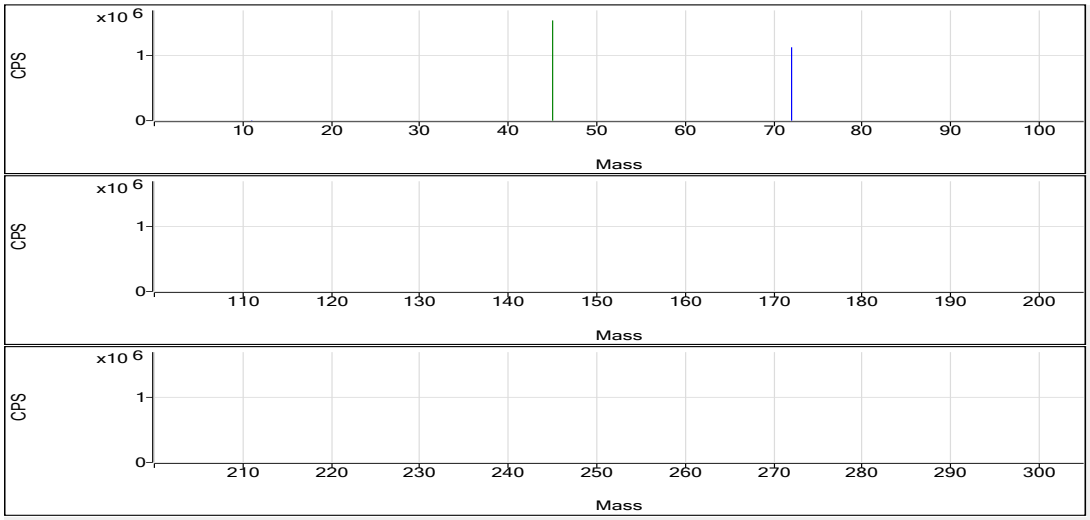
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	-0.004	ppb	N/A	20.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	5.296	ppb	4.6	5797.82	0.0037	Pulse	0.5000	3
Se	78	115	H2	1.110	ppb	4.5	108.00	0.0003	Pulse	1.5000	3
Na	23	45	He	9468.940	ppb	0.8	1792389.56	25.8746	Analog	0.1000	3
Mg	24	45	He	9202.588	ppb	0.9	824560.19	11.9041	Pulse	0.1000	3
Al	27	45	He	9.528	ppb	17.1	520.03	0.0075	Pulse	0.1000	3
K	39	45	He	1171.874	ppb	1.5	161581.31	2.3325	Pulse	0.1000	3
Ca	44	45	He	22159.265	ppb	1.8	115125.97	1.6622	Pulse	0.1000	3
Ti	47	45	He	0.291	ppb	1.1	10.00	0.0001	Pulse	0.1000	3
V	51	45	He	0.465	ppb	34.0	1660.16	0.0240	Pulse	0.1000	3
Cr	52	45	He	0.999	ppb	22.6	2973.74	0.0429	Pulse	0.1000	3
Mn	55	45	He	2.283	ppb	2.7	3027.08	0.0437	Pulse	0.1000	3
Fe	57	45	He	23.568	ppb	5.7	850.05	0.0123	Pulse	0.1000	3
Co	59	115	He	0.041	ppb	59.9	226.68	0.0026	Pulse	0.1000	3
Ni	60	115	He	3.845	ppb	6.5	2800.38	0.0323	Pulse	0.1000	3
Cu	63	115	He	23.979	ppb	1.7	37282.02	0.4299	Pulse	0.1000	3
Zn	66	115	He	89.318	ppb	1.5	22825.18	0.2632	Pulse	0.1000	3
As	75	115	He	-0.043	ppb	N/A	97.33	0.0011	Pulse	0.5000	3
Sr	88	115	He	141.992	ppb	0.5	158618.44	1.8289	Pulse	0.1000	3
Mo	98	115	He	0.067	ppb	6.5	86.67	0.0010	Pulse	0.1000	3
Ag	107	115	He	-0.001	ppb	N/A	60.00	0.0007	Pulse	0.1000	3
Cd	111	115	He	0.036	ppb	51.6	14.67	0.0002	Pulse	0.5000	3
Sn	120	115	He	0.285	ppb	190.7	1468.23	0.0170	Pulse	0.1000	3
Sb	121	72	He	0.080	ppb	40.7	123.34	0.0006	Pulse	0.1000	3
Ba	137	115	He	76.835	ppb	0.9	33354.26	0.3846	Pulse	0.1000	3
Tl	205	209	He	0.005	ppb	120.1	126.67	0.0009	Pulse	0.1000	3
Pb	208	209	He	4.631	ppb	1.3	25670.66	0.1900	Pulse	0.1000	3
U	238	209	He	0.004	ppb	107.7	33.33	0.0002	Pulse	0.1000	3

Quantitation Report

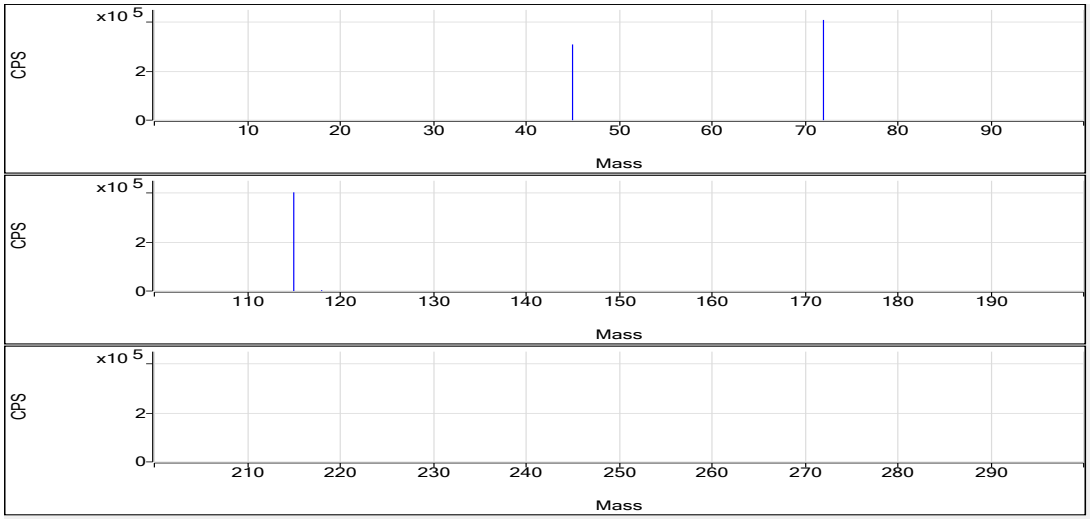
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1553734.51	2.1	103.9	Analog	0.1000	3
No Gas	Ge	72	1137260.87	1.6	102.2	Pulse	0.1000	3
H2	Sc	45	308795.36	0.6	104.2	Pulse	0.1000	3
H2	Ge	72	408782.30	0.8	104.9	Pulse	0.1000	3
H2	In	115	402493.72	0.7	107.2	Pulse	0.1000	3
He	Sc	45	69270.78	1.1	105.0	Pulse	0.1000	3
He	Ge	72	193055.30	0.3	102.8	Pulse	0.1000	3
He	In	115	86727.94	0.9	104.8	Pulse	0.1000	3
He	Tb	159	220035.67	1.3	104.6	Pulse	0.1000	3
He	Bi	209	135089.42	0.7	105.3	Pulse	0.1000	3

No Gas

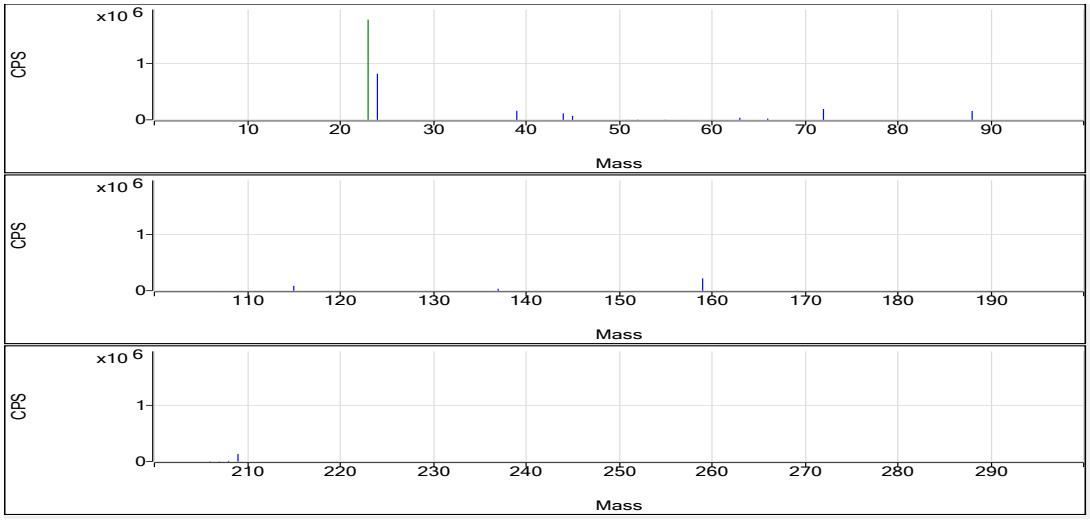


H2



Quantitation Report

He



Quantitation Report

Data File Name	172SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 4:09:53 PM
Sample Name	410-11239-X-2-A
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

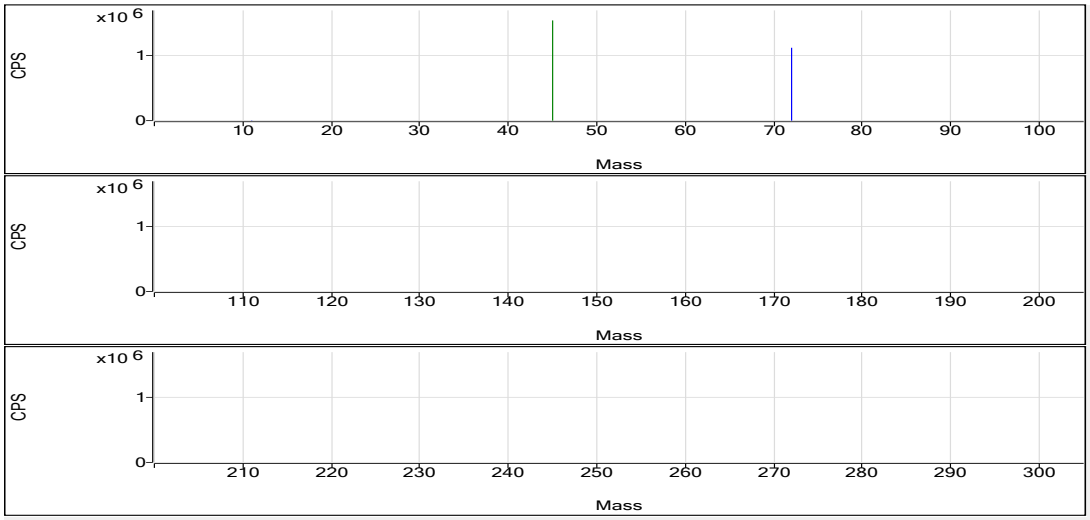
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.006	ppb	21.8	30.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	3.497	ppb	5.9	4746.10	0.0031	Pulse	0.5000	3
Se	78	115	H2	0.006	ppb	123.4	2.67	0.0000	Pulse	1.5000	3
Na	23	45	He	8854.269	ppb	1.9	1697470.49	24.2075	Analog	0.1000	3
Mg	24	45	He	11900.454	ppb	1.7	1079412.61	15.3930	Pulse	0.1000	3
Al	27	45	He	87.307	ppb	2.3	3300.48	0.0471	Pulse	0.1000	3
K	39	45	He	6257.214	ppb	2.5	696631.89	9.9353	Pulse	0.1000	3
Ca	44	45	He	27027.773	ppb	1.4	142123.31	2.0266	Pulse	0.1000	3
Ti	47	45	He	7.160	ppb	47.6	250.01	0.0035	Pulse	0.1000	3
V	51	45	He	0.153	ppb	32.9	1320.10	0.0188	Pulse	0.1000	3
Cr	52	45	He	0.386	ppb	15.2	2133.56	0.0304	Pulse	0.1000	3
Mn	55	45	He	183.893	ppb	1.8	143420.56	2.0453	Pulse	0.1000	3
Fe	57	45	He	1469.501	ppb	3.5	40998.71	0.5848	Pulse	0.1000	3
Co	59	115	He	0.506	ppb	4.1	1273.44	0.0149	Pulse	0.1000	3
Ni	60	115	He	1.069	ppb	5.1	1236.76	0.0145	Pulse	0.1000	3
Cu	63	115	He	10.313	ppb	1.2	16429.87	0.1923	Pulse	0.1000	3
Zn	66	115	He	19.284	ppb	6.4	6234.88	0.0730	Pulse	0.1000	3
As	75	115	He	-0.021	ppb	N/A	100.00	0.0012	Pulse	0.5000	3
Sr	88	115	He	103.970	ppb	0.6	114443.19	1.3394	Pulse	0.1000	3
Mo	98	115	He	0.497	ppb	9.2	636.70	0.0075	Pulse	0.1000	3
Ag	107	115	He	-0.011	ppb	N/A	36.67	0.0004	Pulse	0.1000	3
Cd	111	115	He	0.235	ppb	21.0	82.67	0.0010	Pulse	0.5000	3
Sn	120	115	He	0.048	ppb	39.9	1166.77	0.0137	Pulse	0.1000	3
Sb	121	72	He	1.164	ppb	11.1	1380.12	0.0071	Pulse	0.1000	3
Ba	137	115	He	86.904	ppb	1.2	37164.28	0.4350	Pulse	0.1000	3
Tl	205	209	He	-0.002	ppb	N/A	96.67	0.0007	Pulse	0.1000	3
Pb	208	209	He	0.632	ppb	2.6	3943.73	0.0295	Pulse	0.1000	3
U	238	209	He	0.241	ppb	10.6	1223.43	0.0092	Pulse	0.1000	3

Quantitation Report

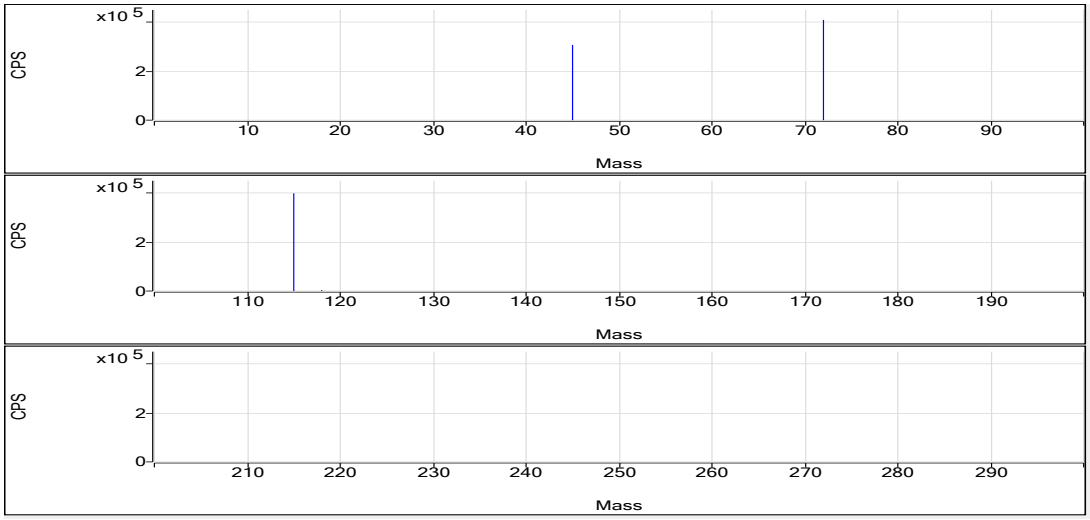
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1550549.35	0.8	103.7	Analog	0.1000	3
No Gas	Ge	72	1127584.85	0.7	101.3	Pulse	0.1000	3
H2	Sc	45	308397.35	0.8	104.1	Pulse	0.1000	3
H2	Ge	72	410825.41	0.8	105.4	Pulse	0.1000	3
H2	In	115	400336.32	0.6	106.6	Pulse	0.1000	3
He	Sc	45	70141.83	2.3	106.3	Pulse	0.1000	3
He	Ge	72	193206.72	0.5	102.9	Pulse	0.1000	3
He	In	115	85443.54	0.7	103.2	Pulse	0.1000	3
He	Tb	159	218843.41	0.6	104.1	Pulse	0.1000	3
He	Bi	209	133469.04	0.6	104.0	Pulse	0.1000	3

No Gas

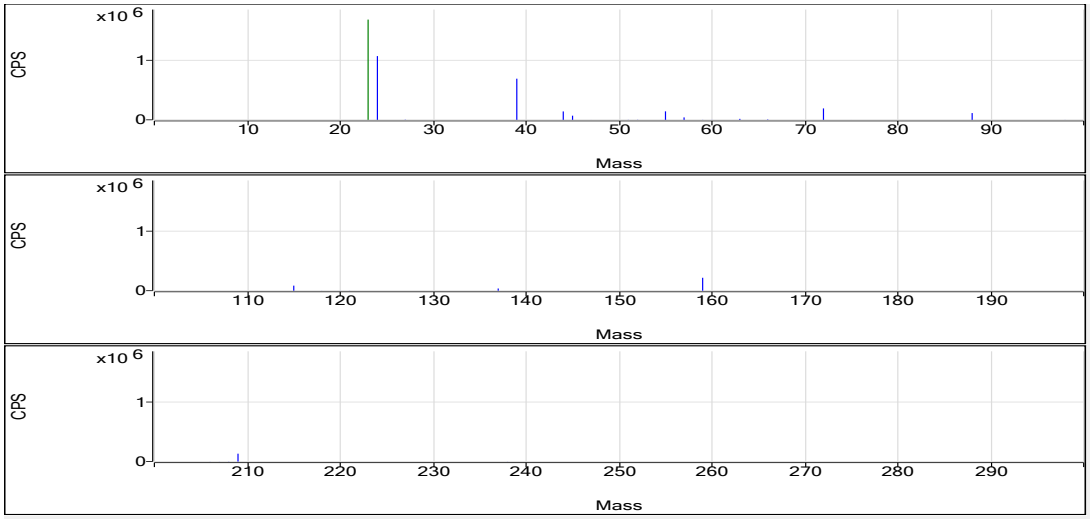


H2



Quantitation Report

He



Quantitation Report

Data File Name	173SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 4:11:45 PM
Sample Name	410-11239-X-3-A
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

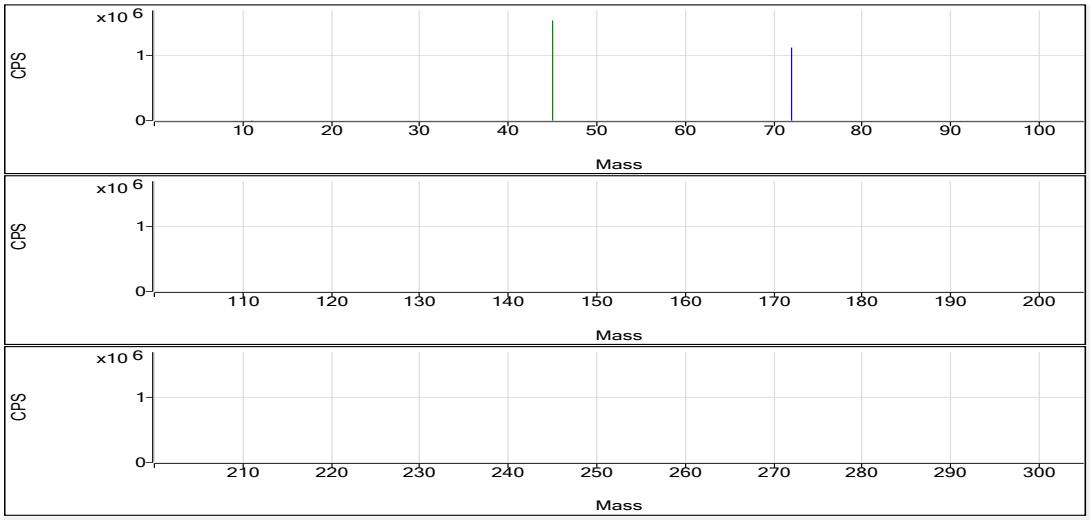
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.075	ppb	22.8	100.00	0.0001	Pulse	0.5000	3
B	11	45	No Gas	3.590	ppb	6.1	4751.45	0.0031	Pulse	0.5000	3
Se	78	115	H2	0.027	ppb	46.1	4.67	0.0000	Pulse	1.5000	3
Na	23	45	He	4608.687	ppb	2.3	880846.65	12.6927	Pulse	0.1000	3
Mg	24	45	He	1626.355	ppb	2.0	146192.42	2.1065	Pulse	0.1000	3
Al	27	45	He	381.343	ppb	6.3	13637.69	0.1966	Pulse	0.1000	3
K	39	45	He	1393.610	ppb	2.9	184920.92	2.6640	Pulse	0.1000	3
Ca	44	45	He	1391.313	ppb	5.9	7452.12	0.1074	Pulse	0.1000	3
Ti	47	45	He	35.460	ppb	2.6	1220.10	0.0176	Pulse	0.1000	3
V	51	45	He	0.731	ppb	10.2	1966.88	0.0283	Pulse	0.1000	3
Cr	52	45	He	1.174	ppb	9.2	3227.13	0.0465	Pulse	0.1000	3
Mn	55	45	He	24.334	ppb	2.8	19897.71	0.2867	Pulse	0.1000	3
Fe	57	45	He	515.726	ppb	1.4	14384.24	0.2071	Pulse	0.1000	3
Co	59	115	He	1.377	ppb	6.3	3247.14	0.0379	Pulse	0.1000	3
Ni	60	115	He	1.252	ppb	33.7	1340.10	0.0156	Pulse	0.1000	3
Cu	63	115	He	22.054	ppb	0.8	33973.86	0.3964	Pulse	0.1000	3
Zn	66	115	He	83.287	ppb	4.3	21149.45	0.2468	Pulse	0.1000	3
As	75	115	He	0.270	ppb	46.9	156.67	0.0018	Pulse	0.5000	3
Sr	88	115	He	21.336	ppb	2.3	23617.00	0.2756	Pulse	0.1000	3
Mo	98	115	He	0.085	ppb	8.8	110.00	0.0013	Pulse	0.1000	3
Ag	107	115	He	0.000	ppb	3070.1	63.33	0.0007	Pulse	0.1000	3
Cd	111	115	He	0.050	ppb	17.6	19.33	0.0002	Pulse	0.5000	3
Sn	120	115	He	0.230	ppb	61.6	1386.79	0.0162	Pulse	0.1000	3
Sb	121	72	He	0.160	ppb	25.6	213.34	0.0011	Pulse	0.1000	3
Ba	137	115	He	31.521	ppb	1.0	13530.43	0.1579	Pulse	0.1000	3
Tl	205	209	He	0.047	ppb	29.0	283.35	0.0021	Pulse	0.1000	3
Pb	208	209	He	4.565	ppb	0.4	24849.99	0.1874	Pulse	0.1000	3
U	238	209	He	0.454	ppb	5.8	2280.29	0.0172	Pulse	0.1000	3

Quantitation Report

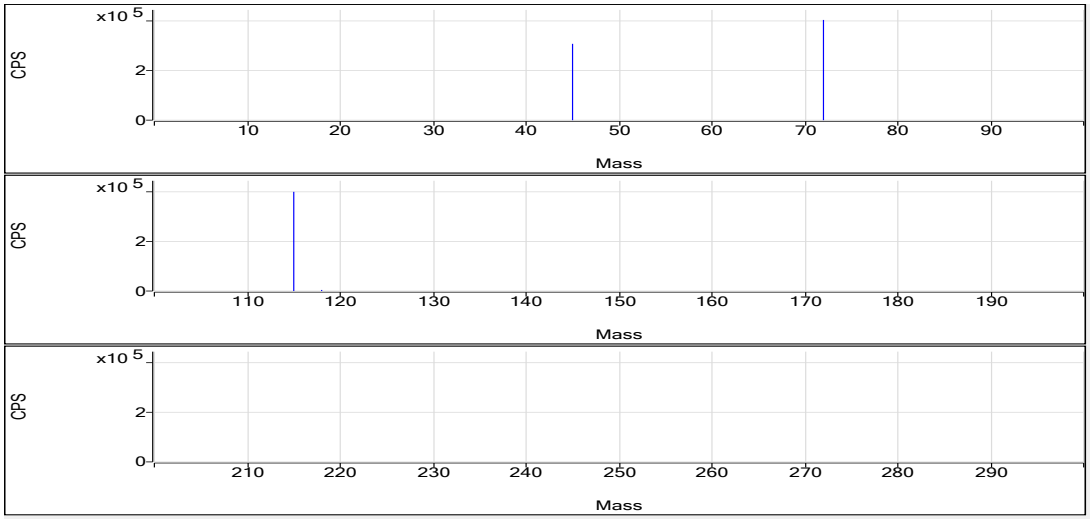
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1534881.18	0.3	102.7	Analog	0.1000	3
No Gas	Ge	72	1119560.56	0.3	100.6	Pulse	0.1000	3
H2	Sc	45	308924.31	2.0	104.3	Pulse	0.1000	3
H2	Ge	72	405621.07	1.4	104.1	Pulse	0.1000	3
H2	In	115	401418.81	1.3	106.9	Pulse	0.1000	3
He	Sc	45	69424.56	2.6	105.2	Pulse	0.1000	3
He	Ge	72	190934.07	0.8	101.7	Pulse	0.1000	3
He	In	115	85702.09	1.1	103.5	Pulse	0.1000	3
He	Tb	159	217777.28	1.1	103.6	Pulse	0.1000	3
He	Bi	209	132632.09	0.9	103.3	Pulse	0.1000	3

No Gas

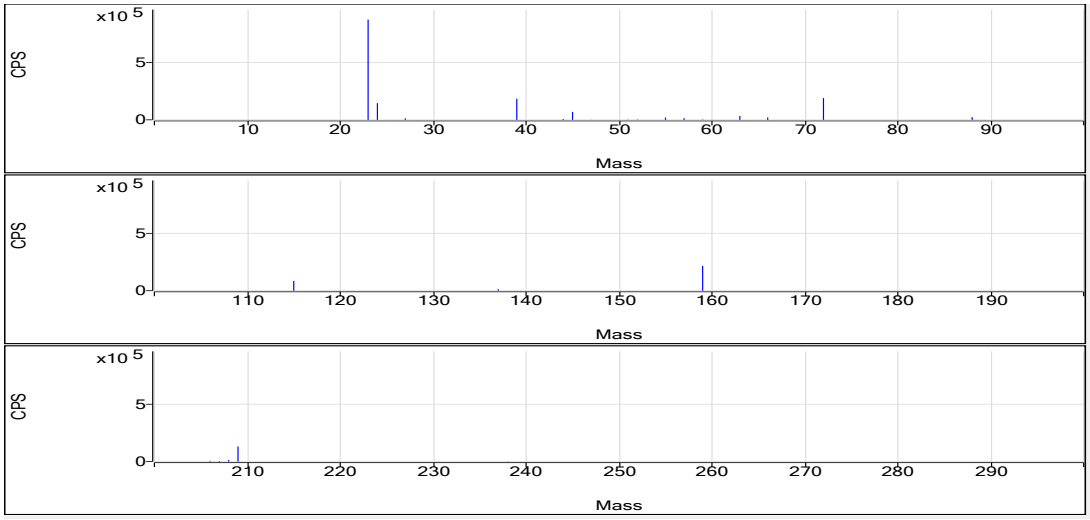


H2



Quantitation Report

He



Quantitation Report

Data File Name	174SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 4:13:38 PM
Sample Name	410-11239-V-4-A
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

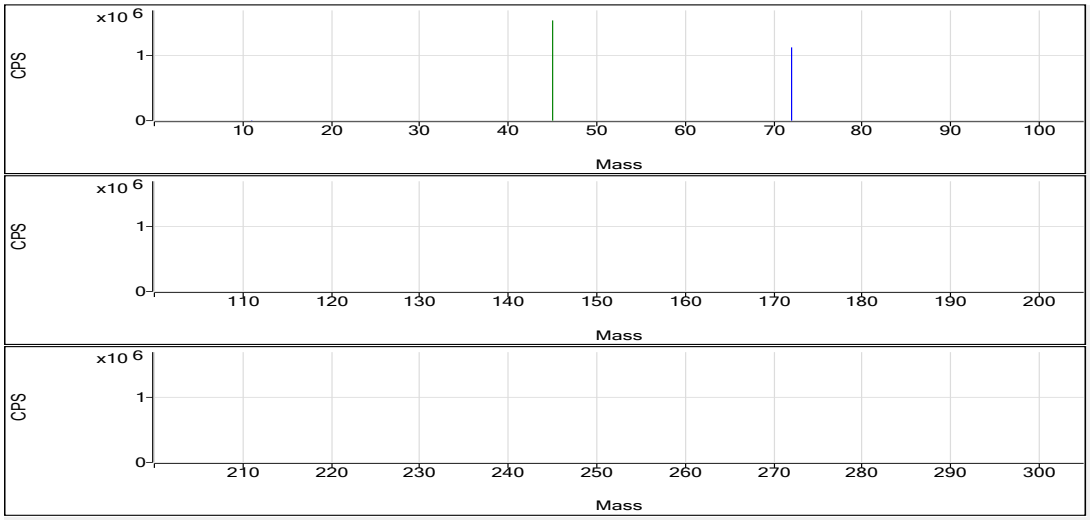
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.005	ppb	249.9	30.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	4.881	ppb	5.9	5517.04	0.0036	Pulse	0.5000	3
Se	78	115	H2	-0.006	ppb	N/A	1.56	0.0000	Pulse	1.5000	3
Na	23	45	He	2692.859	ppb	1.7	524874.76	7.4966	Pulse	0.1000	3
Mg	24	45	He	1020.557	ppb	1.5	92634.28	1.3231	Pulse	0.1000	3
Al	27	45	He	17.500	ppb	16.4	810.05	0.0116	Pulse	0.1000	3
K	39	45	He	2114.763	ppb	2.0	262011.74	3.7422	Pulse	0.1000	3
Ca	44	45	He	3337.582	ppb	1.1	17724.59	0.2531	Pulse	0.1000	3
Ti	47	45	He	1.154	ppb	25.2	40.00	0.0006	Pulse	0.1000	3
V	51	45	He	-0.315	ppb	N/A	776.72	0.0111	Pulse	0.1000	3
Cr	52	45	He	0.716	ppb	18.6	2600.32	0.0371	Pulse	0.1000	3
Mn	55	45	He	120.159	ppb	2.2	94022.20	1.3429	Pulse	0.1000	3
Fe	57	45	He	841.105	ppb	3.7	23522.93	0.3360	Pulse	0.1000	3
Co	59	115	He	0.258	ppb	11.5	723.38	0.0084	Pulse	0.1000	3
Ni	60	115	He	3.923	ppb	9.3	2840.37	0.0328	Pulse	0.1000	3
Cu	63	115	He	80.734	ppb	0.9	122683.64	1.4167	Pulse	0.1000	3
Zn	66	115	He	92.878	ppb	3.6	23629.90	0.2729	Pulse	0.1000	3
As	75	115	He	-0.127	ppb	N/A	80.67	0.0009	Pulse	0.5000	3
Sr	88	115	He	35.976	ppb	0.4	40187.49	0.4641	Pulse	0.1000	3
Mo	98	115	He	0.100	ppb	28.0	130.01	0.0015	Pulse	0.1000	3
Ag	107	115	He	0.006	ppb	83.9	76.67	0.0009	Pulse	0.1000	3
Cd	111	115	He	0.071	ppb	42.1	26.67	0.0003	Pulse	0.5000	3
Sn	120	115	He	-0.058	ppb	N/A	1053.42	0.0122	Pulse	0.1000	3
Sb	121	72	He	0.097	ppb	34.2	143.34	0.0007	Pulse	0.1000	3
Ba	137	115	He	18.953	ppb	1.7	8226.07	0.0950	Pulse	0.1000	3
Tl	205	209	He	0.004	ppb	66.2	123.34	0.0009	Pulse	0.1000	3
Pb	208	209	He	6.593	ppb	2.4	36587.62	0.2687	Pulse	0.1000	3
U	238	209	He	0.021	ppb	28.7	120.01	0.0009	Pulse	0.1000	3

Quantitation Report

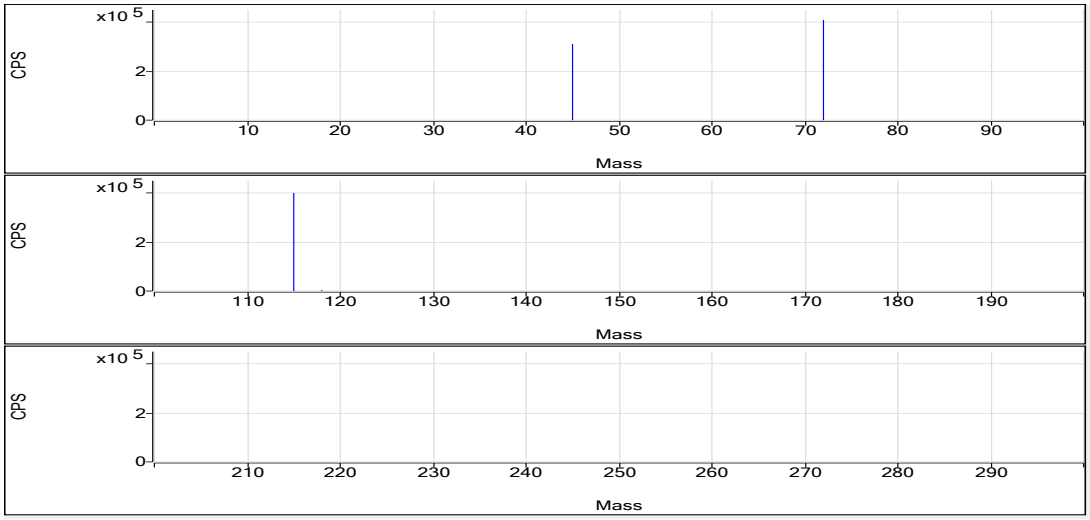
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1542379.04	0.0	103.2	Analog	0.1000	3
No Gas	Ge	72	1127387.59	0.4	101.3	Pulse	0.1000	3
H2	Sc	45	310538.09	1.7	104.8	Pulse	0.1000	3
H2	Ge	72	408985.71	1.6	105.0	Pulse	0.1000	3
H2	In	115	400184.05	0.7	106.6	Pulse	0.1000	3
He	Sc	45	70017.09	0.3	106.1	Pulse	0.1000	3
He	Ge	72	192717.08	0.9	102.6	Pulse	0.1000	3
He	In	115	86600.88	0.3	104.6	Pulse	0.1000	3
He	Tb	159	219475.81	1.4	104.4	Pulse	0.1000	3
He	Bi	209	136153.63	0.4	106.1	Pulse	0.1000	3

No Gas

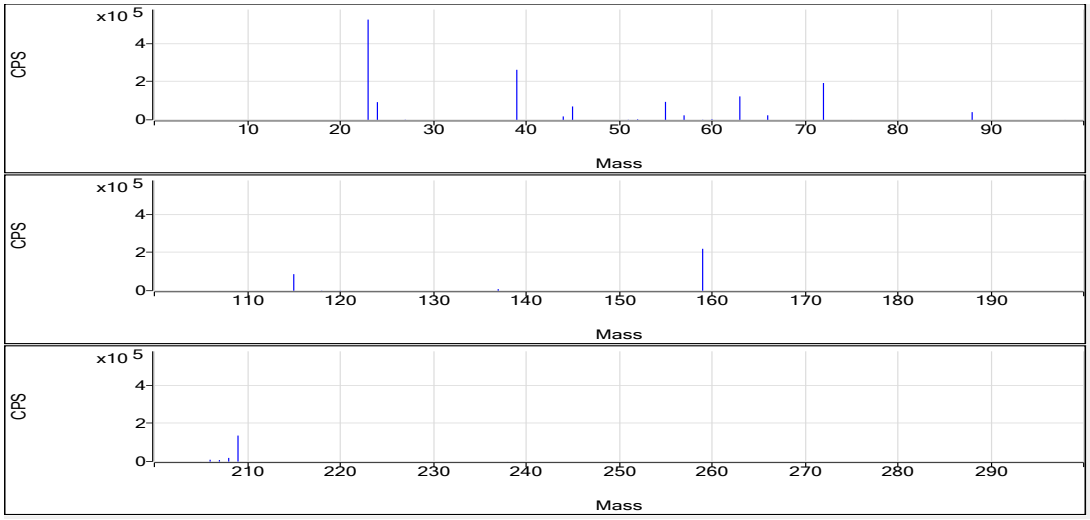


H2



Quantitation Report

He



Quantitation Report

Data File Name	175SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 4:15:31 PM
Sample Name	410-11239-X-5-A
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

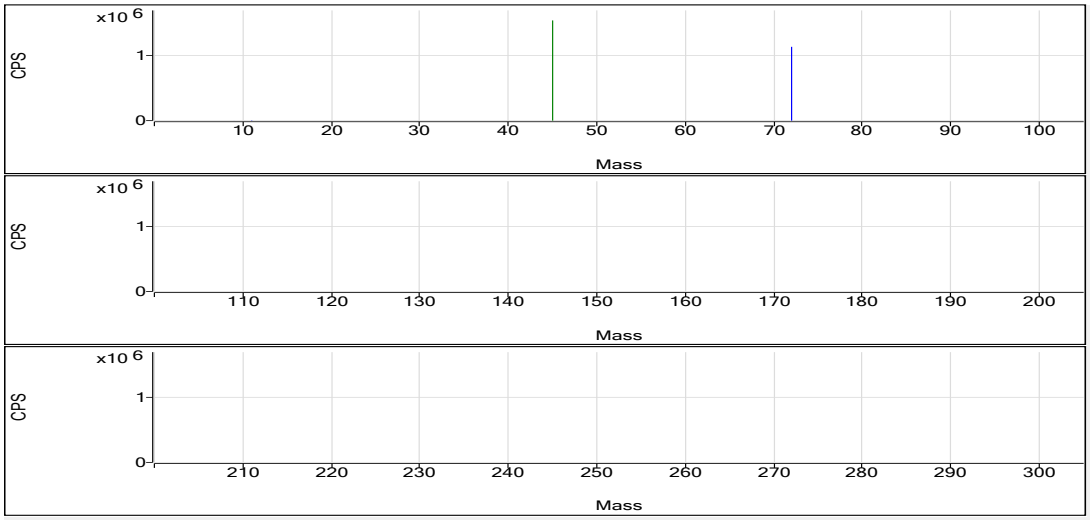
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.414	ppb	6.4	440.01	0.0003	Pulse	0.5000	3
B	11	45	No Gas	4.049	ppb	1.2	5012.19	0.0033	Pulse	0.5000	3
Se	78	115	H2	0.310	ppb	17.0	31.33	0.0001	Pulse	1.5000	3
Na	23	45	He	2059.139	ppb	2.7	404726.50	5.7779	Pulse	0.1000	3
Mg	24	45	He	11146.991	ppb	2.5	1010009.67	14.4186	Pulse	0.1000	3
Al	27	45	He	272.611	ppb	5.9	9893.64	0.1413	Pulse	0.1000	3
K	39	45	He	1884.994	ppb	2.1	238111.12	3.3987	Pulse	0.1000	3
Ca	44	45	He	5966.013	ppb	3.0	31517.89	0.4499	Pulse	0.1000	3
Ti	47	45	He	6.334	ppb	27.9	220.01	0.0031	Pulse	0.1000	3
V	51	45	He	-0.187	ppb	N/A	926.74	0.0132	Pulse	0.1000	3
Cr	52	45	He	4.273	ppb	2.0	7665.57	0.1094	Pulse	0.1000	3
Mn	55	45	He	125.008	ppb	3.2	97800.46	1.3963	Pulse	0.1000	3
Fe	57	45	He	286.072	ppb	1.0	8142.53	0.1162	Pulse	0.1000	3
Co	59	115	He	1.334	ppb	3.9	3123.78	0.0368	Pulse	0.1000	3
Ni	60	115	He	9.139	ppb	6.7	5627.96	0.0663	Pulse	0.1000	3
Cu	63	115	He	1.131	ppb	11.0	2777.02	0.0327	Pulse	0.1000	3
Zn	66	115	He	89.840	ppb	1.6	22488.07	0.2646	Pulse	0.1000	3
As	75	115	He	-0.046	ppb	N/A	94.67	0.0011	Pulse	0.5000	3
Sr	88	115	He	75.627	ppb	2.2	82780.40	0.9745	Pulse	0.1000	3
Mo	98	115	He	0.073	ppb	29.6	93.33	0.0011	Pulse	0.1000	3
Ag	107	115	He	-0.015	ppb	N/A	26.67	0.0003	Pulse	0.1000	3
Cd	111	115	He	0.076	ppb	8.1	28.00	0.0003	Pulse	0.5000	3
Sn	120	115	He	-0.027	ppb	N/A	1070.08	0.0126	Pulse	0.1000	3
Sb	121	72	He	-0.007	ppb	N/A	23.33	0.0001	Pulse	0.1000	3
Ba	137	115	He	76.625	ppb	0.1	32589.41	0.3835	Pulse	0.1000	3
Tl	205	209	He	0.000	ppb	N/A	103.34	0.0008	Pulse	0.1000	3
Pb	208	209	He	0.116	ppb	1.4	1186.73	0.0088	Pulse	0.1000	3
U	238	209	He	0.007	ppb	109.5	50.00	0.0004	Pulse	0.1000	3

Quantitation Report

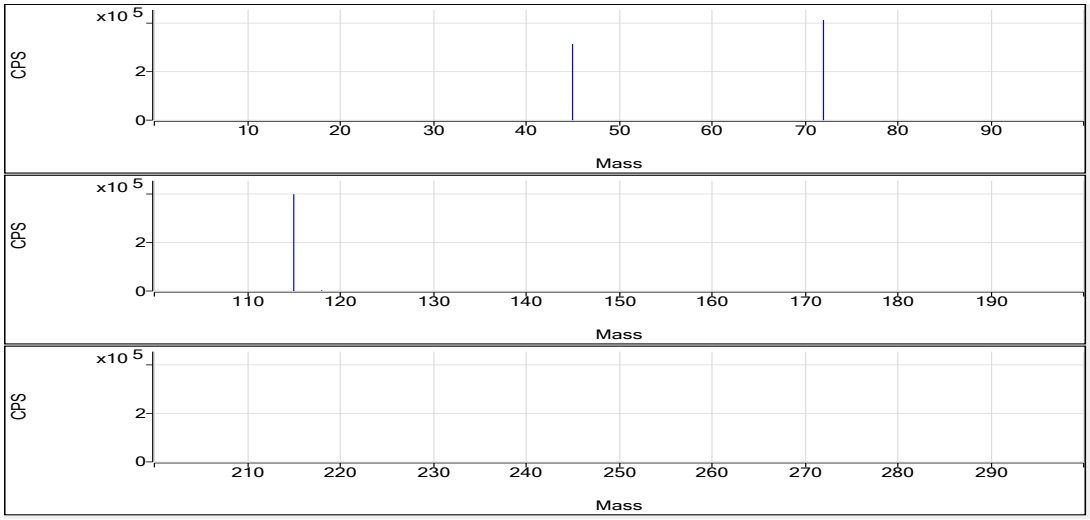
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1534321.80	0.7	102.6	Analog	0.1000	3
No Gas	Ge	72	1130132.74	0.7	101.5	Pulse	0.1000	3
H2	Sc	45	312581.04	0.8	105.5	Pulse	0.1000	3
H2	Ge	72	411543.01	1.1	105.6	Pulse	0.1000	3
H2	In	115	397561.78	0.3	105.9	Pulse	0.1000	3
He	Sc	45	70074.13	2.2	106.2	Pulse	0.1000	3
He	Ge	72	194290.80	1.0	103.4	Pulse	0.1000	3
He	In	115	84967.90	1.8	102.7	Pulse	0.1000	3
He	Tb	159	220621.40	0.6	104.9	Pulse	0.1000	3
He	Bi	209	134147.09	1.6	104.5	Pulse	0.1000	3

No Gas

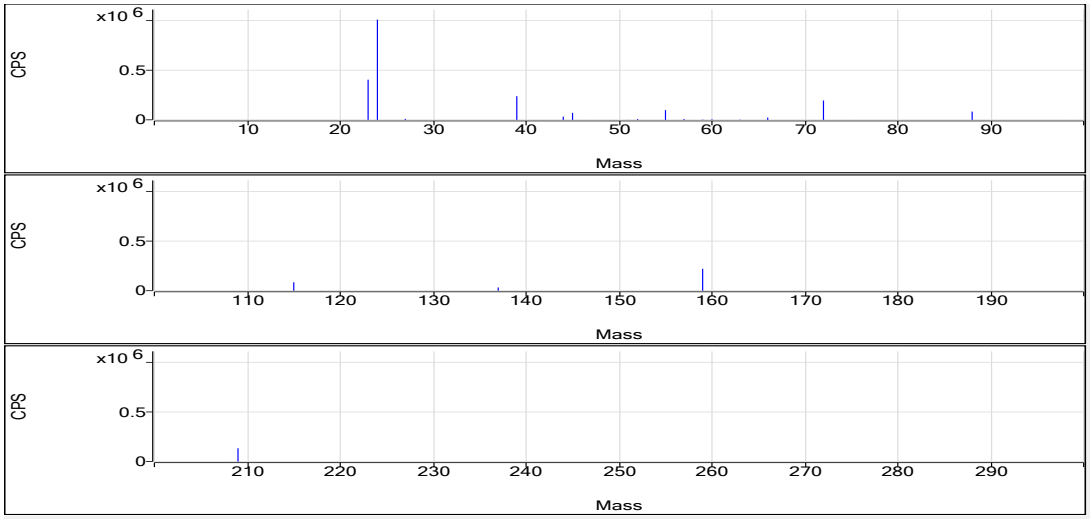


H2



Quantitation Report

He



Quantitation Report

Data File Name	176_CCV.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 4:17:24 PM
Sample Name	ccv 361008
Sample Type	CCV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

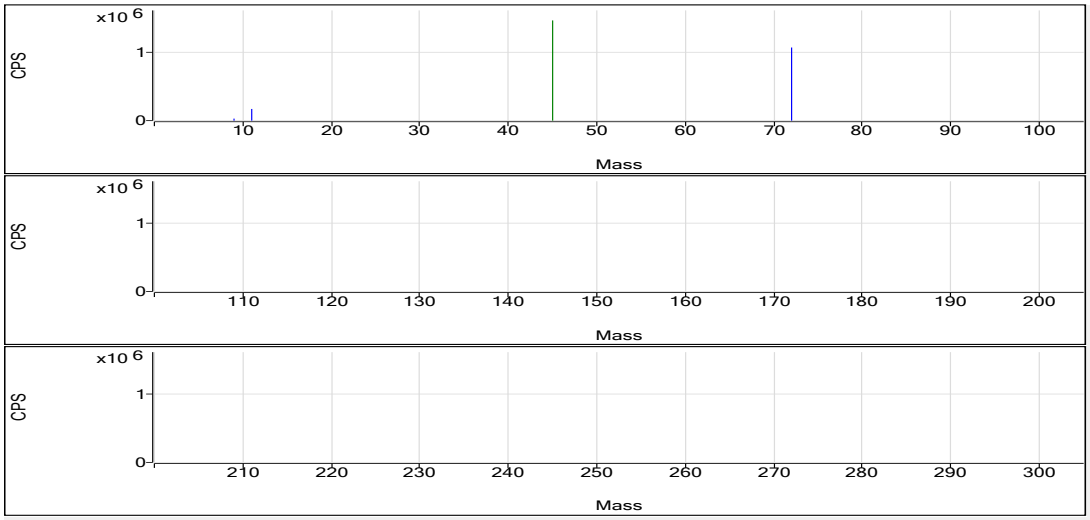
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	30.945	ppb	1.9	29886.17	0.0202	Pulse	0.5000	3
B	11	45	No Gas	307.907	ppb	1.4	172192.14	0.1166	Pulse	0.5000	3
Se	78	115	H2	29.982	ppb	2.8	2758.27	0.0071	Pulse	1.5000	3
Na	23	45	He	4798.520	ppb	1.8	881418.37	13.2076	Pulse	0.1000	3
Mg	24	45	He	5143.869	ppb	1.9	444141.70	6.6553	Pulse	0.1000	3
Al	27	45	He	5165.080	ppb	1.6	175476.04	2.6294	Pulse	0.1000	3
K	39	45	He	5110.633	ppb	1.7	548644.38	8.2211	Pulse	0.1000	3
Ca	44	45	He	5216.074	ppb	0.7	26284.09	0.3938	Pulse	0.1000	3
Ti	47	45	He	293.623	ppb	3.1	9706.85	0.1455	Pulse	0.1000	3
V	51	45	He	305.452	ppb	1.7	337304.63	5.0544	Pulse	0.1000	3
Cr	52	45	He	291.739	ppb	1.6	397081.74	5.9500	Pulse	0.1000	3
Mn	55	45	He	308.272	ppb	2.2	227971.41	3.4161	Pulse	0.1000	3
Fe	57	45	He	5117.365	ppb	2.7	135405.62	2.0292	Pulse	0.1000	3
Co	59	115	He	286.882	ppb	2.3	635411.57	7.5818	Pulse	0.1000	3
Ni	60	115	He	305.929	ppb	2.6	165255.39	1.9719	Pulse	0.1000	3
Cu	63	115	He	304.330	ppb	1.4	444597.43	5.3042	Pulse	0.1000	3
Zn	66	115	He	300.754	ppb	1.9	70197.58	0.8375	Pulse	0.1000	3
As	75	115	He	301.902	ppb	0.7	57457.72	0.6854	Pulse	0.5000	3
Sr	88	115	He	31.043	ppb	1.6	33573.59	0.4005	Pulse	0.1000	3
Mo	98	115	He	30.346	ppb	2.0	38185.85	0.4555	Pulse	0.1000	3
Ag	107	115	He	30.855	ppb	3.8	72081.92	0.8603	Pulse	0.1000	3
Cd	111	115	He	30.096	ppb	1.6	10129.69	0.1208	Pulse	0.5000	3
Sn	120	115	He	30.214	ppb	2.0	36505.38	0.4355	Pulse	0.1000	3
Sb	121	72	He	30.972	ppb	1.2	34206.05	0.1860	Pulse	0.1000	3
Ba	137	115	He	304.834	ppb	1.9	127850.73	1.5254	Pulse	0.1000	3
Tl	205	209	He	30.650	ppb	0.9	115710.48	0.8892	Pulse	0.1000	3
Pb	208	209	He	29.864	ppb	1.5	156457.58	1.2025	Pulse	0.1000	3
U	238	209	He	50.766	ppb	1.5	248971.38	1.9135	Pulse	0.1000	3

Quantitation Report

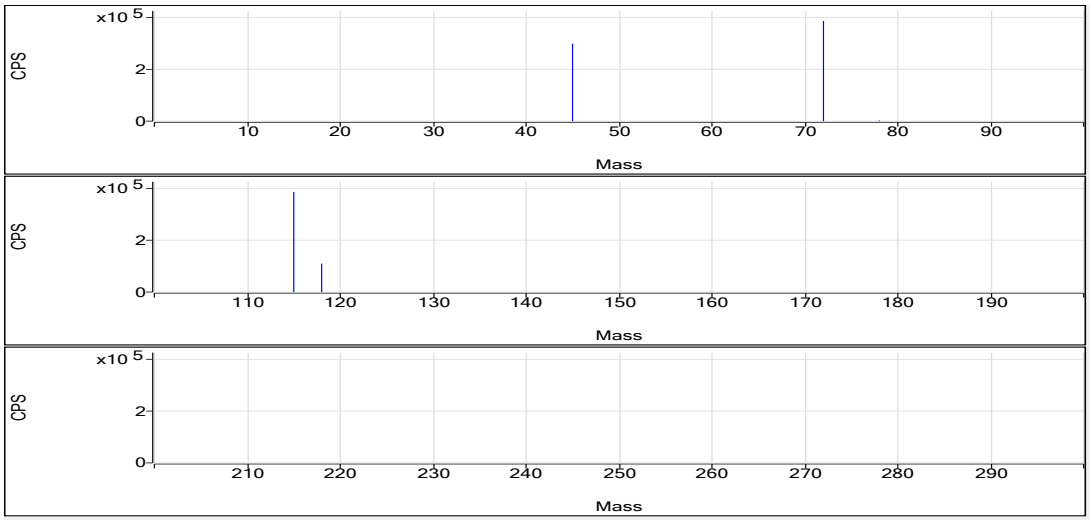
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1476901.28	1.2	98.8	Analog	0.1000	3
No Gas	Ge	72	1077701.05	1.0	96.8	Pulse	0.1000	3
H2	Sc	45	300242.78	1.7	101.3	Pulse	0.1000	3
H2	Ge	72	388554.77	1.3	99.7	Pulse	0.1000	3
H2	In	115	387876.91	0.7	103.3	Pulse	0.1000	3
He	Sc	45	66749.06	1.8	101.1	Pulse	0.1000	3
He	Ge	72	183907.78	1.0	97.9	Pulse	0.1000	3
He	In	115	83834.35	2.1	101.3	Pulse	0.1000	3
He	Tb	159	215457.68	0.1	102.5	Pulse	0.1000	3
He	Bi	209	130131.12	1.6	101.4	Pulse	0.1000	3

No Gas

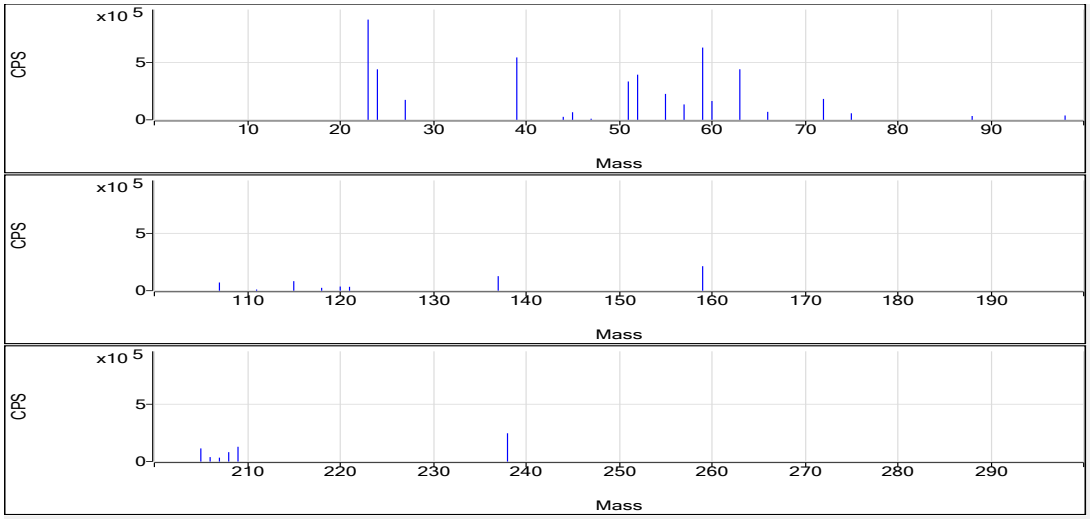


H2



Quantitation Report

He



Quantitation Report

Data File Name	177_CCB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 4:19:18 PM
Sample Name	ccb 360854
Sample Type	CCB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

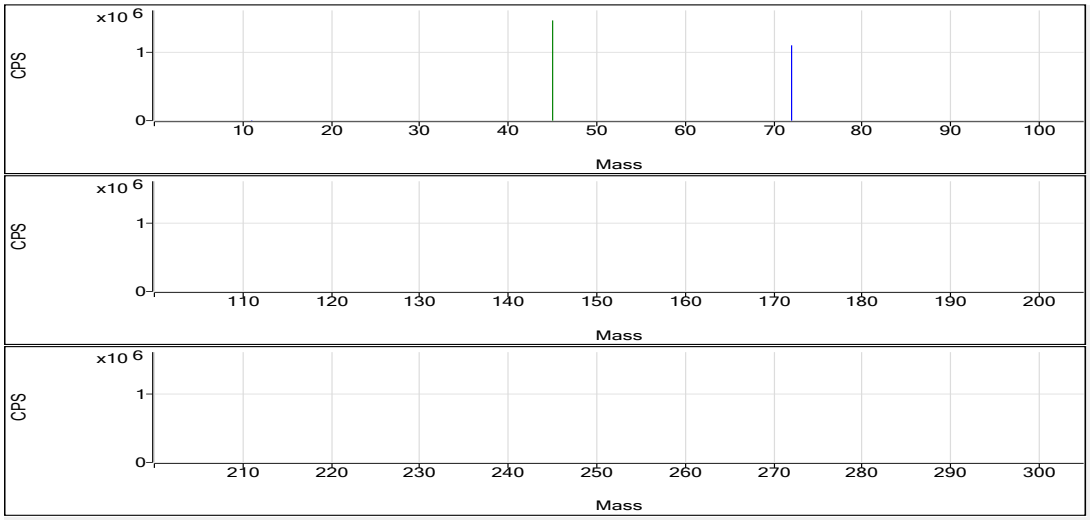
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.009	ppb	63.0	32.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	6.346	ppb	10.3	6061.92	0.0041	Pulse	0.5000	3
Se	78	115	H2	0.007	ppb	186.6	2.66	0.0000	Pulse	1.5000	3
Na	23	45	He	12.541	ppb	16.1	14871.19	0.2271	Pulse	0.1000	3
Mg	24	45	He	3.913	ppb	25.3	546.70	0.0083	Pulse	0.1000	3
Al	27	45	He	-0.536	ppb	N/A	156.68	0.0024	Pulse	0.1000	3
K	39	45	He	14.997	ppb	151.7	39486.99	0.6029	Pulse	0.1000	3
Ca	44	45	He	1.044	ppb	729.1	220.01	0.0034	Pulse	0.1000	3
Ti	47	45	He	0.624	ppb	132.9	20.00	0.0003	Pulse	0.1000	3
V	51	45	He	0.053	ppb	229.2	1123.42	0.0172	Pulse	0.1000	3
Cr	52	45	He	0.384	ppb	12.7	1990.21	0.0304	Pulse	0.1000	3
Mn	55	45	He	0.166	ppb	40.5	1333.44	0.0204	Pulse	0.1000	3
Fe	57	45	He	1.721	ppb	33.2	236.68	0.0036	Pulse	0.1000	3
Co	59	115	He	0.026	ppb	55.5	186.68	0.0022	Pulse	0.1000	3
Ni	60	115	He	0.051	ppb	155.6	663.37	0.0079	Pulse	0.1000	3
Cu	63	115	He	-0.014	ppb	N/A	1066.74	0.0127	Pulse	0.1000	3
Zn	66	115	He	-1.729	ppb	N/A	1330.10	0.0159	Pulse	0.1000	3
As	75	115	He	0.092	ppb	84.3	119.33	0.0014	Pulse	0.5000	3
Sr	88	115	He	0.123	ppb	53.0	210.01	0.0025	Pulse	0.1000	3
Mo	98	115	He	0.074	ppb	21.3	93.33	0.0011	Pulse	0.1000	3
Ag	107	115	He	-0.020	ppb	N/A	13.33	0.0002	Pulse	0.1000	3
Cd	111	115	He	-0.004	ppb	N/A	0.67	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.214	ppb	53.0	1336.78	0.0160	Pulse	0.1000	3
Sb	121	72	He	0.122	ppb	32.5	166.67	0.0009	Pulse	0.1000	3
Ba	137	115	He	0.126	ppb	75.8	66.67	0.0008	Pulse	0.1000	3
Tl	205	209	He	0.161	ppb	8.1	710.04	0.0055	Pulse	0.1000	3
Pb	208	209	He	-0.004	ppb	N/A	526.69	0.0040	Pulse	0.1000	3
U	238	209	He	0.012	ppb	9.9	73.33	0.0006	Pulse	0.1000	3

Quantitation Report

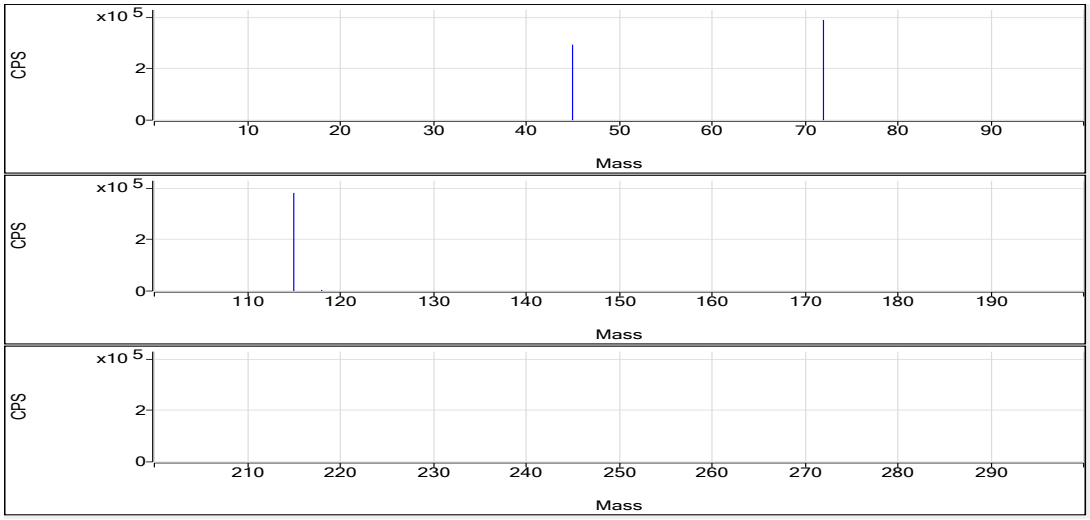
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1470267.58	0.5	98.3	Analog	0.1000	3
No Gas	Ge	72	1104955.11	0.5	99.3	Pulse	0.1000	3
H2	Sc	45	294455.27	1.5	99.4	Pulse	0.1000	3
H2	Ge	72	390873.28	0.7	100.3	Pulse	0.1000	3
H2	In	115	382665.32	1.1	101.9	Pulse	0.1000	3
He	Sc	45	65470.14	1.4	99.2	Pulse	0.1000	3
He	Ge	72	186585.88	1.0	99.3	Pulse	0.1000	3
He	In	115	83686.14	1.5	101.1	Pulse	0.1000	3
He	Tb	159	213701.03	2.0	101.6	Pulse	0.1000	3
He	Bi	209	130110.52	1.0	101.4	Pulse	0.1000	3

No Gas

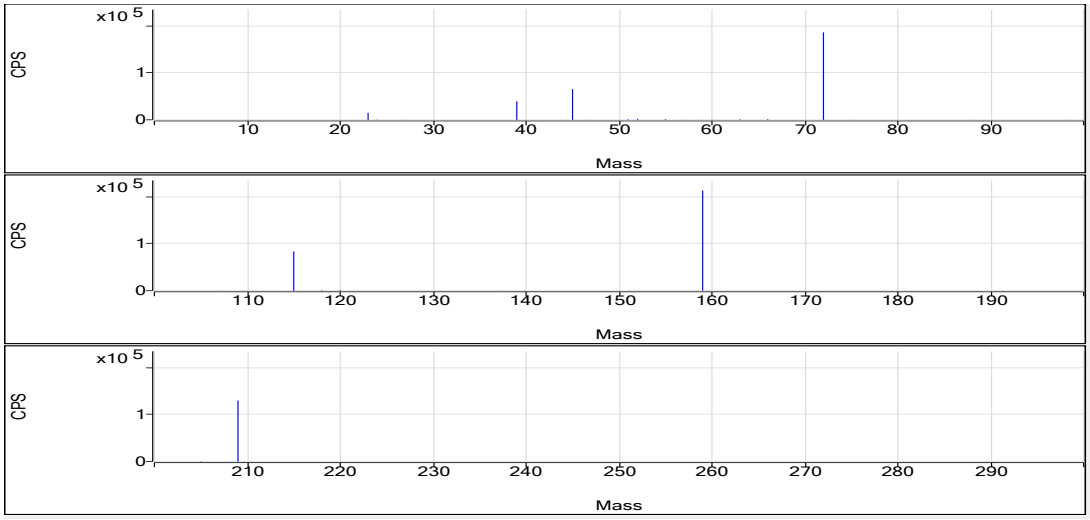


H2



Quantitation Report

He



Quantitation Report

Data File Name	178SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 4:21:11 PM
Sample Name	MB 410-33792/1-A
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

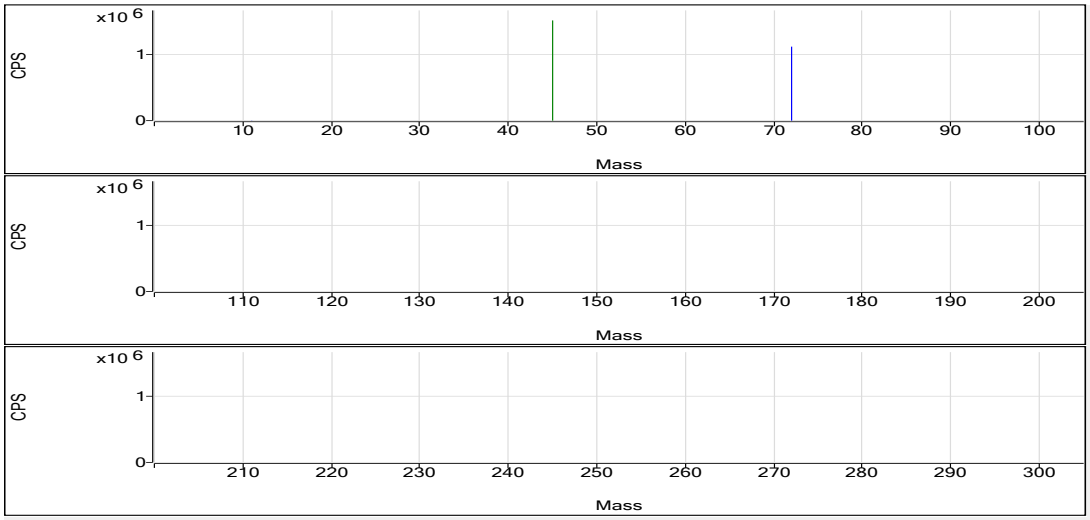
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	-0.002	ppb	N/A	22.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	0.191	ppb	31.2	2756.93	0.0018	Pulse	0.5000	3
Se	78	115	H2	-0.011	ppb	N/A	1.11	0.0000	Pulse	1.5000	3
Na	23	45	He	2.604	ppb	59.8	13613.28	0.2002	Pulse	0.1000	3
Mg	24	45	He	2.236	ppb	33.7	420.03	0.0062	Pulse	0.1000	3
Al	27	45	He	0.148	ppb	797.7	186.68	0.0027	Pulse	0.1000	3
K	39	45	He	-1.264	ppb	N/A	39343.31	0.5786	Pulse	0.1000	3
Ca	44	45	He	-7.201	ppb	N/A	186.68	0.0027	Pulse	0.1000	3
Ti	47	45	He	0.000	ppb	N/A	0.00	0.0000	Pulse	0.1000	3
V	51	45	He	-0.432	ppb	N/A	623.36	0.0092	Pulse	0.1000	3
Cr	52	45	He	-0.113	ppb	N/A	1380.11	0.0203	Pulse	0.1000	3
Mn	55	45	He	0.288	ppb	30.5	1476.79	0.0217	Pulse	0.1000	3
Fe	57	45	He	0.631	ppb	290.3	216.68	0.0032	Pulse	0.1000	3
Co	59	115	He	-0.016	ppb	N/A	93.34	0.0011	Pulse	0.1000	3
Ni	60	115	He	0.078	ppb	22.6	686.71	0.0081	Pulse	0.1000	3
Cu	63	115	He	-0.029	ppb	N/A	1056.74	0.0125	Pulse	0.1000	3
Zn	66	115	He	-0.753	ppb	N/A	1570.14	0.0185	Pulse	0.1000	3
As	75	115	He	-0.149	ppb	N/A	74.67	0.0009	Pulse	0.5000	3
Sr	88	115	He	0.035	ppb	117.8	116.67	0.0014	Pulse	0.1000	3
Mo	98	115	He	0.034	ppb	70.7	43.33	0.0005	Pulse	0.1000	3
Ag	107	115	He	-0.025	ppb	N/A	3.33	0.0000	Pulse	0.1000	3
Cd	111	115	He	0.000	ppb	N/A	2.00	0.0000	Pulse	0.5000	3
Sn	120	115	He	-0.030	ppb	N/A	1063.41	0.0126	Pulse	0.1000	3
Sb	121	72	He	0.035	ppb	65.2	70.00	0.0004	Pulse	0.1000	3
Ba	137	115	He	0.046	ppb	147.3	33.33	0.0004	Pulse	0.1000	3
Tl	205	209	He	-0.005	ppb	N/A	83.33	0.0006	Pulse	0.1000	3
Pb	208	209	He	-0.018	ppb	N/A	460.02	0.0035	Pulse	0.1000	3
U	238	209	He	0.005	ppb	100.6	36.67	0.0003	Pulse	0.1000	3

Quantitation Report

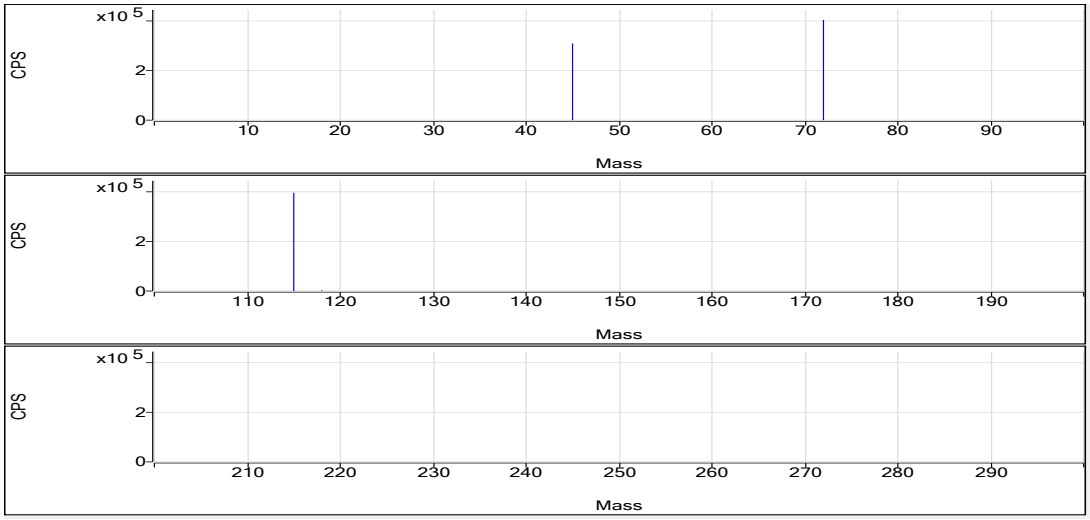
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1508399.30	1.8	100.9	Analog	0.1000	3
No Gas	Ge	72	1113556.16	0.4	100.1	Pulse	0.1000	3
H2	Sc	45	309376.14	1.7	104.4	Pulse	0.1000	3
H2	Ge	72	404111.44	1.6	103.7	Pulse	0.1000	3
H2	In	115	396308.86	0.5	105.5	Pulse	0.1000	3
He	Sc	45	68018.35	1.1	103.1	Pulse	0.1000	3
He	Ge	72	188708.73	1.3	100.5	Pulse	0.1000	3
He	In	115	84686.11	0.4	102.3	Pulse	0.1000	3
He	Tb	159	215031.65	1.0	102.3	Pulse	0.1000	3
He	Bi	209	131972.86	0.4	102.8	Pulse	0.1000	3

No Gas

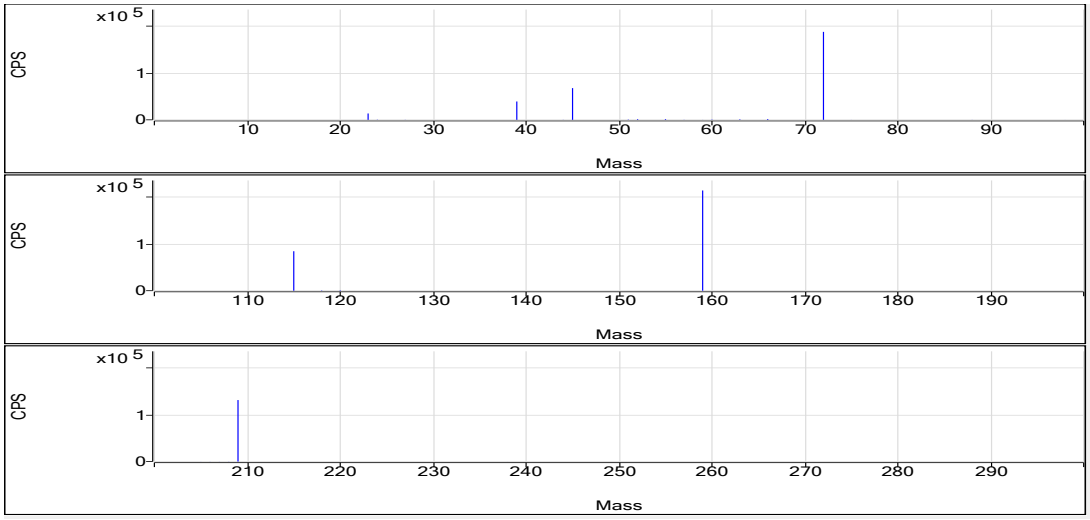


H2



Quantitation Report

He



Quantitation Report

Data File Name	179SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 4:23:05 PM
Sample Name	LCS 410-33792/2-A
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

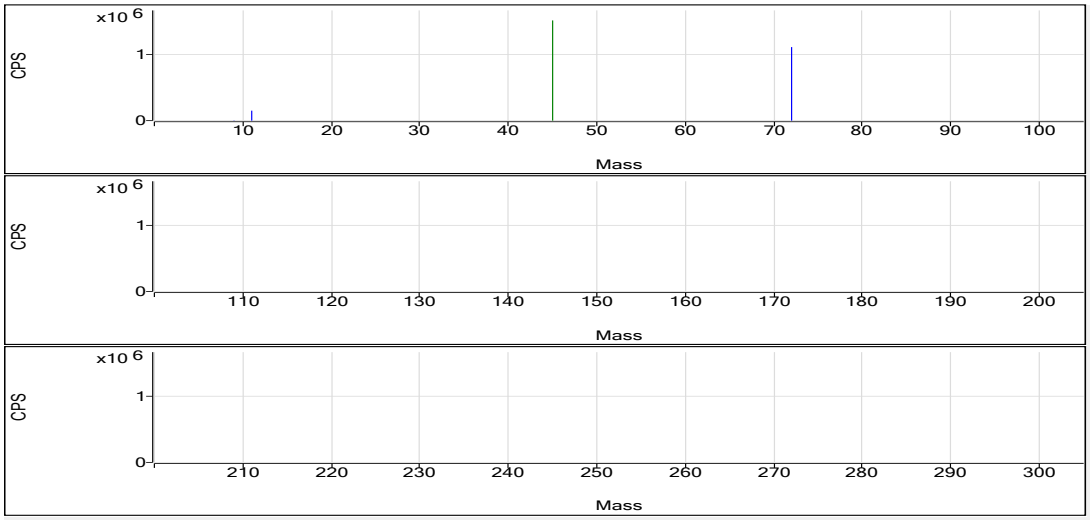
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	4.288	ppb	2.1	4303.30	0.0028	Pulse	0.5000	3
B	11	45	No Gas	262.202	ppb	2.2	152011.82	0.0995	Pulse	0.5000	3
Se	78	115	H2	10.299	ppb	2.3	976.92	0.0024	Pulse	1.5000	3
Na	23	45	He	10639.325	ppb	1.3	2011955.34	29.0489	Analog	0.1000	3
Mg	24	45	He	2169.570	ppb	1.4	194549.57	2.8090	Pulse	0.1000	3
Al	27	45	He	217.108	ppb	1.1	7832.33	0.1131	Pulse	0.1000	3
K	39	45	He	10672.584	ppb	2.0	1145270.01	16.5364	Pulse	0.1000	3
Ca	44	45	He	4233.654	ppb	2.3	22180.65	0.3202	Pulse	0.1000	3
Ti	47	45	He	272.117	ppb	6.7	9333.27	0.1348	Pulse	0.1000	3
V	51	45	He	53.111	ppb	1.5	61801.62	0.8923	Pulse	0.1000	3
Cr	52	45	He	51.170	ppb	0.4	73578.85	1.0623	Pulse	0.1000	3
Mn	55	45	He	53.190	ppb	2.3	41887.64	0.6048	Pulse	0.1000	3
Fe	57	45	He	317.650	ppb	1.1	8916.35	0.1287	Pulse	0.1000	3
Co	59	115	He	250.531	ppb	1.0	567152.69	6.6213	Pulse	0.1000	3
Ni	60	115	He	53.745	ppb	1.9	30212.19	0.3527	Pulse	0.1000	3
Cu	63	115	He	54.351	ppb	0.8	82055.80	0.9580	Pulse	0.1000	3
Zn	66	115	He	539.279	ppb	0.4	127242.39	1.4855	Pulse	0.1000	3
As	75	115	He	10.456	ppb	2.2	2134.17	0.0249	Pulse	0.5000	3
Sr	88	115	He	42.872	ppb	1.2	47356.33	0.5528	Pulse	0.1000	3
Mo	98	115	He	52.516	ppb	1.4	67528.06	0.7883	Pulse	0.1000	3
Ag	107	115	He	50.584	ppb	0.2	120761.77	1.4098	Pulse	0.1000	3
Cd	111	115	He	5.204	ppb	1.1	1791.46	0.0209	Pulse	0.5000	3
Sn	120	115	He	51.975	ppb	1.2	63377.69	0.7399	Pulse	0.1000	3
Sb	121	72	He	6.342	ppb	2.1	7305.49	0.0382	Pulse	0.1000	3
Ba	137	115	He	53.430	ppb	1.3	22913.10	0.2675	Pulse	0.1000	3
Tl	205	209	He	2.136	ppb	2.1	8346.27	0.0627	Pulse	0.1000	3
Pb	208	209	He	5.268	ppb	1.2	28703.31	0.2156	Pulse	0.1000	3
U	238	209	He	-0.001	ppb	N/A	10.00	0.0001	Pulse	0.1000	3

Quantitation Report

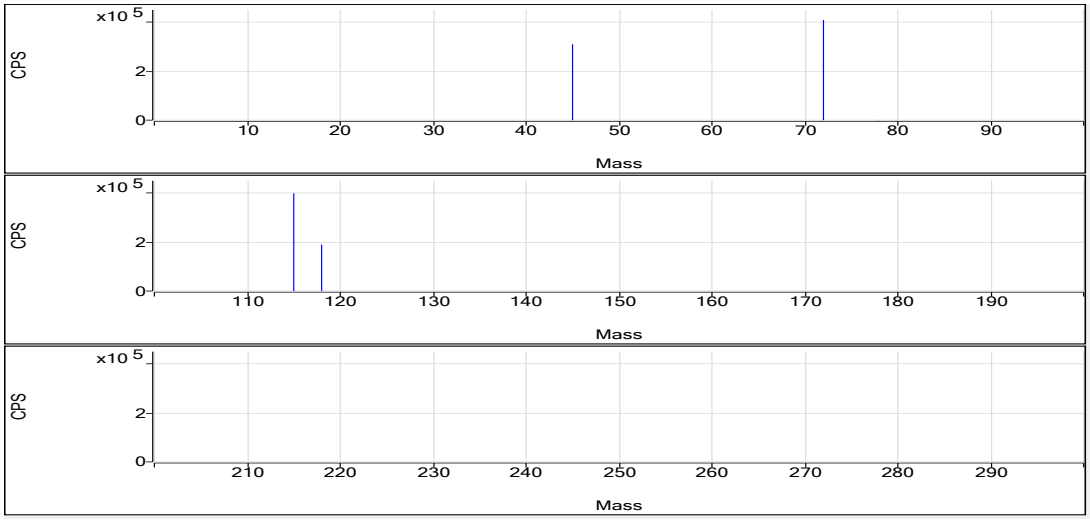
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1527124.66	0.3	102.1	Analog	0.1000	3
No Gas	Ge	72	1120744.36	0.2	100.7	Pulse	0.1000	3
H2	Sc	45	310077.00	0.9	104.7	Pulse	0.1000	3
H2	Ge	72	409739.90	1.8	105.1	Pulse	0.1000	3
H2	In	115	399340.92	0.8	106.4	Pulse	0.1000	3
He	Sc	45	69267.28	1.1	105.0	Pulse	0.1000	3
He	Ge	72	191143.81	1.0	101.8	Pulse	0.1000	3
He	In	115	85658.27	0.4	103.5	Pulse	0.1000	3
He	Tb	159	215307.38	0.8	102.4	Pulse	0.1000	3
He	Bi	209	133144.89	0.4	103.7	Pulse	0.1000	3

No Gas

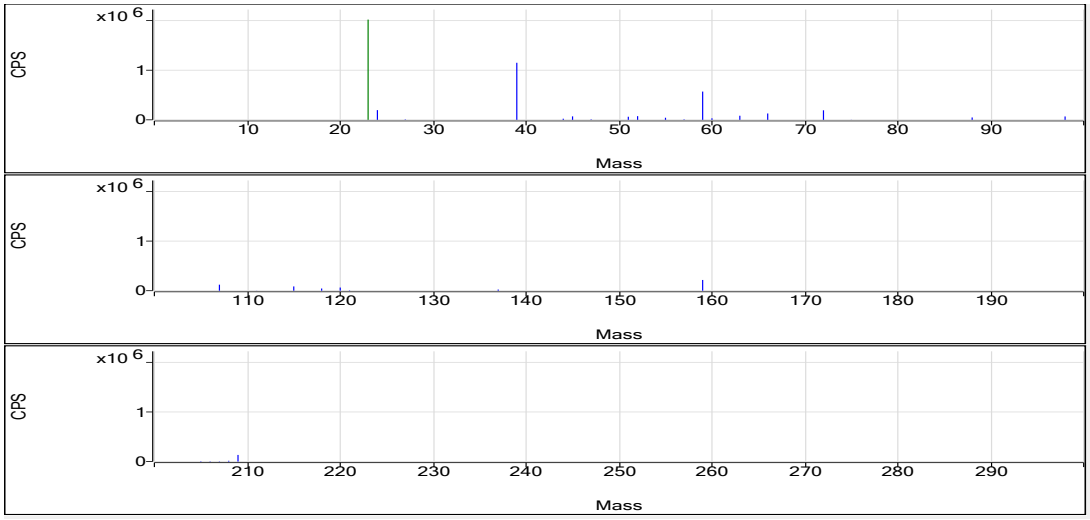


H2



Quantitation Report

He



Quantitation Report

Data File Name	180SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 4:24:59 PM
Sample Name	410-10696-O-3-A
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

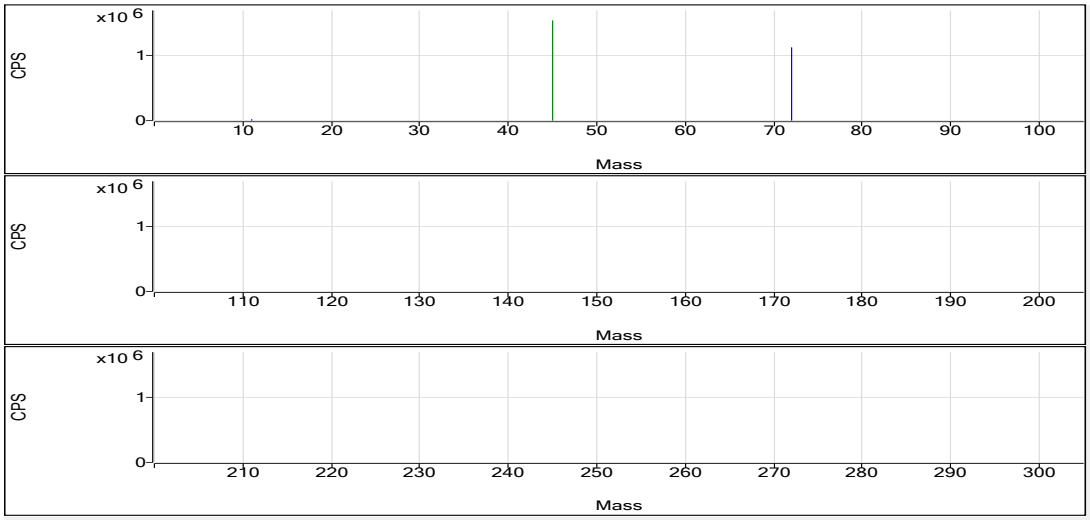
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.034	ppb	17.9	58.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	33.709	ppb	0.8	21933.31	0.0143	Pulse	0.5000	3
Se	78	115	H2	0.609	ppb	8.0	59.11	0.0001	Pulse	1.5000	3
Na	23	45	He	53834.387	ppb	0.8	10098754.85	146.2018	Analog	0.1000	3
Mg	24	45	He	29841.563	ppb	1.8	2665710.27	38.5944	Analog	0.1000	3
Al	27	45	He	150.750	ppb	7.7	5481.78	0.0793	Pulse	0.1000	3
K	39	45	He	252.885	ppb	6.9	66226.40	0.9586	Pulse	0.1000	3
Ca	44	45	He	53510.999	ppb	1.3	276922.63	4.0092	Pulse	0.1000	3
Ti	47	45	He	3.220	ppb	69.2	110.01	0.0016	Pulse	0.1000	3
V	51	45	He	0.347	ppb	4.4	1520.14	0.0220	Pulse	0.1000	3
Cr	52	45	He	2.975	ppb	5.2	5734.67	0.0830	Pulse	0.1000	3
Mn	55	45	He	3533.902	ppb	1.1	2691523.60	38.9668	Analog	0.1000	3
Fe	57	45	He	25637.797	ppb	0.5	701442.88	10.1547	Pulse	0.1000	3
Co	59	115	He	6.467	ppb	5.9	14564.39	0.1724	Pulse	0.1000	3
Ni	60	115	He	3.465	ppb	5.6	2523.65	0.0299	Pulse	0.1000	3
Cu	63	115	He	0.471	ppb	27.2	1790.18	0.0212	Pulse	0.1000	3
Zn	66	115	He	1.639	ppb	68.2	2113.56	0.0250	Pulse	0.1000	3
As	75	115	He	18.887	ppb	2.3	3721.84	0.0440	Pulse	0.5000	3
Sr	88	115	He	440.703	ppb	2.0	479520.15	5.6743	Pulse	0.1000	3
Mo	98	115	He	1.421	ppb	16.0	1803.52	0.0213	Pulse	0.1000	3
Ag	107	115	He	0.010	ppb	140.1	83.34	0.0010	Pulse	0.1000	3
Cd	111	115	He	0.012	ppb	50.9	6.00	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.314	ppb	44.8	1466.79	0.0174	Pulse	0.1000	3
Sb	121	72	He	0.297	ppb	7.2	373.35	0.0019	Pulse	0.1000	3
Ba	137	115	He	260.575	ppb	0.8	110204.55	1.3039	Pulse	0.1000	3
Tl	205	209	He	-0.004	ppb	N/A	86.67	0.0007	Pulse	0.1000	3
Pb	208	209	He	2.571	ppb	3.1	13946.69	0.1074	Pulse	0.1000	3
U	238	209	He	0.064	ppb	6.9	326.68	0.0025	Pulse	0.1000	3

Quantitation Report

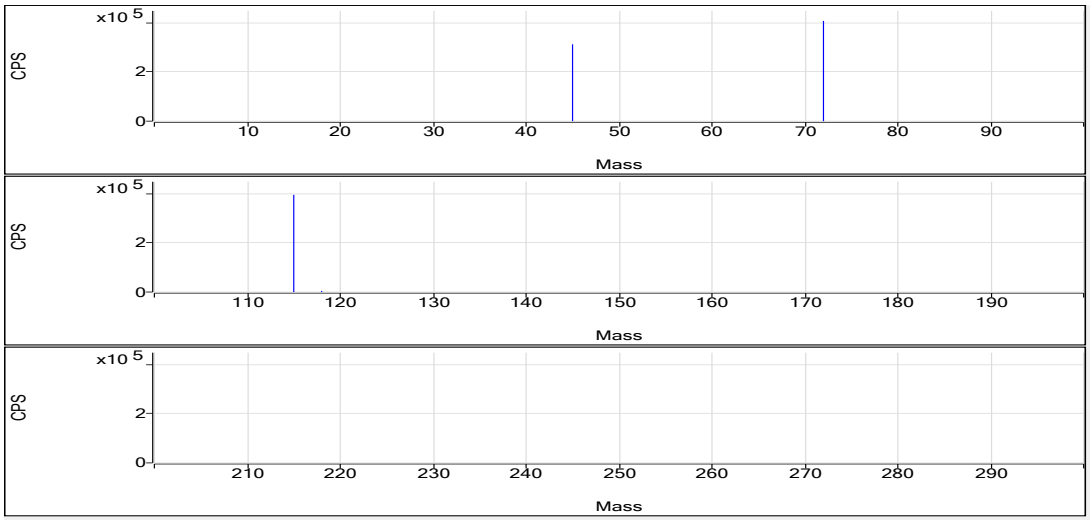
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1530794.30	0.6	102.4	Analog	0.1000	3
No Gas	Ge	72	1119591.78	0.6	100.6	Pulse	0.1000	3
H2	Sc	45	312395.84	1.2	105.4	Pulse	0.1000	3
H2	Ge	72	407442.27	0.9	104.6	Pulse	0.1000	3
H2	In	115	395101.61	0.5	105.2	Pulse	0.1000	3
He	Sc	45	69076.50	0.9	104.7	Pulse	0.1000	3
He	Ge	72	192533.09	0.8	102.5	Pulse	0.1000	3
He	In	115	84524.95	1.6	102.1	Pulse	0.1000	3
He	Tb	159	218697.87	0.6	104.0	Pulse	0.1000	3
He	Bi	209	129919.36	1.2	101.2	Pulse	0.1000	3

No Gas

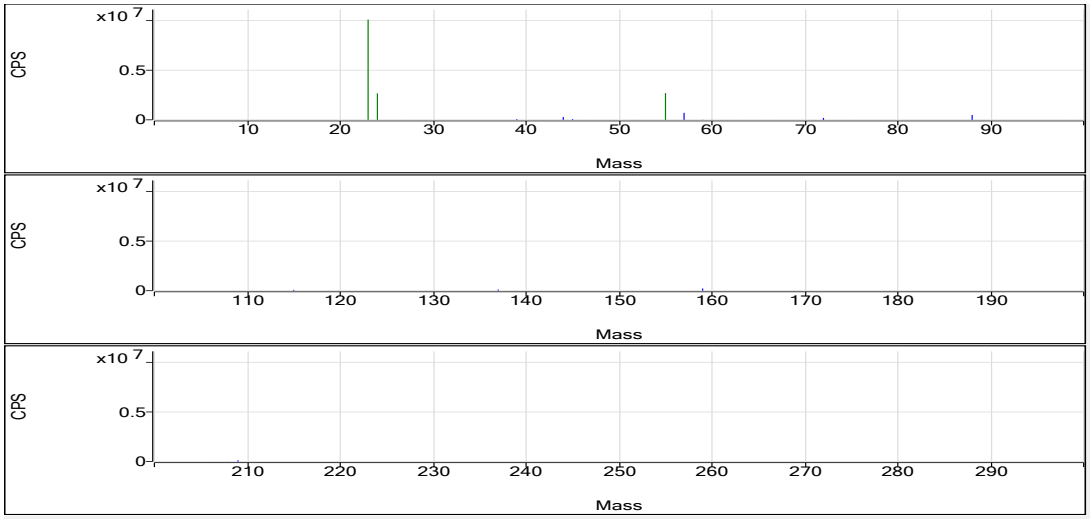


H2



Quantitation Report

He



Quantitation Report

Data File Name	181SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 4:26:51 PM
Sample Name	410-10696-O-6-A
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

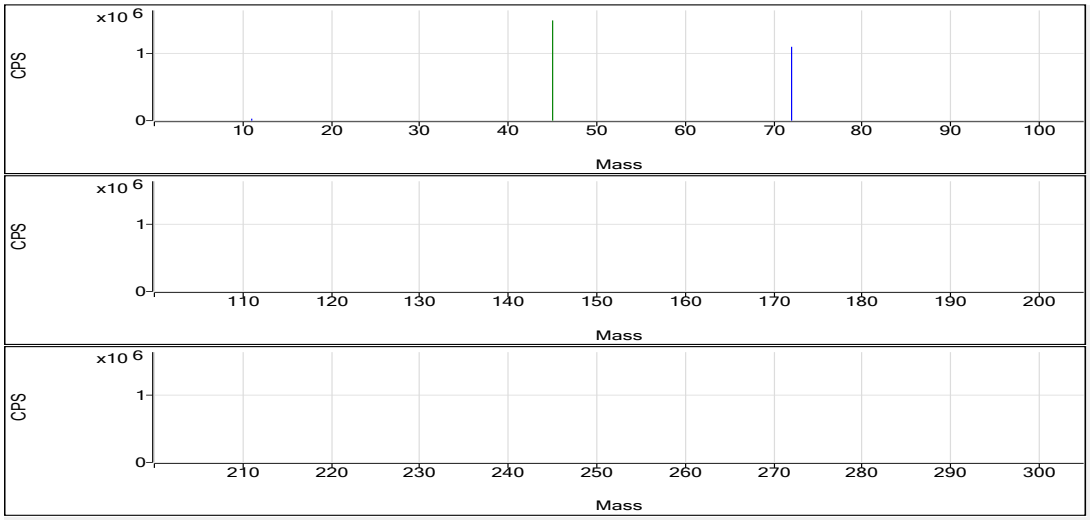
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.002	ppb	341.9	26.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	47.700	ppb	2.3	29175.54	0.0195	Pulse	0.5000	3
Se	78	115	H2	0.590	ppb	7.5	56.67	0.0001	Pulse	1.5000	3
Na	23	45	He	25994.160	ppb	1.4	4854121.70	70.6940	Analog	0.1000	3
Mg	24	45	He	35801.021	ppb	1.4	3179256.72	46.3012	Analog	0.1000	3
Al	27	45	He	22.273	ppb	27.0	960.17	0.0140	Pulse	0.1000	3
K	39	45	He	566.446	ppb	6.8	98005.12	1.4274	Pulse	0.1000	3
Ca	44	45	He	63510.947	ppb	0.9	326696.04	4.7578	Pulse	0.1000	3
Ti	47	45	He	0.491	ppb	125.4	16.67	0.0002	Pulse	0.1000	3
V	51	45	He	-0.279	ppb	N/A	803.38	0.0117	Pulse	0.1000	3
Cr	52	45	He	3.004	ppb	10.4	5741.34	0.0836	Pulse	0.1000	3
Mn	55	45	He	5465.020	ppb	0.8	4137128.58	60.2503	Analog	0.1000	3
Fe	57	45	He	1492.569	ppb	1.9	40781.18	0.5939	Pulse	0.1000	3
Co	59	115	He	6.906	ppb	1.4	15598.89	0.1840	Pulse	0.1000	3
Ni	60	115	He	9.005	ppb	3.4	5544.58	0.0654	Pulse	0.1000	3
Cu	63	115	He	0.482	ppb	20.6	1810.18	0.0214	Pulse	0.1000	3
Zn	66	115	He	15.515	ppb	5.2	5317.85	0.0627	Pulse	0.1000	3
As	75	115	He	2.370	ppb	5.1	558.68	0.0066	Pulse	0.5000	3
Sr	88	115	He	518.622	ppb	0.9	566010.32	6.6774	Pulse	0.1000	3
Mo	98	115	He	9.127	ppb	6.5	11608.52	0.1370	Pulse	0.1000	3
Ag	107	115	He	-0.011	ppb	N/A	36.67	0.0004	Pulse	0.1000	3
Cd	111	115	He	0.010	ppb	36.4	5.33	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.036	ppb	150.1	1143.43	0.0135	Pulse	0.1000	3
Sb	121	72	He	0.154	ppb	16.9	210.01	0.0011	Pulse	0.1000	3
Ba	137	115	He	360.034	ppb	1.1	152727.28	1.8016	Pulse	0.1000	3
Tl	205	209	He	0.005	ppb	271.7	120.00	0.0009	Pulse	0.1000	3
Pb	208	209	He	0.242	ppb	4.6	1836.79	0.0139	Pulse	0.1000	3
U	238	209	He	1.608	ppb	2.0	8009.42	0.0607	Pulse	0.1000	3

Quantitation Report

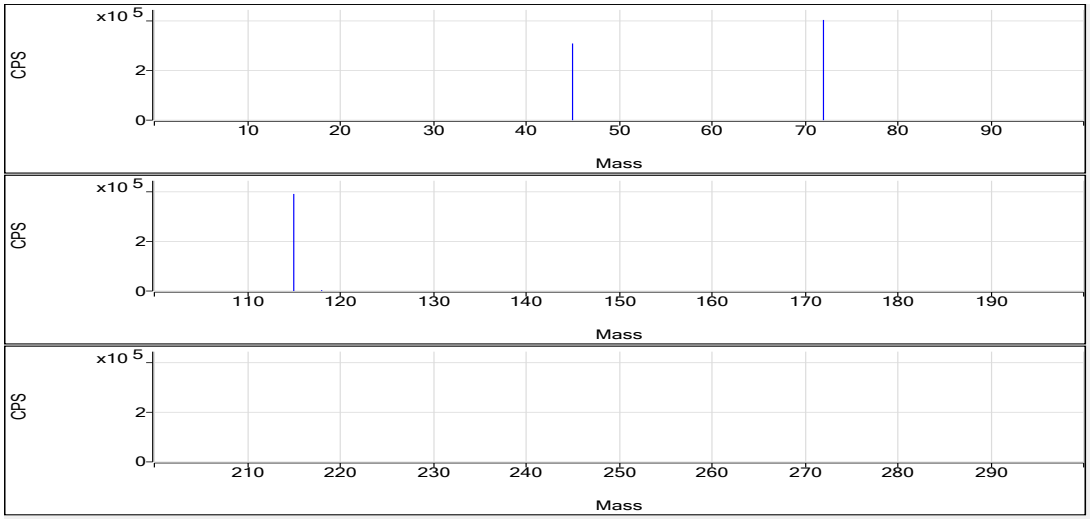
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1493026.65	1.8	99.9	Analog	0.1000	3
No Gas	Ge	72	1100179.67	0.5	98.9	Pulse	0.1000	3
H2	Sc	45	308184.18	1.8	104.0	Pulse	0.1000	3
H2	Ge	72	402818.25	2.1	103.4	Pulse	0.1000	3
H2	In	115	390263.90	1.3	103.9	Pulse	0.1000	3
He	Sc	45	68668.31	0.8	104.1	Pulse	0.1000	3
He	Ge	72	194103.41	0.2	103.3	Pulse	0.1000	3
He	In	115	84772.58	1.5	102.4	Pulse	0.1000	3
He	Tb	159	218352.11	1.2	103.8	Pulse	0.1000	3
He	Bi	209	131942.46	1.2	102.8	Pulse	0.1000	3

No Gas

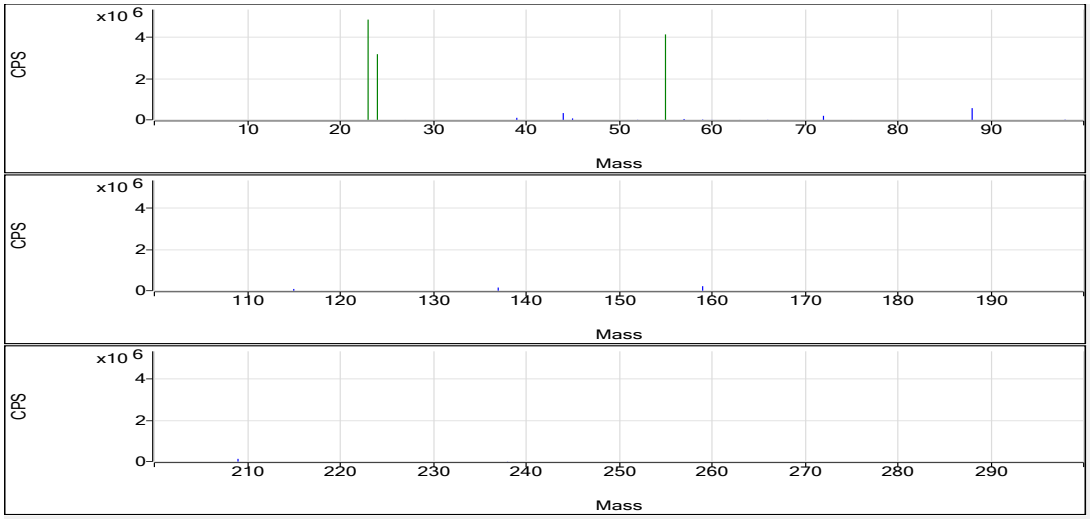


H2



Quantitation Report

He



Quantitation Report

Data File Name	182SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 4:28:43 PM
Sample Name	410-10696-Q-1-A
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

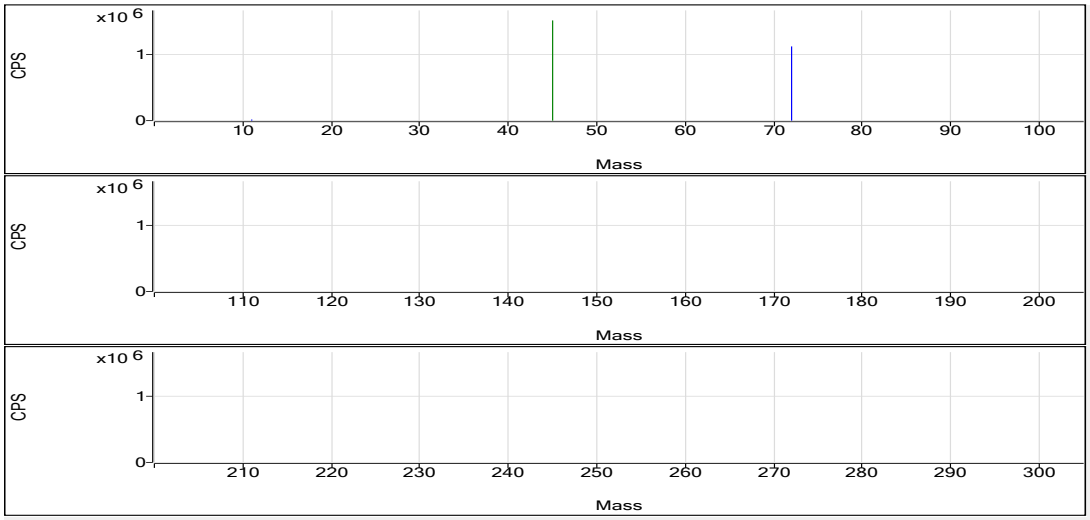
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.028	ppb	52.9	51.33	0.0000	Pulse	0.5000	3
B	11	45	No Gas	25.490	ppb	3.0	16992.96	0.0113	Pulse	0.5000	3
Se	78	115	H2	0.182	ppb	20.0	19.11	0.0000	Pulse	1.5000	3
Na	23	45	He	5057.616	ppb	1.2	946909.88	13.9103	Pulse	0.1000	3
Mg	24	45	He	15767.420	ppb	1.3	1388440.76	20.3937	Analog	0.1000	3
Al	27	45	He	18.379	ppb	30.8	816.79	0.0120	Pulse	0.1000	3
K	39	45	He	1607.445	ppb	3.3	203087.17	2.9837	Pulse	0.1000	3
Ca	44	45	He	31886.331	ppb	0.6	162724.14	2.3904	Pulse	0.1000	3
Ti	47	45	He	0.593	ppb	1.1	20.00	0.0003	Pulse	0.1000	3
V	51	45	He	-0.260	ppb	N/A	816.72	0.0120	Pulse	0.1000	3
Cr	52	45	He	2.900	ppb	4.9	5547.91	0.0815	Pulse	0.1000	3
Mn	55	45	He	824.175	ppb	1.7	619574.08	9.1020	Pulse	0.1000	3
Fe	57	45	He	55084.109	ppb	0.6	1485027.11	21.8145	Analog	0.1000	3
Co	59	115	He	10.017	ppb	1.9	22284.43	0.2662	Pulse	0.1000	3
Ni	60	115	He	2.809	ppb	2.3	2146.92	0.0256	Pulse	0.1000	3
Cu	63	115	He	0.114	ppb	83.7	1253.44	0.0150	Pulse	0.1000	3
Zn	66	115	He	1.202	ppb	55.3	1996.88	0.0238	Pulse	0.1000	3
As	75	115	He	34.330	ppb	0.3	6615.56	0.0790	Pulse	0.5000	3
Sr	88	115	He	303.159	ppb	1.8	326785.76	3.9036	Pulse	0.1000	3
Mo	98	115	He	0.995	ppb	11.2	1250.10	0.0149	Pulse	0.1000	3
Ag	107	115	He	-0.017	ppb	N/A	20.00	0.0002	Pulse	0.1000	3
Cd	111	115	He	0.000	ppb	N/A	2.00	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.054	ppb	77.7	1150.09	0.0137	Pulse	0.1000	3
Sb	121	72	He	0.057	ppb	37.1	96.67	0.0005	Pulse	0.1000	3
Ba	137	115	He	346.914	ppb	1.2	145319.31	1.7359	Pulse	0.1000	3
Tl	205	209	He	-0.001	ppb	N/A	100.00	0.0007	Pulse	0.1000	3
Pb	208	209	He	0.014	ppb	53.6	636.70	0.0048	Pulse	0.1000	3
U	238	209	He	0.009	ppb	57.1	60.00	0.0004	Pulse	0.1000	3

Quantitation Report

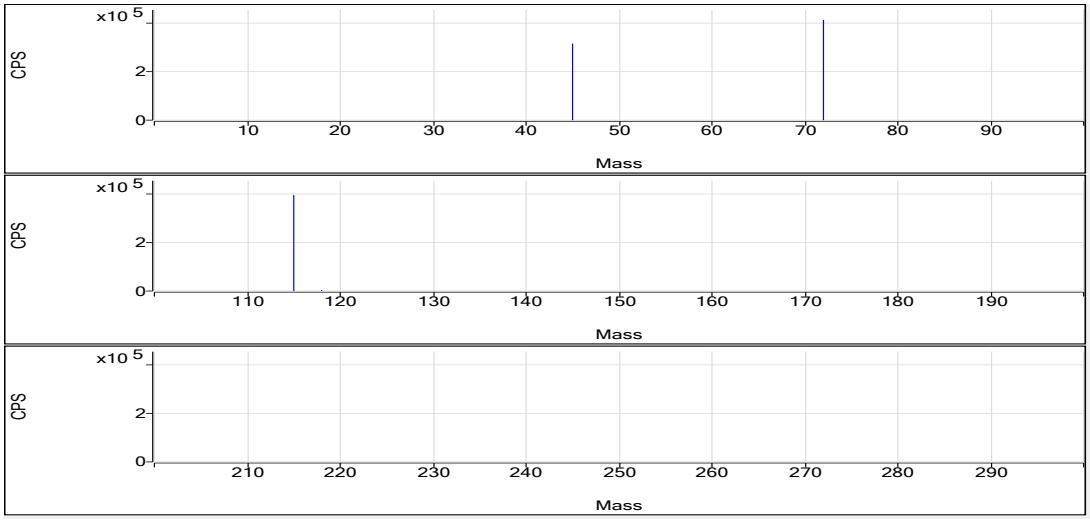
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1508661.70	0.4	100.9	Analog	0.1000	3
No Gas	Ge	72	1117292.10	0.4	100.4	Pulse	0.1000	3
H2	Sc	45	314901.00	1.2	106.3	Pulse	0.1000	3
H2	Ge	72	411972.79	1.3	105.7	Pulse	0.1000	3
H2	In	115	394496.91	0.6	105.1	Pulse	0.1000	3
He	Sc	45	68078.49	1.1	103.2	Pulse	0.1000	3
He	Ge	72	192892.72	1.4	102.7	Pulse	0.1000	3
He	In	115	83716.85	0.5	101.1	Pulse	0.1000	3
He	Tb	159	217265.08	0.2	103.3	Pulse	0.1000	3
He	Bi	209	133929.56	0.4	104.4	Pulse	0.1000	3

No Gas

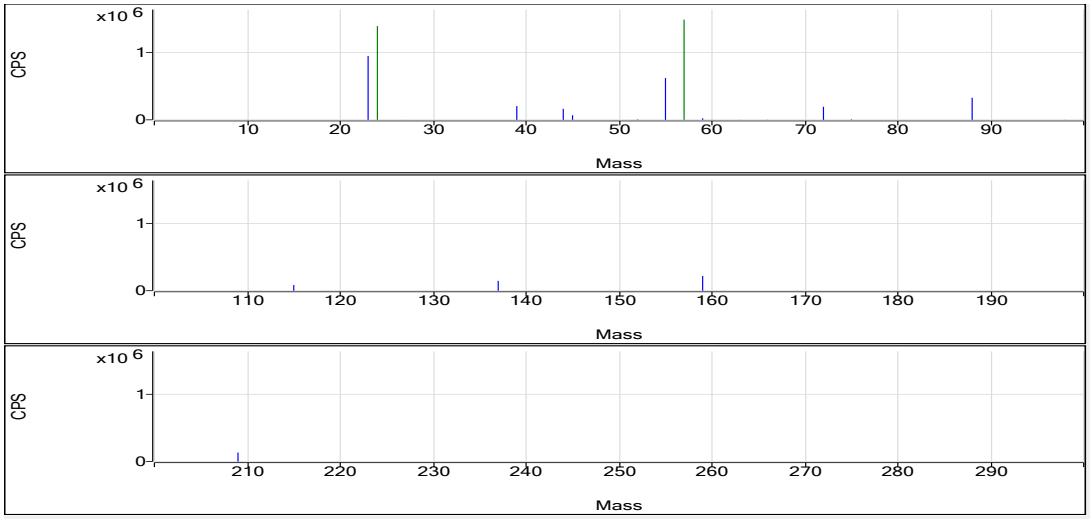


H2



Quantitation Report

He



Quantitation Report

Data File Name	183_CCV.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 4:30:36 PM
Sample Name	ccv 361008
Sample Type	CCV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

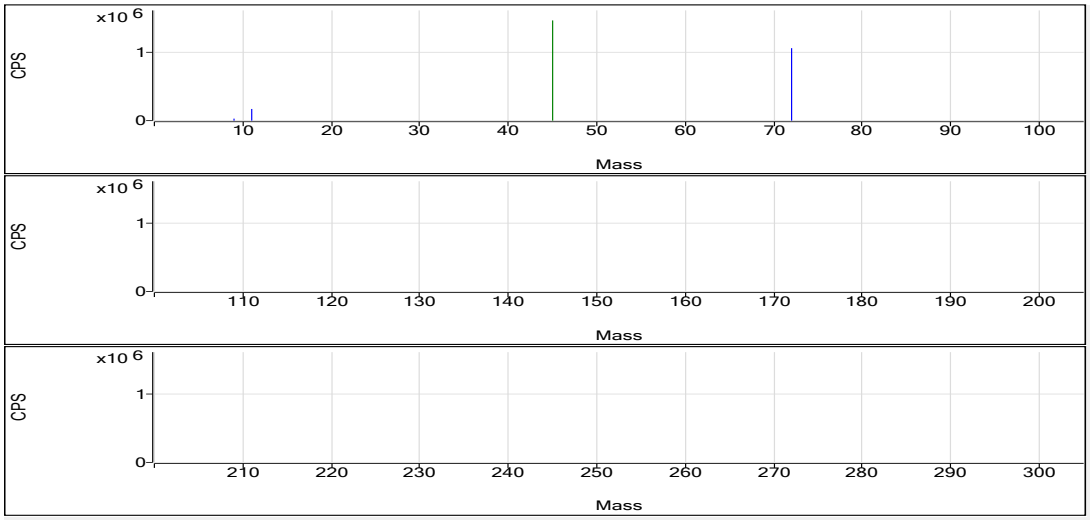
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	30.645	ppb	1.4	29445.36	0.0200	Pulse	0.5000	3
B	11	45	No Gas	307.684	ppb	1.3	171194.90	0.1165	Pulse	0.5000	3
Se	78	115	H2	29.657	ppb	0.6	2696.70	0.0070	Pulse	1.5000	3
Na	23	45	He	4780.515	ppb	1.8	874385.82	13.1587	Pulse	0.1000	3
Mg	24	45	He	5144.356	ppb	1.8	442283.80	6.6560	Pulse	0.1000	3
Al	27	45	He	5098.596	ppb	0.6	172488.08	2.5956	Pulse	0.1000	3
K	39	45	He	5083.420	ppb	1.3	543624.63	8.1804	Pulse	0.1000	3
Ca	44	45	He	5133.657	ppb	1.7	25759.85	0.3876	Pulse	0.1000	3
Ti	47	45	He	300.556	ppb	3.8	9893.70	0.1489	Pulse	0.1000	3
V	51	45	He	303.301	ppb	1.1	333516.78	5.0189	Pulse	0.1000	3
Cr	52	45	He	290.954	ppb	1.8	394312.74	5.9341	Pulse	0.1000	3
Mn	55	45	He	304.250	ppb	1.5	224057.08	3.3718	Pulse	0.1000	3
Fe	57	45	He	5101.448	ppb	2.0	134436.37	2.0229	Pulse	0.1000	3
Co	59	115	He	285.879	ppb	1.0	626033.91	7.5553	Pulse	0.1000	3
Ni	60	115	He	303.524	ppb	0.9	162127.72	1.9564	Pulse	0.1000	3
Cu	63	115	He	302.703	ppb	1.2	437162.70	5.2759	Pulse	0.1000	3
Zn	66	115	He	303.842	ppb	0.8	70097.07	0.8459	Pulse	0.1000	3
As	75	115	He	302.383	ppb	1.3	56885.42	0.6865	Pulse	0.5000	3
Sr	88	115	He	30.693	ppb	1.9	32815.33	0.3960	Pulse	0.1000	3
Mo	98	115	He	30.490	ppb	2.1	37921.80	0.4577	Pulse	0.1000	3
Ag	107	115	He	30.218	ppb	2.1	69806.87	0.8425	Pulse	0.1000	3
Cd	111	115	He	30.030	ppb	1.7	9990.92	0.1206	Pulse	0.5000	3
Sn	120	115	He	30.212	ppb	2.2	36090.86	0.4355	Pulse	0.1000	3
Sb	121	72	He	30.157	ppb	2.5	32936.42	0.1811	Pulse	0.1000	3
Ba	137	115	He	303.719	ppb	0.2	125937.61	1.5198	Pulse	0.1000	3
Tl	205	209	He	30.971	ppb	1.0	115317.24	0.8985	Pulse	0.1000	3
Pb	208	209	He	30.520	ppb	0.6	157699.77	1.2288	Pulse	0.1000	3
U	238	209	He	50.903	ppb	0.8	246228.67	1.9187	Pulse	0.1000	3

Quantitation Report

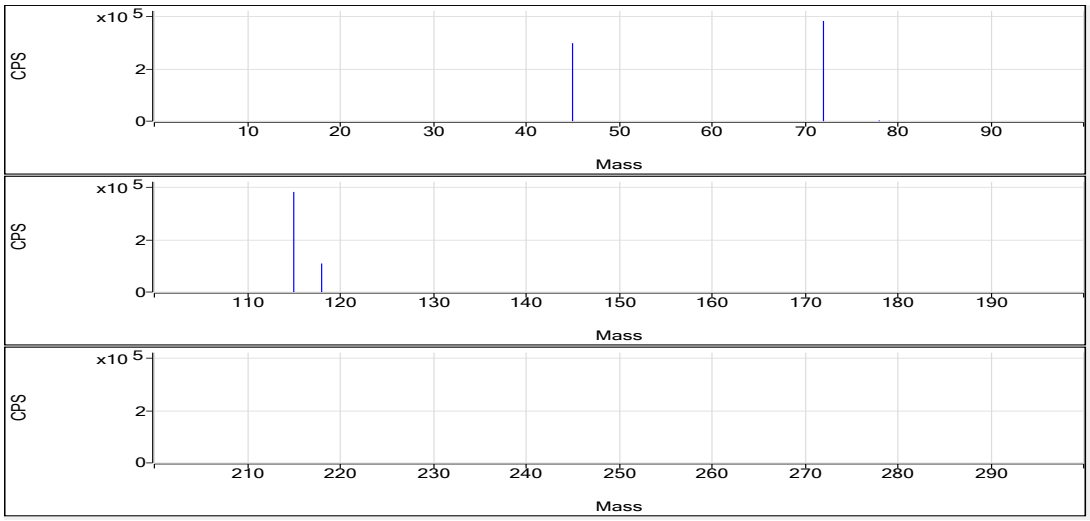
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1469369.82	0.9	98.3	Analog	0.1000	3
No Gas	Ge	72	1062532.28	1.0	95.5	Pulse	0.1000	3
H2	Sc	45	298724.32	0.7	100.8	Pulse	0.1000	3
H2	Ge	72	383792.14	0.4	98.5	Pulse	0.1000	3
H2	In	115	383320.22	0.4	102.1	Pulse	0.1000	3
He	Sc	45	66457.30	1.0	100.7	Pulse	0.1000	3
He	Ge	72	181905.42	1.8	96.8	Pulse	0.1000	3
He	In	115	82865.14	0.8	100.1	Pulse	0.1000	3
He	Tb	159	213258.51	0.6	101.4	Pulse	0.1000	3
He	Bi	209	128339.80	0.8	100.0	Pulse	0.1000	3

No Gas

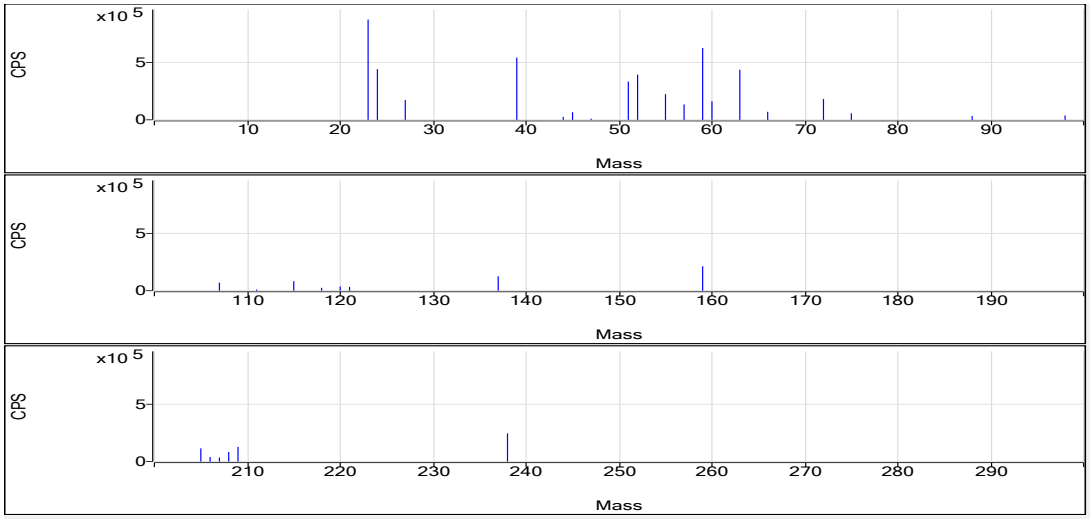


H2



Quantitation Report

He



Quantitation Report

Data File Name	184_CCB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 4:32:30 PM
Sample Name	ccb 360854
Sample Type	CCB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

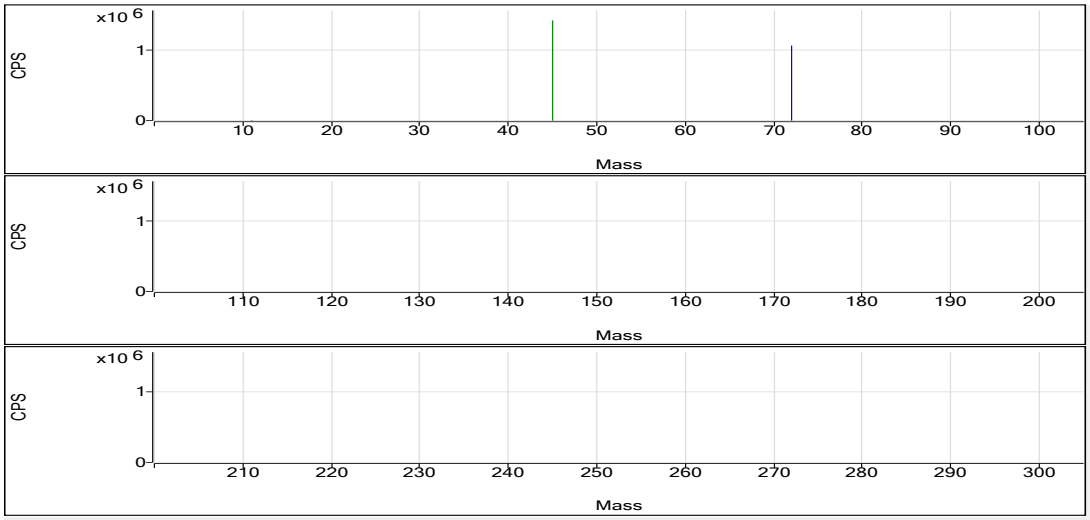
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.010	ppb	40.0	32.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	7.863	ppb	3.5	6705.52	0.0047	Pulse	0.5000	3
Se	78	115	H2	0.000	ppb	N/A	2.00	0.0000	Pulse	1.5000	3
Na	23	45	He	12.480	ppb	22.8	15091.39	0.2269	Pulse	0.1000	3
Mg	24	45	He	7.079	ppb	8.4	826.72	0.0124	Pulse	0.1000	3
Al	27	45	He	0.173	ppb	1129.7	183.34	0.0028	Pulse	0.1000	3
K	39	45	He	1.512	ppb	1565.1	38762.00	0.5828	Pulse	0.1000	3
Ca	44	45	He	-3.036	ppb	N/A	203.34	0.0031	Pulse	0.1000	3
Ti	47	45	He	0.405	ppb	86.6	13.33	0.0002	Pulse	0.1000	3
V	51	45	He	0.085	ppb	194.3	1176.76	0.0177	Pulse	0.1000	3
Cr	52	45	He	0.257	ppb	6.5	1850.18	0.0278	Pulse	0.1000	3
Mn	55	45	He	0.815	ppb	22.6	1830.18	0.0275	Pulse	0.1000	3
Fe	57	45	He	6.894	ppb	17.8	376.69	0.0057	Pulse	0.1000	3
Co	59	115	He	0.039	ppb	92.3	210.01	0.0026	Pulse	0.1000	3
Ni	60	115	He	0.100	ppb	240.4	676.71	0.0082	Pulse	0.1000	3
Cu	63	115	He	0.031	ppb	298.3	1110.08	0.0135	Pulse	0.1000	3
Zn	66	115	He	-1.030	ppb	N/A	1460.13	0.0178	Pulse	0.1000	3
As	75	115	He	0.132	ppb	40.7	124.67	0.0015	Pulse	0.5000	3
Sr	88	115	He	0.206	ppb	30.5	293.35	0.0036	Pulse	0.1000	3
Mo	98	115	He	0.081	ppb	60.1	100.00	0.0012	Pulse	0.1000	3
Ag	107	115	He	-0.008	ppb	N/A	40.00	0.0005	Pulse	0.1000	3
Cd	111	115	He	0.004	ppb	169.8	3.33	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.373	ppb	29.4	1493.47	0.0182	Pulse	0.1000	3
Sb	121	72	He	0.121	ppb	29.2	163.34	0.0009	Pulse	0.1000	3
Ba	137	115	He	0.130	ppb	46.7	66.67	0.0008	Pulse	0.1000	3
Tl	205	209	He	0.135	ppb	16.7	613.37	0.0047	Pulse	0.1000	3
Pb	208	209	He	-0.022	ppb	N/A	436.69	0.0033	Pulse	0.1000	3
U	238	209	He	0.019	ppb	26.2	110.00	0.0008	Pulse	0.1000	3

Quantitation Report

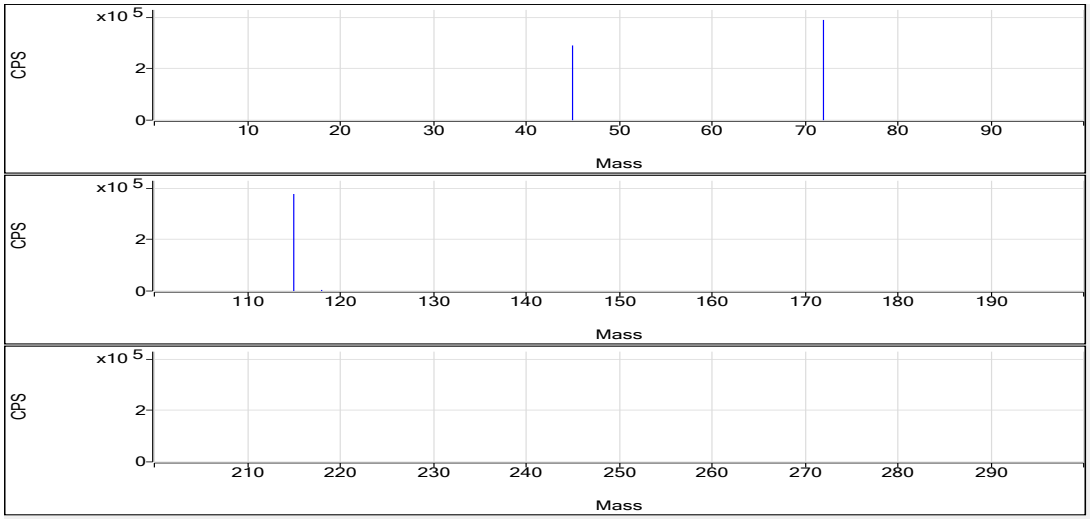
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1429932.43	0.5	95.6	Analog	0.1000	3
No Gas	Ge	72	1071639.83	0.6	96.3	Pulse	0.1000	3
H2	Sc	45	290085.93	2.5	97.9	Pulse	0.1000	3
H2	Ge	72	389143.74	2.0	99.9	Pulse	0.1000	3
H2	In	115	376725.48	2.5	100.3	Pulse	0.1000	3
He	Sc	45	66504.81	0.5	100.8	Pulse	0.1000	3
He	Ge	72	184182.19	0.9	98.1	Pulse	0.1000	3
He	In	115	82107.63	0.8	99.2	Pulse	0.1000	3
He	Tb	159	209955.62	0.4	99.8	Pulse	0.1000	3
He	Bi	209	130942.14	1.3	102.0	Pulse	0.1000	3

No Gas

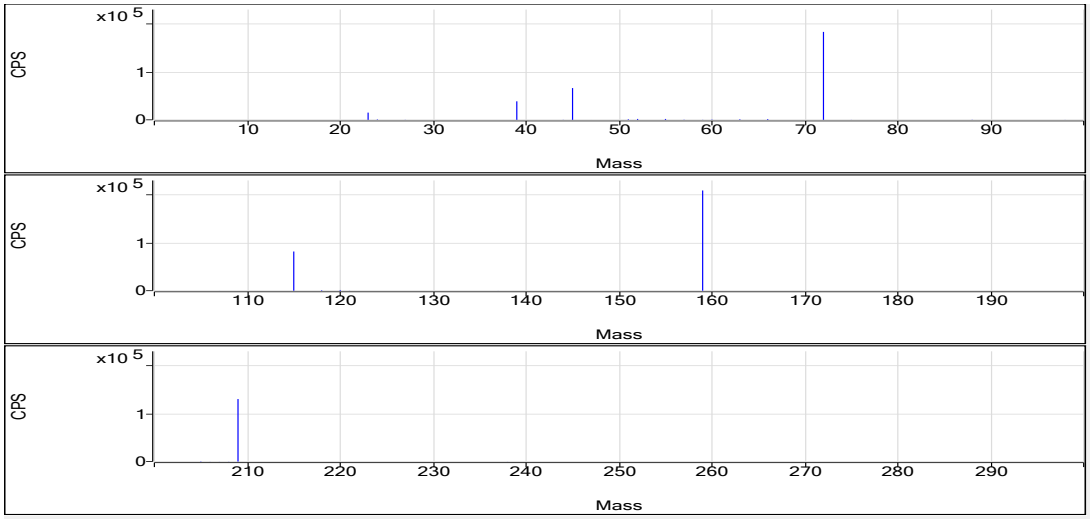


H2



Quantitation Report

He



US EPA Tune Check Report

Operator Name	us19_usr_ins03786
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\~EPATune.b
Acq. Date-Time	8/26/2020 9:10:29 AM
Report Comment	---
Instrument Name	G8403A SG18254097

[No Gas]

Sensitivity

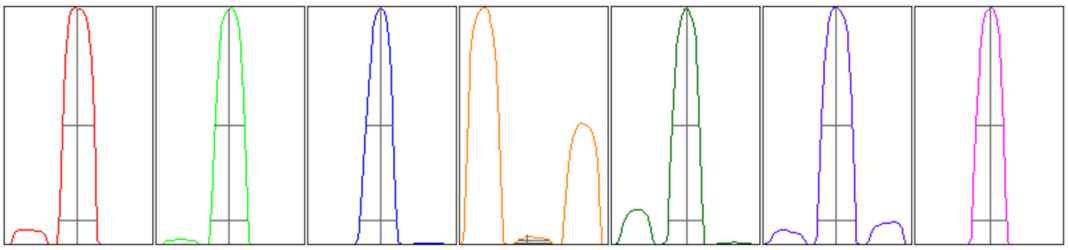
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
7	10.00	2374	23742.35			0.920	5.000
89	10.00	5625	56252.22			0.281	5.000
205	10.00	1333	13327.56			0.305	5.000
69		9	94.40			9.884	
138		135	1352.16			1.222	
70		165	1647.50			1.117	
140		3606	36061.98			0.459	

Mass	RSD% (Flag)
7	
89	
205	
69	
138	
70	
140	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	2398	2376	2391	2345	2361
89	5623	5626	5631	5645	5601
205	1337	1333	1329	1329	1337
69	11	10	9	9	8
138	133	134	136	136	137
70	163	165	166	167	163
140	3617	3591	3626	3587	3610

Integration Time [sec] 0.1

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	3777.26	7.00	6.90 - 7.10	
89	9640.39	89.00	88.90 - 89.10	
205	2511.10	205.00	204.90 - 205.10	
69	17.40	68.90	-	
138	251.63	138.05	-	
70	268.94	70.00	-	
140	6700.05	140.05	-	

Mass	W-50%	W-10%	W-10% (Required)	W-10% (Flag)
7	0.65	0.760	0.800	
89	0.60	0.757	0.800	
205	0.55	0.745	0.800	
69	0.63	0.760		
138	0.56	0.709		
70	0.64	0.771		
140	0.56	0.709		

Integration Time [sec]	0.1
Acquisition Time [sec]	223
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	General Purpose	Nebulizer Gas	1.05 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	8.9 V	Deflect	10.0 V
Extract 2	-230.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-105 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	123	Axis Gain	0.9987	QP Bias	-3.0 V
Mass Offset	124	Axis Offset	0.10		

Hardware Settings

Torch

Torch H	0.2 mm	Torch V	-0.3 mm

EM

Discriminator	4.1 mV	Analog HV	2203 V	Pulse HV	1444 V

Quantitation Report

Data File Name	007CALB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:45:16 AM
Sample Name	icis 360862
Sample Type	CalBlk
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

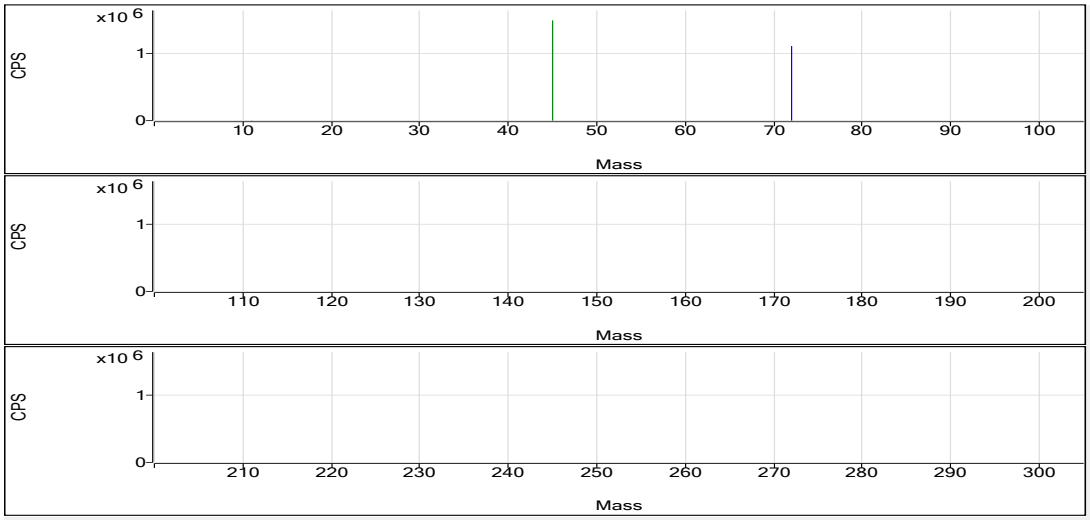
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.000	ppb	N/A	24.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	0.000	ppb	N/A	2626.91	0.0018	Pulse	0.5000	3
Se	78	115	H2	0.000	ppb	N/A	2.00	0.0000	Pulse	1.5000	3
Na	23	45	He	0.000	ppb	N/A	12739.23	0.1931	Pulse	0.1000	3
Mg	24	45	He	0.000	ppb	N/A	216.68	0.0033	Pulse	0.1000	3
Al	27	45	He	0.000	ppb	N/A	176.67	0.0027	Pulse	0.1000	3
K	39	45	He	0.000	ppb	N/A	38330.81	0.5805	Pulse	0.1000	3
Ca	44	45	He	0.000	ppb	N/A	216.68	0.0033	Pulse	0.1000	3
Ti	47	45	He	0.000	ppb	N/A	0.00	0.0000	Pulse	0.1000	3
V	51	45	He	0.000	ppb	N/A	1076.75	0.0163	Pulse	0.1000	3
Cr	52	45	He	0.000	ppb	N/A	1490.12	0.0226	Pulse	0.1000	3
Mn	55	45	He	0.000	ppb	N/A	1220.10	0.0185	Pulse	0.1000	3
Fe	57	45	He	0.000	ppb	N/A	193.34	0.0029	Pulse	0.1000	3
Co	59	115	He	0.000	ppb	N/A	126.67	0.0015	Pulse	0.1000	3
Ni	60	115	He	0.000	ppb	N/A	630.04	0.0076	Pulse	0.1000	3
Cu	63	115	He	0.000	ppb	N/A	1073.41	0.0130	Pulse	0.1000	3
Zn	66	115	He	0.000	ppb	N/A	1703.49	0.0206	Pulse	0.1000	3
As	75	115	He	0.000	ppb	N/A	100.67	0.0012	Pulse	0.5000	3
Sr	88	115	He	0.000	ppb	N/A	76.67	0.0009	Pulse	0.1000	3
Mo	98	115	He	0.038	ppb	45.9	46.67	0.0006	Pulse	0.1000	3
Ag	107	115	He	0.000	ppb	N/A	60.00	0.0007	Pulse	0.1000	3
Cd	111	115	He	0.000	ppb	N/A	2.00	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.000	ppb	N/A	1073.42	0.0130	Pulse	0.1000	3
Sb	121	72	He	0.000	ppb	N/A	30.00	0.0002	Pulse	0.1000	3
Ba	137	115	He	0.000	ppb	N/A	13.33	0.0002	Pulse	0.1000	3
Tl	205	209	He	0.000	ppb	N/A	100.00	0.0008	Pulse	0.1000	3
Pb	208	209	He	0.000	ppb	N/A	540.03	0.0042	Pulse	0.1000	3
U	238	209	He	0.000	ppb	N/A	13.33	0.0001	Pulse	0.1000	3

Quantitation Report

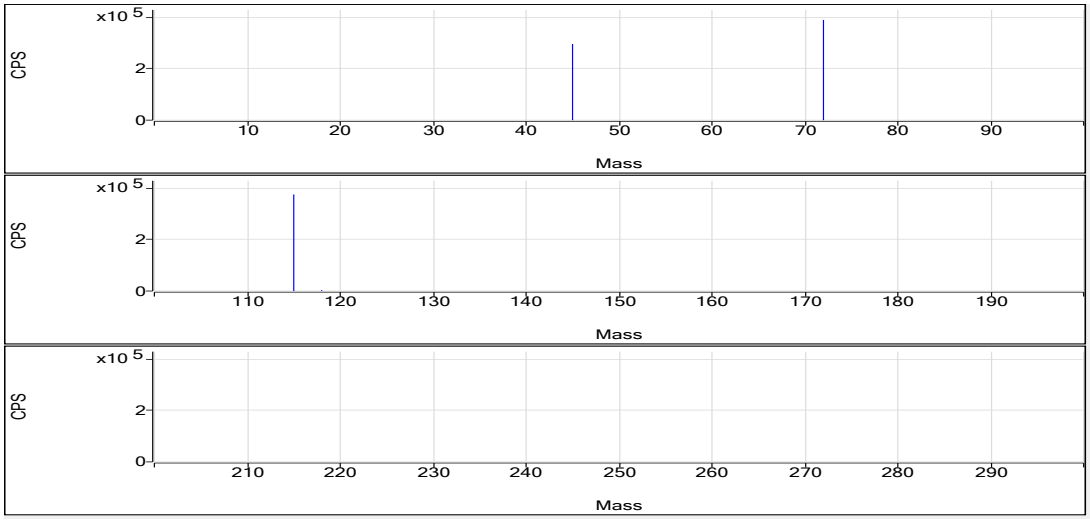
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1495203.05	0.5	100.0	Analog	0.1000	3
No Gas	Ge	72	1112898.73	1.2	100.0	Pulse	0.1000	3
H2	Sc	45	296273.35	1.4	100.0	Pulse	0.1000	3
H2	Ge	72	389686.56	1.3	100.0	Pulse	0.1000	3
H2	In	115	375488.11	1.5	100.0	Pulse	0.1000	3
He	Sc	45	65992.34	2.2	100.0	Pulse	0.1000	3
He	Ge	72	187822.16	0.7	100.0	Pulse	0.1000	3
He	In	115	82767.70	1.7	100.0	Pulse	0.1000	3
He	Tb	159	210274.95	1.0	100.0	Pulse	0.1000	3
He	Bi	209	128339.80	1.0	100.0	Pulse	0.1000	3

No Gas

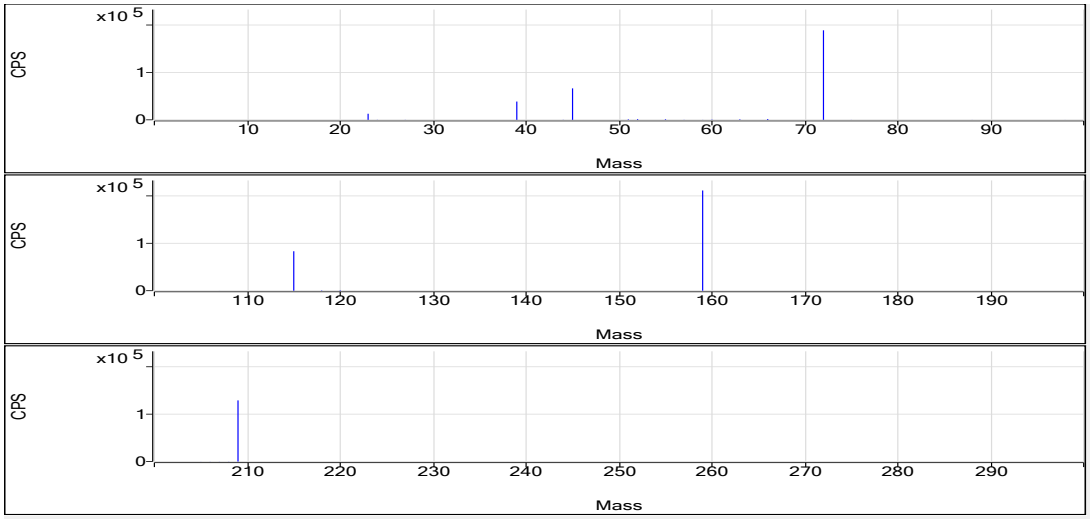


H2



Quantitation Report

He



Quantitation Report

Data File Name	008CALS.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:47:09 AM
Sample Name	std1 360887
Sample Type	CalStd
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

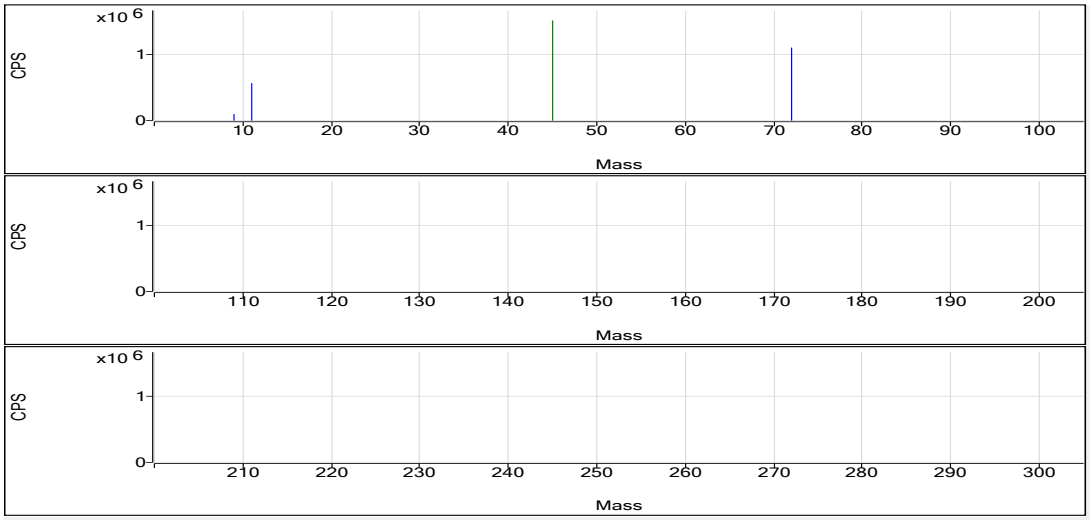
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	100.000	ppb	2.8	99250.73	0.0654	Pulse	0.5000	3
B	11	45	No Gas	1000.000	ppb	2.5	568991.60	0.3747	Pulse	0.5000	3
Se	78	115	H2	100.000	ppb	0.7	8914.76	0.0237	Pulse	1.5000	3
Na	23	45	He	10000.000	ppb	1.2	1819820.34	27.3149	Analog	0.1000	3
Mg	24	45	He	10000.000	ppb	1.5	861749.26	12.9353	Pulse	0.1000	3
Al	27	45	He	10000.000	ppb	2.1	338958.12	5.0882	Pulse	0.1000	3
K	39	45	He	10000.000	ppb	2.0	1034631.42	15.5309	Pulse	0.1000	3
Ca	44	45	He	10000.000	ppb	2.7	50086.43	0.7519	Pulse	0.1000	3
Ti	47	45	He	1000.000	ppb	1.6	33004.61	0.4954	Pulse	0.1000	3
V	51	45	He	1000.000	ppb	1.2	1099938.32	16.5101	Pulse	0.1000	3
Cr	52	45	He	1000.000	ppb	2.9	1355418.50	20.3402	Mix	0.1000	3
Mn	55	45	He	1000.000	ppb	1.5	735491.13	11.0399	Pulse	0.1000	3
Fe	57	45	He	10000.000	ppb	1.2	263996.39	3.9626	Pulse	0.1000	3
Co	59	115	He	1000.000	ppb	2.4	2208518.20	26.4244	Analog	0.1000	3
Ni	60	115	He	1000.000	ppb	1.6	537316.64	6.4283	Pulse	0.1000	3
Cu	63	115	He	1000.000	ppb	1.1	1454408.83	17.3994	Pulse	0.1000	3
Zn	66	115	He	1000.000	ppb	0.4	228798.19	2.7370	Pulse	0.1000	3
As	75	115	He	1000.000	ppb	1.5	189538.05	2.2676	Pulse	0.5000	3
Sr	88	115	He	100.000	ppb	0.9	107688.74	1.2883	Pulse	0.1000	3
Mo	98	115	He	100.000	ppb	0.7	125483.03	1.5011	Pulse	0.1000	3
Ag	107	115	He	100.000	ppb	1.4	232911.40	2.7864	Pulse	0.1000	3
Cd	111	115	He	100.000	ppb	0.7	33560.58	0.4015	Pulse	0.5000	3
Sn	120	115	He	100.000	ppb	1.6	117983.96	1.4115	Pulse	0.1000	3
Sb	121	72	He	100.000	ppb	2.0	111281.80	0.6002	Pulse	0.1000	3
Ba	137	115	He	1000.000	ppb	1.3	418238.29	5.0035	Pulse	0.1000	3
Tl	205	209	He	100.000	ppb	2.0	373228.85	2.8995	Pulse	0.1000	3
Pb	208	209	He	100.000	ppb	2.1	517031.41	4.0167	Pulse	0.1000	3
U	238	209	He	100.000	ppb	1.9	485174.41	3.7691	Pulse	0.1000	3

Quantitation Report

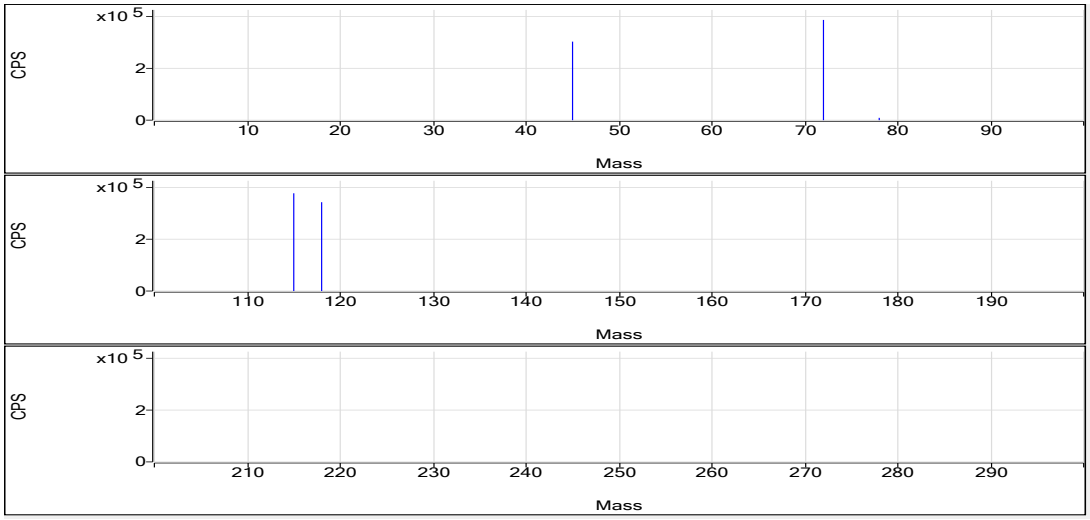
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1518716.59	0.7	101.6	Analog	0.1000	3
No Gas	Ge	72	1107567.95	0.7	99.5	Pulse	0.1000	3
H2	Sc	45	302126.86	0.9	102.0	Pulse	0.1000	3
H2	Ge	72	385553.69	0.8	98.9	Pulse	0.1000	3
H2	In	115	376023.54	1.2	100.1	Pulse	0.1000	3
He	Sc	45	66628.93	1.4	101.0	Pulse	0.1000	3
He	Ge	72	185406.87	0.8	98.7	Pulse	0.1000	3
He	In	115	83599.79	1.6	101.0	Pulse	0.1000	3
He	Tb	159	215087.17	0.3	102.3	Pulse	0.1000	3
He	Bi	209	128747.58	1.6	100.3	Pulse	0.1000	3

No Gas

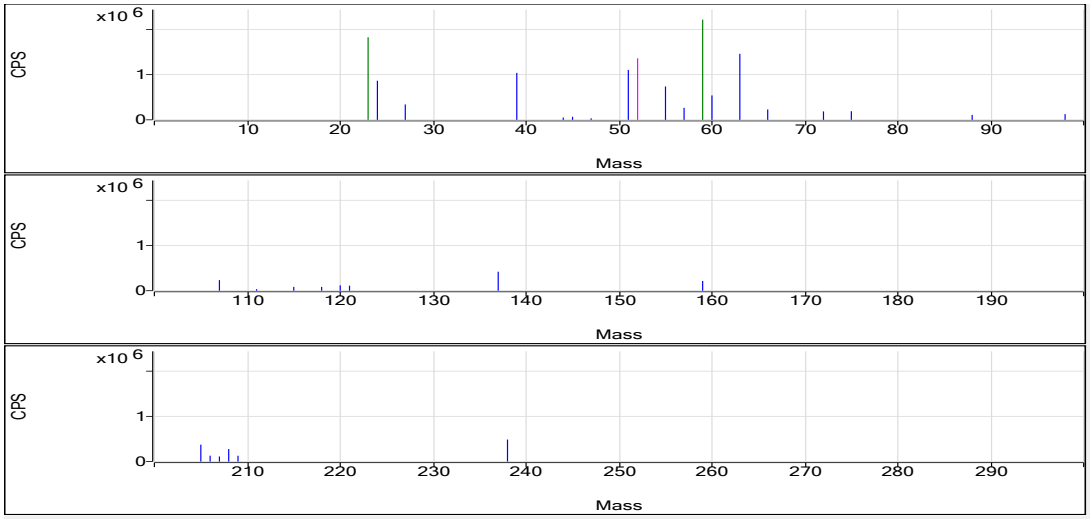


H2



Quantitation Report

He



Quantitation Report

Data File Name	009_ICV.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:49:03 AM
Sample Name	icv 361005
Sample Type	ICV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

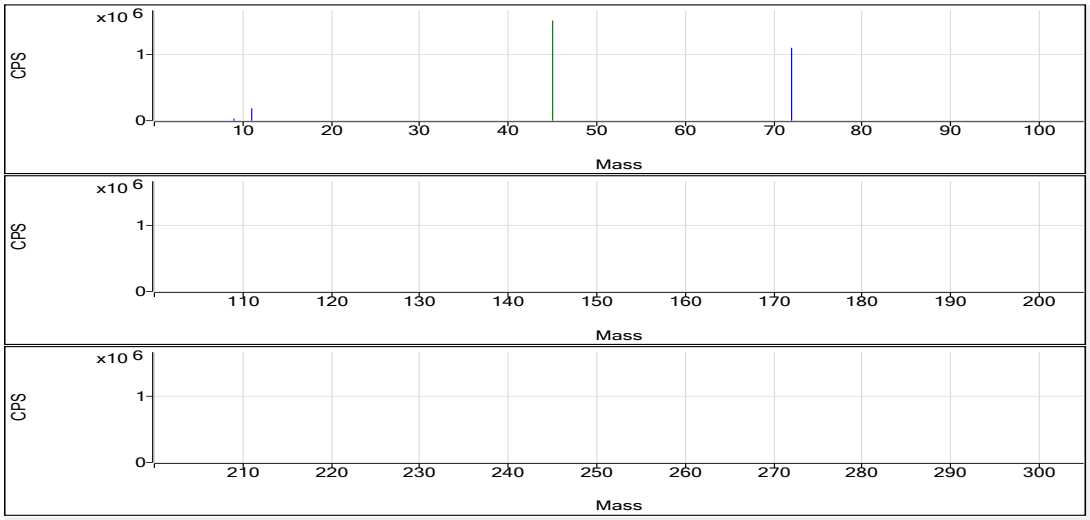
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	29.957	ppb	1.4	29910.22	0.0196	Pulse	0.5000	3
B	11	45	No Gas	324.699	ppb	1.6	187554.83	0.1228	Pulse	0.5000	3
Se	78	115	H2	30.065	ppb	1.4	2684.92	0.0071	Pulse	1.5000	3
Na	23	45	He	4659.713	ppb	2.0	852304.49	12.8311	Pulse	0.1000	3
Mg	24	45	He	5085.316	ppb	2.3	437038.56	6.5796	Pulse	0.1000	3
Al	27	45	He	5055.045	ppb	2.2	170934.97	2.5734	Pulse	0.1000	3
K	39	45	He	5049.986	ppb	2.6	540032.26	8.1304	Pulse	0.1000	3
Ca	44	45	He	4975.053	ppb	3.1	24955.23	0.3757	Pulse	0.1000	3
Ti	47	45	He	310.813	ppb	2.4	10227.19	0.1540	Pulse	0.1000	3
V	51	45	He	303.058	ppb	2.4	333104.07	5.0149	Pulse	0.1000	3
Cr	52	45	He	292.950	ppb	1.2	396912.78	5.9746	Pulse	0.1000	3
Mn	55	45	He	308.989	ppb	2.0	227444.18	3.4240	Pulse	0.1000	3
Fe	57	45	He	5073.675	ppb	2.0	133657.38	2.0119	Pulse	0.1000	3
Co	59	115	He	287.818	ppb	0.6	636002.51	7.6065	Pulse	0.1000	3
Ni	60	115	He	307.802	ppb	0.5	165880.32	1.9839	Pulse	0.1000	3
Cu	63	115	He	305.099	ppb	0.5	444615.06	5.3176	Pulse	0.1000	3
Zn	66	115	He	303.914	ppb	1.6	70747.02	0.8461	Pulse	0.1000	3
As	75	115	He	304.510	ppb	0.5	57805.24	0.6913	Pulse	0.5000	3
Sr	88	115	He	30.384	ppb	2.1	32781.77	0.3921	Pulse	0.1000	3
Mo	98	115	He	30.914	ppb	2.5	38800.47	0.4640	Pulse	0.1000	3
Ag	107	115	He	29.826	ppb	1.8	69532.06	0.8316	Pulse	0.1000	3
Cd	111	115	He	30.000	ppb	1.8	10071.66	0.1205	Pulse	0.5000	3
Sn	120	115	He	29.844	ppb	0.5	35984.01	0.4304	Pulse	0.1000	3
Sb	121	72	He	30.954	ppb	2.4	34620.43	0.1859	Pulse	0.1000	3
Ba	137	115	He	302.897	ppb	0.5	126728.74	1.5157	Pulse	0.1000	3
Tl	205	209	He	31.046	ppb	1.5	115921.87	0.9007	Pulse	0.1000	3
Pb	208	209	He	30.132	ppb	1.1	156131.05	1.2132	Pulse	0.1000	3
U	238	209	He	376.221	ppb	0.6	1824932.73	14.1799	Analog	0.1000	3

Quantitation Report

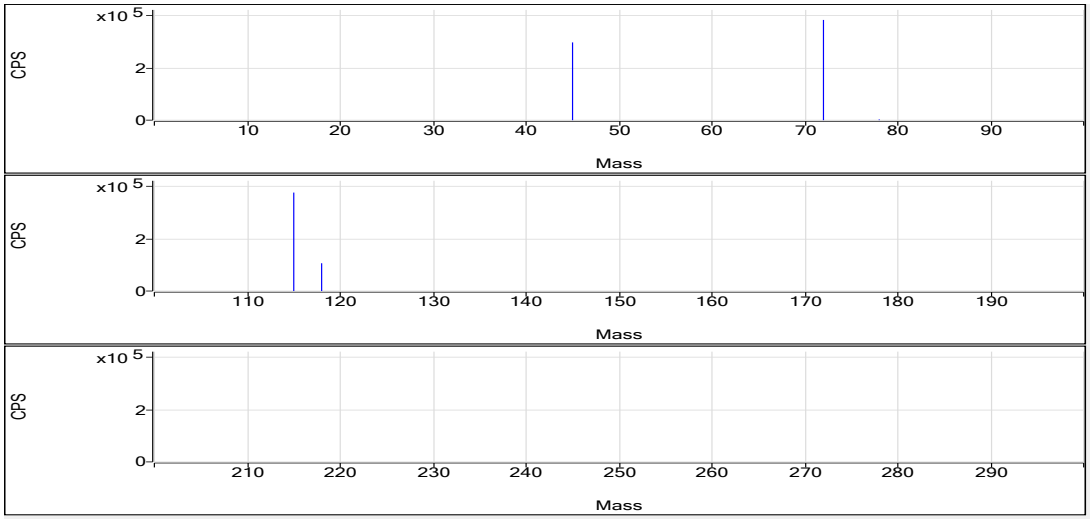
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1526930.71	1.5	102.1	Analog	0.1000	3
No Gas	Ge	72	1109606.49	0.7	99.7	Pulse	0.1000	3
H2	Sc	45	297266.43	0.6	100.3	Pulse	0.1000	3
H2	Ge	72	383197.82	1.6	98.3	Pulse	0.1000	3
H2	In	115	376454.53	0.8	100.3	Pulse	0.1000	3
He	Sc	45	66444.45	2.2	100.7	Pulse	0.1000	3
He	Ge	72	186251.48	0.7	99.2	Pulse	0.1000	3
He	In	115	83612.63	0.2	101.0	Pulse	0.1000	3
He	Tb	159	212748.81	0.8	101.2	Pulse	0.1000	3
He	Bi	209	128700.33	1.3	100.3	Pulse	0.1000	3

No Gas

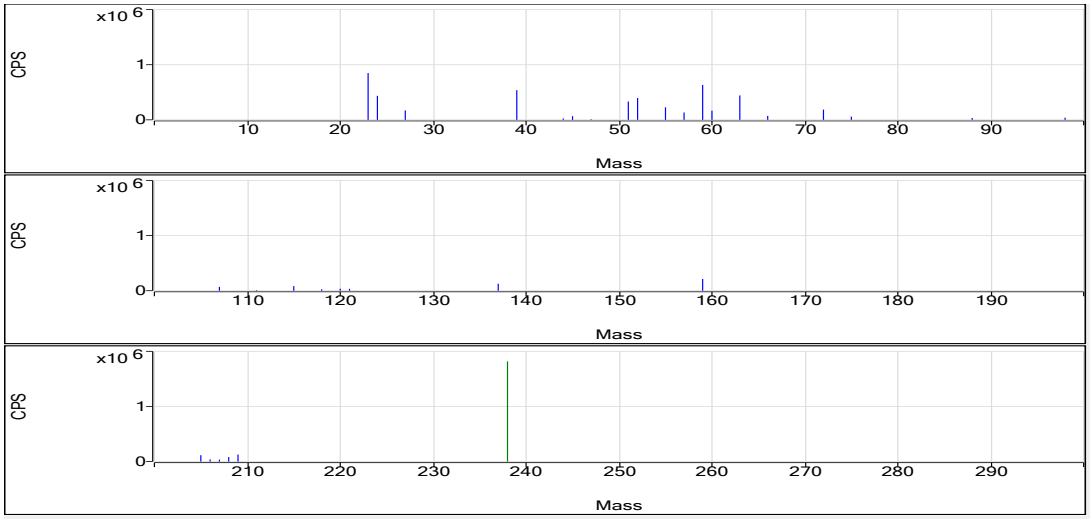


H2



Quantitation Report

He



Quantitation Report

Data File Name	010_ICB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:50:57 AM
Sample Name	icb 360854
Sample Type	ICB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

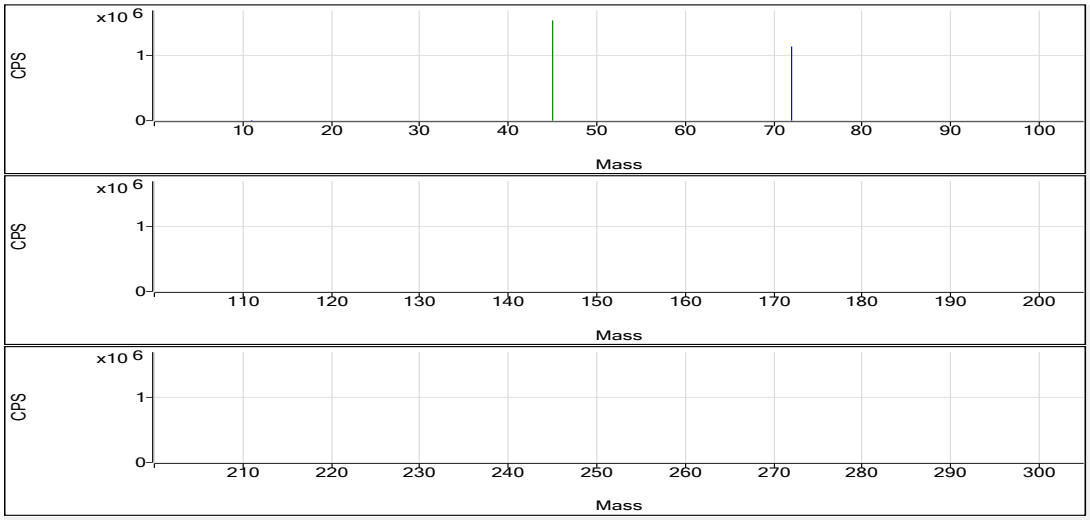
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.023	ppb	44.3	47.33	0.0000	Pulse	0.5000	3
B	11	45	No Gas	11.882	ppb	6.1	9503.03	0.0062	Pulse	0.5000	3
Se	78	115	H2	0.020	ppb	140.6	3.78	0.0000	Pulse	1.5000	3
Na	23	45	He	7.339	ppb	62.0	13910.22	0.2130	Pulse	0.1000	3
Mg	24	45	He	0.357	ppb	345.0	243.35	0.0037	Pulse	0.1000	3
Al	27	45	He	0.589	ppb	243.1	193.34	0.0030	Pulse	0.1000	3
K	39	45	He	6.367	ppb	325.8	38531.14	0.5900	Pulse	0.1000	3
Ca	44	45	He	0.459	ppb	2544.2	216.68	0.0033	Pulse	0.1000	3
Ti	47	45	He	0.312	ppb	100.5	10.00	0.0002	Pulse	0.1000	3
V	51	45	He	0.276	ppb	60.8	1360.11	0.0208	Pulse	0.1000	3
Cr	52	45	He	0.320	ppb	17.6	1900.20	0.0291	Pulse	0.1000	3
Mn	55	45	He	-0.039	ppb	N/A	1183.43	0.0181	Pulse	0.1000	3
Fe	57	45	He	1.229	ppb	152.0	223.34	0.0034	Pulse	0.1000	3
Co	59	115	He	0.101	ppb	13.8	346.68	0.0042	Pulse	0.1000	3
Ni	60	115	He	-0.033	ppb	N/A	610.04	0.0074	Pulse	0.1000	3
Cu	63	115	He	0.102	ppb	117.3	1216.77	0.0148	Pulse	0.1000	3
Zn	66	115	He	-1.707	ppb	N/A	1313.44	0.0159	Pulse	0.1000	3
As	75	115	He	0.026	ppb	168.7	105.33	0.0013	Pulse	0.5000	3
Sr	88	115	He	0.016	ppb	282.7	93.34	0.0011	Pulse	0.1000	3
Mo	98	115	He	0.092	ppb	37.1	113.34	0.0014	Pulse	0.1000	3
Ag	107	115	He	-0.007	ppb	N/A	43.33	0.0005	Pulse	0.1000	3
Cd	111	115	He	0.010	ppb	70.9	5.33	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.201	ppb	54.3	1303.45	0.0158	Pulse	0.1000	3
Sb	121	72	He	0.229	ppb	31.4	286.68	0.0015	Pulse	0.1000	3
Ba	137	115	He	0.088	ppb	69.3	50.00	0.0006	Pulse	0.1000	3
Tl	205	209	He	0.368	ppb	10.0	1470.13	0.0115	Pulse	0.1000	3
Pb	208	209	He	-0.014	ppb	N/A	466.69	0.0036	Pulse	0.1000	3
U	238	209	He	0.121	ppb	26.4	600.04	0.0047	Pulse	0.1000	3

Quantitation Report

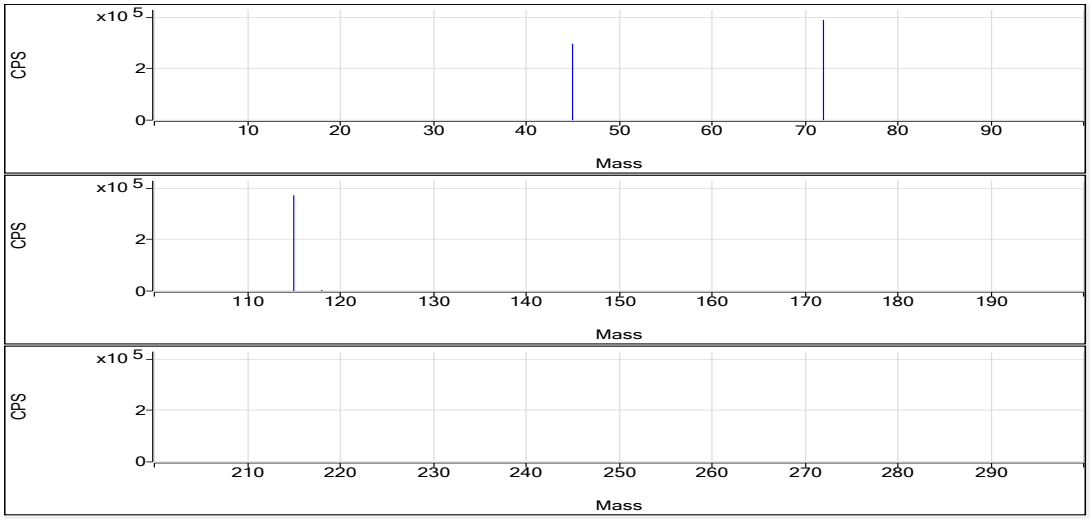
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1535656.90	0.4	102.7	Analog	0.1000	3
No Gas	Ge	72	1135125.56	0.6	102.0	Pulse	0.1000	3
H2	Sc	45	297369.29	0.9	100.4	Pulse	0.1000	3
H2	Ge	72	390175.41	0.3	100.1	Pulse	0.1000	3
H2	In	115	372867.44	1.2	99.3	Pulse	0.1000	3
He	Sc	45	65305.90	1.2	99.0	Pulse	0.1000	3
He	Ge	72	187044.56	1.2	99.6	Pulse	0.1000	3
He	In	115	82465.89	2.1	99.6	Pulse	0.1000	3
He	Tb	159	210774.81	0.7	100.2	Pulse	0.1000	3
He	Bi	209	128407.40	1.1	100.1	Pulse	0.1000	3

No Gas

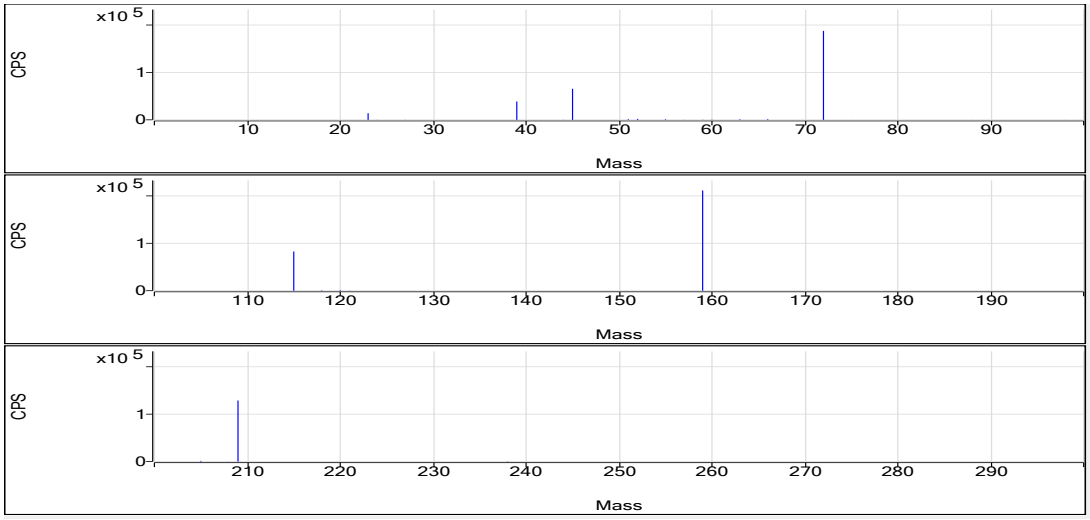


H2



Quantitation Report

He



Quantitation Report

Data File Name	011_LLC.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:52:50 AM
Sample Name	cri 361009
Sample Type	LLC
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

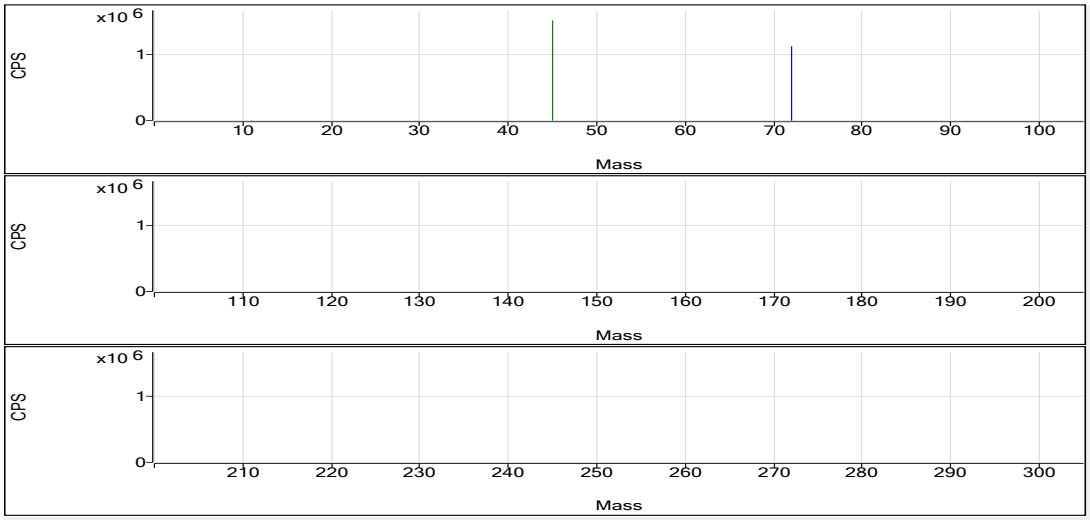
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.529	ppb	9.7	550.01	0.0004	Pulse	0.5000	3
B	11	45	No Gas	5.061	ppb	3.1	5548.38	0.0036	Pulse	0.5000	3
Se	78	115	H2	0.922	ppb	15.1	83.33	0.0002	Pulse	1.5000	3
Na	23	45	He	198.877	ppb	4.1	47463.08	0.7325	Pulse	0.1000	3
Mg	24	45	He	54.443	ppb	5.0	4774.26	0.0737	Pulse	0.1000	3
Al	27	45	He	25.706	ppb	1.3	1020.07	0.0157	Pulse	0.1000	3
K	39	45	He	216.840	ppb	12.6	58630.58	0.9047	Pulse	0.1000	3
Ca	44	45	He	110.779	ppb	16.6	750.05	0.0116	Pulse	0.1000	3
Ti	47	45	He	11.206	ppb	9.0	360.02	0.0056	Pulse	0.1000	3
V	51	45	He	0.584	ppb	11.8	1680.15	0.0259	Pulse	0.1000	3
Cr	52	45	He	2.428	ppb	3.1	4660.89	0.0719	Pulse	0.1000	3
Mn	55	45	He	1.889	ppb	4.4	2550.31	0.0394	Pulse	0.1000	3
Fe	57	45	He	52.984	ppb	5.1	1550.14	0.0239	Pulse	0.1000	3
Co	59	115	He	0.514	ppb	8.7	1253.44	0.0151	Pulse	0.1000	3
Ni	60	115	He	1.181	ppb	5.6	1260.10	0.0152	Pulse	0.1000	3
Cu	63	115	He	1.061	ppb	16.2	2606.98	0.0314	Pulse	0.1000	3
Zn	66	115	He	9.616	ppb	6.9	3873.98	0.0467	Pulse	0.1000	3
As	75	115	He	2.079	ppb	5.3	492.01	0.0059	Pulse	0.5000	3
Sr	88	115	He	1.018	ppb	10.2	1163.43	0.0140	Pulse	0.1000	3
Mo	98	115	He	0.525	ppb	12.1	653.37	0.0079	Pulse	0.1000	3
Ag	107	115	He	0.482	ppb	6.5	1173.42	0.0141	Pulse	0.1000	3
Cd	111	115	He	0.464	ppb	8.4	156.67	0.0019	Pulse	0.5000	3
Sn	120	115	He	2.328	ppb	8.1	3777.31	0.0455	Pulse	0.1000	3
Sb	121	72	He	1.101	ppb	4.7	1256.77	0.0068	Pulse	0.1000	3
Ba	137	115	He	1.983	ppb	17.3	836.72	0.0101	Pulse	0.1000	3
Tl	205	209	He	0.627	ppb	4.6	2446.98	0.0190	Pulse	0.1000	3
Pb	208	209	He	0.512	ppb	3.2	3193.59	0.0247	Pulse	0.1000	3
U	238	209	He	0.980	ppb	6.5	4781.06	0.0370	Pulse	0.1000	3

Quantitation Report

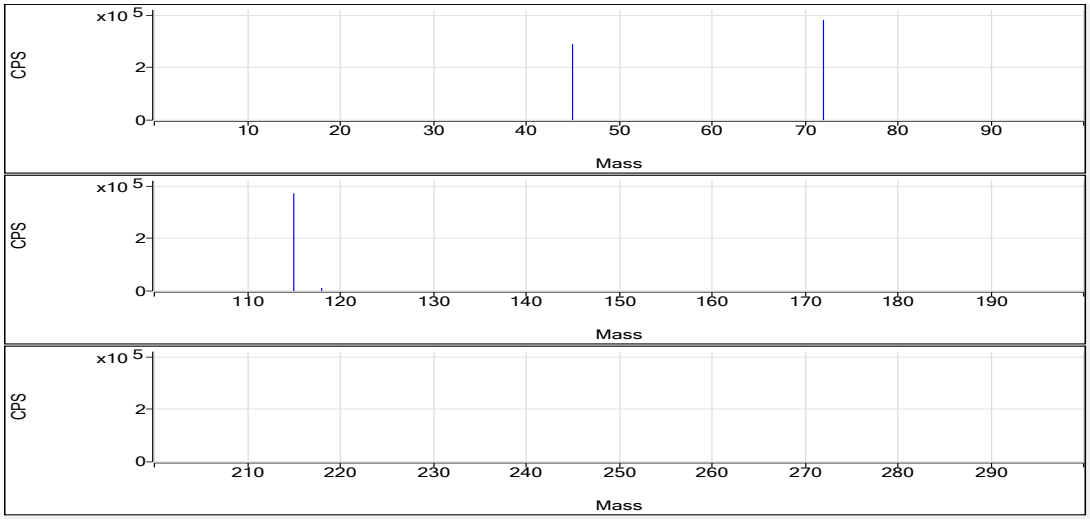
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1522432.11	0.9	101.8	Analog	0.1000	3
No Gas	Ge	72	1129282.74	1.1	101.5	Pulse	0.1000	3
H2	Sc	45	289523.54	0.6	97.7	Pulse	0.1000	3
H2	Ge	72	381884.36	0.8	98.0	Pulse	0.1000	3
H2	In	115	372085.24	1.8	99.1	Pulse	0.1000	3
He	Sc	45	64810.77	1.0	98.2	Pulse	0.1000	3
He	Ge	72	185683.76	0.5	98.9	Pulse	0.1000	3
He	In	115	82953.27	0.4	100.2	Pulse	0.1000	3
He	Tb	159	210763.30	0.5	100.2	Pulse	0.1000	3
He	Bi	209	129121.80	1.1	100.6	Pulse	0.1000	3

No Gas

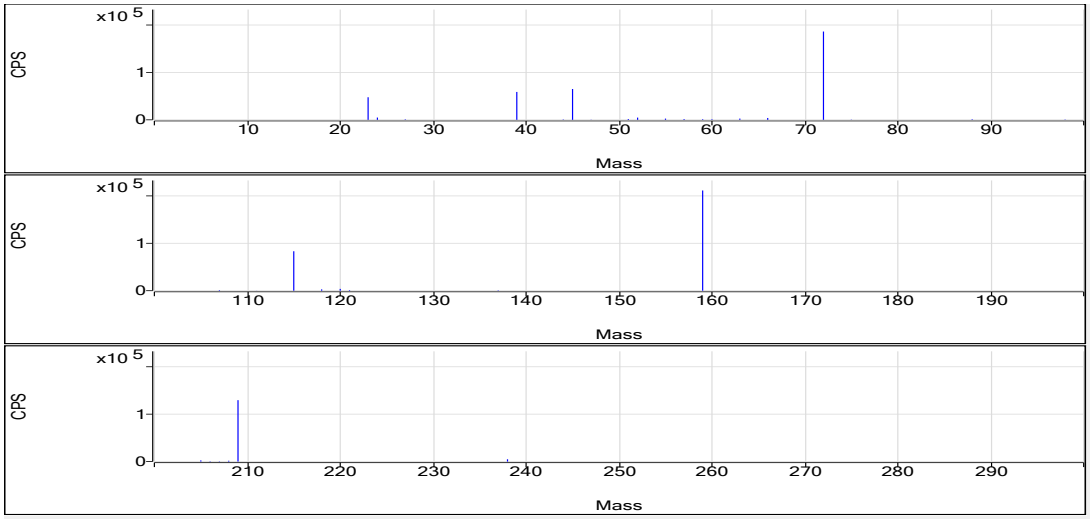


H2



Quantitation Report

He



Quantitation Report

Data File Name	012ICSA.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:54:44 AM
Sample Name	icsa 361015
Sample Type	ICSA
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

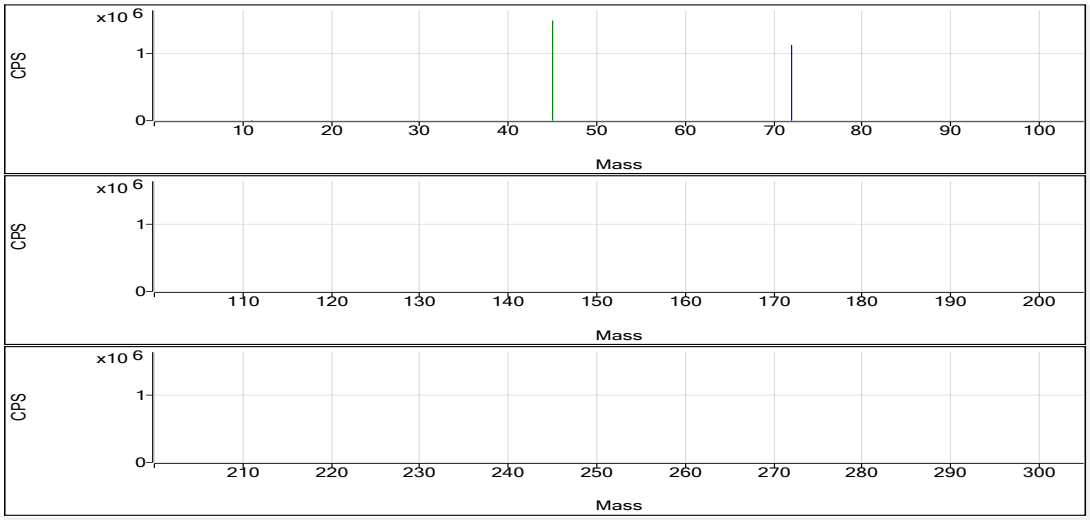
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.015	ppb	86.8	38.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	7.571	ppb	3.6	6782.22	0.0046	Pulse	0.5000	3
Se	78	115	H2	0.025	ppb	31.9	4.00	0.0000	Pulse	1.5000	3
Na	23	45	He	230310.028	ppb	1.3	39875885.24	624.8359	Analog	0.1000	3
Mg	24	45	He	99556.508	ppb	0.5	8217314.88	128.7499	Analog	0.1000	3
Al	27	45	He	105182.887	ppb	1.7	3413939.84	53.4938	Analog	0.1000	3
K	39	45	He	104406.567	ppb	0.8	9999087.14	156.6721	Analog	0.1000	3
Ca	44	45	He	322258.198	ppb	1.0	1539843.78	24.1281	Analog	0.1000	3
Ti	47	45	He	2052.418	ppb	2.3	64881.27	1.0168	Pulse	0.1000	3
V	51	45	He	0.061	ppb	79.3	1103.42	0.0173	Pulse	0.1000	3
Cr	52	45	He	1.705	ppb	4.5	3653.97	0.0572	Pulse	0.1000	3
Mn	55	45	He	2.112	ppb	15.6	2667.00	0.0418	Pulse	0.1000	3
Fe	57	45	He	257838.841	ppb	1.1	6515851.78	102.0989	Analog	0.1000	3
Co	59	115	He	2.251	ppb	5.2	4740.94	0.0610	Pulse	0.1000	3
Ni	60	115	He	2.592	ppb	14.1	1883.53	0.0242	Pulse	0.1000	3
Cu	63	115	He	0.963	ppb	10.5	2310.26	0.0297	Pulse	0.1000	3
Zn	66	115	He	2.477	ppb	19.8	2123.55	0.0273	Pulse	0.1000	3
As	75	115	He	0.549	ppb	13.8	191.33	0.0025	Pulse	0.5000	3
Sr	88	115	He	2.478	ppb	10.6	2550.31	0.0328	Pulse	0.1000	3
Mo	98	115	He	2257.884	ppb	0.8	2634164.28	33.8932	Analog	0.1000	3
Ag	107	115	He	0.025	ppb	17.3	110.00	0.0014	Pulse	0.1000	3
Cd	111	115	He	0.426	ppb	4.9	134.67	0.0017	Pulse	0.5000	3
Sn	120	115	He	0.428	ppb	23.1	1473.46	0.0190	Pulse	0.1000	3
Sb	121	72	He	0.438	ppb	11.9	513.36	0.0028	Pulse	0.1000	3
Ba	137	115	He	0.929	ppb	16.8	373.35	0.0048	Pulse	0.1000	3
Tl	205	209	He	0.064	ppb	49.1	320.02	0.0026	Pulse	0.1000	3
Pb	208	209	He	0.465	ppb	9.8	2766.89	0.0229	Pulse	0.1000	3
U	238	209	He	0.057	ppb	14.7	273.34	0.0023	Pulse	0.1000	3

Quantitation Report

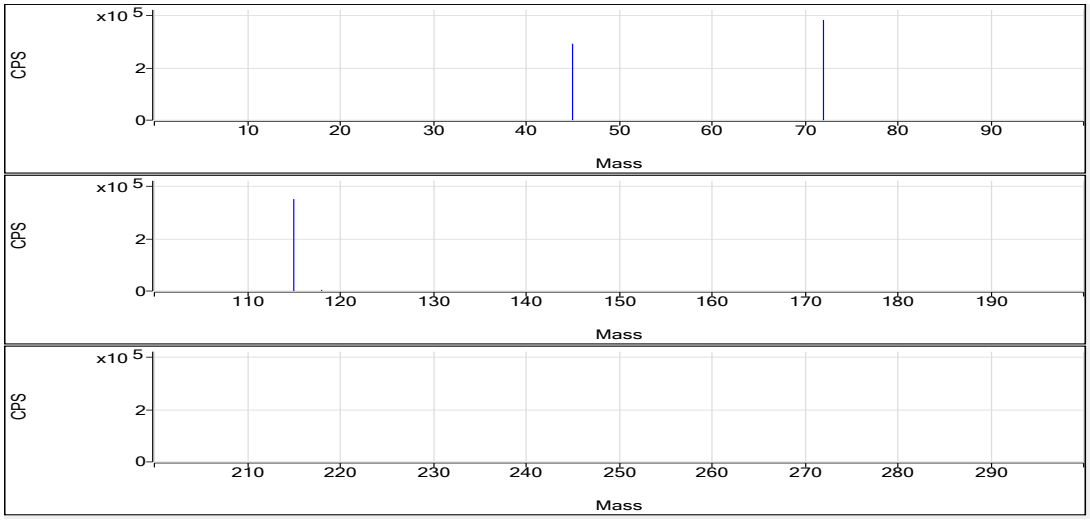
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1480681.07	0.5	99.0	Analog	0.1000	3
No Gas	Ge	72	1119654.57	0.8	100.6	Pulse	0.1000	3
H2	Sc	45	292177.08	1.6	98.6	Pulse	0.1000	3
H2	Ge	72	383094.75	2.6	98.3	Pulse	0.1000	3
H2	In	115	351568.45	1.4	93.6	Pulse	0.1000	3
He	Sc	45	63826.19	1.6	96.7	Pulse	0.1000	3
He	Ge	72	184216.64	0.7	98.1	Pulse	0.1000	3
He	In	115	77722.71	1.1	93.9	Pulse	0.1000	3
He	Tb	159	205789.35	0.3	97.9	Pulse	0.1000	3
He	Bi	209	121088.87	0.9	94.4	Pulse	0.1000	3

No Gas

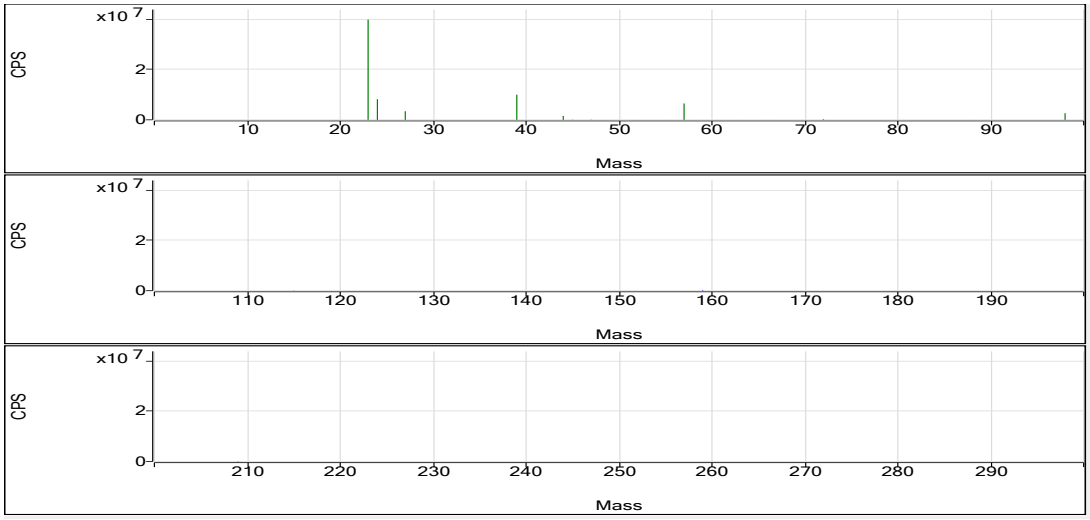


H2



Quantitation Report

He



Quantitation Report

Data File Name	013ICSB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:56:35 AM
Sample Name	icsab 361016
Sample Type	ICSAB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

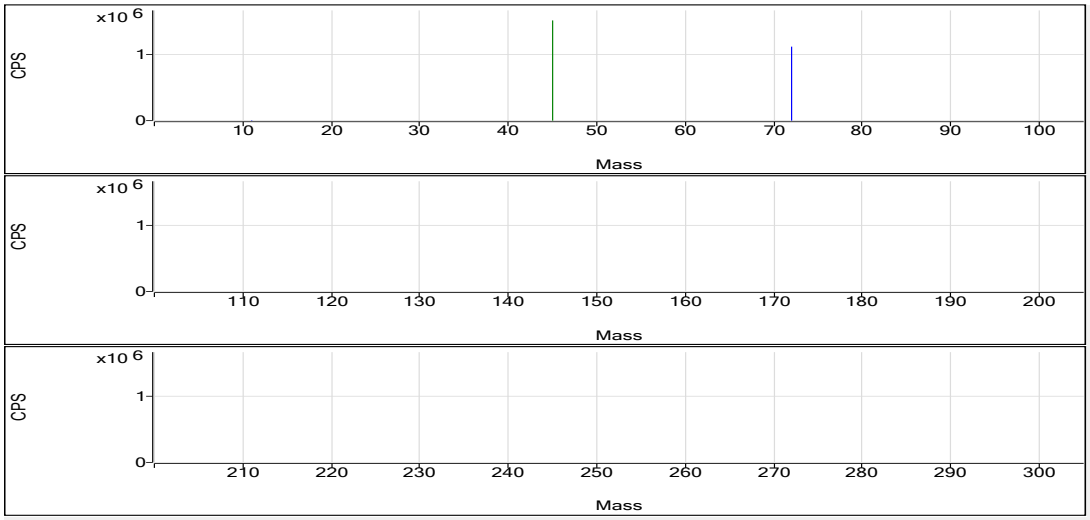
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.006	ppb	192.5	30.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	7.867	ppb	4.2	7120.38	0.0047	Pulse	0.5000	3
Se	78	115	H2	104.332	ppb	0.9	8809.14	0.0247	Pulse	1.5000	3
Na	23	45	He	226066.059	ppb	1.7	40172342.74	613.3255	Analog	0.1000	3
Mg	24	45	He	97165.522	ppb	1.0	8230841.96	125.6579	Analog	0.1000	3
Al	27	45	He	102228.439	ppb	1.8	3405362.55	51.9913	Analog	0.1000	3
K	39	45	He	102760.523	ppb	1.3	10101004.85	154.2112	Analog	0.1000	3
Ca	44	45	He	313600.586	ppb	0.9	1538189.20	23.4800	Analog	0.1000	3
Ti	47	45	He	2041.968	ppb	1.5	66260.10	1.0116	Pulse	0.1000	3
V	51	45	He	201.209	ppb	1.8	218447.24	3.3350	Pulse	0.1000	3
Cr	52	45	He	191.036	ppb	1.4	255718.60	3.9040	Pulse	0.1000	3
Mn	55	45	He	203.094	ppb	0.9	147838.12	2.2569	Pulse	0.1000	3
Fe	57	45	He	251838.796	ppb	0.4	6532345.11	99.7230	Analog	0.1000	3
Co	59	115	He	191.564	ppb	2.3	396139.12	5.0632	Pulse	0.1000	3
Ni	60	115	He	204.023	ppb	2.2	103091.25	1.3176	Pulse	0.1000	3
Cu	63	115	He	200.972	ppb	2.5	274393.55	3.5072	Pulse	0.1000	3
Zn	66	115	He	104.132	ppb	2.8	23743.40	0.3034	Pulse	0.1000	3
As	75	115	He	108.128	ppb	1.8	19270.23	0.2463	Pulse	0.5000	3
Sr	88	115	He	2.457	ppb	11.9	2543.66	0.0326	Pulse	0.1000	3
Mo	98	115	He	2246.454	ppb	2.7	2638194.13	33.7216	Analog	0.1000	3
Ag	107	115	He	50.674	ppb	1.9	110507.67	1.4123	Pulse	0.1000	3
Cd	111	115	He	102.259	ppb	2.5	32119.19	0.4105	Pulse	0.5000	3
Sn	120	115	He	0.290	ppb	7.4	1333.45	0.0170	Pulse	0.1000	3
Sb	121	72	He	0.412	ppb	28.3	486.70	0.0026	Pulse	0.1000	3
Ba	137	115	He	0.826	ppb	12.9	336.68	0.0043	Pulse	0.1000	3
Tl	205	209	He	0.036	ppb	13.5	220.01	0.0018	Pulse	0.1000	3
Pb	208	209	He	0.435	ppb	6.0	2613.53	0.0217	Pulse	0.1000	3
U	238	209	He	0.057	ppb	0.6	270.01	0.0022	Pulse	0.1000	3

Quantitation Report

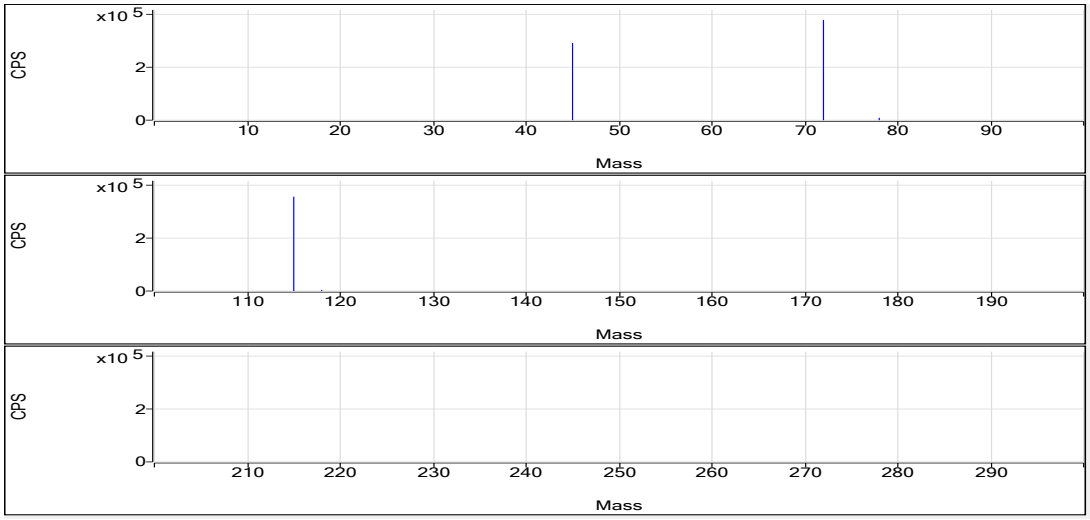
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1517805.60	0.7	101.5	Analog	0.1000	3
No Gas	Ge	72	1120518.42	0.2	100.7	Pulse	0.1000	3
H2	Sc	45	291381.28	1.2	98.3	Pulse	0.1000	3
H2	Ge	72	378327.75	2.0	97.1	Pulse	0.1000	3
H2	In	115	356153.61	1.5	94.9	Pulse	0.1000	3
He	Sc	45	65506.67	1.0	99.3	Pulse	0.1000	3
He	Ge	72	184772.22	0.7	98.4	Pulse	0.1000	3
He	In	115	78272.16	2.7	94.6	Pulse	0.1000	3
He	Tb	159	207359.50	0.9	98.6	Pulse	0.1000	3
He	Bi	209	120641.29	0.5	94.0	Pulse	0.1000	3

No Gas

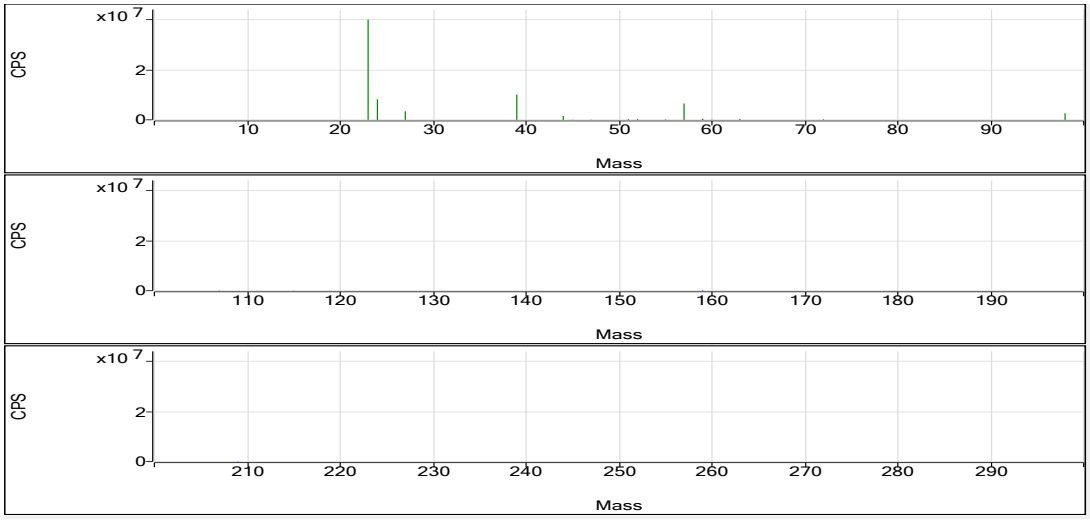


H2



Quantitation Report

He



Quantitation Report

Data File Name	014_LRC.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:58:26 AM
Sample Name	lrc 361017
Sample Type	LRC
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

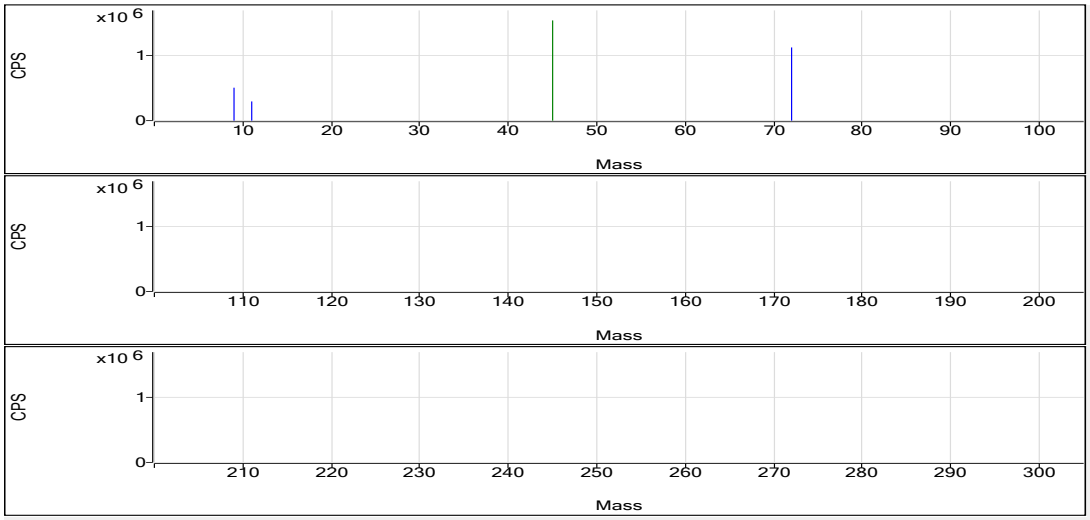
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	503.005	ppb	1.8	503777.73	0.3287	Pulse	0.5000	3
B	11	45	No Gas	509.218	ppb	2.1	293761.74	0.1917	Pulse	0.5000	3
Se	78	115	H2	482.286	ppb	0.8	44979.11	0.1143	Pulse	1.5000	3
Na	23	45	He	47263.426	ppb	1.6	8366240.71	128.3801	Analog	0.1000	3
Mg	24	45	He	50204.742	ppb	2.3	4231133.17	64.9281	Analog	0.1000	3
Al	27	45	He	54047.929	ppb	1.2	1791483.62	27.4889	Analog	0.1000	3
K	39	45	He	52825.616	ppb	2.6	5183706.80	79.5567	Analog	0.1000	3
Ca	44	45	He	50000.334	ppb	1.9	244135.53	3.7464	Pulse	0.1000	3
Ti	47	45	He	509.762	ppb	6.2	16466.46	0.2525	Pulse	0.1000	3
V	51	45	He	505.973	ppb	1.8	544890.51	8.3617	Pulse	0.1000	3
Cr	52	45	He	491.713	ppb	1.8	652510.28	10.0130	Pulse	0.1000	3
Mn	55	45	He	512.544	ppb	2.7	369278.35	5.6675	Pulse	0.1000	3
Fe	57	45	He	50141.140	ppb	2.7	1293842.48	19.8572	Pulse	0.1000	3
Co	59	115	He	455.609	ppb	1.7	1035168.97	12.0400	Pulse	0.1000	3
Ni	60	115	He	489.734	ppb	1.7	271015.18	3.1520	Pulse	0.1000	3
Cu	63	115	He	487.859	ppb	2.0	730381.73	8.4951	Pulse	0.1000	3
Zn	66	115	He	482.260	ppb	0.9	114427.08	1.3306	Pulse	0.1000	3
As	75	115	He	489.602	ppb	1.3	95510.25	1.1108	Pulse	0.5000	3
Sr	88	115	He	487.900	ppb	2.3	540058.23	6.2819	Pulse	0.1000	3
Mo	98	115	He	508.532	ppb	1.8	656340.17	7.6336	Pulse	0.1000	3
Ag	107	115	He	487.058	ppb	2.3	1166508.84	13.5686	Pulse	0.1000	3
Cd	111	115	He	483.107	ppb	1.7	166747.68	1.9394	Pulse	0.5000	3
Sn	120	115	He	482.477	ppb	1.9	581254.71	6.7607	Pulse	0.1000	3
Sb	121	72	He	515.772	ppb	1.4	559797.13	3.0951	Pulse	0.1000	3
Ba	137	115	He	486.035	ppb	0.5	209128.36	2.4320	Pulse	0.1000	3
Tl	205	209	He	541.391	ppb	1.2	1949019.81	15.6942	Analog	0.1000	3
Pb	208	209	He	517.413	ppb	0.3	2578854.55	20.7653	Pulse	0.1000	3
U	238	209	He	5.237	ppb	1.5	24527.31	0.1975	Pulse	0.1000	3

Quantitation Report

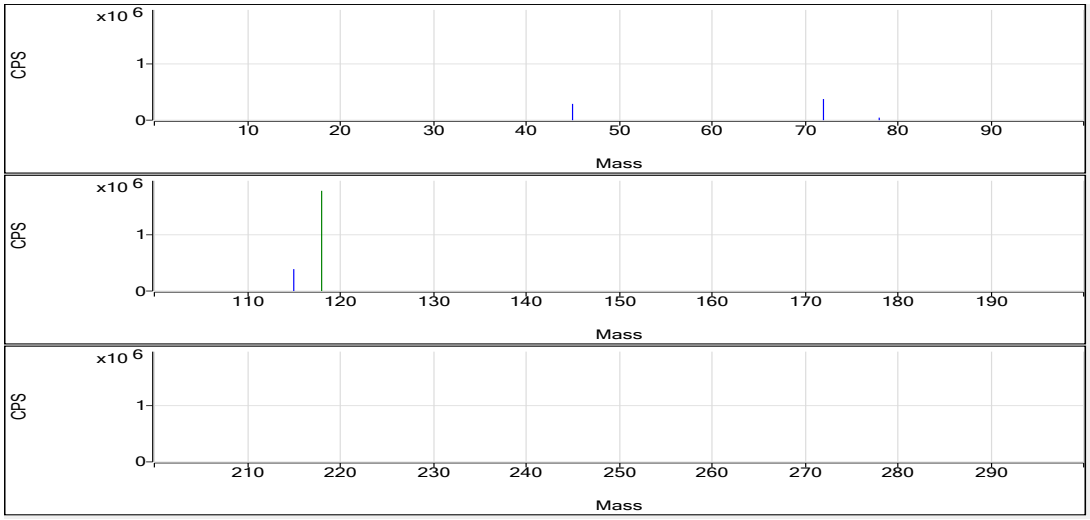
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1532864.66	1.3	102.5	Analog	0.1000	3
No Gas	Ge	72	1119510.25	0.6	100.6	Pulse	0.1000	3
H2	Sc	45	292329.36	0.1	98.7	Pulse	0.1000	3
H2	Ge	72	379490.09	1.3	97.4	Pulse	0.1000	3
H2	In	115	393469.34	1.3	104.8	Pulse	0.1000	3
He	Sc	45	65182.53	2.2	98.8	Pulse	0.1000	3
He	Ge	72	180871.32	0.8	96.3	Pulse	0.1000	3
He	In	115	85994.59	1.8	103.9	Pulse	0.1000	3
He	Tb	159	211210.31	0.5	100.4	Pulse	0.1000	3
He	Bi	209	124191.65	0.5	96.8	Pulse	0.1000	3

No Gas

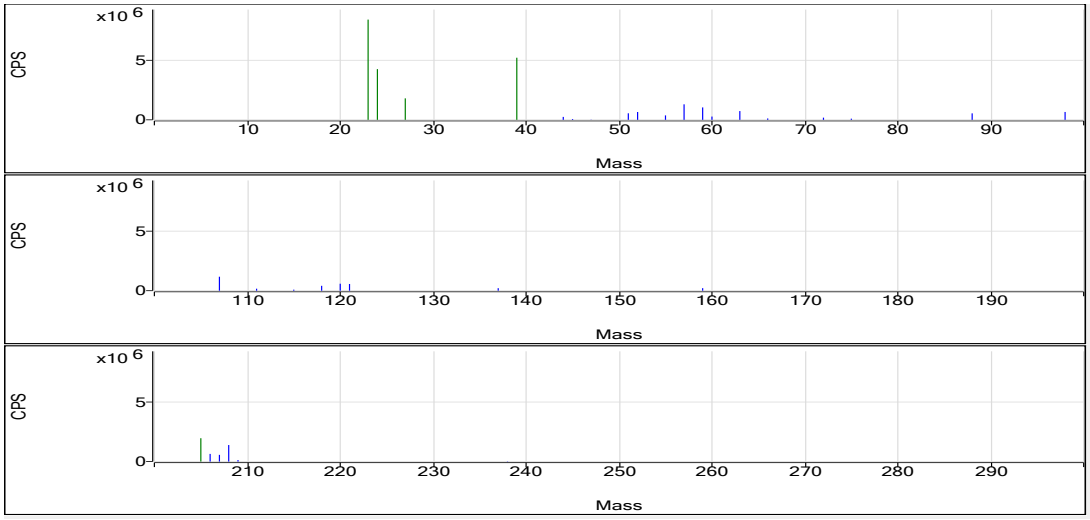


H2



Quantitation Report

He



Quantitation Report

Data File Name	015SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 10:00:19 AM
Sample Name	rinse 360854
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

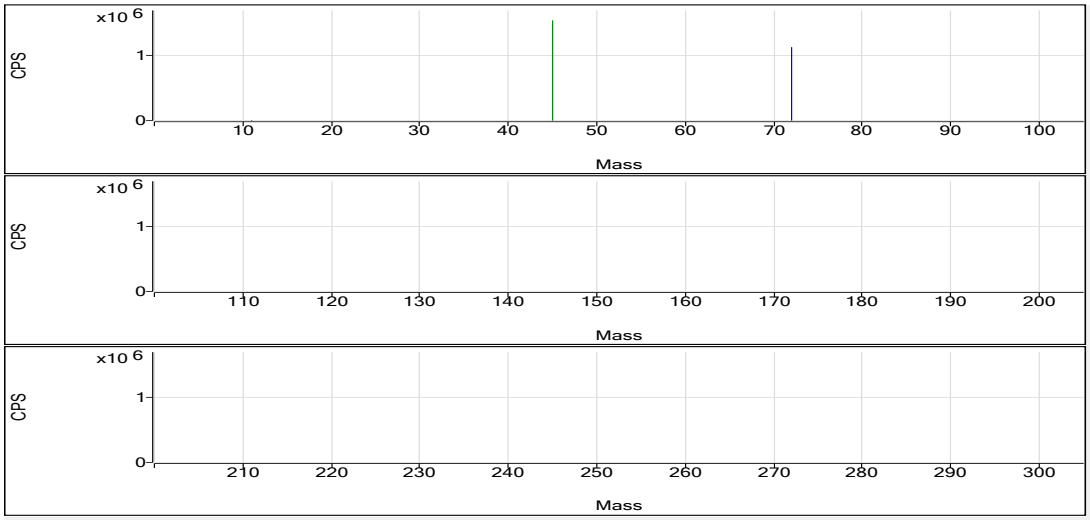
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.312	ppb	8.7	338.01	0.0002	Pulse	0.5000	3
B	11	45	No Gas	11.290	ppb	5.7	9172.83	0.0060	Pulse	0.5000	3
Se	78	115	H2	0.225	ppb	8.9	22.00	0.0001	Pulse	1.5000	3
Na	23	45	He	43.680	ppb	9.2	19663.50	0.3116	Pulse	0.1000	3
Mg	24	45	He	15.724	ppb	18.8	1490.12	0.0236	Pulse	0.1000	3
Al	27	45	He	9.799	ppb	13.4	483.36	0.0077	Pulse	0.1000	3
K	39	45	He	27.136	ppb	153.2	39189.83	0.6211	Pulse	0.1000	3
Ca	44	45	He	15.267	ppb	93.2	280.01	0.0044	Pulse	0.1000	3
Ti	47	45	He	0.532	ppb	34.3	16.67	0.0003	Pulse	0.1000	3
V	51	45	He	0.063	ppb	407.2	1093.41	0.0173	Pulse	0.1000	3
Cr	52	45	He	0.431	ppb	9.6	1980.21	0.0314	Pulse	0.1000	3
Mn	55	45	He	-0.172	ppb	N/A	1050.08	0.0166	Pulse	0.1000	3
Fe	57	45	He	22.595	ppb	10.1	750.04	0.0119	Pulse	0.1000	3
Co	59	115	He	0.084	ppb	28.7	310.02	0.0038	Pulse	0.1000	3
Ni	60	115	He	0.105	ppb	197.9	683.37	0.0083	Pulse	0.1000	3
Cu	63	115	He	0.010	ppb	643.1	1086.75	0.0132	Pulse	0.1000	3
Zn	66	115	He	-0.741	ppb	N/A	1533.47	0.0186	Pulse	0.1000	3
As	75	115	He	0.100	ppb	76.2	119.33	0.0014	Pulse	0.5000	3
Sr	88	115	He	0.110	ppb	72.7	193.34	0.0023	Pulse	0.1000	3
Mo	98	115	He	1.178	ppb	12.2	1460.13	0.0177	Pulse	0.1000	3
Ag	107	115	He	0.084	ppb	48.0	253.35	0.0031	Pulse	0.1000	3
Cd	111	115	He	0.083	ppb	25.9	29.33	0.0004	Pulse	0.5000	3
Sn	120	115	He	0.585	ppb	5.1	1746.83	0.0212	Pulse	0.1000	3
Sb	121	72	He	1.828	ppb	3.7	2030.22	0.0111	Pulse	0.1000	3
Ba	137	115	He	0.137	ppb	63.6	70.00	0.0008	Pulse	0.1000	3
Tl	205	209	He	2.183	ppb	19.0	8226.25	0.0641	Pulse	0.1000	3
Pb	208	209	He	0.085	ppb	21.9	980.05	0.0076	Pulse	0.1000	3
U	238	209	He	0.006	ppb	38.1	40.00	0.0003	Pulse	0.1000	3

Quantitation Report

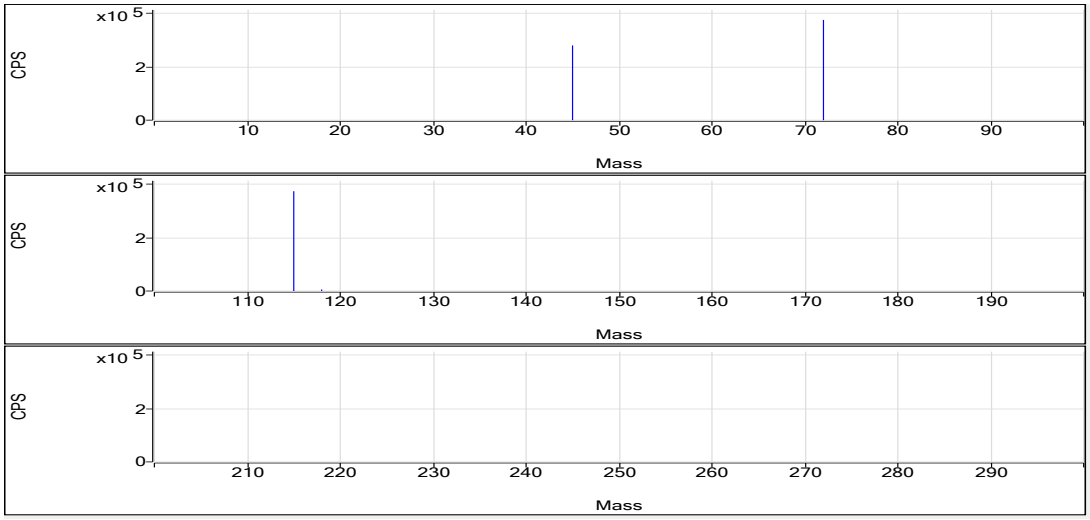
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1537589.51	1.0	102.8	Analog	0.1000	3
No Gas	Ge	72	1127643.63	0.4	101.3	Pulse	0.1000	3
H2	Sc	45	280276.23	1.1	94.6	Pulse	0.1000	3
H2	Ge	72	375838.18	1.1	96.4	Pulse	0.1000	3
H2	In	115	374294.49	1.4	99.7	Pulse	0.1000	3
He	Sc	45	63130.07	1.5	95.7	Pulse	0.1000	3
He	Ge	72	182484.18	0.7	97.2	Pulse	0.1000	3
He	In	115	82546.77	0.6	99.7	Pulse	0.1000	3
He	Tb	159	211430.44	0.9	100.5	Pulse	0.1000	3
He	Bi	209	128582.80	1.0	100.2	Pulse	0.1000	3

No Gas

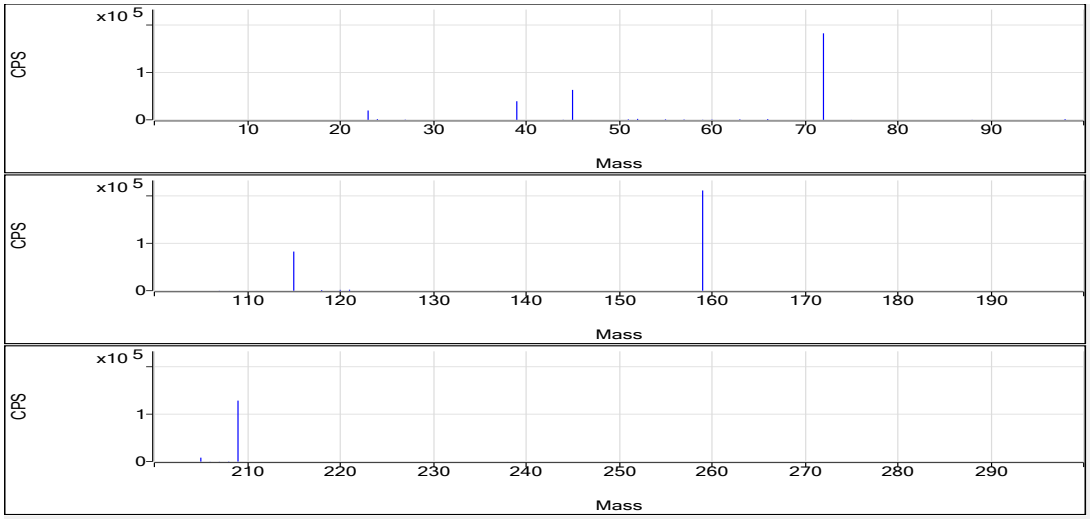


H2



Quantitation Report

He



Quantitation Report

Data File Name	016SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 10:02:12 AM
Sample Name	rinse 360854
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

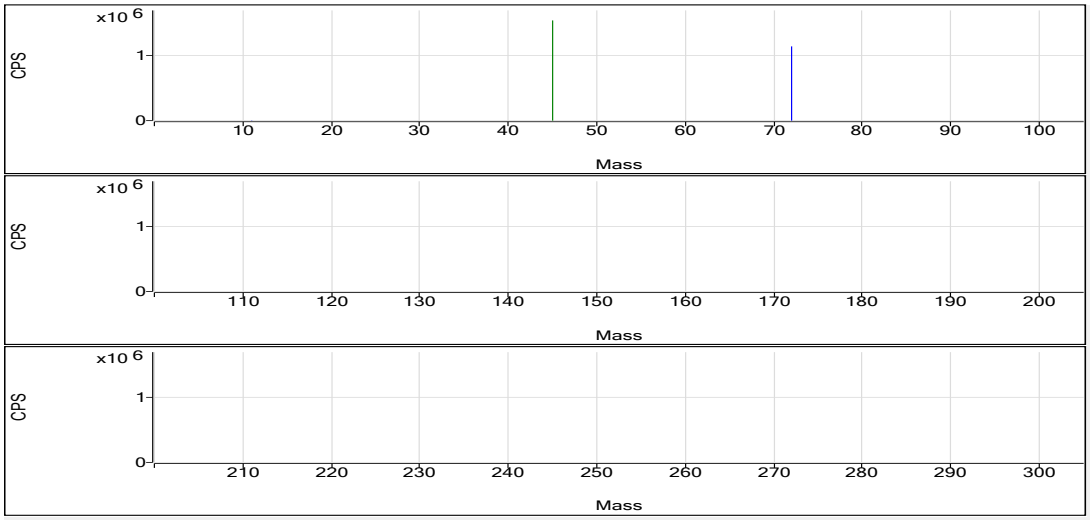
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.103	ppb	18.5	127.33	0.0001	Pulse	0.5000	3
B	11	45	No Gas	2.953	ppb	7.0	4376.66	0.0029	Pulse	0.5000	3
Se	78	115	H2	0.039	ppb	85.8	5.33	0.0000	Pulse	1.5000	3
Na	23	45	He	29.711	ppb	6.7	17500.72	0.2737	Pulse	0.1000	3
Mg	24	45	He	9.801	ppb	0.7	1020.07	0.0160	Pulse	0.1000	3
Al	27	45	He	3.378	ppb	44.2	280.01	0.0044	Pulse	0.1000	3
K	39	45	He	5.088	ppb	596.3	37578.70	0.5881	Pulse	0.1000	3
Ca	44	45	He	15.328	ppb	43.1	283.35	0.0044	Pulse	0.1000	3
Ti	47	45	He	0.518	ppb	124.0	16.67	0.0003	Pulse	0.1000	3
V	51	45	He	0.018	ppb	127.3	1060.08	0.0166	Pulse	0.1000	3
Cr	52	45	He	0.334	ppb	34.3	1880.19	0.0294	Pulse	0.1000	3
Mn	55	45	He	-0.127	ppb	N/A	1096.74	0.0171	Pulse	0.1000	3
Fe	57	45	He	11.963	ppb	17.0	490.03	0.0077	Pulse	0.1000	3
Co	59	115	He	0.031	ppb	63.0	193.34	0.0024	Pulse	0.1000	3
Ni	60	115	He	0.291	ppb	77.1	776.72	0.0095	Pulse	0.1000	3
Cu	63	115	He	-0.080	ppb	N/A	950.06	0.0116	Pulse	0.1000	3
Zn	66	115	He	-1.433	ppb	N/A	1370.12	0.0167	Pulse	0.1000	3
As	75	115	He	0.026	ppb	222.3	104.67	0.0013	Pulse	0.5000	3
Sr	88	115	He	0.017	ppb	118.5	93.33	0.0011	Pulse	0.1000	3
Mo	98	115	He	0.371	ppb	13.4	456.69	0.0056	Pulse	0.1000	3
Ag	107	115	He	0.019	ppb	54.4	103.34	0.0013	Pulse	0.1000	3
Cd	111	115	He	0.020	ppb	17.9	8.67	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.472	ppb	5.1	1606.82	0.0196	Pulse	0.1000	3
Sb	121	72	He	0.365	ppb	37.6	430.02	0.0024	Pulse	0.1000	3
Ba	137	115	He	0.081	ppb	90.1	46.67	0.0006	Pulse	0.1000	3
Tl	205	209	He	0.612	ppb	6.7	2390.31	0.0185	Pulse	0.1000	3
Pb	208	209	He	0.020	ppb	17.7	646.70	0.0050	Pulse	0.1000	3
U	238	209	He	0.004	ppb	28.0	33.33	0.0003	Pulse	0.1000	3

Quantitation Report

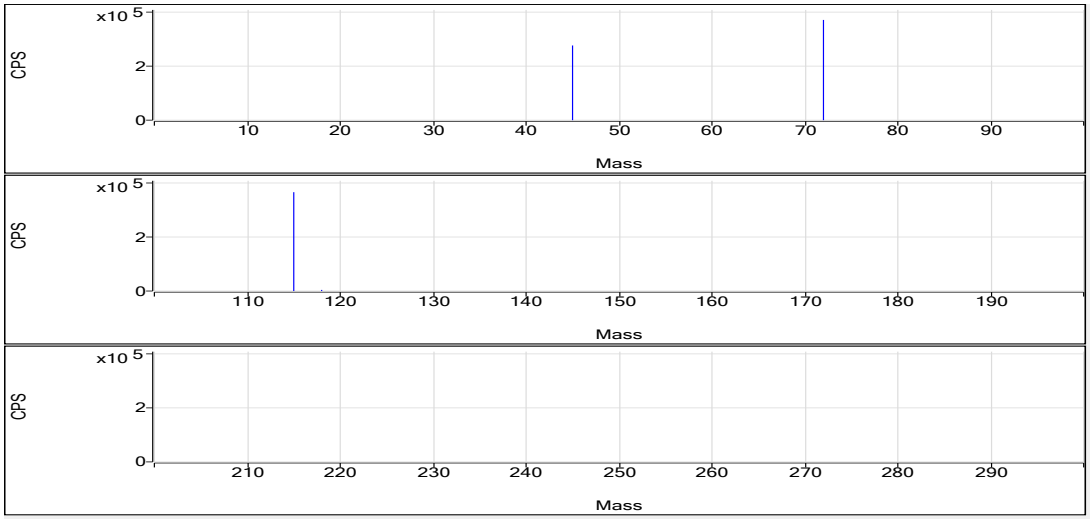
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1531541.17	0.5	102.4	Analog	0.1000	3
No Gas	Ge	72	1134615.24	0.5	102.0	Pulse	0.1000	3
H2	Sc	45	275369.61	1.2	92.9	Pulse	0.1000	3
H2	Ge	72	369503.05	0.9	94.8	Pulse	0.1000	3
H2	In	115	364400.80	0.2	97.0	Pulse	0.1000	3
He	Sc	45	63943.33	1.8	96.9	Pulse	0.1000	3
He	Ge	72	183528.31	1.4	97.7	Pulse	0.1000	3
He	In	115	82053.12	1.2	99.1	Pulse	0.1000	3
He	Tb	159	211212.95	1.0	100.4	Pulse	0.1000	3
He	Bi	209	129073.78	0.7	100.6	Pulse	0.1000	3

No Gas

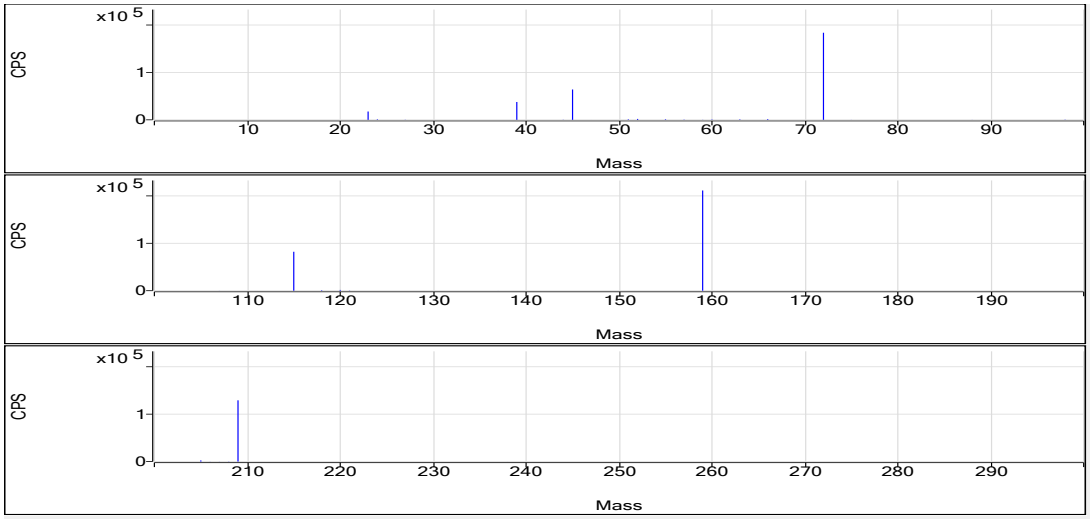


H2



Quantitation Report

He



Quantitation Report

Data File Name	017_CCV.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 10:04:05 AM
Sample Name	ccv 361008
Sample Type	CCV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

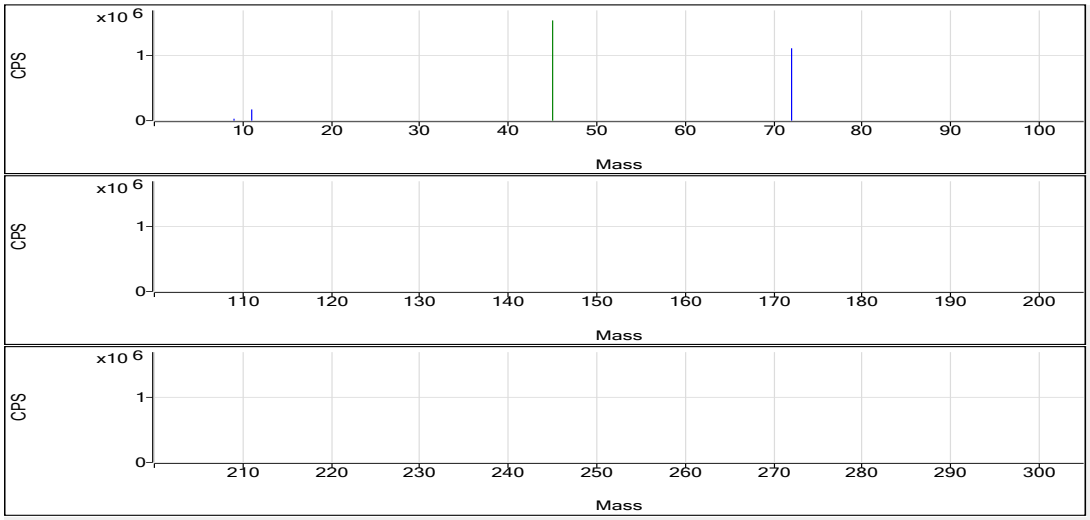
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	29.316	ppb	2.0	29470.69	0.0192	Pulse	0.5000	3
B	11	45	No Gas	295.053	ppb	1.9	171859.06	0.1118	Pulse	0.5000	3
Se	78	115	H2	29.679	ppb	1.2	2610.91	0.0070	Pulse	1.5000	3
Na	23	45	He	4721.534	ppb	0.5	838414.03	12.9988	Pulse	0.1000	3
Mg	24	45	He	5035.166	ppb	0.6	420201.66	6.5148	Pulse	0.1000	3
Al	27	45	He	5003.606	ppb	0.2	164296.66	2.5473	Pulse	0.1000	3
K	39	45	He	5107.867	ppb	1.2	529982.69	8.2170	Pulse	0.1000	3
Ca	44	45	He	5010.278	ppb	1.4	24404.20	0.3784	Pulse	0.1000	3
Ti	47	45	He	297.615	ppb	2.5	9510.05	0.1474	Pulse	0.1000	3
V	51	45	He	302.586	ppb	0.2	322955.58	5.0071	Pulse	0.1000	3
Cr	52	45	He	292.082	ppb	0.7	384226.78	5.9570	Pulse	0.1000	3
Mn	55	45	He	304.635	ppb	1.2	217748.82	3.3760	Pulse	0.1000	3
Fe	57	45	He	5167.826	ppb	0.4	132173.06	2.0492	Pulse	0.1000	3
Co	59	115	He	285.701	ppb	0.6	612518.85	7.5506	Pulse	0.1000	3
Ni	60	115	He	307.454	ppb	0.3	160758.81	1.9817	Pulse	0.1000	3
Cu	63	115	He	305.221	ppb	0.6	431551.24	5.3197	Pulse	0.1000	3
Zn	66	115	He	306.263	ppb	2.2	69155.89	0.8525	Pulse	0.1000	3
As	75	115	He	305.122	ppb	0.8	56194.92	0.6927	Pulse	0.5000	3
Sr	88	115	He	30.943	ppb	3.8	32387.66	0.3993	Pulse	0.1000	3
Mo	98	115	He	31.130	ppb	0.6	37908.11	0.4673	Pulse	0.1000	3
Ag	107	115	He	31.288	ppb	2.6	70758.61	0.8723	Pulse	0.1000	3
Cd	111	115	He	30.171	ppb	1.1	9827.49	0.1211	Pulse	0.5000	3
Sn	120	115	He	31.202	ppb	1.6	36452.00	0.4494	Pulse	0.1000	3
Sb	121	72	He	31.187	ppb	1.8	33380.72	0.1873	Pulse	0.1000	3
Ba	137	115	He	306.652	ppb	0.7	124477.43	1.5345	Pulse	0.1000	3
Tl	205	209	He	30.794	ppb	1.9	114449.77	0.8934	Pulse	0.1000	3
Pb	208	209	He	30.443	ppb	0.6	157021.76	1.2257	Pulse	0.1000	3
U	238	209	He	51.080	ppb	1.1	246641.83	1.9253	Pulse	0.1000	3

Quantitation Report

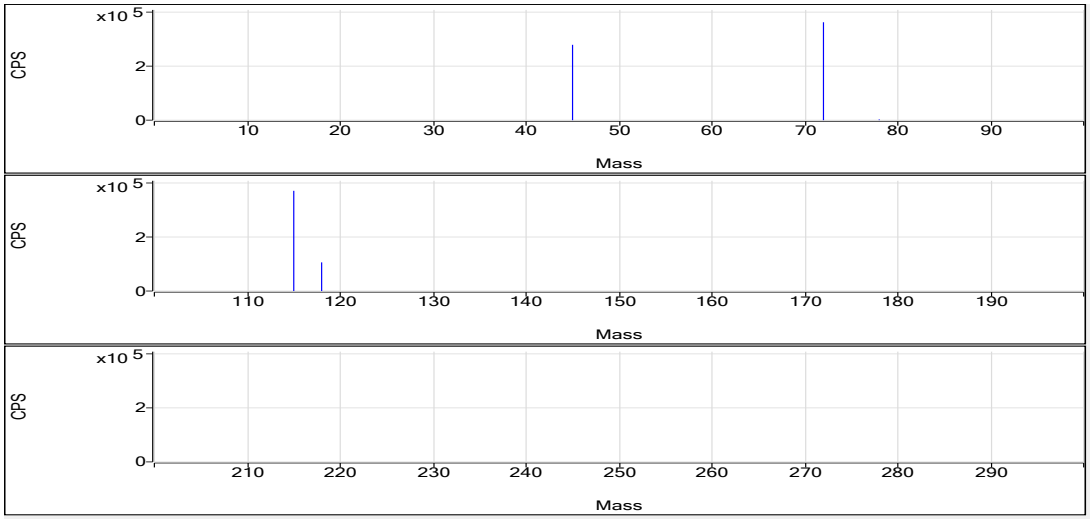
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1537482.43	1.7	102.8	Analog	0.1000	3
No Gas	Ge	72	1110029.36	0.8	99.7	Pulse	0.1000	3
H2	Sc	45	278780.34	2.2	94.1	Pulse	0.1000	3
H2	Ge	72	362224.46	2.4	93.0	Pulse	0.1000	3
H2	In	115	370810.62	2.5	98.8	Pulse	0.1000	3
He	Sc	45	64499.41	0.3	97.7	Pulse	0.1000	3
He	Ge	72	178224.27	0.1	94.9	Pulse	0.1000	3
He	In	115	81122.25	0.3	98.0	Pulse	0.1000	3
He	Tb	159	210873.56	0.4	100.3	Pulse	0.1000	3
He	Bi	209	128107.82	0.5	99.8	Pulse	0.1000	3

No Gas

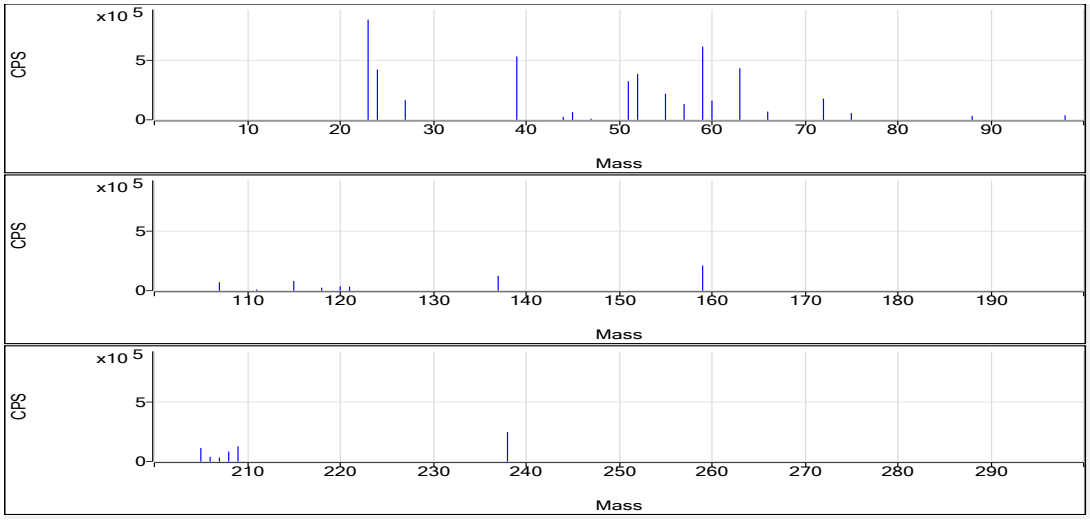


H2



Quantitation Report

He



Quantitation Report

Data File Name	018_CCB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 10:05:58 AM
Sample Name	ccb 360854
Sample Type	CCB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

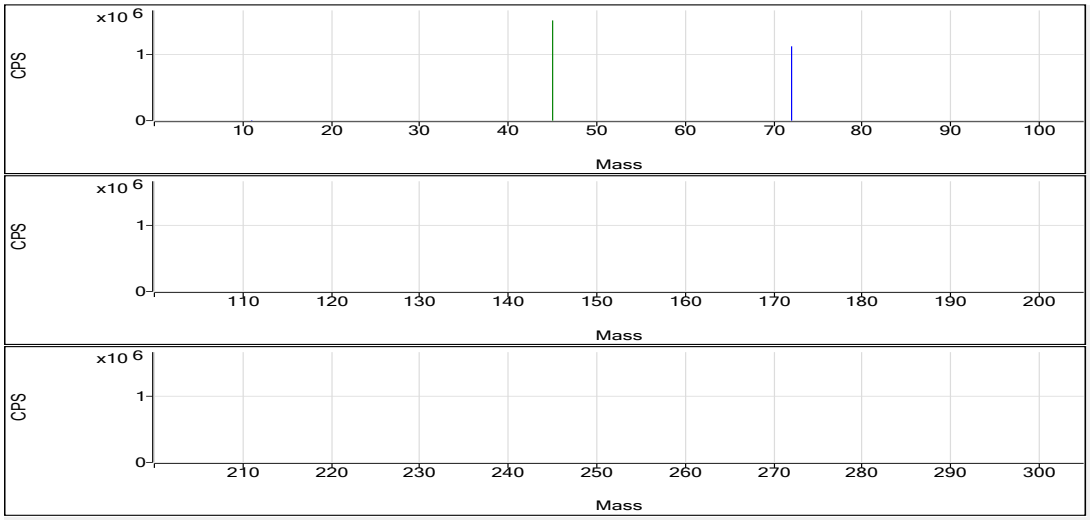
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.069	ppb	20.9	93.33	0.0001	Pulse	0.5000	3
B	11	45	No Gas	8.527	ppb	6.5	7497.91	0.0049	Pulse	0.5000	3
Se	78	115	H2	0.031	ppb	50.9	4.67	0.0000	Pulse	1.5000	3
Na	23	45	He	21.143	ppb	8.9	15928.90	0.2504	Pulse	0.1000	3
Mg	24	45	He	5.084	ppb	4.8	626.70	0.0099	Pulse	0.1000	3
Al	27	45	He	2.074	ppb	53.0	236.68	0.0037	Pulse	0.1000	3
K	39	45	He	4.413	ppb	569.2	37364.85	0.5871	Pulse	0.1000	3
Ca	44	45	He	7.191	ppb	89.0	243.34	0.0038	Pulse	0.1000	3
Ti	47	45	He	0.000	ppb	N/A	0.00	0.0000	Pulse	0.1000	3
V	51	45	He	0.015	ppb	1078.6	1050.08	0.0165	Pulse	0.1000	3
Cr	52	45	He	0.298	ppb	69.4	1820.19	0.0286	Pulse	0.1000	3
Mn	55	45	He	-0.198	ppb	N/A	1040.07	0.0164	Pulse	0.1000	3
Fe	57	45	He	6.353	ppb	10.9	346.68	0.0055	Pulse	0.1000	3
Co	59	115	He	0.063	ppb	18.8	256.68	0.0032	Pulse	0.1000	3
Ni	60	115	He	0.110	ppb	57.3	666.70	0.0083	Pulse	0.1000	3
Cu	63	115	He	0.183	ppb	74.4	1296.78	0.0162	Pulse	0.1000	3
Zn	66	115	He	-1.118	ppb	N/A	1406.78	0.0175	Pulse	0.1000	3
As	75	115	He	0.038	ppb	111.2	104.67	0.0013	Pulse	0.5000	3
Sr	88	115	He	0.002	ppb	978.5	76.67	0.0010	Pulse	0.1000	3
Mo	98	115	He	0.197	ppb	26.2	236.68	0.0030	Pulse	0.1000	3
Ag	107	115	He	-0.004	ppb	N/A	50.00	0.0006	Pulse	0.1000	3
Cd	111	115	He	0.013	ppb	2.1	6.00	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.256	ppb	26.9	1326.78	0.0166	Pulse	0.1000	3
Sb	121	72	He	0.248	ppb	22.3	300.02	0.0016	Pulse	0.1000	3
Ba	137	115	He	0.126	ppb	10.9	63.33	0.0008	Pulse	0.1000	3
Tl	205	209	He	0.372	ppb	12.3	1466.81	0.0116	Pulse	0.1000	3
Pb	208	209	He	-0.012	ppb	N/A	473.36	0.0037	Pulse	0.1000	3
U	238	209	He	0.027	ppb	47.3	140.01	0.0011	Pulse	0.1000	3

Quantitation Report

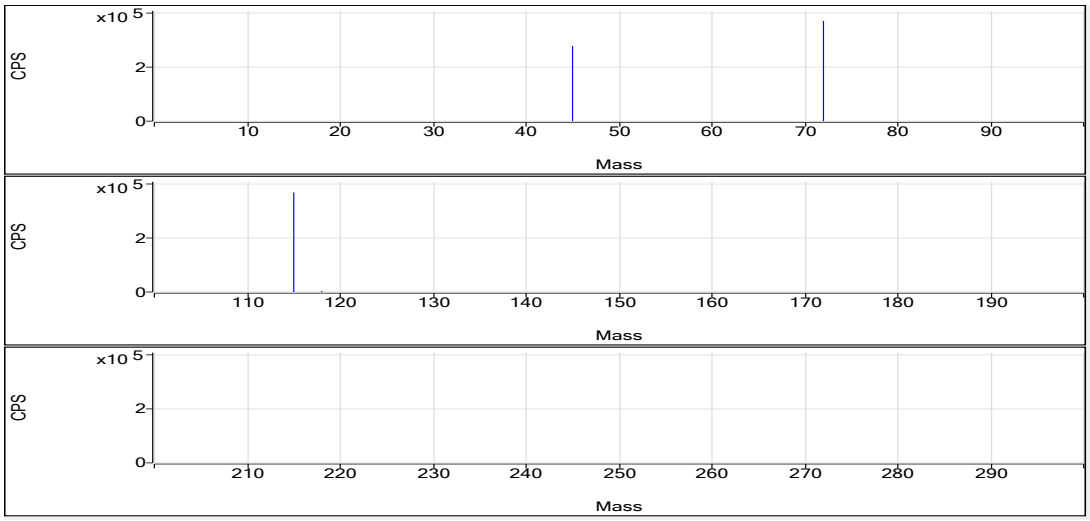
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1518967.53	0.4	101.6	Analog	0.1000	3
No Gas	Ge	72	1126335.87	0.6	101.2	Pulse	0.1000	3
H2	Sc	45	276885.90	1.7	93.5	Pulse	0.1000	3
H2	Ge	72	369547.27	1.1	94.8	Pulse	0.1000	3
H2	In	115	366991.87	1.0	97.7	Pulse	0.1000	3
He	Sc	45	63618.33	1.6	96.4	Pulse	0.1000	3
He	Ge	72	182242.28	0.7	97.0	Pulse	0.1000	3
He	In	115	80146.28	1.4	96.8	Pulse	0.1000	3
He	Tb	159	210077.94	0.5	99.9	Pulse	0.1000	3
He	Bi	209	126852.85	1.0	98.8	Pulse	0.1000	3

No Gas

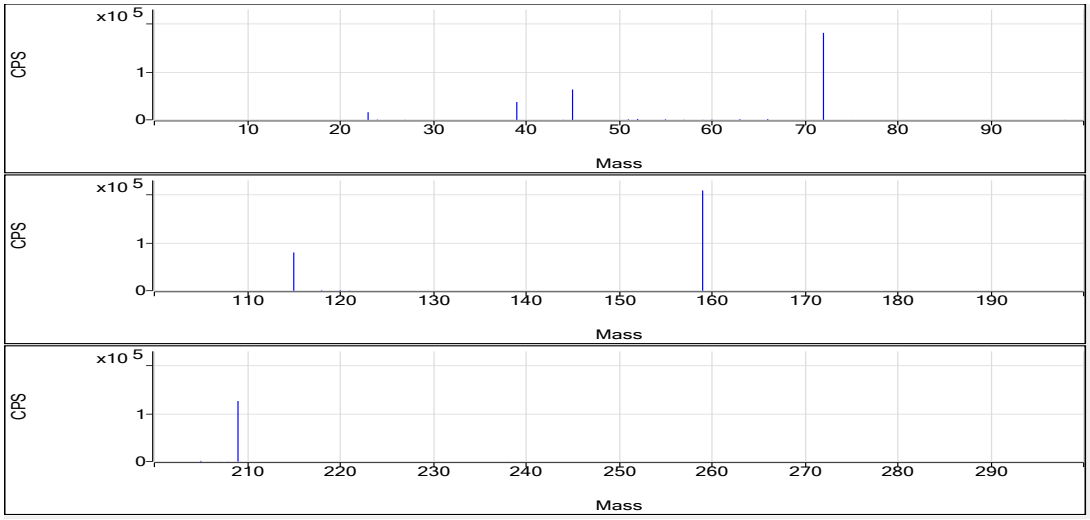


H2



Quantitation Report

He



US EPA Tune Check Report

Operator Name	us19_usr_ins03786
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\~EPATune.b
Acq. Date-Time	8/26/2020 9:10:29 AM
Report Comment	---
Instrument Name	G8403A SG18254097

[No Gas]

Sensitivity

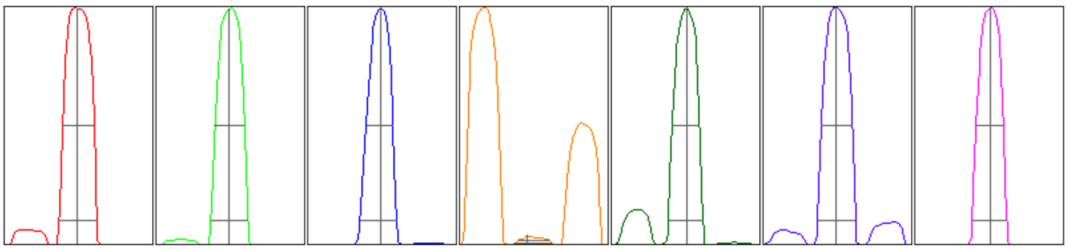
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
7	10.00	2374	23742.35			0.920	5.000
89	10.00	5625	56252.22			0.281	5.000
205	10.00	1333	13327.56			0.305	5.000
69		9	94.40			9.884	
138		135	1352.16			1.222	
70		165	1647.50			1.117	
140		3606	36061.98			0.459	

Mass	RSD% (Flag)
7	
89	
205	
69	
138	
70	
140	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	2398	2376	2391	2345	2361
89	5623	5626	5631	5645	5601
205	1337	1333	1329	1329	1337
69	11	10	9	9	8
138	133	134	136	136	137
70	163	165	166	167	163
140	3617	3591	3626	3587	3610

Integration Time [sec] 0.1

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	3777.26	7.00	6.90 - 7.10	
89	9640.39	89.00	88.90 - 89.10	
205	2511.10	205.00	204.90 - 205.10	
69	17.40	68.90	-	
138	251.63	138.05	-	
70	268.94	70.00	-	
140	6700.05	140.05	-	

Mass	W-50%	W-10%	W-10% (Required)	W-10% (Flag)
7	0.65	0.760	0.800	
89	0.60	0.757	0.800	
205	0.55	0.745	0.800	
69	0.63	0.760		
138	0.56	0.709		
70	0.64	0.771		
140	0.56	0.709		

Integration Time [sec]	0.1
Acquisition Time [sec]	223
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	General Purpose	Nebulizer Gas	1.05 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.10 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	8.9 V	Deflect	10.0 V
Extract 2	-230.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-105 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

QP Parameters

Mass Gain	123	Axis Gain	0.9987	QP Bias	-3.0 V
Mass Offset	124	Axis Offset	0.10		

Hardware Settings

Torch

Torch H	0.2 mm	Torch V	-0.3 mm

EM

Discriminator	4.1 mV	Analog HV	2203 V	Pulse HV	1444 V

Quantitation Report

Data File Name	293_CCV.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 8:46:54 PM
Sample Name	ccv 361008
Sample Type	CCV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

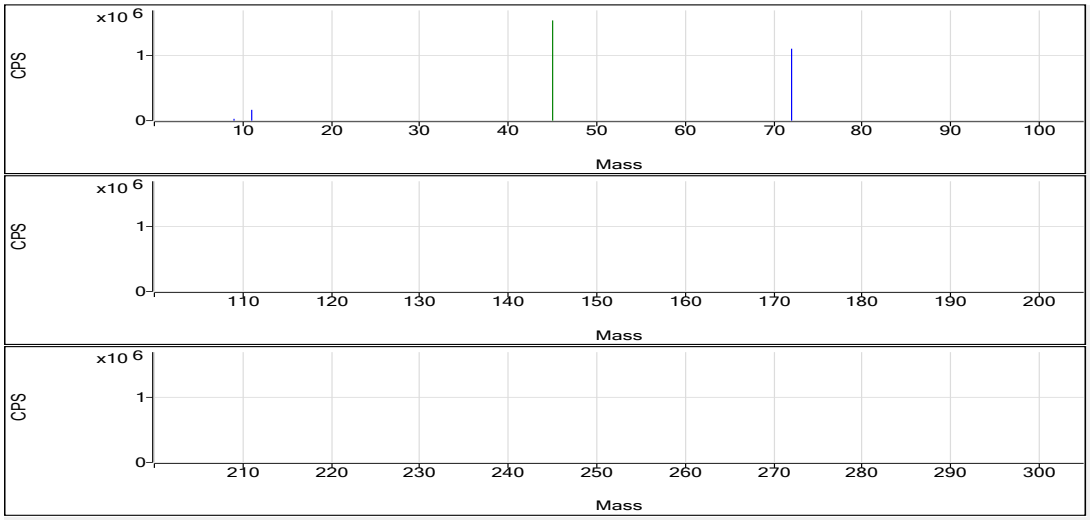
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	27.888	ppb	1.1	27915.11	0.0182	Pulse	0.5000	3
B	11	45	No Gas	284.593	ppb	1.2	165127.08	0.1079	Pulse	0.5000	3
Se	78	115	H2	28.629	ppb	1.2	2590.02	0.0068	Pulse	1.5000	3
Na	23	45	He	4680.200	ppb	2.5	833308.61	12.8866	Pulse	0.1000	3
Mg	24	45	He	4919.495	ppb	1.7	411640.97	6.3652	Pulse	0.1000	3
Al	27	45	He	4839.570	ppb	2.5	159324.14	2.4638	Pulse	0.1000	3
K	39	45	He	4956.758	ppb	1.8	516793.58	7.9910	Pulse	0.1000	3
Ca	44	45	He	4899.071	ppb	2.1	23930.13	0.3700	Pulse	0.1000	3
Ti	47	45	He	309.351	ppb	2.3	9910.34	0.1533	Pulse	0.1000	3
V	51	45	He	301.216	ppb	2.1	322339.71	4.9845	Pulse	0.1000	3
Cr	52	45	He	291.158	ppb	2.0	384016.04	5.9382	Pulse	0.1000	3
Mn	55	45	He	298.472	ppb	1.7	213935.65	3.3081	Pulse	0.1000	3
Fe	57	45	He	5043.962	ppb	1.6	129355.17	2.0002	Pulse	0.1000	3
Co	59	115	He	281.374	ppb	1.4	608917.92	7.4362	Pulse	0.1000	3
Ni	60	115	He	300.568	ppb	2.3	158639.42	1.9375	Pulse	0.1000	3
Cu	63	115	He	300.689	ppb	2.3	429104.00	5.2409	Pulse	0.1000	3
Zn	66	115	He	298.280	ppb	3.4	68017.48	0.8308	Pulse	0.1000	3
As	75	115	He	297.322	ppb	1.6	55276.57	0.6751	Pulse	0.5000	3
Sr	88	115	He	30.420	ppb	3.4	32136.84	0.3925	Pulse	0.1000	3
Mo	98	115	He	30.545	ppb	1.0	37550.69	0.4585	Pulse	0.1000	3
Ag	107	115	He	30.844	ppb	2.8	70403.45	0.8599	Pulse	0.1000	3
Cd	111	115	He	29.760	ppb	2.6	9783.44	0.1195	Pulse	0.5000	3
Sn	120	115	He	29.567	ppb	3.5	34914.42	0.4265	Pulse	0.1000	3
Sb	121	72	He	31.285	ppb	2.7	33313.93	0.1879	Pulse	0.1000	3
Ba	137	115	He	302.842	ppb	1.7	124084.66	1.5154	Pulse	0.1000	3
Tl	205	209	He	30.112	ppb	1.0	113605.36	0.8736	Pulse	0.1000	3
Pb	208	209	He	30.173	ppb	1.5	157967.03	1.2149	Pulse	0.1000	3
U	238	209	He	50.325	ppb	1.2	246643.46	1.8969	Pulse	0.1000	3

Quantitation Report

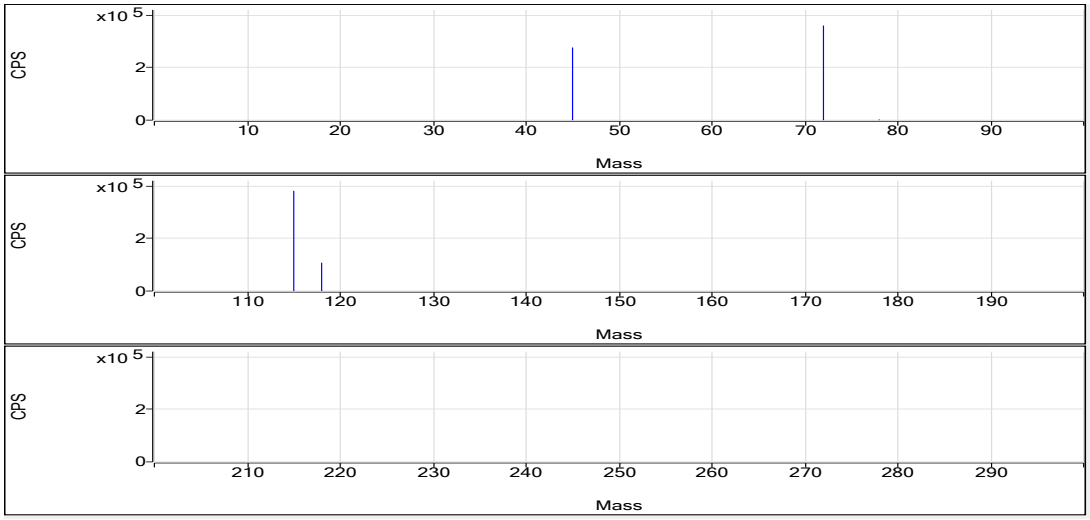
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1530514.40	0.4	102.4	Analog	0.1000	3
No Gas	Ge	72	1098514.18	0.2	98.7	Pulse	0.1000	3
H2	Sc	45	276599.73	1.2	93.4	Pulse	0.1000	3
H2	Ge	72	360113.39	1.2	92.4	Pulse	0.1000	3
H2	In	115	381412.91	1.5	101.6	Pulse	0.1000	3
He	Sc	45	64683.60	1.8	98.0	Pulse	0.1000	3
He	Ge	72	177327.27	0.6	94.4	Pulse	0.1000	3
He	In	115	81899.31	1.9	99.0	Pulse	0.1000	3
He	Tb	159	211088.88	0.3	100.4	Pulse	0.1000	3
He	Bi	209	130036.98	1.0	101.3	Pulse	0.1000	3

No Gas

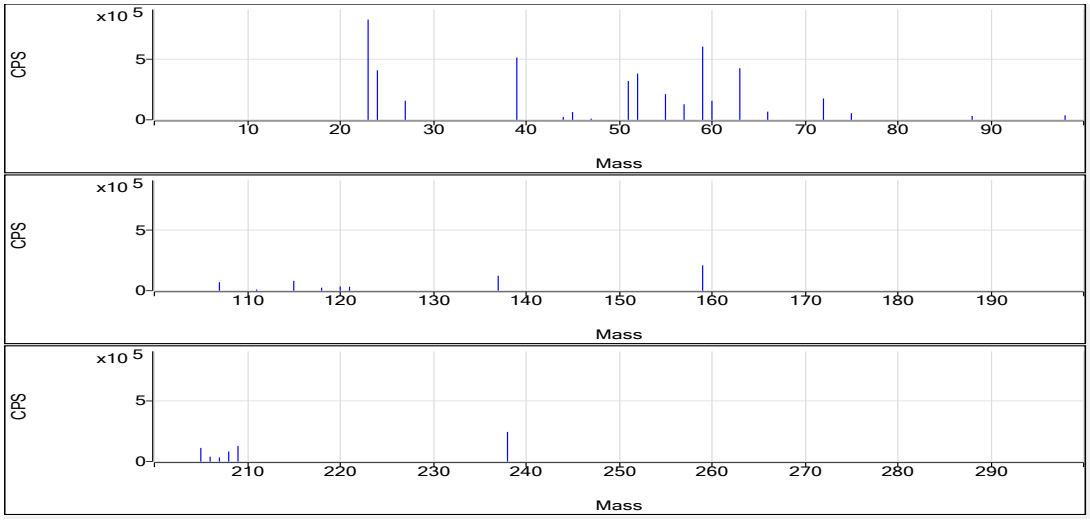


H2



Quantitation Report

He



Quantitation Report

Data File Name	294_CCB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 8:48:47 PM
Sample Name	ccb 360854
Sample Type	CCB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

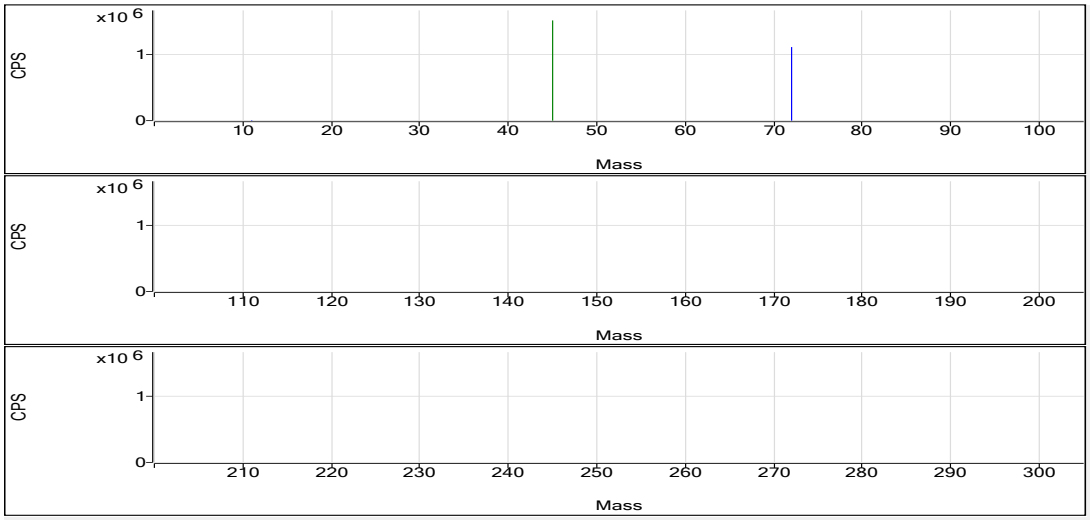
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.011	ppb	153.4	35.33	0.0000	Pulse	0.5000	3
B	11	45	No Gas	8.655	ppb	2.8	7543.26	0.0050	Pulse	0.5000	3
Se	78	115	H2	0.032	ppb	25.4	4.89	0.0000	Pulse	1.5000	3
Na	23	45	He	25.417	ppb	2.4	16763.27	0.2620	Pulse	0.1000	3
Mg	24	45	He	4.559	ppb	25.0	586.70	0.0092	Pulse	0.1000	3
Al	27	45	He	2.125	ppb	124.9	240.01	0.0037	Pulse	0.1000	3
K	39	45	He	-3.930	ppb	N/A	36759.93	0.5746	Pulse	0.1000	3
Ca	44	45	He	-1.395	ppb	N/A	203.34	0.0032	Pulse	0.1000	3
Ti	47	45	He	0.104	ppb	173.2	3.33	0.0001	Pulse	0.1000	3
V	51	45	He	0.131	ppb	76.6	1180.08	0.0184	Pulse	0.1000	3
Cr	52	45	He	0.280	ppb	9.6	1810.17	0.0283	Pulse	0.1000	3
Mn	55	45	He	0.639	ppb	18.1	1636.83	0.0256	Pulse	0.1000	3
Fe	57	45	He	1.798	ppb	13.4	233.34	0.0036	Pulse	0.1000	3
Co	59	115	He	0.040	ppb	48.8	210.01	0.0026	Pulse	0.1000	3
Ni	60	115	He	0.164	ppb	143.2	700.05	0.0087	Pulse	0.1000	3
Cu	63	115	He	0.117	ppb	106.1	1216.76	0.0150	Pulse	0.1000	3
Zn	66	115	He	-1.358	ppb	N/A	1366.77	0.0169	Pulse	0.1000	3
As	75	115	He	0.074	ppb	214.1	112.00	0.0014	Pulse	0.5000	3
Sr	88	115	He	0.085	ppb	13.4	163.34	0.0020	Pulse	0.1000	3
Mo	98	115	He	0.088	ppb	11.8	106.67	0.0013	Pulse	0.1000	3
Ag	107	115	He	0.001	ppb	2516.0	60.00	0.0007	Pulse	0.1000	3
Cd	111	115	He	0.008	ppb	153.7	4.67	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.520	ppb	32.0	1637.19	0.0202	Pulse	0.1000	3
Sb	121	72	He	0.099	ppb	13.7	136.67	0.0008	Pulse	0.1000	3
Ba	137	115	He	0.149	ppb	18.2	73.33	0.0009	Pulse	0.1000	3
Tl	205	209	He	0.120	ppb	19.0	553.36	0.0043	Pulse	0.1000	3
Pb	208	209	He	-0.030	ppb	N/A	390.01	0.0030	Pulse	0.1000	3
U	238	209	He	0.029	ppb	67.1	153.34	0.0012	Pulse	0.1000	3

Quantitation Report

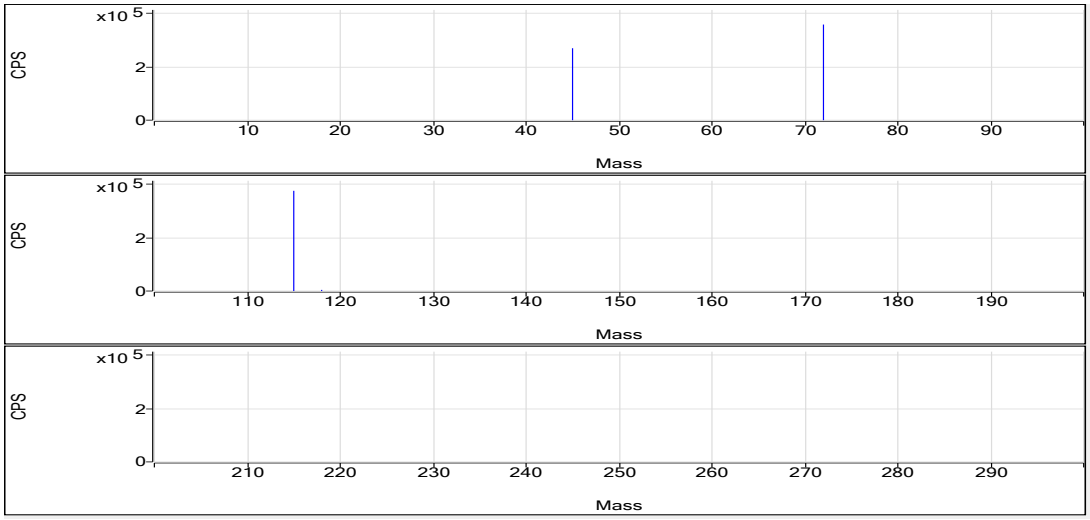
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1513465.24	1.3	101.2	Analog	0.1000	3
No Gas	Ge	72	1111012.09	1.0	99.8	Pulse	0.1000	3
H2	Sc	45	270037.44	0.8	91.1	Pulse	0.1000	3
H2	Ge	72	358950.29	0.6	92.1	Pulse	0.1000	3
H2	In	115	376260.97	1.0	100.2	Pulse	0.1000	3
He	Sc	45	63973.34	0.6	96.9	Pulse	0.1000	3
He	Ge	72	181257.54	0.5	96.5	Pulse	0.1000	3
He	In	115	80913.49	0.9	97.8	Pulse	0.1000	3
He	Tb	159	212494.62	0.7	101.1	Pulse	0.1000	3
He	Bi	209	129771.33	0.6	101.1	Pulse	0.1000	3

No Gas

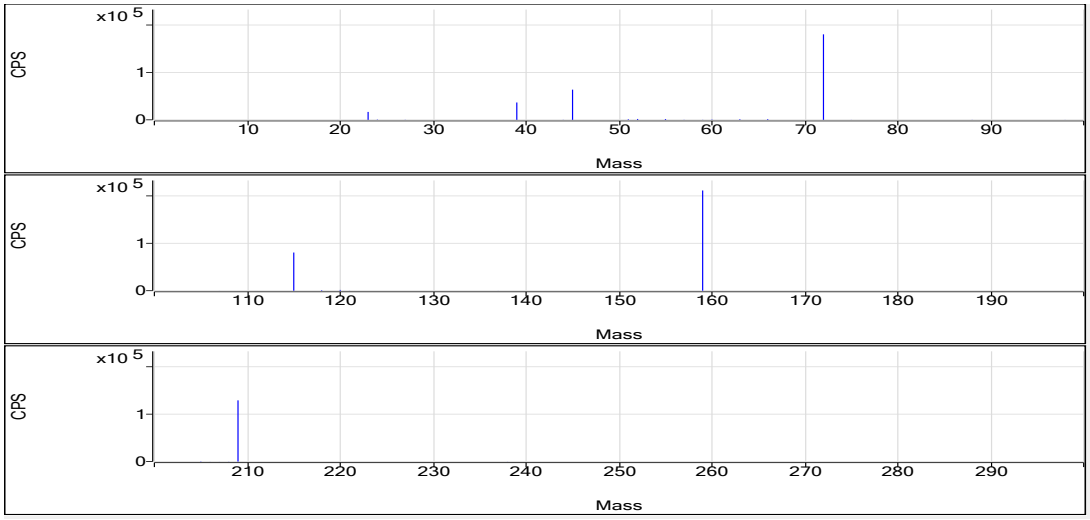


H2



Quantitation Report

He



Quantitation Report

Data File Name	295SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 8:50:39 PM
Sample Name	mb 410-35471/1-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

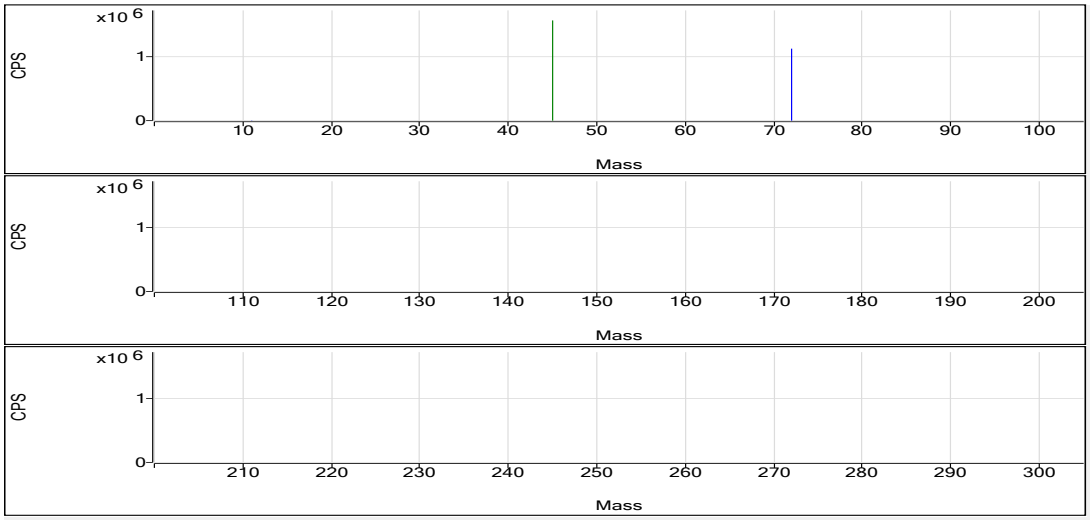
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	-0.010	ppb	N/A	15.33	0.0000	Pulse	0.5000	3
B	11	45	No Gas	2.439	ppb	2.7	4168.59	0.0027	Pulse	0.5000	3
Se	78	115	H2	0.004	ppb	103.9	2.45	0.0000	Pulse	1.5000	3
Na	23	45	He	434.643	ppb	1.7	88998.87	1.3719	Pulse	0.1000	3
Mg	24	45	He	3.942	ppb	23.0	543.36	0.0084	Pulse	0.1000	3
Al	27	45	He	5.067	ppb	31.1	340.02	0.0052	Pulse	0.1000	3
K	39	45	He	161.335	ppb	14.6	53300.39	0.8217	Pulse	0.1000	3
Ca	44	45	He	55.561	ppb	18.3	483.36	0.0074	Pulse	0.1000	3
Ti	47	45	He	0.310	ppb	100.5	10.00	0.0002	Pulse	0.1000	3
V	51	45	He	-0.221	ppb	N/A	820.05	0.0126	Pulse	0.1000	3
Cr	52	45	He	0.299	ppb	36.2	1860.19	0.0287	Pulse	0.1000	3
Mn	55	45	He	1.431	ppb	18.9	2226.91	0.0343	Pulse	0.1000	3
Fe	57	45	He	6.213	ppb	11.4	350.02	0.0054	Pulse	0.1000	3
Co	59	115	He	0.038	ppb	29.0	210.01	0.0025	Pulse	0.1000	3
Ni	60	115	He	0.534	ppb	48.3	916.73	0.0110	Pulse	0.1000	3
Cu	63	115	He	0.449	ppb	17.2	1726.83	0.0208	Pulse	0.1000	3
Zn	66	115	He	5.408	ppb	1.7	2930.40	0.0353	Pulse	0.1000	3
As	75	115	He	-0.159	ppb	N/A	71.33	0.0009	Pulse	0.5000	3
Sr	88	115	He	0.115	ppb	86.0	200.01	0.0024	Pulse	0.1000	3
Mo	98	115	He	0.056	ppb	25.6	70.00	0.0008	Pulse	0.1000	3
Ag	107	115	He	0.022	ppb	35.7	110.01	0.0013	Pulse	0.1000	3
Cd	111	115	He	0.008	ppb	113.3	4.67	0.0001	Pulse	0.5000	3
Sn	120	115	He	-0.065	ppb	N/A	1003.40	0.0121	Pulse	0.1000	3
Sb	121	72	He	0.028	ppb	85.1	60.00	0.0003	Pulse	0.1000	3
Ba	137	115	He	2.645	ppb	6.5	1113.43	0.0134	Pulse	0.1000	3
Tl	205	209	He	0.097	ppb	25.4	473.36	0.0036	Pulse	0.1000	3
Pb	208	209	He	0.148	ppb	14.5	1343.42	0.0102	Pulse	0.1000	3
U	238	209	He	0.010	ppb	14.5	63.33	0.0005	Pulse	0.1000	3

Quantitation Report

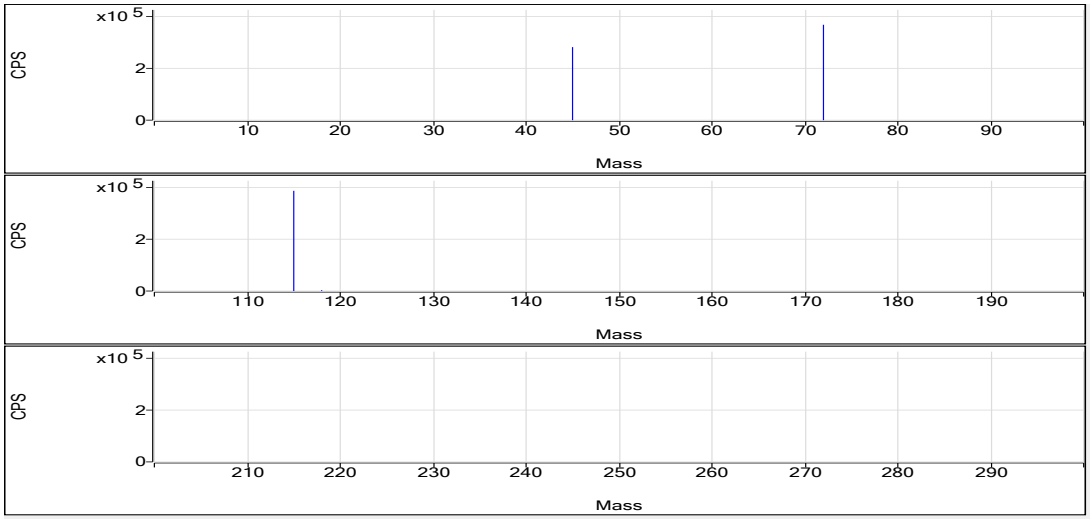
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1563338.15	0.8	104.6	Analog	0.1000	3
No Gas	Ge	72	1122799.88	0.4	100.9	Pulse	0.1000	3
H2	Sc	45	283198.77	0.1	95.6	Pulse	0.1000	3
H2	Ge	72	369929.08	0.7	94.9	Pulse	0.1000	3
H2	In	115	388653.90	0.2	103.5	Pulse	0.1000	3
He	Sc	45	64877.55	1.2	98.3	Pulse	0.1000	3
He	Ge	72	181433.95	0.6	96.6	Pulse	0.1000	3
He	In	115	83070.05	1.1	100.4	Pulse	0.1000	3
He	Tb	159	214126.26	0.5	101.8	Pulse	0.1000	3
He	Bi	209	132356.08	2.2	103.1	Pulse	0.1000	3

No Gas

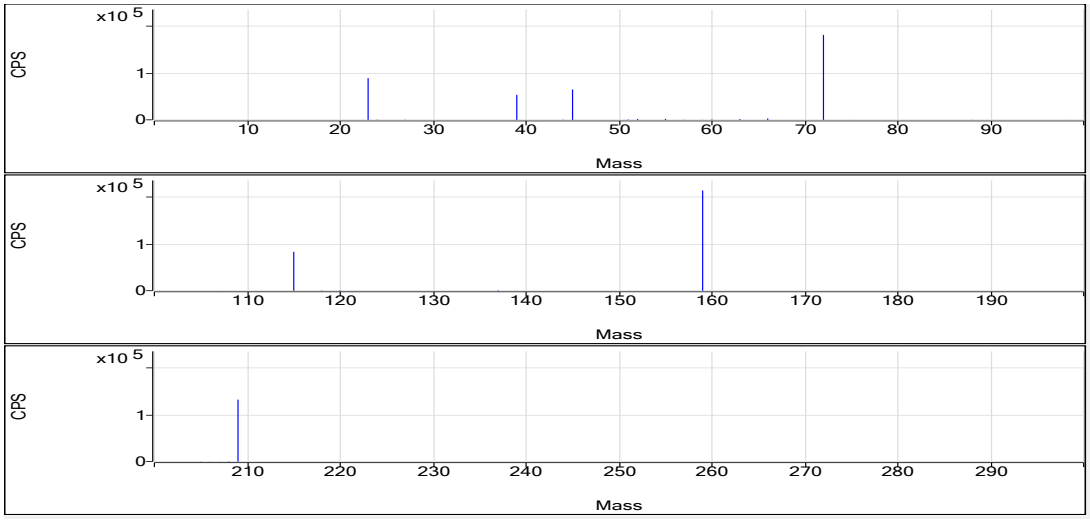


H2



Quantitation Report

He



Quantitation Report

Data File Name	296SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 8:52:32 PM
Sample Name	lcs 410-35471/2-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

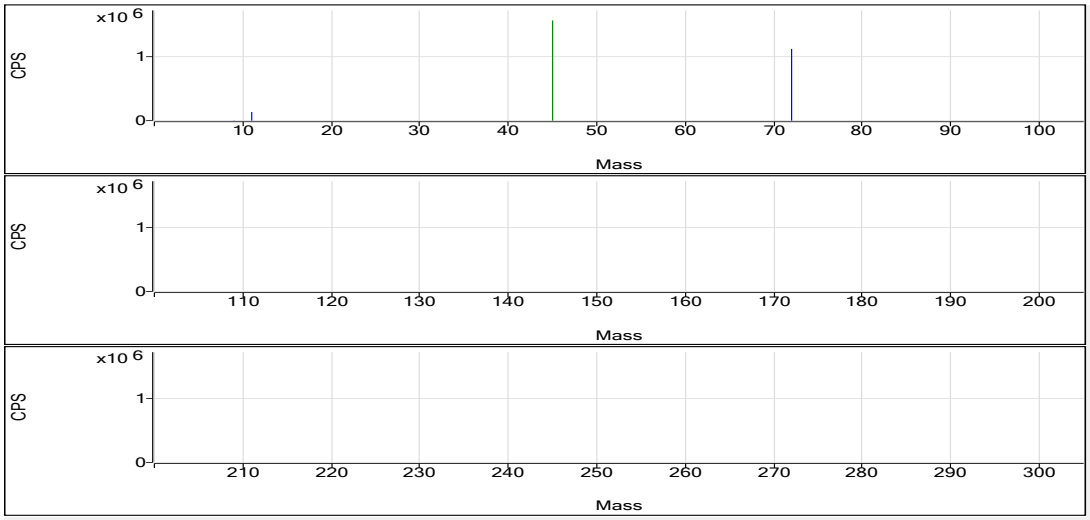
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	3.576	ppb	3.0	3704.48	0.0024	Pulse	0.5000	3
B	11	45	No Gas	225.680	ppb	1.3	135276.29	0.0859	Pulse	0.5000	3
Se	78	115	H2	9.125	ppb	1.6	847.14	0.0022	Pulse	1.5000	3
Na	23	45	He	10257.217	ppb	2.2	1855502.32	28.0125	Analog	0.1000	3
Mg	24	45	He	1984.933	ppb	2.3	170252.35	2.5702	Pulse	0.1000	3
Al	27	45	He	193.824	ppb	4.7	6708.41	0.1012	Pulse	0.1000	3
K	39	45	He	10012.878	ppb	0.5	1030112.64	15.5501	Pulse	0.1000	3
Ca	44	45	He	3964.109	ppb	3.2	19874.01	0.3000	Pulse	0.1000	3
Ti	47	45	He	242.614	ppb	1.3	7962.47	0.1202	Pulse	0.1000	3
V	51	45	He	49.011	ppb	0.8	54629.57	0.8247	Pulse	0.1000	3
Cr	52	45	He	47.119	ppb	2.3	64911.69	0.9799	Pulse	0.1000	3
Mn	55	45	He	50.630	ppb	1.7	38197.49	0.5766	Pulse	0.1000	3
Fe	57	45	He	302.547	ppb	3.4	8129.21	0.1227	Pulse	0.1000	3
Co	59	115	He	229.242	ppb	2.2	511500.42	6.0588	Pulse	0.1000	3
Ni	60	115	He	49.872	ppb	3.3	27673.66	0.3278	Pulse	0.1000	3
Cu	63	115	He	49.961	ppb	2.5	74428.47	0.8816	Pulse	0.1000	3
Zn	66	115	He	490.473	ppb	2.5	114212.45	1.3529	Pulse	0.1000	3
As	75	115	He	9.423	ppb	3.2	1906.81	0.0226	Pulse	0.5000	3
Sr	88	115	He	38.741	ppb	2.6	42183.25	0.4997	Pulse	0.1000	3
Mo	98	115	He	48.419	ppb	1.1	61366.83	0.7268	Pulse	0.1000	3
Ag	107	115	He	48.772	ppb	1.6	114771.71	1.3594	Pulse	0.1000	3
Cd	111	115	He	4.975	ppb	1.9	1688.12	0.0200	Pulse	0.5000	3
Sn	120	115	He	48.116	ppb	3.6	57901.24	0.6859	Pulse	0.1000	3
Sb	121	72	He	5.227	ppb	6.0	5858.10	0.0315	Pulse	0.1000	3
Ba	137	115	He	51.001	ppb	1.8	21557.45	0.2553	Pulse	0.1000	3
Tl	205	209	He	2.055	ppb	1.6	7875.93	0.0604	Pulse	0.1000	3
Pb	208	209	He	5.050	ppb	2.6	26991.56	0.2068	Pulse	0.1000	3
U	238	209	He	0.003	ppb	85.9	26.67	0.0002	Pulse	0.1000	3

Quantitation Report

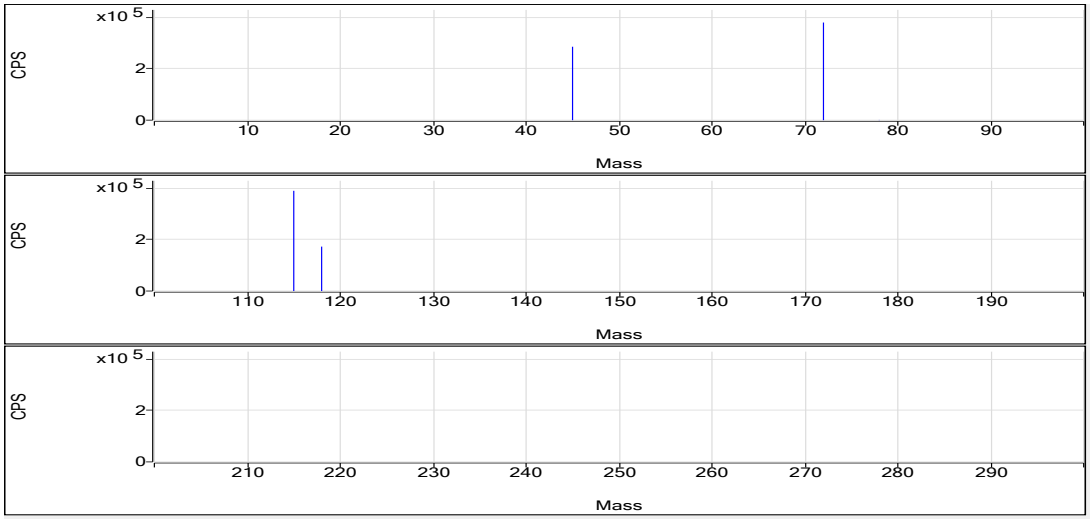
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1574498.42	1.0	105.3	Analog	0.1000	3
No Gas	Ge	72	1127117.33	1.3	101.3	Pulse	0.1000	3
H2	Sc	45	286218.02	2.6	96.6	Pulse	0.1000	3
H2	Ge	72	380572.52	3.1	97.7	Pulse	0.1000	3
H2	In	115	390693.42	2.1	104.0	Pulse	0.1000	3
He	Sc	45	66246.67	0.9	100.4	Pulse	0.1000	3
He	Ge	72	185876.96	1.0	99.0	Pulse	0.1000	3
He	In	115	84441.02	1.5	102.0	Pulse	0.1000	3
He	Tb	159	214665.76	0.6	102.1	Pulse	0.1000	3
He	Bi	209	130517.36	1.2	101.7	Pulse	0.1000	3

No Gas

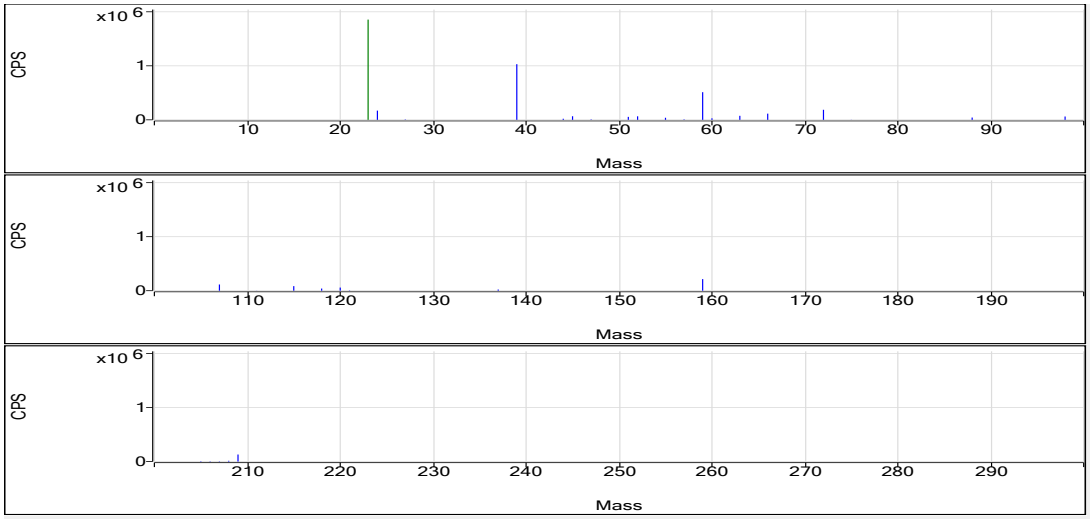


H2



Quantitation Report

He



Quantitation Report

Data File Name	297SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 8:54:24 PM
Sample Name	410-9925-a-1-g
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

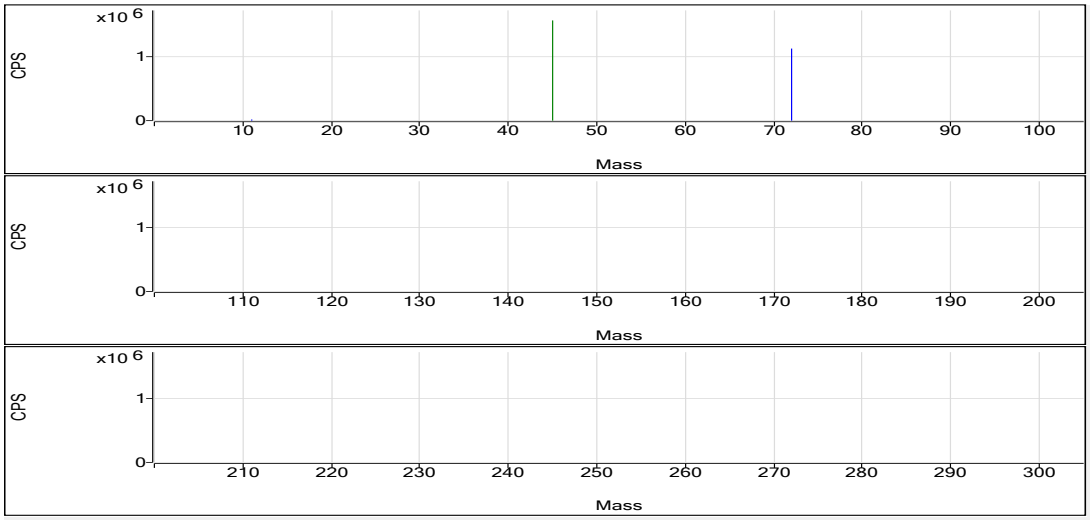
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.102	ppb	10.8	130.00	0.0001	Pulse	0.5000	3
B	11	45	No Gas	26.273	ppb	0.6	18152.30	0.0116	Pulse	0.5000	3
Se	78	115	H2	0.494	ppb	4.2	47.33	0.0001	Pulse	1.5000	3
Na	23	45	He	11981.193	ppb	2.9	2170682.62	32.6883	Analog	0.1000	3
Mg	24	45	He	1297.426	ppb	3.3	111630.53	1.6811	Pulse	0.1000	3
Al	27	45	He	3543.289	ppb	2.0	119851.27	1.8046	Pulse	0.1000	3
K	39	45	He	900.105	ppb	2.9	127966.57	1.9262	Pulse	0.1000	3
Ca	44	45	He	7113.783	ppb	2.9	35583.70	0.5358	Pulse	0.1000	3
Ti	47	45	He	54.795	ppb	8.1	1803.51	0.0271	Pulse	0.1000	3
V	51	45	He	8.774	ppb	1.1	10694.26	0.1610	Pulse	0.1000	3
Cr	52	45	He	3.055	ppb	7.7	5621.30	0.0847	Pulse	0.1000	3
Mn	55	45	He	20.618	ppb	1.6	16326.36	0.2458	Pulse	0.1000	3
Fe	57	45	He	2100.456	ppb	1.8	55433.19	0.8346	Pulse	0.1000	3
Co	59	115	He	0.706	ppb	11.0	1650.16	0.0202	Pulse	0.1000	3
Ni	60	115	He	2.235	ppb	5.9	1796.84	0.0220	Pulse	0.1000	3
Cu	63	115	He	4.115	ppb	7.9	6918.57	0.0845	Pulse	0.1000	3
Zn	66	115	He	9.668	ppb	9.4	3833.98	0.0468	Pulse	0.1000	3
As	75	115	He	0.537	ppb	8.9	199.33	0.0024	Pulse	0.5000	3
Sr	88	115	He	21.928	ppb	3.1	23182.78	0.2832	Pulse	0.1000	3
Mo	98	115	He	1.924	ppb	3.9	2363.60	0.0289	Pulse	0.1000	3
Ag	107	115	He	0.003	ppb	478.6	66.67	0.0008	Pulse	0.1000	3
Cd	111	115	He	-0.002	ppb	N/A	1.33	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.258	ppb	24.5	1356.78	0.0166	Pulse	0.1000	3
Sb	121	72	He	0.239	ppb	24.9	293.35	0.0016	Pulse	0.1000	3
Ba	137	115	He	34.472	ppb	2.8	14131.00	0.1726	Pulse	0.1000	3
Tl	205	209	He	0.043	ppb	38.3	263.35	0.0020	Pulse	0.1000	3
Pb	208	209	He	1.822	ppb	3.9	10108.60	0.0773	Pulse	0.1000	3
U	238	209	He	0.309	ppb	5.1	1536.82	0.0117	Pulse	0.1000	3

Quantitation Report

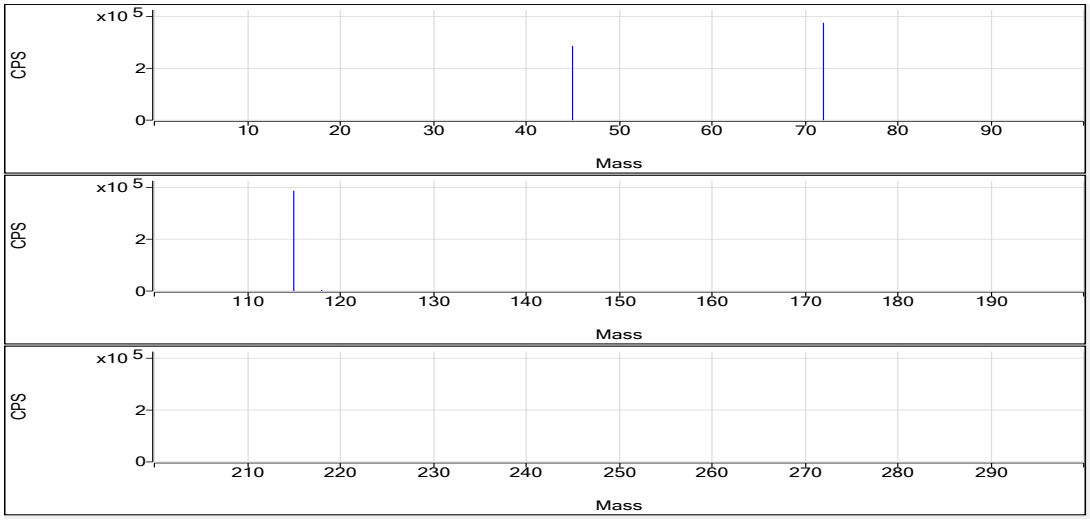
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1570951.33	0.6	105.1	Analog	0.1000	3
No Gas	Ge	72	1129643.14	0.9	101.5	Pulse	0.1000	3
H2	Sc	45	286245.45	0.6	96.6	Pulse	0.1000	3
H2	Ge	72	375144.25	0.4	96.3	Pulse	0.1000	3
H2	In	115	386504.86	0.5	102.9	Pulse	0.1000	3
He	Sc	45	66431.03	2.0	100.7	Pulse	0.1000	3
He	Ge	72	183821.00	0.7	97.9	Pulse	0.1000	3
He	In	115	81869.63	1.2	98.9	Pulse	0.1000	3
He	Tb	159	214404.67	0.3	102.0	Pulse	0.1000	3
He	Bi	209	130780.79	0.8	101.9	Pulse	0.1000	3

No Gas

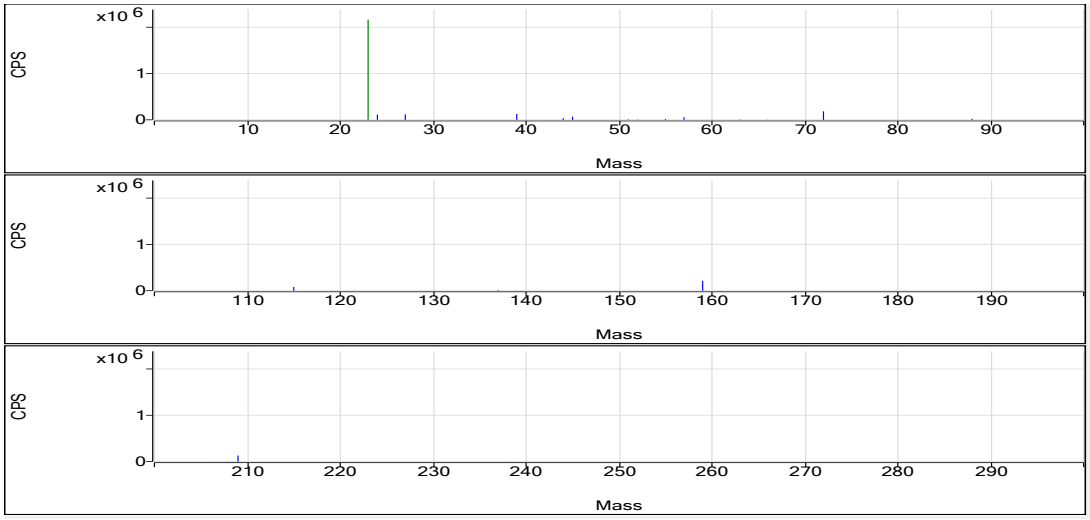


H2



Quantitation Report

He



Quantitation Report

Data File Name	298SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 8:56:17 PM
Sample Name	410-9925-a-1-g PDS
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

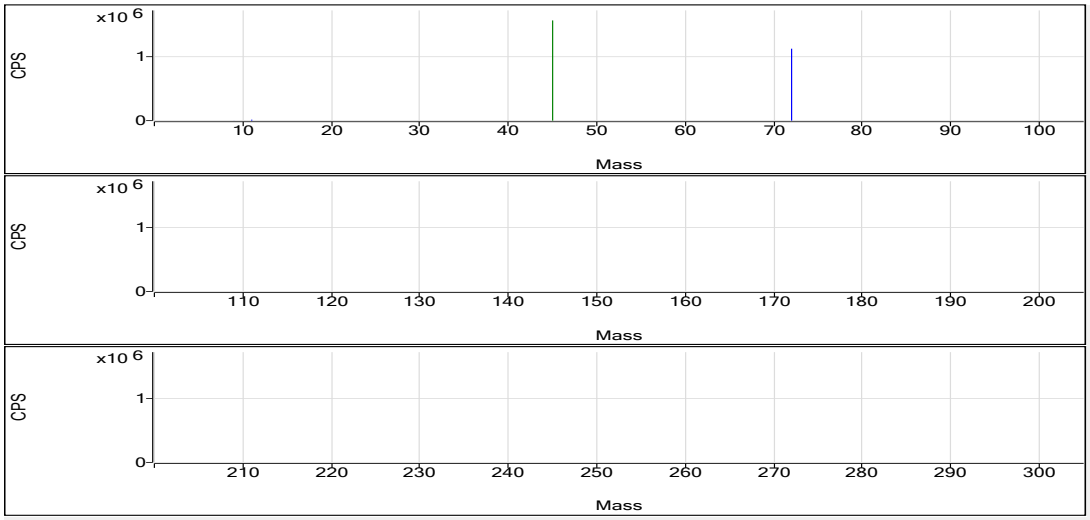
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.923	ppb	2.5	974.04	0.0006	Pulse	0.5000	3
B	11	45	No Gas	21.086	ppb	2.3	15136.31	0.0096	Pulse	0.5000	3
Se	78	115	H2	2.207	ppb	3.2	208.01	0.0005	Pulse	1.5000	3
Na	23	45	He	12173.563	ppb	2.2	2222584.97	33.2100	Analog	0.1000	3
Mg	24	45	He	1355.060	ppb	3.6	117492.38	1.7556	Pulse	0.1000	3
Al	27	45	He	3734.788	ppb	3.6	127286.53	1.9020	Pulse	0.1000	3
K	39	45	He	1275.678	ppb	1.6	166498.38	2.4877	Pulse	0.1000	3
Ca	44	45	He	6992.487	ppb	2.3	35253.14	0.5268	Pulse	0.1000	3
Ti	47	45	He	83.050	ppb	10.2	2753.71	0.0411	Pulse	0.1000	3
V	51	45	He	9.493	ppb	5.5	11568.32	0.1729	Pulse	0.1000	3
Cr	52	45	He	4.645	ppb	3.8	7829.03	0.1170	Pulse	0.1000	3
Mn	55	45	He	24.114	ppb	2.0	19029.64	0.2843	Pulse	0.1000	3
Fe	57	45	He	2170.543	ppb	3.0	57715.35	0.8624	Pulse	0.1000	3
Co	59	115	He	1.552	ppb	10.9	3517.22	0.0425	Pulse	0.1000	3
Ni	60	115	He	4.266	ppb	5.0	2893.72	0.0350	Pulse	0.1000	3
Cu	63	115	He	6.056	ppb	5.3	9780.34	0.1183	Pulse	0.1000	3
Zn	66	115	He	30.661	ppb	3.4	8589.48	0.1039	Pulse	0.1000	3
As	75	115	He	4.220	ppb	3.4	892.03	0.0108	Pulse	0.5000	3
Sr	88	115	He	22.373	ppb	2.2	23894.09	0.2889	Pulse	0.1000	3
Mo	98	115	He	2.651	ppb	4.0	3290.49	0.0398	Pulse	0.1000	3
Ag	107	115	He	0.925	ppb	4.9	2190.25	0.0265	Pulse	0.1000	3
Cd	111	115	He	0.978	ppb	7.6	326.68	0.0039	Pulse	0.5000	3
Sn	120	115	He	3.950	ppb	7.1	5641.34	0.0682	Pulse	0.1000	3
Sb	121	72	He	2.023	ppb	7.6	2283.60	0.0123	Pulse	0.1000	3
Ba	137	115	He	36.492	ppb	5.2	15108.72	0.1827	Pulse	0.1000	3
Tl	205	209	He	1.009	ppb	3.6	3920.72	0.0300	Pulse	0.1000	3
Pb	208	209	He	2.802	ppb	0.5	15230.66	0.1166	Pulse	0.1000	3
U	238	209	He	2.078	ppb	0.8	10241.06	0.0784	Pulse	0.1000	3

Quantitation Report

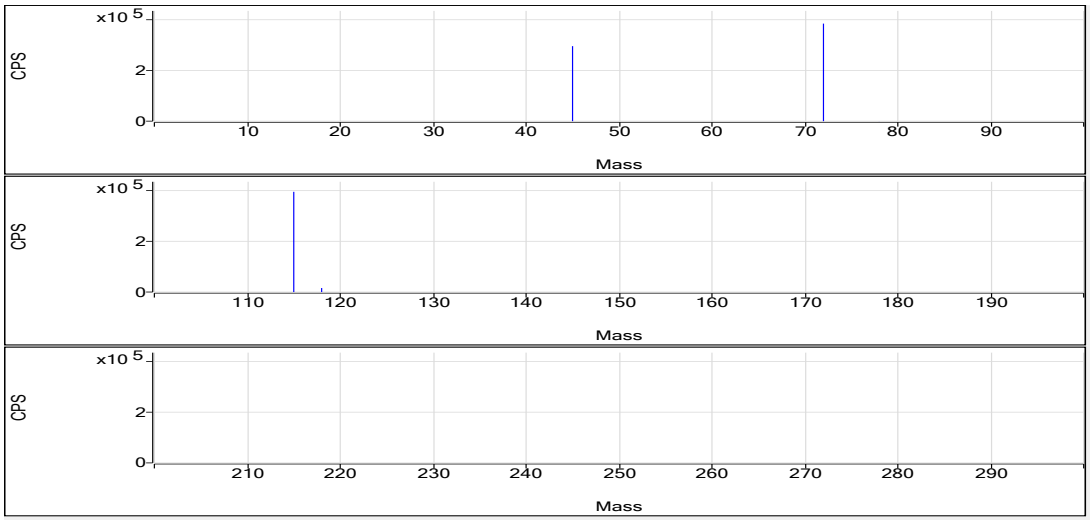
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1573168.46	0.8	105.2	Analog	0.1000	3
No Gas	Ge	72	1129241.70	0.7	101.5	Pulse	0.1000	3
H2	Sc	45	294633.64	1.0	99.4	Pulse	0.1000	3
H2	Ge	72	383146.58	1.8	98.3	Pulse	0.1000	3
H2	In	115	393669.74	0.5	104.8	Pulse	0.1000	3
He	Sc	45	66930.01	0.5	101.4	Pulse	0.1000	3
He	Ge	72	185640.61	2.0	98.8	Pulse	0.1000	3
He	In	115	82707.43	1.1	99.9	Pulse	0.1000	3
He	Tb	159	215504.69	0.9	102.5	Pulse	0.1000	3
He	Bi	209	130567.76	1.6	101.7	Pulse	0.1000	3

No Gas

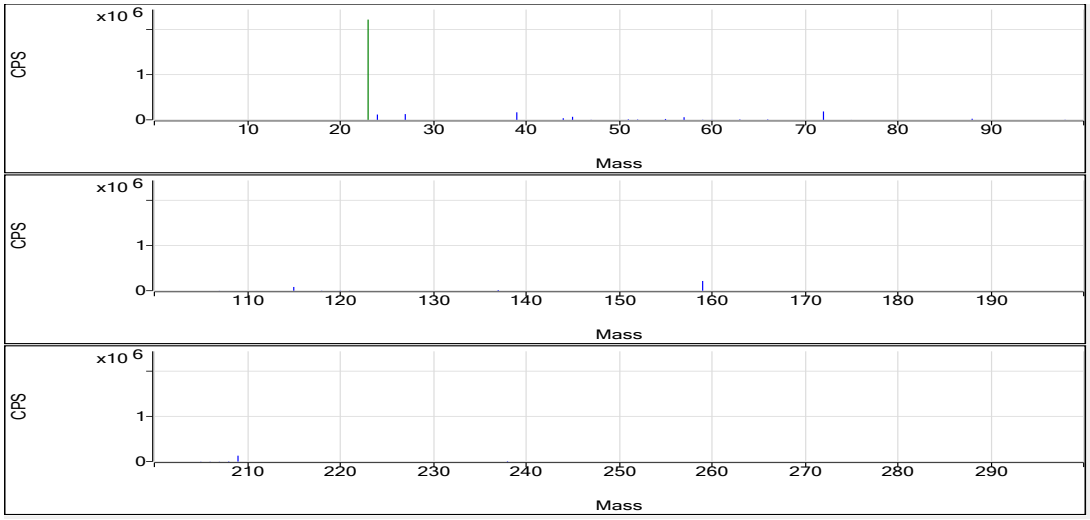


H2



Quantitation Report

He



Quantitation Report

Data File Name	299SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 8:58:10 PM
Sample Name	410-9925-a-1-h du
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

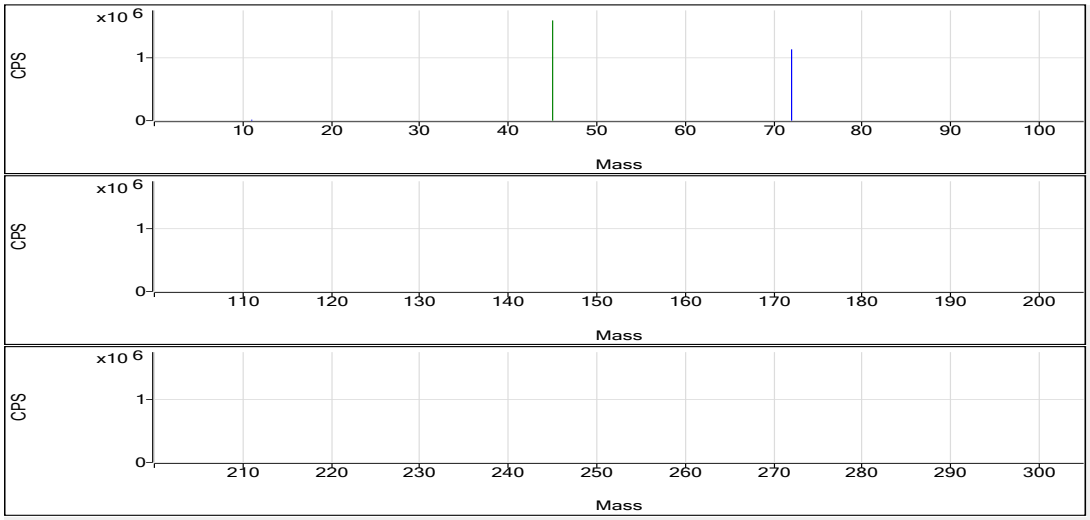
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.071	ppb	17.0	99.33	0.0001	Pulse	0.5000	3
B	11	45	No Gas	20.380	ppb	2.0	14916.77	0.0094	Pulse	0.5000	3
Se	78	115	H2	0.467	ppb	9.2	44.67	0.0001	Pulse	1.5000	3
Na	23	45	He	12205.050	ppb	1.9	2233411.01	33.2954	Analog	0.1000	3
Mg	24	45	He	1300.318	ppb	0.9	113028.35	1.6849	Pulse	0.1000	3
Al	27	45	He	3608.820	ppb	0.8	123292.64	1.8379	Pulse	0.1000	3
K	39	45	He	908.324	ppb	2.5	130054.37	1.9385	Pulse	0.1000	3
Ca	44	45	He	7142.248	ppb	2.2	36085.08	0.5380	Pulse	0.1000	3
Ti	47	45	He	60.574	ppb	11.0	2013.55	0.0300	Pulse	0.1000	3
V	51	45	He	9.173	ppb	2.8	11241.43	0.1676	Pulse	0.1000	3
Cr	52	45	He	2.685	ppb	9.9	5174.41	0.0772	Pulse	0.1000	3
Mn	55	45	He	20.911	ppb	2.5	16703.40	0.2490	Pulse	0.1000	3
Fe	57	45	He	2189.066	ppb	0.7	58347.56	0.8697	Pulse	0.1000	3
Co	59	115	He	0.620	ppb	3.4	1480.14	0.0179	Pulse	0.1000	3
Ni	60	115	He	2.525	ppb	5.9	1966.88	0.0238	Pulse	0.1000	3
Cu	63	115	He	4.463	ppb	2.2	7482.21	0.0906	Pulse	0.1000	3
Zn	66	115	He	9.466	ppb	2.9	3823.97	0.0463	Pulse	0.1000	3
As	75	115	He	0.584	ppb	22.6	210.00	0.0025	Pulse	0.5000	3
Sr	88	115	He	21.195	ppb	0.6	22611.90	0.2738	Pulse	0.1000	3
Mo	98	115	He	1.928	ppb	6.9	2390.28	0.0289	Pulse	0.1000	3
Ag	107	115	He	-0.010	ppb	N/A	36.67	0.0004	Pulse	0.1000	3
Cd	111	115	He	0.004	ppb	227.9	3.33	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.114	ppb	80.8	1203.43	0.0146	Pulse	0.1000	3
Sb	121	72	He	0.147	ppb	8.2	193.34	0.0010	Pulse	0.1000	3
Ba	137	115	He	34.171	ppb	0.2	14134.46	0.1711	Pulse	0.1000	3
Tl	205	209	He	0.016	ppb	65.0	163.34	0.0012	Pulse	0.1000	3
Pb	208	209	He	1.970	ppb	5.6	10872.17	0.0832	Pulse	0.1000	3
U	238	209	He	0.292	ppb	3.2	1453.47	0.0111	Pulse	0.1000	3

Quantitation Report

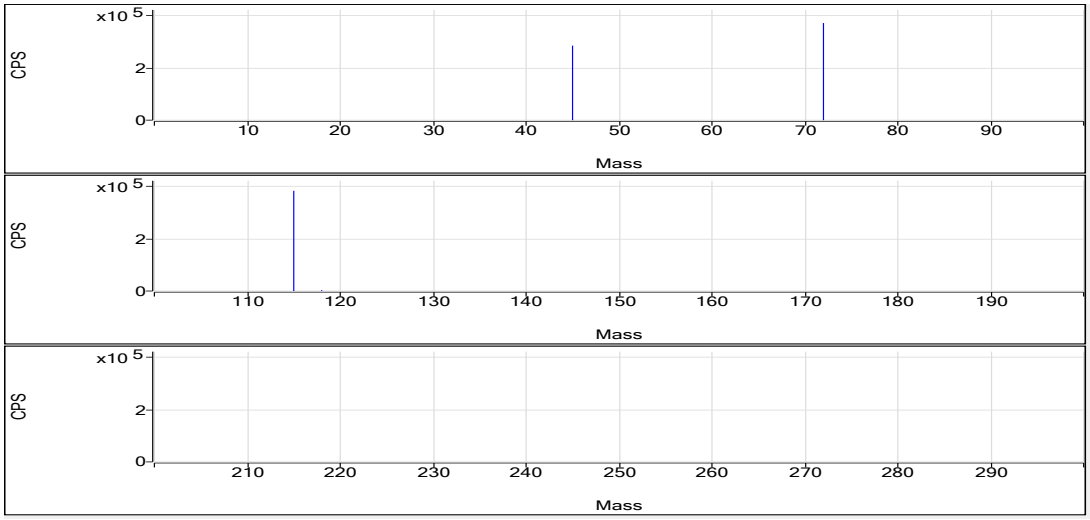
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1594110.60	0.5	106.6	Analog	0.1000	3
No Gas	Ge	72	1134064.15	0.6	101.9	Pulse	0.1000	3
H2	Sc	45	285901.14	2.6	96.5	Pulse	0.1000	3
H2	Ge	72	372756.61	1.5	95.7	Pulse	0.1000	3
H2	In	115	384513.54	1.3	102.4	Pulse	0.1000	3
He	Sc	45	67084.10	0.8	101.7	Pulse	0.1000	3
He	Ge	72	185321.60	1.0	98.7	Pulse	0.1000	3
He	In	115	82593.38	0.5	99.8	Pulse	0.1000	3
He	Tb	159	213256.61	0.7	101.4	Pulse	0.1000	3
He	Bi	209	130660.04	1.1	101.8	Pulse	0.1000	3

No Gas

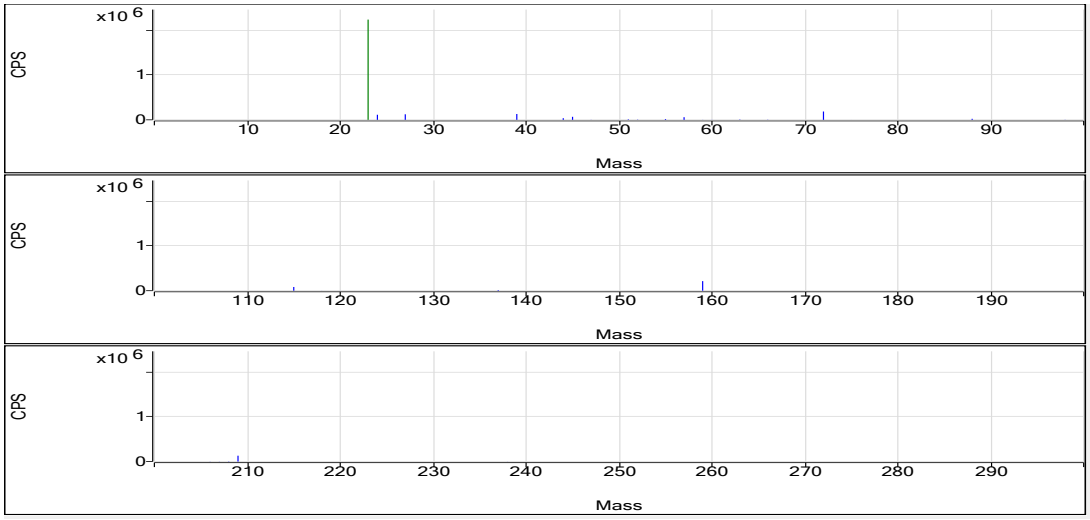


H2



Quantitation Report

He



Quantitation Report

Data File Name	300SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:00:03 PM
Sample Name	410-9925-a-1-i ms @100
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

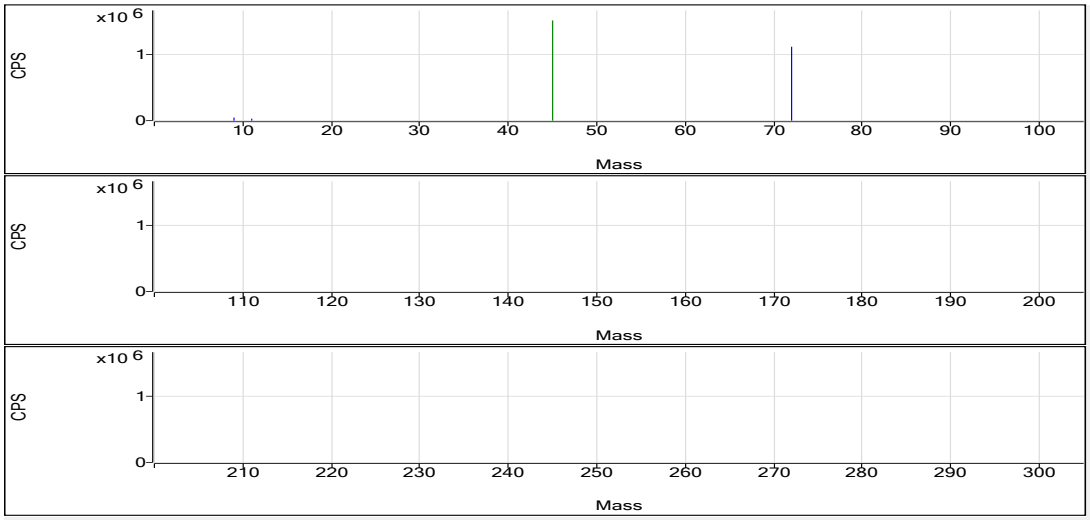
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	46.483	ppb	1.8	45894.18	0.0304	Pulse	0.5000	3
B	11	45	No Gas	47.106	ppb	1.6	29180.88	0.0193	Pulse	0.5000	3
Se	78	115	H2	8.952	ppb	3.7	842.47	0.0021	Pulse	1.5000	3
Na	23	45	He	591.252	ppb	1.6	114109.33	1.7967	Pulse	0.1000	3
Mg	24	45	He	502.393	ppb	4.8	41459.00	0.6530	Pulse	0.1000	3
Al	27	45	He	142.232	ppb	2.7	4764.26	0.0750	Pulse	0.1000	3
K	39	45	He	501.153	ppb	7.2	84441.51	1.3298	Pulse	0.1000	3
Ca	44	45	He	605.089	ppb	8.9	3083.76	0.0486	Pulse	0.1000	3
Ti	47	45	He	98.913	ppb	12.4	3110.45	0.0490	Pulse	0.1000	3
V	51	45	He	48.437	ppb	1.9	51779.26	0.8152	Pulse	0.1000	3
Cr	52	45	He	46.992	ppb	0.6	62075.74	0.9774	Pulse	0.1000	3
Mn	55	45	He	48.261	ppb	1.4	34959.51	0.5504	Pulse	0.1000	3
Fe	57	45	He	75.140	ppb	9.3	2076.89	0.0327	Pulse	0.1000	3
Co	59	115	He	42.926	ppb	0.2	96952.59	1.1358	Pulse	0.1000	3
Ni	60	115	He	46.772	ppb	0.4	26284.57	0.3079	Pulse	0.1000	3
Cu	63	115	He	45.577	ppb	2.2	68747.20	0.8054	Pulse	0.1000	3
Zn	66	115	He	45.388	ppb	4.8	12282.30	0.1439	Pulse	0.1000	3
As	75	115	He	44.936	ppb	0.8	8797.39	0.1031	Pulse	0.5000	3
Sr	88	115	He	45.208	ppb	0.8	49757.84	0.5829	Pulse	0.1000	3
Mo	98	115	He	93.942	ppb	0.5	120375.55	1.4102	Pulse	0.1000	3
Ag	107	115	He	1.361	ppb	6.4	3297.17	0.0386	Pulse	0.1000	3
Cd	111	115	He	9.364	ppb	1.9	3211.05	0.0376	Pulse	0.5000	3
Sn	120	115	He	452.829	ppb	1.7	541678.52	6.3460	Pulse	0.1000	3
Sb	121	72	He	46.749	ppb	1.0	50518.84	0.2807	Pulse	0.1000	3
Ba	137	115	He	924.118	ppb	1.6	394680.41	4.6239	Pulse	0.1000	3
Tl	205	209	He	48.393	ppb	1.0	181211.14	1.4036	Pulse	0.1000	3
Pb	208	209	He	48.151	ppb	1.4	249971.45	1.9363	Pulse	0.1000	3
U	238	209	He	0.007	ppb	88.4	46.67	0.0004	Pulse	0.1000	3

Quantitation Report

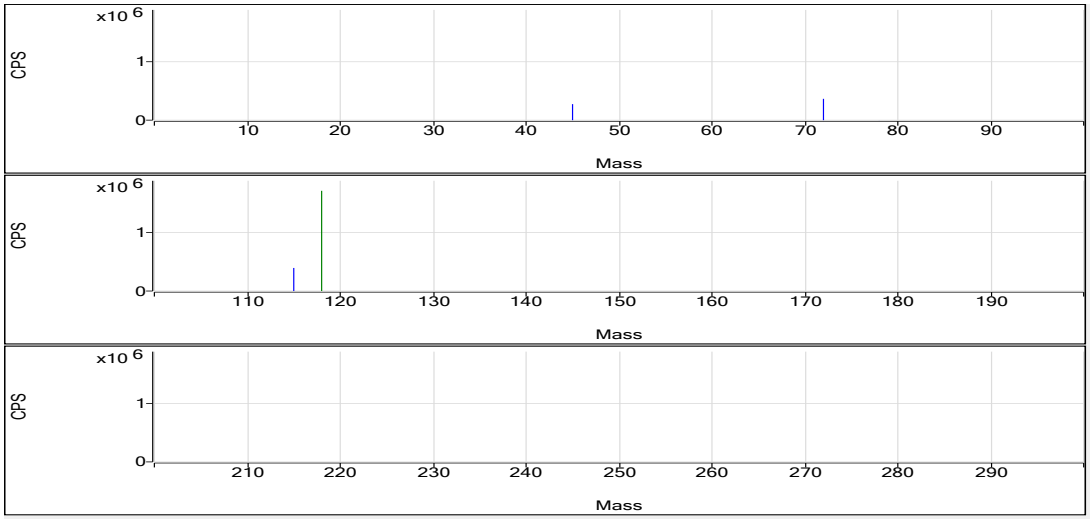
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1510311.96	2.9	101.0	Analog	0.1000	3
No Gas	Ge	72	1113401.26	1.2	100.0	Pulse	0.1000	3
H2	Sc	45	275039.30	1.4	92.8	Pulse	0.1000	3
H2	Ge	72	365960.25	0.8	93.9	Pulse	0.1000	3
H2	In	115	395957.21	1.9	105.5	Pulse	0.1000	3
He	Sc	45	63515.13	1.2	96.2	Pulse	0.1000	3
He	Ge	72	179986.13	0.3	95.8	Pulse	0.1000	3
He	In	115	85363.53	0.7	103.1	Pulse	0.1000	3
He	Tb	159	210698.16	0.4	100.2	Pulse	0.1000	3
He	Bi	209	129117.72	1.5	100.6	Pulse	0.1000	3

No Gas

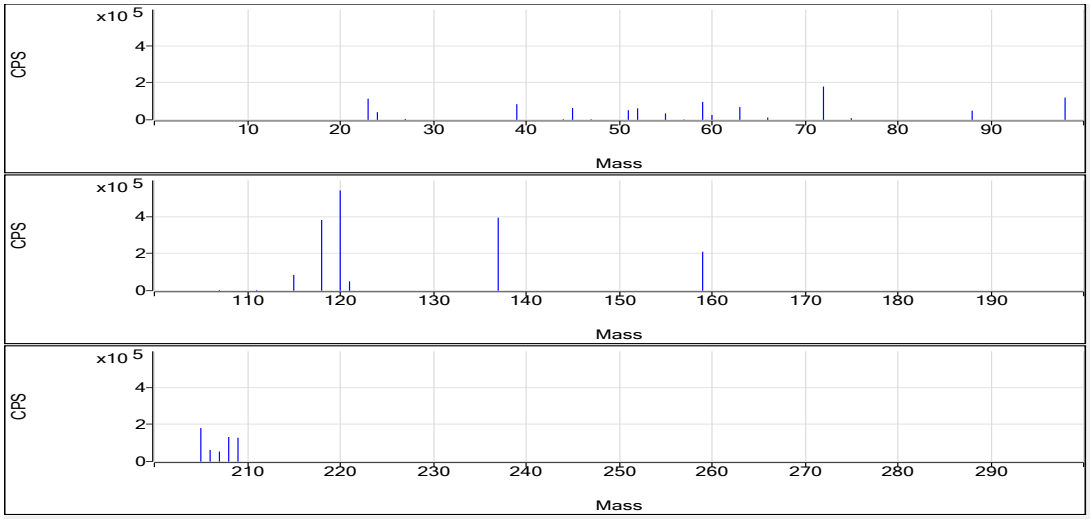


H2



Quantitation Report

He



Quantitation Report

Data File Name	301SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:01:56 PM
Sample Name	410-9925-a-1-j msd @100
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

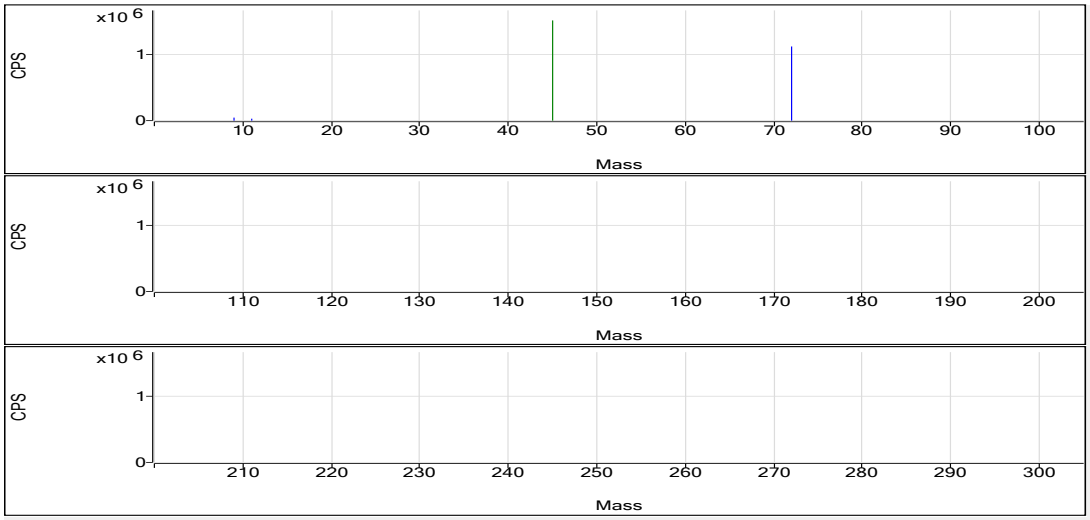
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	46.126	ppb	3.0	45760.40	0.0302	Pulse	0.5000	3
B	11	45	No Gas	47.203	ppb	2.4	29379.99	0.0194	Pulse	0.5000	3
Se	78	115	H2	8.711	ppb	3.9	815.80	0.0021	Pulse	1.5000	3
Na	23	45	He	581.835	ppb	2.9	111985.57	1.7711	Pulse	0.1000	3
Mg	24	45	He	503.233	ppb	2.4	41358.29	0.6541	Pulse	0.1000	3
Al	27	45	He	142.792	ppb	5.9	4757.61	0.0753	Pulse	0.1000	3
K	39	45	He	502.071	ppb	8.0	84143.75	1.3311	Pulse	0.1000	3
Ca	44	45	He	640.151	ppb	4.6	3237.15	0.0512	Pulse	0.1000	3
Ti	47	45	He	95.278	ppb	4.0	2987.07	0.0472	Pulse	0.1000	3
V	51	45	He	49.364	ppb	3.4	52505.41	0.8305	Pulse	0.1000	3
Cr	52	45	He	47.435	ppb	1.7	62374.04	0.9864	Pulse	0.1000	3
Mn	55	45	He	48.971	ppb	4.0	35293.70	0.5583	Pulse	0.1000	3
Fe	57	45	He	76.315	ppb	4.9	2096.89	0.0332	Pulse	0.1000	3
Co	59	115	He	42.848	ppb	2.2	96952.40	1.1337	Pulse	0.1000	3
Ni	60	115	He	46.839	ppb	1.9	26371.37	0.3083	Pulse	0.1000	3
Cu	63	115	He	45.442	ppb	2.3	68676.72	0.8031	Pulse	0.1000	3
Zn	66	115	He	44.728	ppb	6.9	12148.81	0.1421	Pulse	0.1000	3
As	75	115	He	45.523	ppb	1.0	8928.15	0.1044	Pulse	0.5000	3
Sr	88	115	He	45.317	ppb	1.0	49971.57	0.5843	Pulse	0.1000	3
Mo	98	115	He	93.003	ppb	0.9	119394.72	1.3961	Pulse	0.1000	3
Ag	107	115	He	1.544	ppb	5.8	3740.62	0.0437	Pulse	0.1000	3
Cd	111	115	He	9.217	ppb	3.2	3166.38	0.0370	Pulse	0.5000	3
Sn	120	115	He	452.709	ppb	0.6	542588.94	6.3444	Pulse	0.1000	3
Sb	121	72	He	47.201	ppb	2.6	50518.76	0.2834	Pulse	0.1000	3
Ba	137	115	He	927.654	ppb	0.7	396957.85	4.6416	Pulse	0.1000	3
Tl	205	209	He	48.286	ppb	0.4	181627.98	1.4005	Pulse	0.1000	3
Pb	208	209	He	47.702	ppb	0.8	248783.68	1.9182	Pulse	0.1000	3
U	238	209	He	0.005	ppb	75.7	40.00	0.0003	Pulse	0.1000	3

Quantitation Report

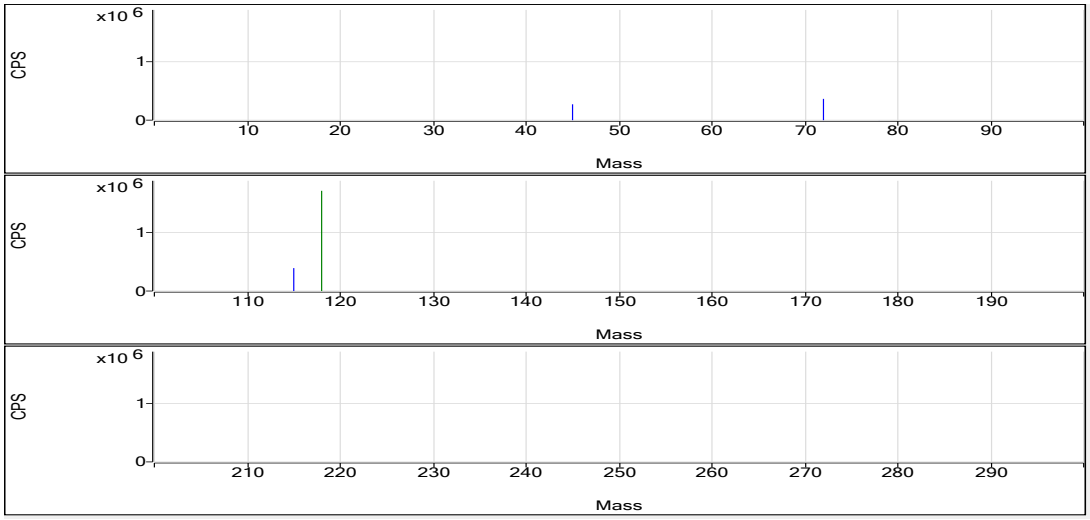
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1517565.29	1.9	101.5	Analog	0.1000	3
No Gas	Ge	72	1122948.32	0.8	100.9	Pulse	0.1000	3
H2	Sc	45	272714.67	0.7	92.0	Pulse	0.1000	3
H2	Ge	72	366043.75	0.7	93.9	Pulse	0.1000	3
H2	In	115	394034.97	1.0	104.9	Pulse	0.1000	3
He	Sc	45	63250.12	2.3	95.8	Pulse	0.1000	3
He	Ge	72	178296.14	1.1	94.9	Pulse	0.1000	3
He	In	115	85524.55	0.6	103.3	Pulse	0.1000	3
He	Tb	159	209579.87	0.8	99.7	Pulse	0.1000	3
He	Bi	209	129691.41	0.3	101.1	Pulse	0.1000	3

No Gas

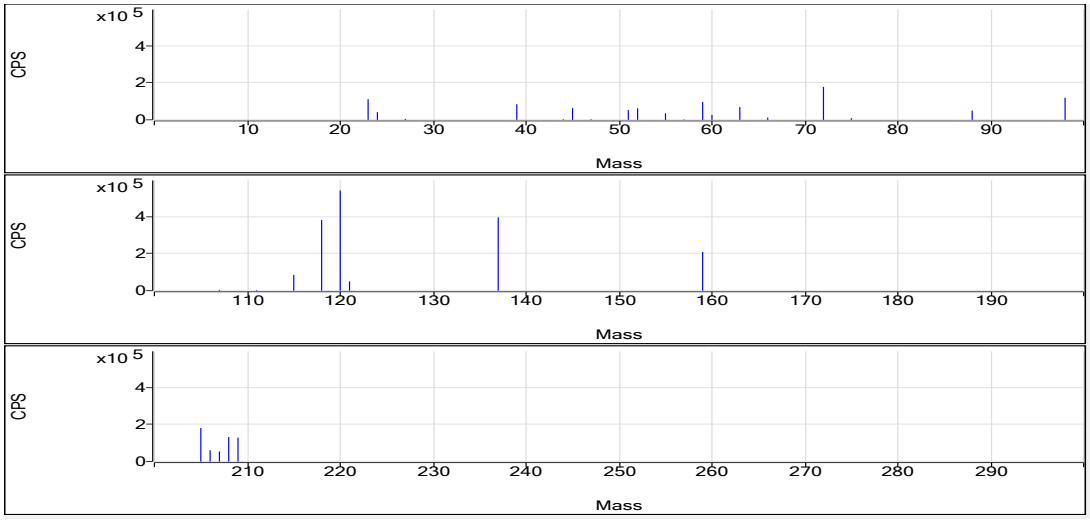


H2



Quantitation Report

He



Quantitation Report

Data File Name	302SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:03:48 PM
Sample Name	410-9925-a-1-g SD@5
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

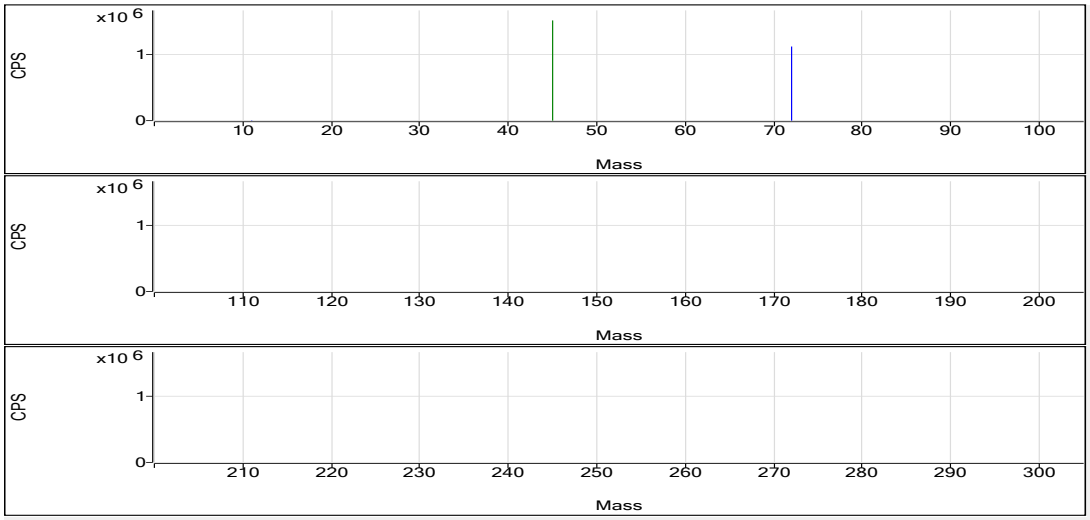
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.102	ppb	14.4	126.00	0.0001	Pulse	0.5000	3
B	11	45	No Gas	5.185	ppb	2.4	5599.74	0.0037	Pulse	0.5000	3
Se	78	115	H2	0.116	ppb	9.7	12.44	0.0000	Pulse	1.5000	3
Na	23	45	He	2332.884	ppb	2.1	417022.59	6.5203	Pulse	0.1000	3
Mg	24	45	He	266.862	ppb	1.7	22283.90	0.3484	Pulse	0.1000	3
Al	27	45	He	762.849	ppb	0.8	24985.13	0.3906	Pulse	0.1000	3
K	39	45	He	183.578	ppb	11.4	54701.98	0.8550	Pulse	0.1000	3
Ca	44	45	He	1435.224	ppb	3.0	7081.95	0.1107	Pulse	0.1000	3
Ti	47	45	He	13.149	ppb	4.7	416.69	0.0065	Pulse	0.1000	3
V	51	45	He	1.834	ppb	14.5	2977.08	0.0465	Pulse	0.1000	3
Cr	52	45	He	0.896	ppb	11.4	2610.32	0.0408	Pulse	0.1000	3
Mn	55	45	He	4.805	ppb	10.7	4570.85	0.0715	Pulse	0.1000	3
Fe	57	45	He	452.699	ppb	1.3	11655.08	0.1822	Pulse	0.1000	3
Co	59	115	He	0.150	ppb	19.6	450.02	0.0055	Pulse	0.1000	3
Ni	60	115	He	0.567	ppb	14.7	923.39	0.0112	Pulse	0.1000	3
Cu	63	115	He	0.757	ppb	6.6	2146.92	0.0262	Pulse	0.1000	3
Zn	66	115	He	1.111	ppb	35.3	1936.86	0.0236	Pulse	0.1000	3
As	75	115	He	0.039	ppb	254.2	107.33	0.0013	Pulse	0.5000	3
Sr	88	115	He	4.144	ppb	4.1	4454.20	0.0543	Pulse	0.1000	3
Mo	98	115	He	0.576	ppb	9.2	710.05	0.0087	Pulse	0.1000	3
Ag	107	115	He	-0.023	ppb	N/A	6.67	0.0001	Pulse	0.1000	3
Cd	111	115	He	-0.004	ppb	N/A	0.67	0.0000	Pulse	0.5000	3
Sn	120	115	He	1.091	ppb	15.3	2316.94	0.0282	Pulse	0.1000	3
Sb	121	72	He	0.249	ppb	35.3	300.02	0.0017	Pulse	0.1000	3
Ba	137	115	He	7.200	ppb	5.0	2970.44	0.0362	Pulse	0.1000	3
Tl	205	209	He	0.256	ppb	16.6	1066.75	0.0082	Pulse	0.1000	3
Pb	208	209	He	0.392	ppb	5.3	2593.54	0.0199	Pulse	0.1000	3
U	238	209	He	0.065	ppb	17.0	333.35	0.0026	Pulse	0.1000	3

Quantitation Report

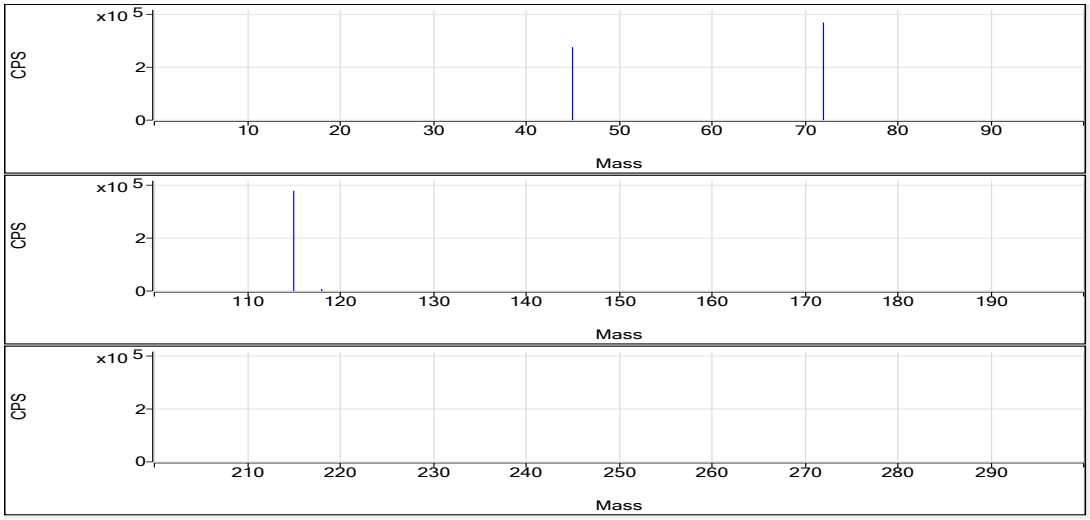
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1517290.13	0.4	101.5	Analog	0.1000	3
No Gas	Ge	72	1121983.84	0.3	100.8	Pulse	0.1000	3
H2	Sc	45	275669.88	1.1	93.0	Pulse	0.1000	3
H2	Ge	72	368289.73	0.5	94.5	Pulse	0.1000	3
H2	In	115	378205.07	0.6	100.7	Pulse	0.1000	3
He	Sc	45	63966.70	1.1	96.9	Pulse	0.1000	3
He	Ge	72	181539.78	0.3	96.7	Pulse	0.1000	3
He	In	115	82073.38	0.6	99.2	Pulse	0.1000	3
He	Tb	159	211727.12	0.1	100.7	Pulse	0.1000	3
He	Bi	209	130171.87	1.1	101.4	Pulse	0.1000	3

No Gas

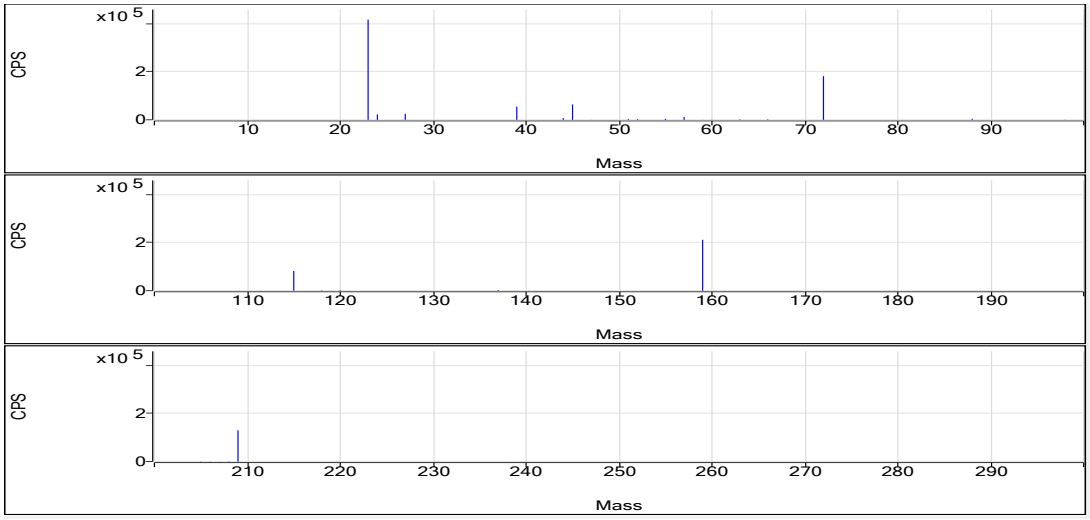


H2



Quantitation Report

He



Quantitation Report

Data File Name	303SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:05:42 PM
Sample Name	410-9925-a-2-h
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

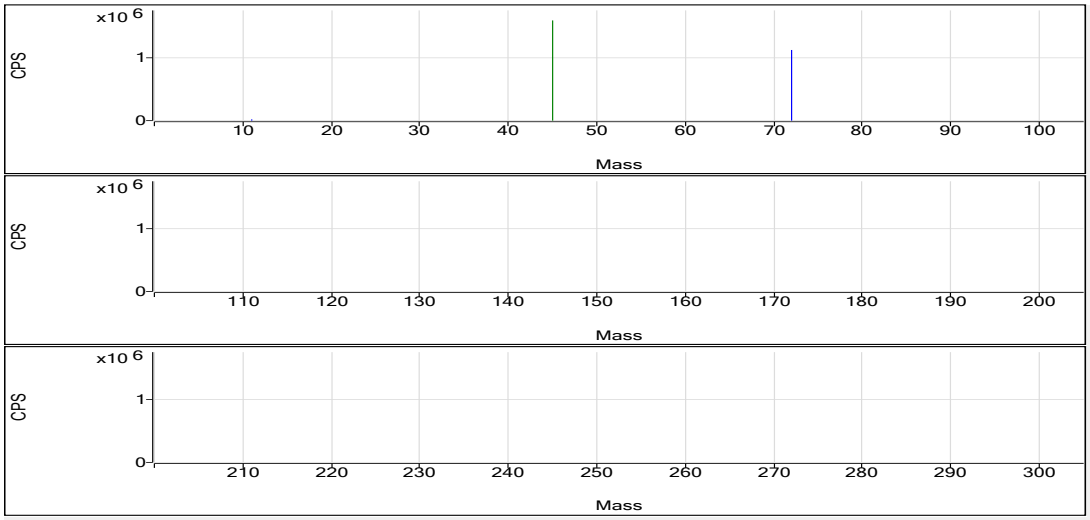
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.445	ppb	7.1	492.68	0.0003	Pulse	0.5000	3
B	11	45	No Gas	29.511	ppb	2.5	20479.93	0.0128	Pulse	0.5000	3
Se	78	115	H2	0.818	ppb	8.1	76.67	0.0002	Pulse	1.5000	3
Na	23	45	He	2829.670	ppb	1.6	518248.04	7.8677	Pulse	0.1000	3
Mg	24	45	He	1345.462	ppb	2.1	114822.05	1.7432	Pulse	0.1000	3
Al	27	45	He	14736.986	ppb	1.2	493855.41	7.4972	Pulse	0.1000	3
K	39	45	He	2285.777	ppb	1.0	263361.59	3.9978	Pulse	0.1000	3
Ca	44	45	He	11668.068	ppb	2.0	57754.28	0.8768	Pulse	0.1000	3
Ti	47	45	He	316.281	ppb	4.6	10320.63	0.1567	Pulse	0.1000	3
V	51	45	He	29.673	ppb	1.5	33312.09	0.5057	Pulse	0.1000	3
Cr	52	45	He	14.857	ppb	1.7	21372.89	0.3245	Pulse	0.1000	3
Mn	55	45	He	66.486	ppb	1.6	49488.53	0.7513	Pulse	0.1000	3
Fe	57	45	He	9914.730	ppb	1.1	258804.72	3.9289	Pulse	0.1000	3
Co	59	115	He	2.690	ppb	1.4	6081.43	0.0726	Pulse	0.1000	3
Ni	60	115	He	9.888	ppb	1.5	5954.77	0.0711	Pulse	0.1000	3
Cu	63	115	He	12.520	ppb	2.7	19316.78	0.2307	Pulse	0.1000	3
Zn	66	115	He	26.022	ppb	3.9	7645.61	0.0913	Pulse	0.1000	3
As	75	115	He	5.362	ppb	4.9	1119.38	0.0134	Pulse	0.5000	3
Sr	88	115	He	49.327	ppb	1.3	53260.30	0.6359	Pulse	0.1000	3
Mo	98	115	He	4.516	ppb	0.5	5678.02	0.0678	Pulse	0.1000	3
Ag	107	115	He	0.048	ppb	8.0	173.34	0.0021	Pulse	0.1000	3
Cd	111	115	He	0.130	ppb	30.3	46.00	0.0005	Pulse	0.5000	3
Sn	120	115	He	1.399	ppb	16.9	2727.04	0.0325	Pulse	0.1000	3
Sb	121	72	He	1.662	ppb	6.5	1853.52	0.0101	Pulse	0.1000	3
Ba	137	115	He	57.338	ppb	0.9	24041.59	0.2870	Pulse	0.1000	3
Tl	205	209	He	0.282	ppb	24.9	1193.44	0.0090	Pulse	0.1000	3
Pb	208	209	He	26.471	ppb	0.5	142279.24	1.0663	Pulse	0.1000	3
U	238	209	He	0.748	ppb	3.0	3777.35	0.0283	Pulse	0.1000	3

Quantitation Report

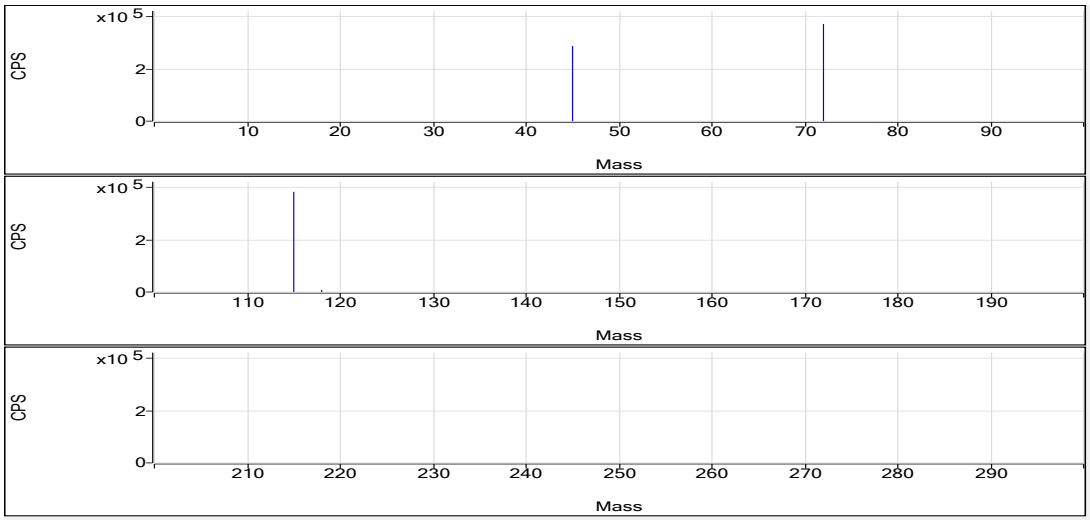
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1604914.46	1.0	107.3	Analog	0.1000	3
No Gas	Ge	72	1131586.88	0.2	101.7	Pulse	0.1000	3
H2	Sc	45	288658.22	1.4	97.4	Pulse	0.1000	3
H2	Ge	72	373202.55	1.1	95.8	Pulse	0.1000	3
H2	In	115	384779.73	1.5	102.5	Pulse	0.1000	3
He	Sc	45	65878.66	1.3	99.8	Pulse	0.1000	3
He	Ge	72	182953.89	0.5	97.4	Pulse	0.1000	3
He	In	115	83763.47	1.8	101.2	Pulse	0.1000	3
He	Tb	159	216662.91	0.5	103.0	Pulse	0.1000	3
He	Bi	209	133433.27	1.4	104.0	Pulse	0.1000	3

No Gas

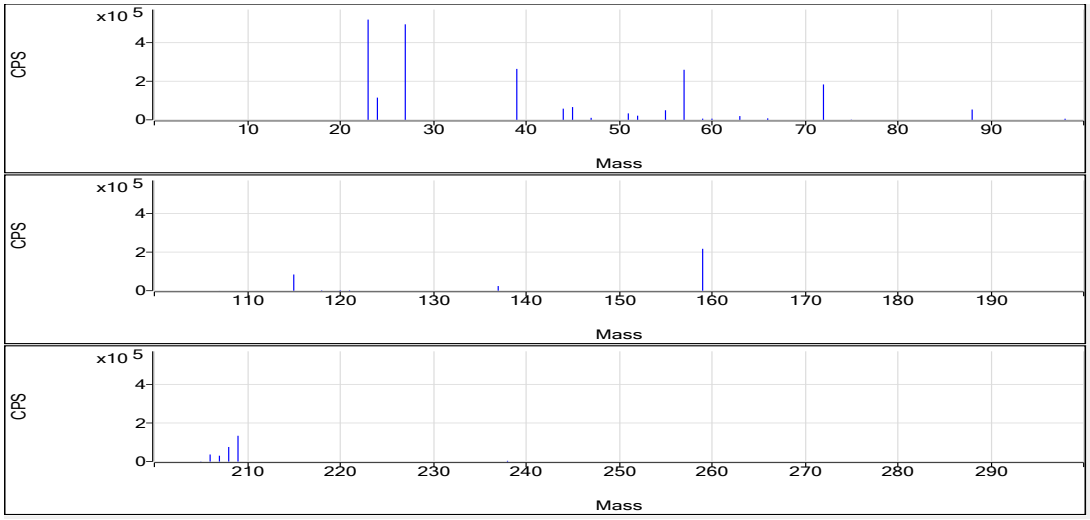


H2



Quantitation Report

He



Quantitation Report

Data File Name	304SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:07:36 PM
Sample Name	410-9925-b-3-b
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

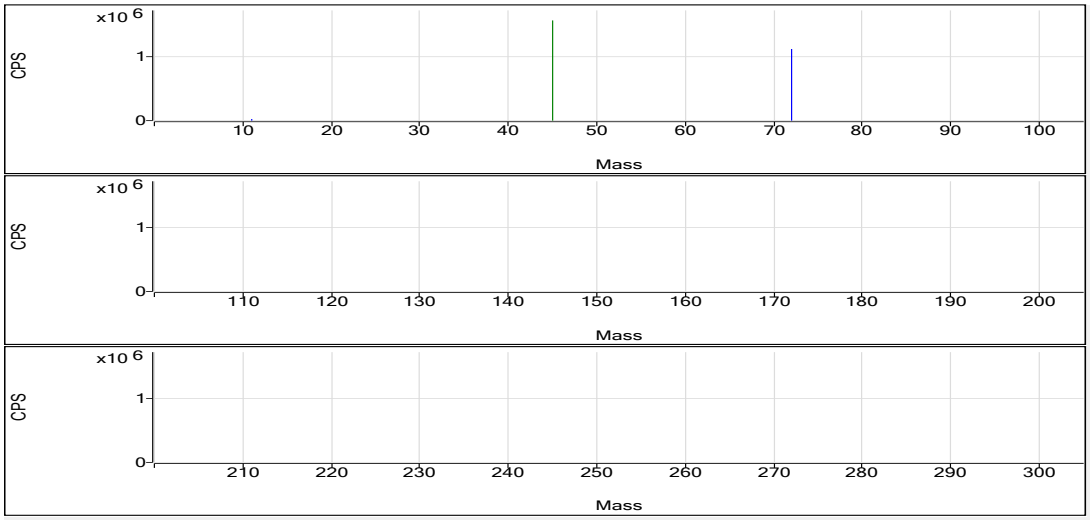
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.334	ppb	5.2	368.68	0.0002	Pulse	0.5000	3
B	11	45	No Gas	38.971	ppb	1.7	25665.22	0.0163	Pulse	0.5000	3
Se	78	115	H2	0.075	ppb	55.4	8.89	0.0000	Pulse	1.5000	3
Na	23	45	He	3616.145	ppb	0.8	658298.54	10.0007	Pulse	0.1000	3
Mg	24	45	He	1501.542	ppb	1.0	128034.68	1.9451	Pulse	0.1000	3
Al	27	45	He	10676.625	ppb	0.5	357583.68	5.4323	Pulse	0.1000	3
K	39	45	He	1145.129	ppb	2.3	150903.35	2.2925	Pulse	0.1000	3
Ca	44	45	He	1599.001	ppb	2.4	8095.81	0.1230	Pulse	0.1000	3
Ti	47	45	He	166.346	ppb	2.6	5424.52	0.0824	Pulse	0.1000	3
V	51	45	He	12.326	ppb	2.1	14454.27	0.2196	Pulse	0.1000	3
Cr	52	45	He	9.231	ppb	1.5	13833.68	0.2102	Pulse	0.1000	3
Mn	55	45	He	44.156	ppb	0.5	33255.46	0.5052	Pulse	0.1000	3
Fe	57	45	He	6435.190	ppb	1.5	167923.40	2.5511	Pulse	0.1000	3
Co	59	115	He	1.521	ppb	6.3	3460.52	0.0417	Pulse	0.1000	3
Ni	60	115	He	5.821	ppb	3.7	3733.94	0.0450	Pulse	0.1000	3
Cu	63	115	He	5.840	ppb	1.3	9506.78	0.1145	Pulse	0.1000	3
Zn	66	115	He	12.550	ppb	7.6	4537.55	0.0547	Pulse	0.1000	3
As	75	115	He	1.196	ppb	13.1	326.01	0.0039	Pulse	0.5000	3
Sr	88	115	He	6.772	ppb	9.0	7312.13	0.0881	Pulse	0.1000	3
Mo	98	115	He	0.276	ppb	9.3	343.35	0.0041	Pulse	0.1000	3
Ag	107	115	He	-0.004	ppb	N/A	50.01	0.0006	Pulse	0.1000	3
Cd	111	115	He	0.012	ppb	50.0	6.00	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.110	ppb	107.6	1203.43	0.0145	Pulse	0.1000	3
Sb	121	72	He	0.127	ppb	25.3	170.01	0.0009	Pulse	0.1000	3
Ba	137	115	He	49.810	ppb	0.7	20702.88	0.2494	Pulse	0.1000	3
Tl	205	209	He	0.148	ppb	15.8	676.71	0.0051	Pulse	0.1000	3
Pb	208	209	He	2.410	ppb	4.0	13453.17	0.1009	Pulse	0.1000	3
U	238	209	He	0.245	ppb	7.2	1243.45	0.0093	Pulse	0.1000	3

Quantitation Report

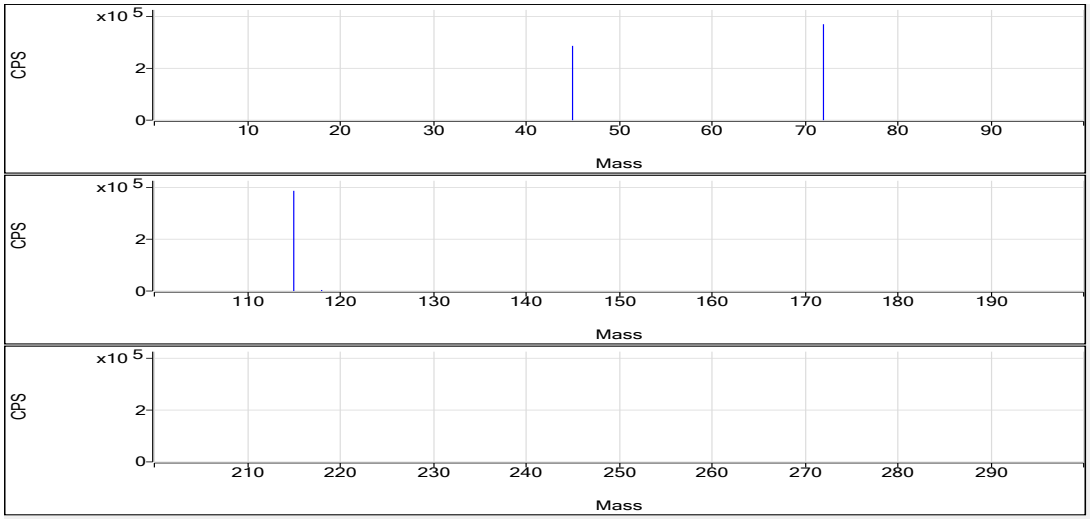
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1575401.33	0.6	105.4	Analog	0.1000	3
No Gas	Ge	72	1126135.22	0.5	101.2	Pulse	0.1000	3
H2	Sc	45	285657.60	1.3	96.4	Pulse	0.1000	3
H2	Ge	72	368832.58	0.5	94.6	Pulse	0.1000	3
H2	In	115	385311.49	1.3	102.6	Pulse	0.1000	3
He	Sc	45	65825.22	0.3	99.7	Pulse	0.1000	3
He	Ge	72	184219.14	0.4	98.1	Pulse	0.1000	3
He	In	115	83012.44	1.3	100.3	Pulse	0.1000	3
He	Tb	159	215714.14	0.5	102.6	Pulse	0.1000	3
He	Bi	209	133311.90	0.9	103.9	Pulse	0.1000	3

No Gas

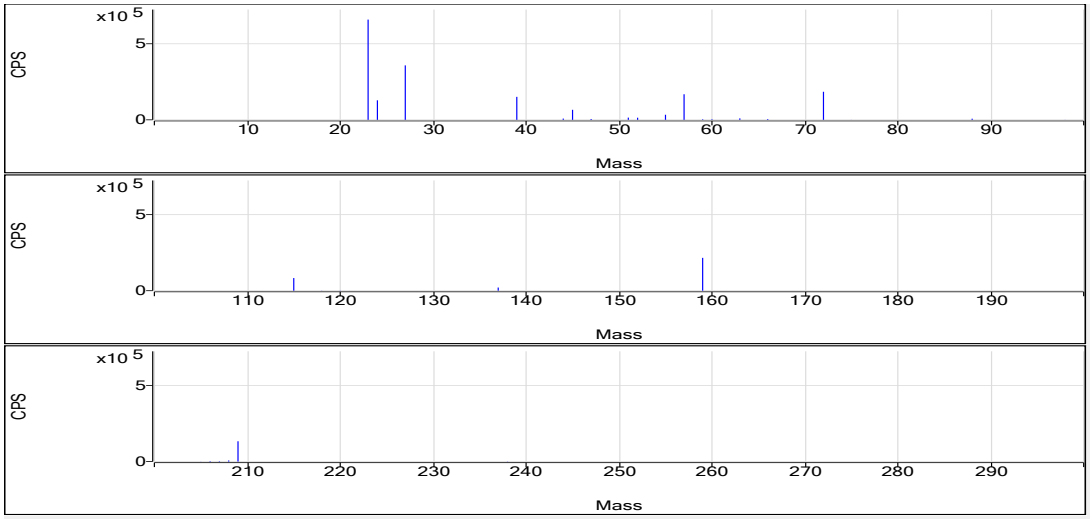


H2



Quantitation Report

He



Quantitation Report

Data File Name	305_CCV.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:09:29 PM
Sample Name	ccv 361008
Sample Type	CCV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

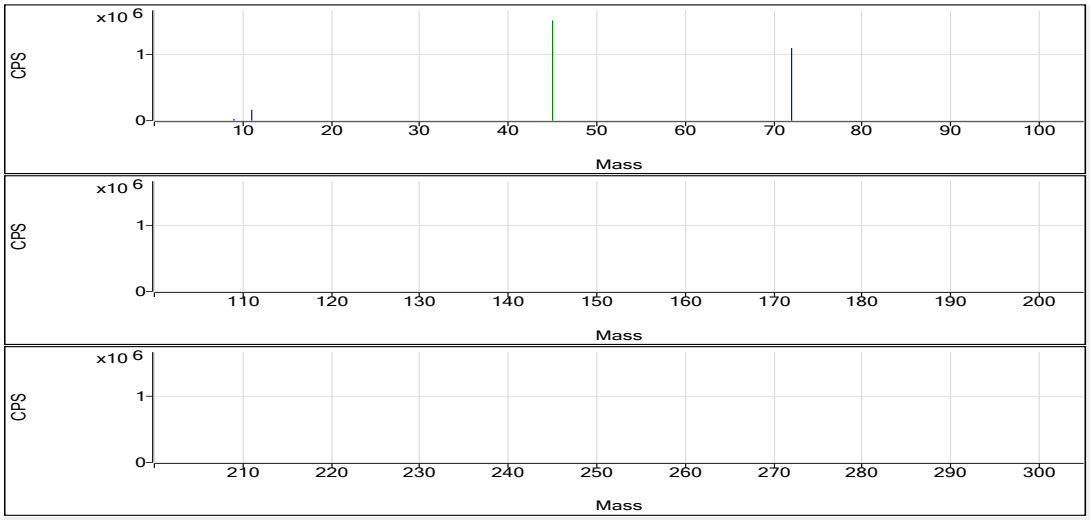
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	27.982	ppb	2.9	27924.44	0.0183	Pulse	0.5000	3
B	11	45	No Gas	287.214	ppb	1.5	166117.25	0.1089	Pulse	0.5000	3
Se	78	115	H2	28.710	ppb	0.9	2590.46	0.0068	Pulse	1.5000	3
Na	23	45	He	4728.637	ppb	1.1	820394.15	13.0180	Pulse	0.1000	3
Mg	24	45	He	5024.114	ppb	1.4	409653.17	6.5005	Pulse	0.1000	3
Al	27	45	He	4952.416	ppb	1.1	158889.07	2.5212	Pulse	0.1000	3
K	39	45	He	5089.971	ppb	0.5	516162.42	8.1902	Pulse	0.1000	3
Ca	44	45	He	5027.883	ppb	2.2	23926.86	0.3797	Pulse	0.1000	3
Ti	47	45	He	312.623	ppb	2.4	9760.26	0.1549	Pulse	0.1000	3
V	51	45	He	303.300	ppb	1.8	316281.03	5.0189	Pulse	0.1000	3
Cr	52	45	He	293.860	ppb	0.5	377695.45	5.9931	Pulse	0.1000	3
Mn	55	45	He	303.365	ppb	1.0	211877.46	3.3620	Pulse	0.1000	3
Fe	57	45	He	5162.159	ppb	1.4	128998.74	2.0470	Pulse	0.1000	3
Co	59	115	He	281.672	ppb	1.9	603089.54	7.4441	Pulse	0.1000	3
Ni	60	115	He	298.828	ppb	1.4	156065.45	1.9263	Pulse	0.1000	3
Cu	63	115	He	299.267	ppb	1.0	422611.67	5.2162	Pulse	0.1000	3
Zn	66	115	He	294.226	ppb	1.1	66423.10	0.8198	Pulse	0.1000	3
As	75	115	He	295.983	ppb	0.5	54448.23	0.6720	Pulse	0.5000	3
Sr	88	115	He	29.779	ppb	0.9	31134.80	0.3843	Pulse	0.1000	3
Mo	98	115	He	29.506	ppb	3.1	35889.80	0.4429	Pulse	0.1000	3
Ag	107	115	He	30.356	ppb	2.0	68567.69	0.8463	Pulse	0.1000	3
Cd	111	115	He	30.022	ppb	2.2	9766.10	0.1205	Pulse	0.5000	3
Sn	120	115	He	30.136	ppb	1.7	35198.44	0.4344	Pulse	0.1000	3
Sb	121	72	He	31.196	ppb	0.4	32906.27	0.1874	Pulse	0.1000	3
Ba	137	115	He	305.724	ppb	0.7	123947.16	1.5298	Pulse	0.1000	3
Tl	205	209	He	30.617	ppb	0.9	114026.40	0.8883	Pulse	0.1000	3
Pb	208	209	He	29.912	ppb	0.6	154607.48	1.2044	Pulse	0.1000	3
U	238	209	He	50.344	ppb	0.6	243586.04	1.8976	Pulse	0.1000	3

Quantitation Report

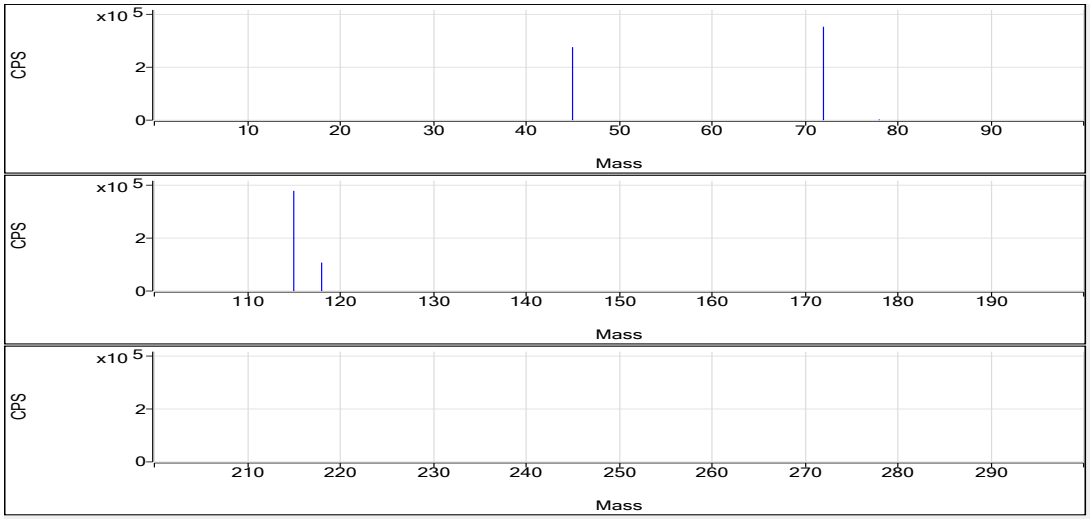
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1525773.83	0.5	102.0	Analog	0.1000	3
No Gas	Ge	72	1104818.61	0.6	99.3	Pulse	0.1000	3
H2	Sc	45	277057.67	1.7	93.5	Pulse	0.1000	3
H2	Ge	72	354466.74	1.2	91.0	Pulse	0.1000	3
H2	In	115	380349.85	1.5	101.3	Pulse	0.1000	3
He	Sc	45	63022.66	0.6	95.5	Pulse	0.1000	3
He	Ge	72	175639.49	0.3	93.5	Pulse	0.1000	3
He	In	115	81021.28	0.6	97.9	Pulse	0.1000	3
He	Tb	159	209872.91	0.1	99.8	Pulse	0.1000	3
He	Bi	209	128373.66	1.3	100.0	Pulse	0.1000	3

No Gas

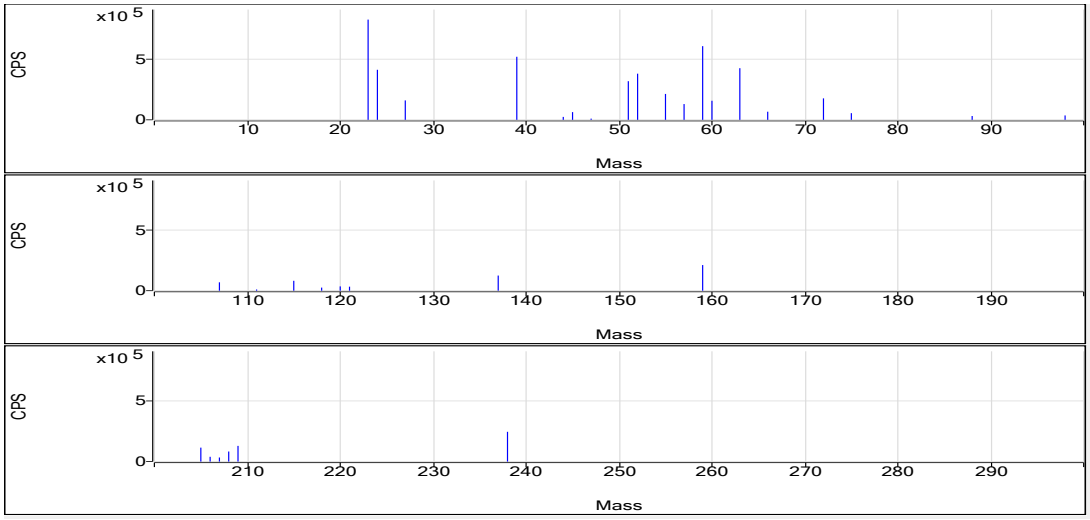


H2



Quantitation Report

He



Quantitation Report

Data File Name	306_CCB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:11:23 PM
Sample Name	ccb 360854
Sample Type	CCB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

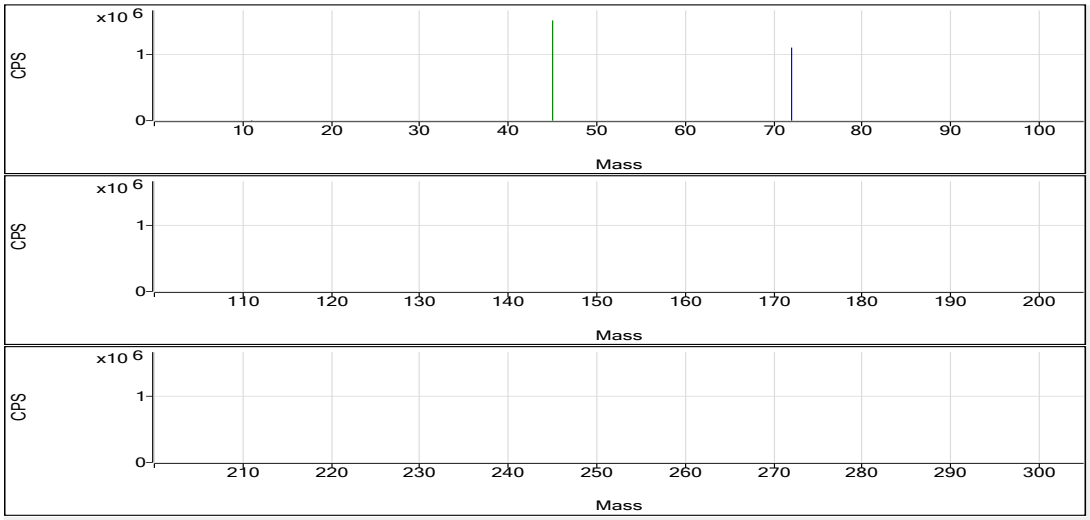
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.034	ppb	38.7	58.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	7.143	ppb	9.0	6730.20	0.0044	Pulse	0.5000	3
Se	78	115	H2	0.020	ppb	81.8	3.78	0.0000	Pulse	1.5000	3
Na	23	45	He	23.312	ppb	20.4	15939.04	0.2563	Pulse	0.1000	3
Mg	24	45	He	4.725	ppb	21.8	583.37	0.0094	Pulse	0.1000	3
Al	27	45	He	2.539	ppb	57.5	246.68	0.0040	Pulse	0.1000	3
K	39	45	He	3.793	ppb	630.0	36455.95	0.5862	Pulse	0.1000	3
Ca	44	45	He	5.445	ppb	214.0	230.01	0.0037	Pulse	0.1000	3
Ti	47	45	He	0.429	ppb	86.6	13.33	0.0002	Pulse	0.1000	3
V	51	45	He	0.290	ppb	14.0	1310.10	0.0211	Pulse	0.1000	3
Cr	52	45	He	0.292	ppb	45.5	1773.50	0.0285	Pulse	0.1000	3
Mn	55	45	He	0.571	ppb	43.7	1543.47	0.0248	Pulse	0.1000	3
Fe	57	45	He	5.049	ppb	60.5	306.68	0.0049	Pulse	0.1000	3
Co	59	115	He	0.092	ppb	58.5	316.68	0.0040	Pulse	0.1000	3
Ni	60	115	He	0.411	ppb	40.2	820.05	0.0102	Pulse	0.1000	3
Cu	63	115	He	0.026	ppb	150.6	1076.74	0.0135	Pulse	0.1000	3
Zn	66	115	He	-1.276	ppb	N/A	1370.11	0.0171	Pulse	0.1000	3
As	75	115	He	0.054	ppb	110.8	107.33	0.0013	Pulse	0.5000	3
Sr	88	115	He	0.061	ppb	65.1	136.67	0.0017	Pulse	0.1000	3
Mo	98	115	He	0.092	ppb	31.9	110.00	0.0014	Pulse	0.1000	3
Ag	107	115	He	-0.011	ppb	N/A	33.33	0.0004	Pulse	0.1000	3
Cd	111	115	He	0.006	ppb	167.9	4.00	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.460	ppb	12.6	1553.48	0.0194	Pulse	0.1000	3
Sb	121	72	He	0.183	ppb	38.1	226.68	0.0013	Pulse	0.1000	3
Ba	137	115	He	0.268	ppb	56.4	120.01	0.0015	Pulse	0.1000	3
Tl	205	209	He	0.119	ppb	13.5	546.70	0.0042	Pulse	0.1000	3
Pb	208	209	He	-0.014	ppb	N/A	470.02	0.0036	Pulse	0.1000	3
U	238	209	He	0.027	ppb	18.8	146.68	0.0011	Pulse	0.1000	3

Quantitation Report

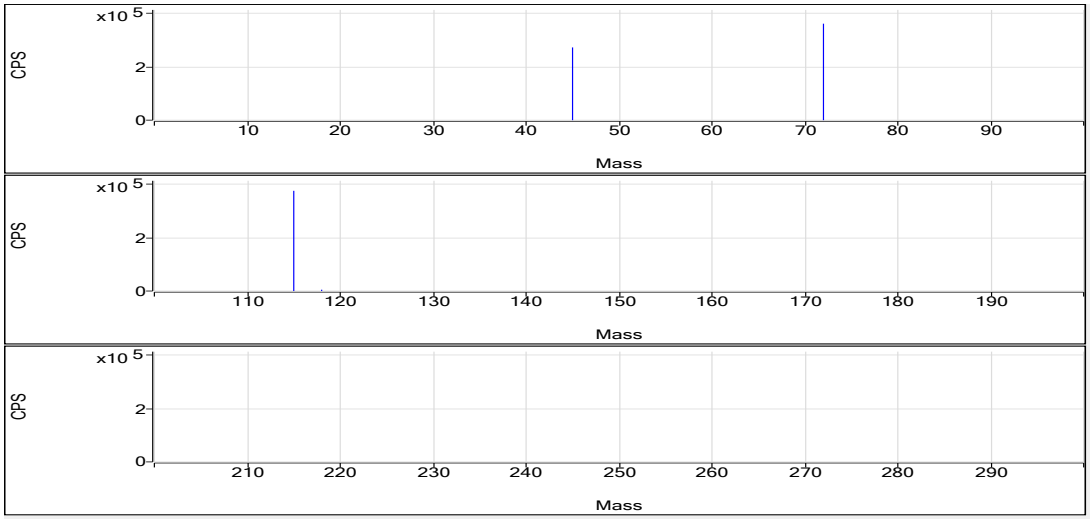
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1522377.74	0.6	101.8	Analog	0.1000	3
No Gas	Ge	72	1109785.04	0.5	99.7	Pulse	0.1000	3
H2	Sc	45	272592.46	1.3	92.0	Pulse	0.1000	3
H2	Ge	72	361561.28	1.9	92.8	Pulse	0.1000	3
H2	In	115	375614.15	1.8	100.0	Pulse	0.1000	3
He	Sc	45	62209.16	1.6	94.3	Pulse	0.1000	3
He	Ge	72	180266.22	1.9	96.0	Pulse	0.1000	3
He	In	115	80052.51	0.4	96.7	Pulse	0.1000	3
He	Tb	159	210008.17	1.2	99.9	Pulse	0.1000	3
He	Bi	209	129544.79	0.1	100.9	Pulse	0.1000	3

No Gas

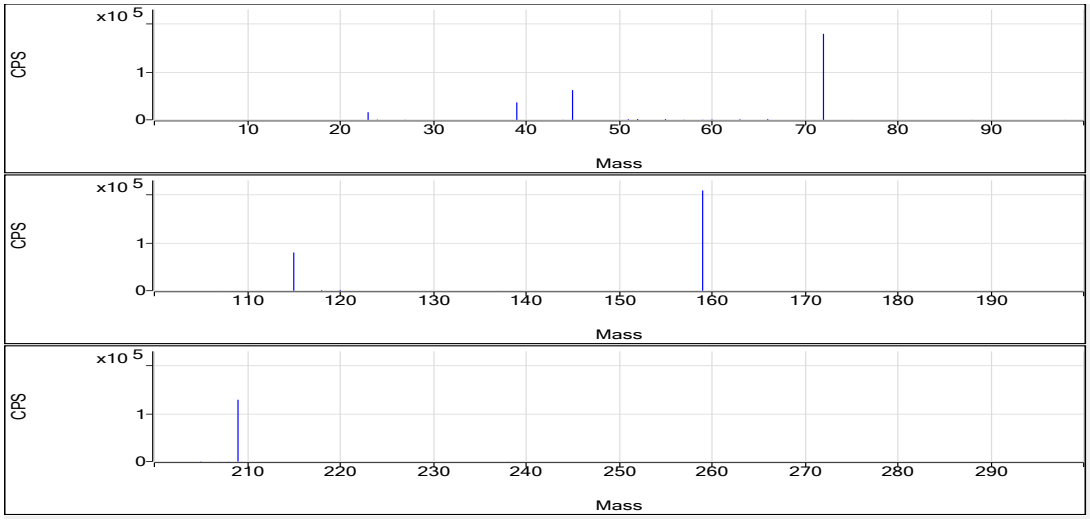


H2



Quantitation Report

He



Quantitation Report

Data File Name	307SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:13:16 PM
Sample Name	410-9925-b-4-b
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

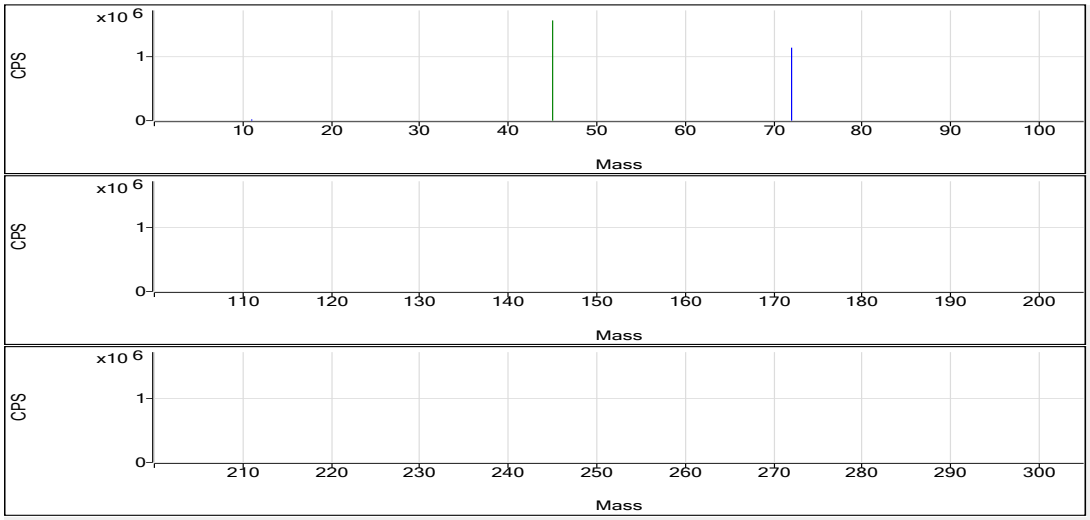
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.077	ppb	10.6	104.67	0.0001	Pulse	0.5000	3
B	11	45	No Gas	28.353	ppb	3.3	19429.89	0.0123	Pulse	0.5000	3
Se	78	115	H2	0.034	ppb	87.6	5.11	0.0000	Pulse	1.5000	3
Na	23	45	He	7353.732	ppb	0.5	1308015.19	20.1378	Analog	0.1000	3
Mg	24	45	He	1702.705	ppb	0.6	143238.19	2.2052	Pulse	0.1000	3
Al	27	45	He	1153.530	ppb	1.1	38277.10	0.5893	Pulse	0.1000	3
K	39	45	He	1278.086	ppb	1.8	161821.38	2.4913	Pulse	0.1000	3
Ca	44	45	He	6899.692	ppb	3.1	33763.36	0.5198	Pulse	0.1000	3
Ti	47	45	He	7.146	ppb	19.7	230.01	0.0035	Pulse	0.1000	3
V	51	45	He	2.342	ppb	8.2	3567.23	0.0549	Pulse	0.1000	3
Cr	52	45	He	1.469	ppb	10.9	3407.19	0.0524	Pulse	0.1000	3
Mn	55	45	He	9.645	ppb	2.4	8109.20	0.1248	Pulse	0.1000	3
Fe	57	45	He	419.891	ppb	4.7	10991.21	0.1692	Pulse	0.1000	3
Co	59	115	He	1.971	ppb	0.9	4430.83	0.0536	Pulse	0.1000	3
Ni	60	115	He	2.671	ppb	16.8	2043.55	0.0248	Pulse	0.1000	3
Cu	63	115	He	2.011	ppb	4.9	3963.99	0.0480	Pulse	0.1000	3
Zn	66	115	He	1.478	ppb	32.8	2033.56	0.0246	Pulse	0.1000	3
As	75	115	He	1.235	ppb	8.5	332.01	0.0040	Pulse	0.5000	3
Sr	88	115	He	31.386	ppb	1.5	33463.27	0.4050	Pulse	0.1000	3
Mo	98	115	He	1.711	ppb	11.4	2120.23	0.0257	Pulse	0.1000	3
Ag	107	115	He	-0.013	ppb	N/A	30.00	0.0004	Pulse	0.1000	3
Cd	111	115	He	0.016	ppb	76.2	7.33	0.0001	Pulse	0.5000	3
Sn	120	115	He	-0.013	ppb	N/A	1056.75	0.0128	Pulse	0.1000	3
Sb	121	72	He	0.183	ppb	43.8	230.01	0.0013	Pulse	0.1000	3
Ba	137	115	He	74.196	ppb	2.5	30694.92	0.3714	Pulse	0.1000	3
Tl	205	209	He	0.095	ppb	32.2	460.03	0.0035	Pulse	0.1000	3
Pb	208	209	He	0.355	ppb	9.0	2403.50	0.0184	Pulse	0.1000	3
U	238	209	He	0.128	ppb	17.0	643.37	0.0049	Pulse	0.1000	3

Quantitation Report

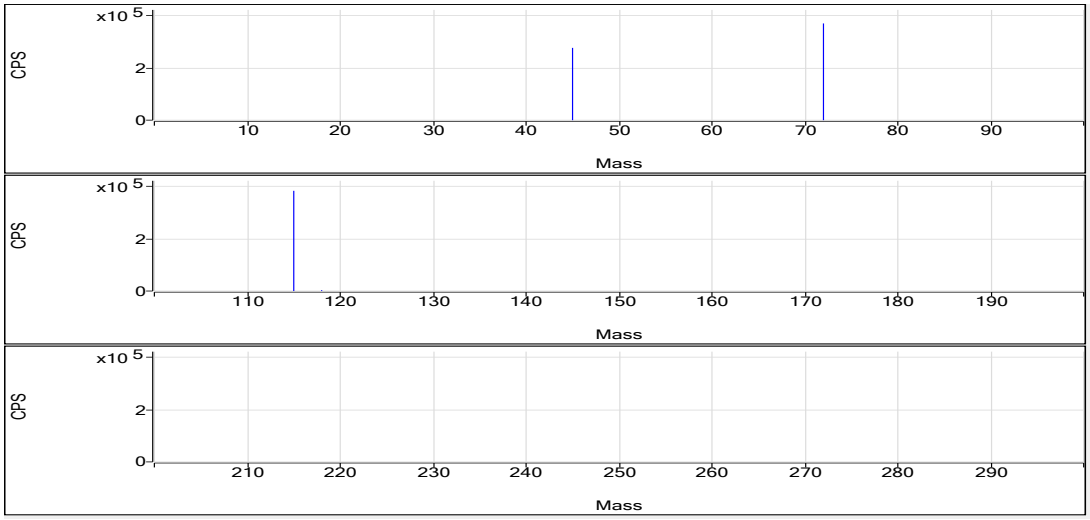
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1575691.43	0.6	105.4	Analog	0.1000	3
No Gas	Ge	72	1147330.24	0.6	103.1	Pulse	0.1000	3
H2	Sc	45	276796.24	0.5	93.4	Pulse	0.1000	3
H2	Ge	72	370366.32	1.1	95.0	Pulse	0.1000	3
H2	In	115	383774.87	0.9	102.2	Pulse	0.1000	3
He	Sc	45	64954.24	0.4	98.4	Pulse	0.1000	3
He	Ge	72	182254.99	0.6	97.0	Pulse	0.1000	3
He	In	115	82633.95	1.5	99.8	Pulse	0.1000	3
He	Tb	159	213785.06	0.5	101.7	Pulse	0.1000	3
He	Bi	209	130336.35	0.5	101.6	Pulse	0.1000	3

No Gas

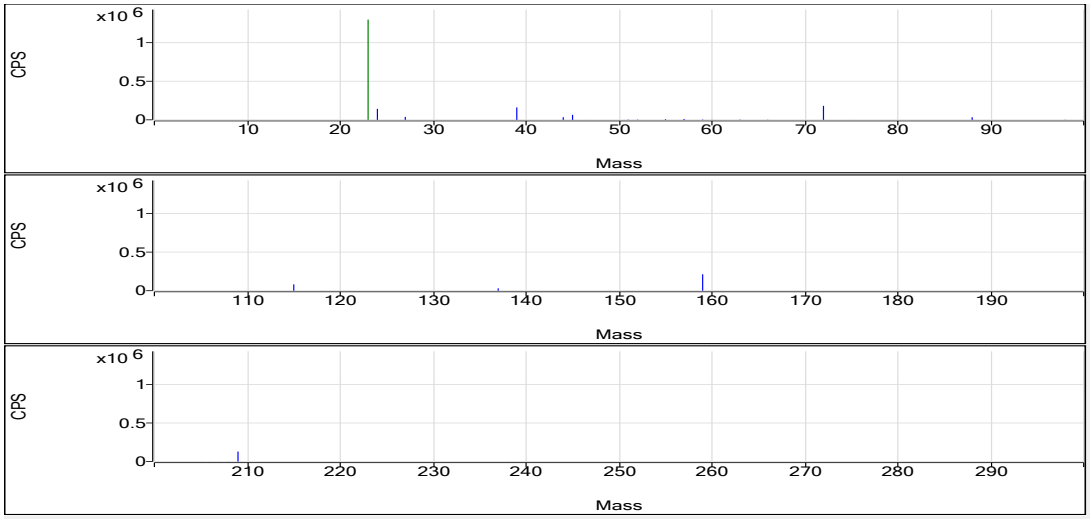


H2



Quantitation Report

He



Quantitation Report

Data File Name	308SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:15:09 PM
Sample Name	410-9925-a-5-d
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

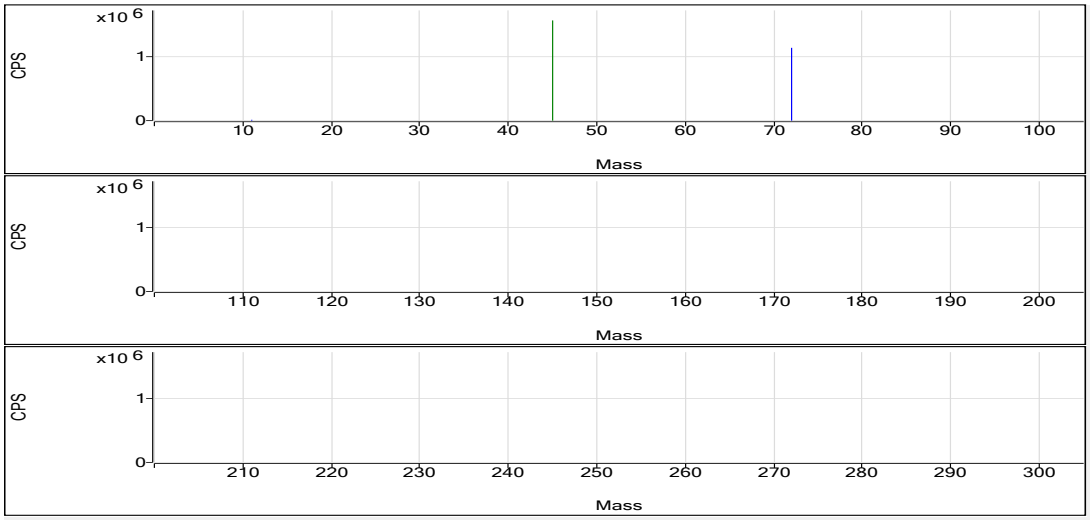
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.005	ppb	115.4	30.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	17.986	ppb	1.7	13257.21	0.0085	Pulse	0.5000	3
Se	78	115	H2	0.014	ppb	139.0	3.33	0.0000	Pulse	1.5000	3
Na	23	45	He	3584.958	ppb	4.2	646862.70	9.9162	Pulse	0.1000	3
Mg	24	45	He	453.062	ppb	6.1	38417.03	0.5892	Pulse	0.1000	3
Al	27	45	He	90.583	ppb	12.4	3173.86	0.0487	Pulse	0.1000	3
K	39	45	He	157.883	ppb	32.5	53230.49	0.8166	Pulse	0.1000	3
Ca	44	45	He	1148.161	ppb	6.2	5831.39	0.0892	Pulse	0.1000	3
Ti	47	45	He	2.045	ppb	34.8	66.67	0.0010	Pulse	0.1000	3
V	51	45	He	0.404	ppb	10.3	1500.13	0.0230	Pulse	0.1000	3
Cr	52	45	He	0.993	ppb	7.6	2790.37	0.0428	Pulse	0.1000	3
Mn	55	45	He	2.704	ppb	1.5	3157.12	0.0483	Pulse	0.1000	3
Fe	57	45	He	73.909	ppb	14.2	2096.91	0.0322	Pulse	0.1000	3
Co	59	115	He	2.981	ppb	10.8	6658.45	0.0803	Pulse	0.1000	3
Ni	60	115	He	1.962	ppb	12.6	1676.82	0.0202	Pulse	0.1000	3
Cu	63	115	He	1.670	ppb	12.4	3490.55	0.0420	Pulse	0.1000	3
Zn	66	115	He	1.398	ppb	14.5	2023.56	0.0244	Pulse	0.1000	3
As	75	115	He	-0.134	ppb	N/A	76.00	0.0009	Pulse	0.5000	3
Sr	88	115	He	6.617	ppb	3.4	7148.71	0.0861	Pulse	0.1000	3
Mo	98	115	He	0.660	ppb	7.4	823.39	0.0099	Pulse	0.1000	3
Ag	107	115	He	-0.014	ppb	N/A	26.67	0.0003	Pulse	0.1000	3
Cd	111	115	He	0.020	ppb	74.2	8.67	0.0001	Pulse	0.5000	3
Sn	120	115	He	-0.090	ppb	N/A	973.40	0.0117	Pulse	0.1000	3
Sb	121	72	He	0.060	ppb	33.5	96.67	0.0005	Pulse	0.1000	3
Ba	137	115	He	13.367	ppb	1.7	5564.65	0.0670	Pulse	0.1000	3
Tl	205	209	He	0.021	ppb	78.1	183.34	0.0014	Pulse	0.1000	3
Pb	208	209	He	0.207	ppb	10.6	1663.43	0.0125	Pulse	0.1000	3
U	238	209	He	0.011	ppb	60.5	66.67	0.0005	Pulse	0.1000	3

Quantitation Report

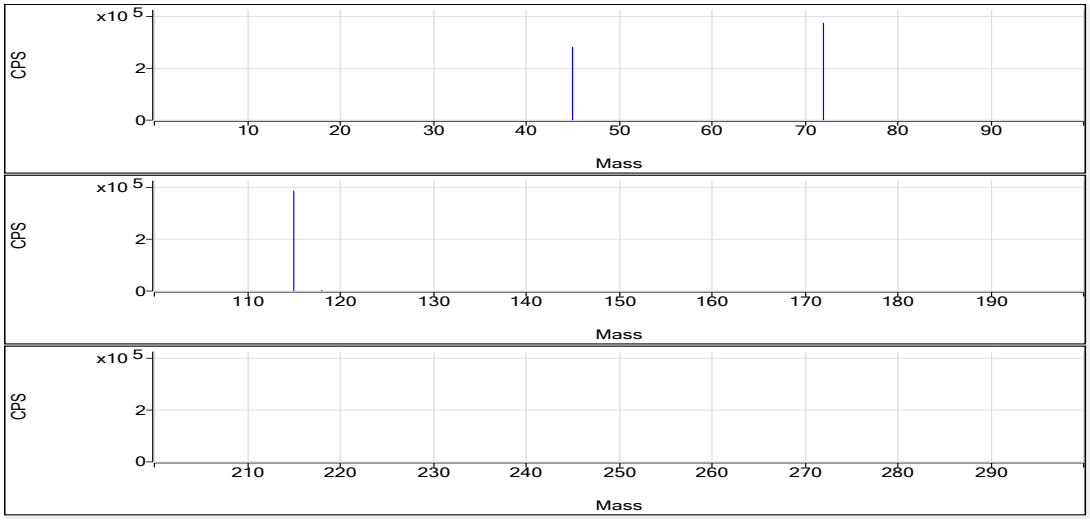
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1566258.83	0.2	104.8	Analog	0.1000	3
No Gas	Ge	72	1138126.70	1.1	102.3	Pulse	0.1000	3
H2	Sc	45	282310.55	0.6	95.3	Pulse	0.1000	3
H2	Ge	72	374858.72	1.2	96.2	Pulse	0.1000	3
H2	In	115	386206.18	0.4	102.9	Pulse	0.1000	3
He	Sc	45	65296.05	3.5	98.9	Pulse	0.1000	3
He	Ge	72	186082.72	0.9	99.1	Pulse	0.1000	3
He	In	115	83005.97	1.2	100.3	Pulse	0.1000	3
He	Tb	159	213466.85	1.5	101.5	Pulse	0.1000	3
He	Bi	209	132757.60	0.8	103.4	Pulse	0.1000	3

No Gas

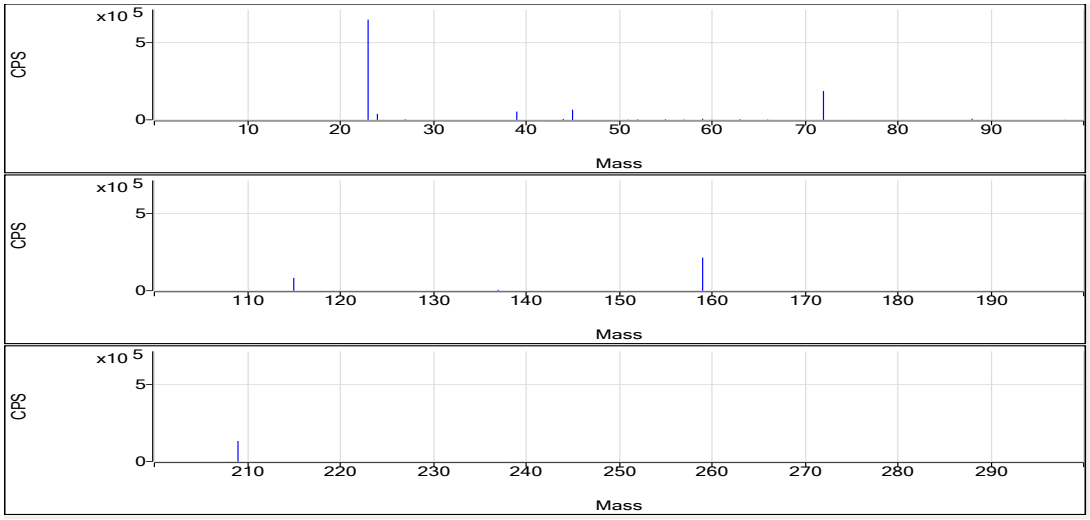


H2



Quantitation Report

He



Quantitation Report

Data File Name	309SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:17:02 PM
Sample Name	410-9925-a-6-d
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

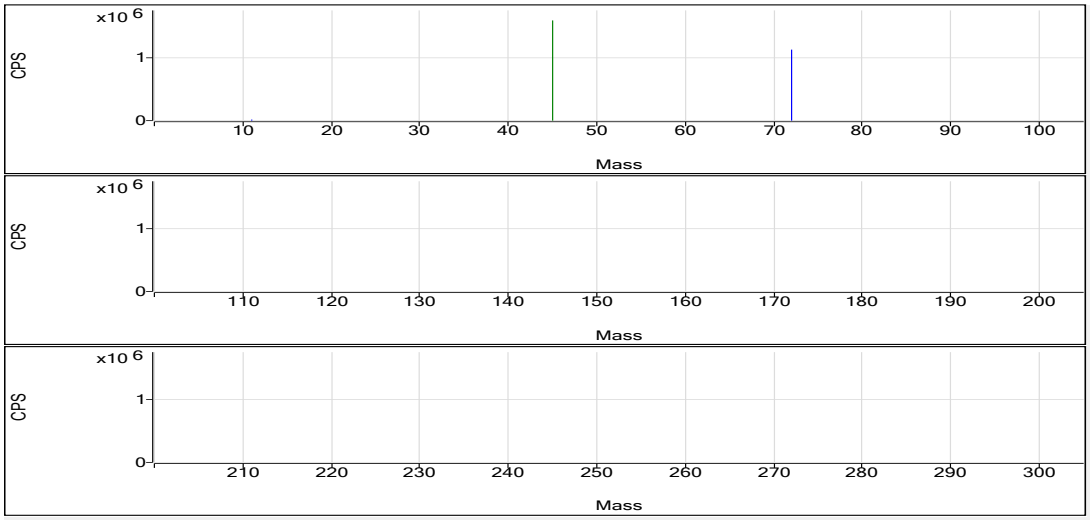
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.173	ppb	6.7	204.67	0.0001	Pulse	0.5000	3
B	11	45	No Gas	23.937	ppb	1.8	16946.90	0.0107	Pulse	0.5000	3
Se	78	115	H2	0.088	ppb	45.7	10.22	0.0000	Pulse	1.5000	3
Na	23	45	He	3683.612	ppb	0.3	667405.82	10.1837	Pulse	0.1000	3
Mg	24	45	He	671.532	ppb	0.7	57127.18	0.8717	Pulse	0.1000	3
Al	27	45	He	6351.119	ppb	0.8	211844.71	3.2326	Pulse	0.1000	3
K	39	45	He	979.151	ppb	3.1	133981.83	2.0444	Pulse	0.1000	3
Ca	44	45	He	774.960	ppb	1.0	4017.35	0.0613	Pulse	0.1000	3
Ti	47	45	He	167.582	ppb	3.3	5441.17	0.0830	Pulse	0.1000	3
V	51	45	He	9.971	ppb	3.3	11845.20	0.1808	Pulse	0.1000	3
Cr	52	45	He	7.679	ppb	4.2	11708.47	0.1786	Pulse	0.1000	3
Mn	55	45	He	55.236	ppb	0.5	41112.00	0.6273	Pulse	0.1000	3
Fe	57	45	He	5538.909	ppb	1.1	143927.40	2.1962	Pulse	0.1000	3
Co	59	115	He	1.603	ppb	2.1	3640.57	0.0439	Pulse	0.1000	3
Ni	60	115	He	4.716	ppb	18.0	3140.45	0.0379	Pulse	0.1000	3
Cu	63	115	He	4.984	ppb	2.8	8265.93	0.0996	Pulse	0.1000	3
Zn	66	115	He	9.128	ppb	6.3	3763.96	0.0454	Pulse	0.1000	3
As	75	115	He	1.108	ppb	9.1	309.34	0.0037	Pulse	0.5000	3
Sr	88	115	He	6.728	ppb	7.3	7258.78	0.0875	Pulse	0.1000	3
Mo	98	115	He	0.559	ppb	9.8	696.71	0.0084	Pulse	0.1000	3
Ag	107	115	He	-0.007	ppb	N/A	43.33	0.0005	Pulse	0.1000	3
Cd	111	115	He	0.014	ppb	26.2	6.67	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.073	ppb	243.3	1160.10	0.0140	Pulse	0.1000	3
Sb	121	72	He	0.152	ppb	8.7	196.68	0.0011	Pulse	0.1000	3
Ba	137	115	He	25.958	ppb	0.8	10787.93	0.1300	Pulse	0.1000	3
Tl	205	209	He	0.081	ppb	16.6	413.36	0.0031	Pulse	0.1000	3
Pb	208	209	He	3.211	ppb	1.5	17555.28	0.1330	Pulse	0.1000	3
U	238	209	He	0.209	ppb	9.3	1053.42	0.0080	Pulse	0.1000	3

Quantitation Report

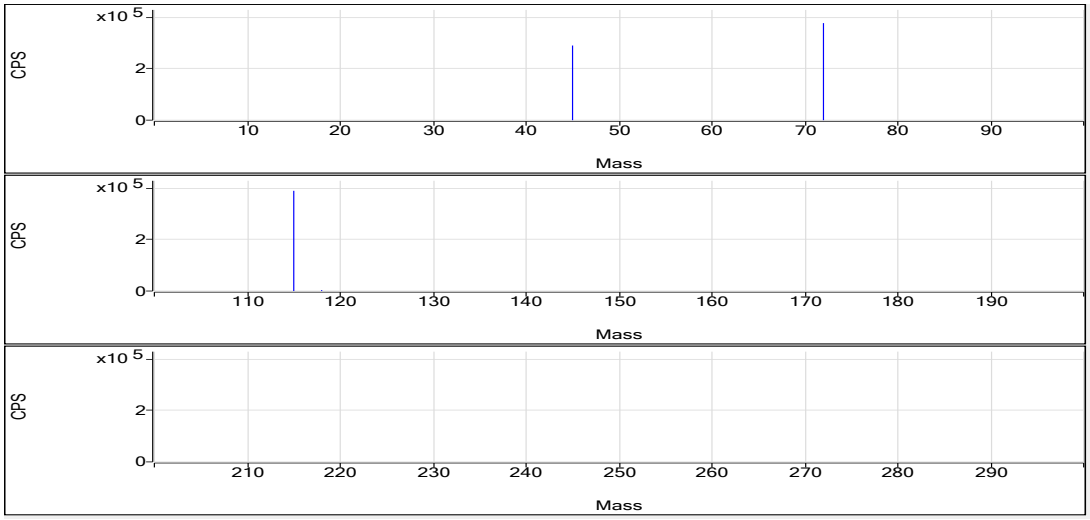
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1586264.35	0.4	106.1	Analog	0.1000	3
No Gas	Ge	72	1124030.48	1.2	101.0	Pulse	0.1000	3
H2	Sc	45	290663.64	1.1	98.1	Pulse	0.1000	3
H2	Ge	72	377881.88	2.1	97.0	Pulse	0.1000	3
H2	In	115	390267.57	0.9	103.9	Pulse	0.1000	3
He	Sc	45	65537.04	0.8	99.3	Pulse	0.1000	3
He	Ge	72	183276.60	0.4	97.6	Pulse	0.1000	3
He	In	115	82962.53	0.9	100.2	Pulse	0.1000	3
He	Tb	159	215063.79	0.5	102.3	Pulse	0.1000	3
He	Bi	209	131969.89	1.6	102.8	Pulse	0.1000	3

No Gas

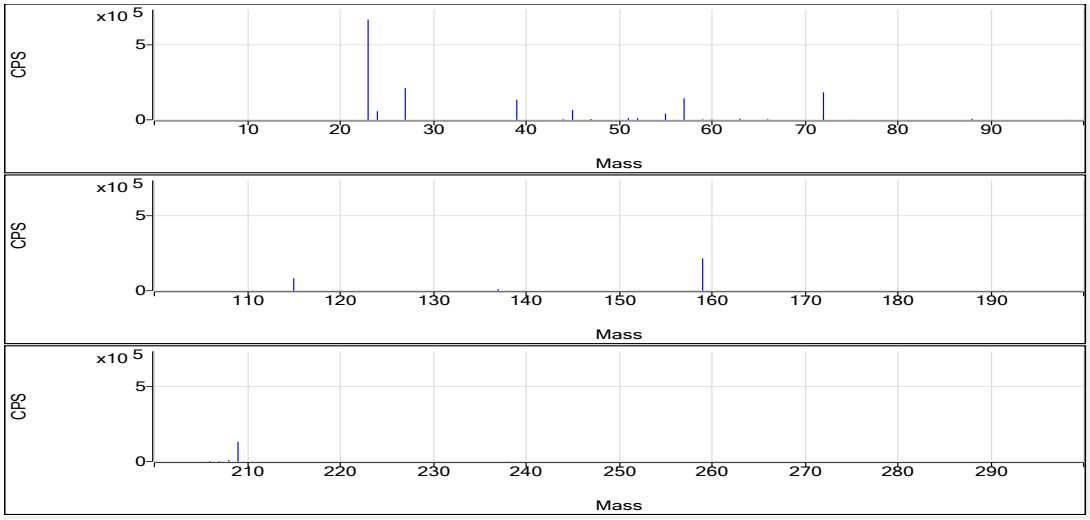


H2



Quantitation Report

He



Quantitation Report

Data File Name	310SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:18:56 PM
Sample Name	410-9925-a-8-d
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

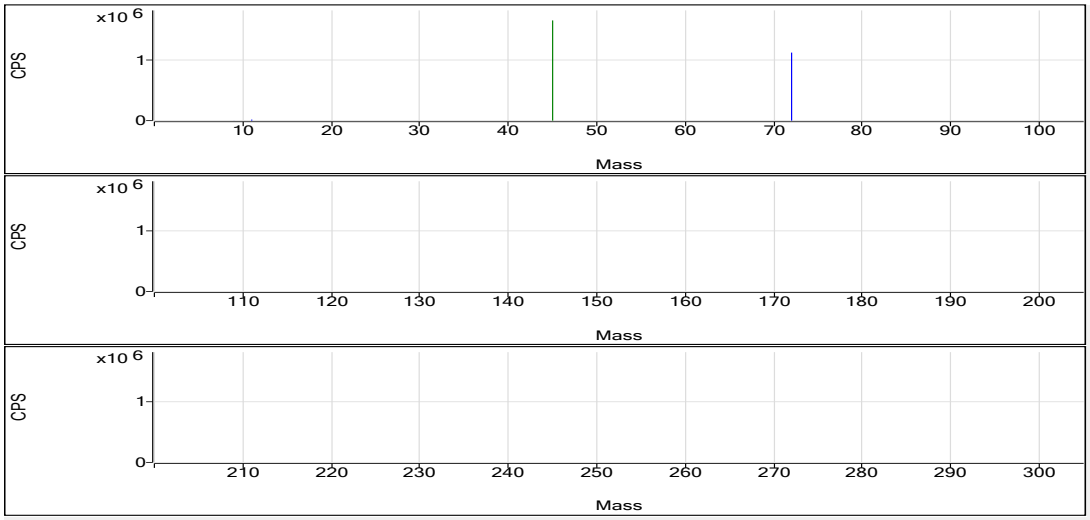
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.818	ppb	5.1	906.70	0.0006	Pulse	0.5000	3
B	11	45	No Gas	23.138	ppb	1.1	17117.76	0.0104	Pulse	0.5000	3
Se	78	115	H2	0.917	ppb	7.5	85.56	0.0002	Pulse	1.5000	3
Na	23	45	He	21015.769	ppb	2.7	3974217.13	57.1917	Analog	0.1000	3
Mg	24	45	He	2605.368	ppb	1.5	234403.46	3.3725	Pulse	0.1000	3
Al	27	45	He	37044.846	ppb	2.2	1309473.16	18.8419	Analog	0.1000	3
K	39	45	He	3027.835	ppb	1.7	354948.62	5.1072	Pulse	0.1000	3
Ca	44	45	He	7276.880	ppb	1.5	38093.72	0.5480	Pulse	0.1000	3
Ti	47	45	He	759.602	ppb	3.3	26147.43	0.3763	Pulse	0.1000	3
V	51	45	He	47.802	ppb	1.6	55928.05	0.8047	Pulse	0.1000	3
Cr	52	45	He	22.181	ppb	2.9	32891.28	0.4733	Pulse	0.1000	3
Mn	55	45	He	247.863	ppb	1.1	191154.35	2.7503	Pulse	0.1000	3
Fe	57	45	He	25341.496	ppb	1.5	697589.39	10.0374	Pulse	0.1000	3
Co	59	115	He	7.685	ppb	3.3	16923.66	0.2046	Pulse	0.1000	3
Ni	60	115	He	21.385	ppb	2.6	11985.27	0.1449	Pulse	0.1000	3
Cu	63	115	He	34.527	ppb	0.4	50726.67	0.6133	Pulse	0.1000	3
Zn	66	115	He	87.166	ppb	0.9	21286.19	0.2574	Pulse	0.1000	3
As	75	115	He	4.170	ppb	9.0	882.70	0.0107	Pulse	0.5000	3
Sr	88	115	He	28.541	ppb	3.6	30473.40	0.3684	Pulse	0.1000	3
Mo	98	115	He	6.497	ppb	5.2	8069.20	0.0975	Pulse	0.1000	3
Ag	107	115	He	0.068	ppb	13.5	216.68	0.0026	Pulse	0.1000	3
Cd	111	115	He	0.135	ppb	26.9	46.67	0.0006	Pulse	0.5000	3
Sn	120	115	He	0.893	ppb	14.5	2106.90	0.0255	Pulse	0.1000	3
Sb	121	72	He	0.364	ppb	12.0	433.36	0.0023	Pulse	0.1000	3
Ba	137	115	He	178.373	ppb	2.7	73821.07	0.8926	Pulse	0.1000	3
Tl	205	209	He	0.226	ppb	17.4	963.41	0.0073	Pulse	0.1000	3
Pb	208	209	He	32.336	ppb	0.4	171344.65	1.3017	Pulse	0.1000	3
U	238	209	He	0.827	ppb	7.1	4117.48	0.0313	Pulse	0.1000	3

Quantitation Report

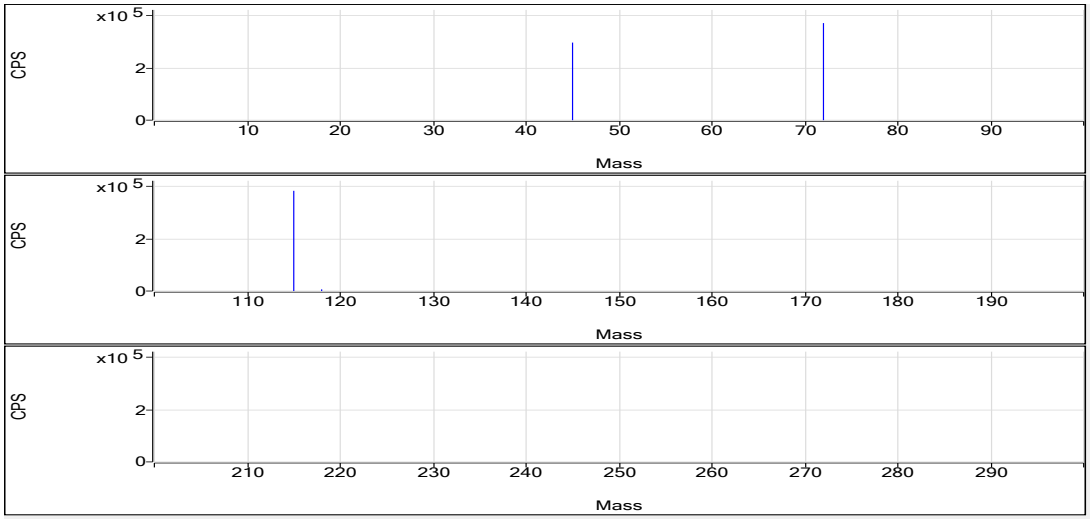
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1648155.03	1.1	110.2	Analog	0.1000	3
No Gas	Ge	72	1118916.81	0.5	100.5	Pulse	0.1000	3
H2	Sc	45	297160.11	1.8	100.3	Pulse	0.1000	3
H2	Ge	72	371854.03	0.7	95.4	Pulse	0.1000	3
H2	In	115	383945.33	0.5	102.3	Pulse	0.1000	3
He	Sc	45	69511.97	1.9	105.3	Pulse	0.1000	3
He	Ge	72	184907.64	0.8	98.4	Pulse	0.1000	3
He	In	115	82714.26	1.0	99.9	Pulse	0.1000	3
He	Tb	159	224181.64	0.7	106.6	Pulse	0.1000	3
He	Bi	209	131631.29	0.5	102.6	Pulse	0.1000	3

No Gas

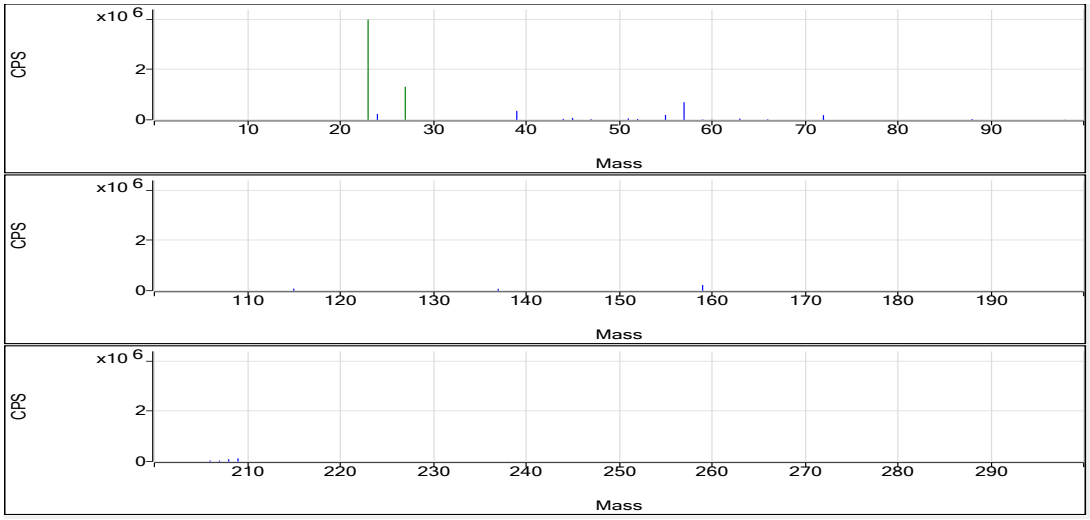


H2



Quantitation Report

He



Quantitation Report

Data File Name	311SMPL.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:20:49 PM
Sample Name	410-9925-a-7-d
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

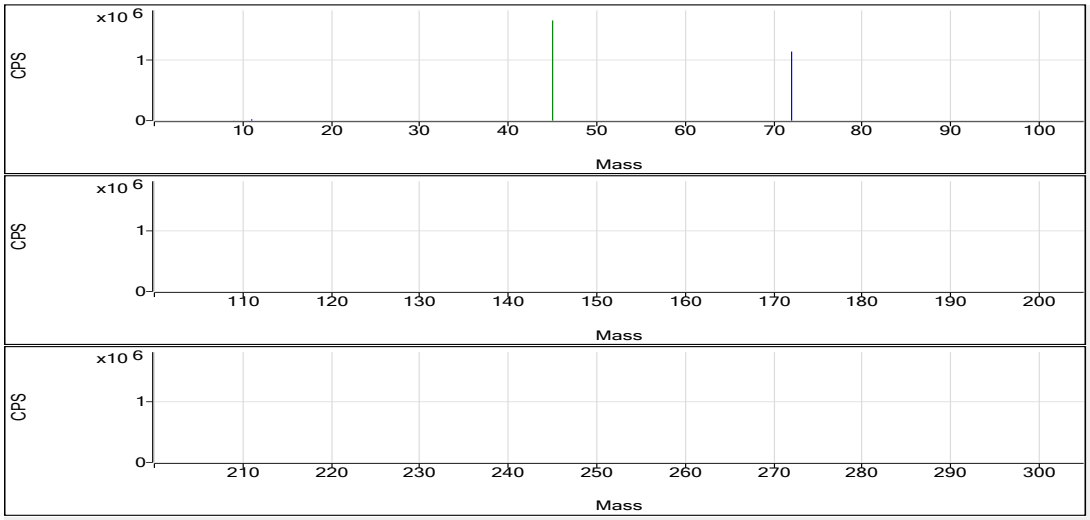
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	2.085	ppb	4.2	2269.52	0.0014	Pulse	0.5000	3
B	11	45	No Gas	33.077	ppb	4.5	23200.58	0.0141	Pulse	0.5000	3
Se	78	115	H2	0.125	ppb	7.8	13.56	0.0000	Pulse	1.5000	3
Na	23	45	He	4114.727	ppb	0.7	763663.90	11.3530	Pulse	0.1000	3
Mg	24	45	He	4354.992	ppb	0.3	379060.46	5.6352	Pulse	0.1000	3
Al	27	45	He	24150.274	ppb	0.8	826307.67	12.2844	Pulse	0.1000	3
K	39	45	He	4529.285	ppb	0.9	494530.44	7.3520	Pulse	0.1000	3
Ca	44	45	He	5517.917	ppb	1.1	28007.59	0.4164	Pulse	0.1000	3
Ti	47	45	He	253.539	ppb	0.7	8449.38	0.1256	Pulse	0.1000	3
V	51	45	He	27.353	ppb	2.2	31444.61	0.4674	Pulse	0.1000	3
Cr	52	45	He	17.979	ppb	1.7	26090.79	0.3879	Pulse	0.1000	3
Mn	55	45	He	128.088	ppb	1.8	96200.29	1.4302	Pulse	0.1000	3
Fe	57	45	He	14128.966	ppb	0.6	376521.57	5.5976	Pulse	0.1000	3
Co	59	115	He	3.955	ppb	2.0	8986.39	0.1060	Pulse	0.1000	3
Ni	60	115	He	16.591	ppb	4.6	9670.16	0.1141	Pulse	0.1000	3
Cu	63	115	He	12.648	ppb	1.2	19737.34	0.2329	Pulse	0.1000	3
Zn	66	115	He	43.973	ppb	2.8	11868.59	0.1400	Pulse	0.1000	3
As	75	115	He	2.582	ppb	17.0	598.68	0.0071	Pulse	0.5000	3
Sr	88	115	He	40.504	ppb	1.0	44266.38	0.5223	Pulse	0.1000	3
Mo	98	115	He	3.379	ppb	6.3	4297.45	0.0507	Pulse	0.1000	3
Ag	107	115	He	0.007	ppb	33.5	76.67	0.0009	Pulse	0.1000	3
Cd	111	115	He	0.033	ppb	40.2	13.33	0.0002	Pulse	0.5000	3
Sn	120	115	He	0.214	ppb	40.5	1353.45	0.0160	Pulse	0.1000	3
Sb	121	72	He	0.287	ppb	4.4	346.69	0.0019	Pulse	0.1000	3
Ba	137	115	He	214.339	ppb	1.7	90888.64	1.0726	Pulse	0.1000	3
Tl	205	209	He	0.271	ppb	11.2	1153.43	0.0086	Pulse	0.1000	3
Pb	208	209	He	7.201	ppb	1.0	39177.68	0.2931	Pulse	0.1000	3
U	238	209	He	0.583	ppb	6.7	2953.77	0.0221	Pulse	0.1000	3

Quantitation Report

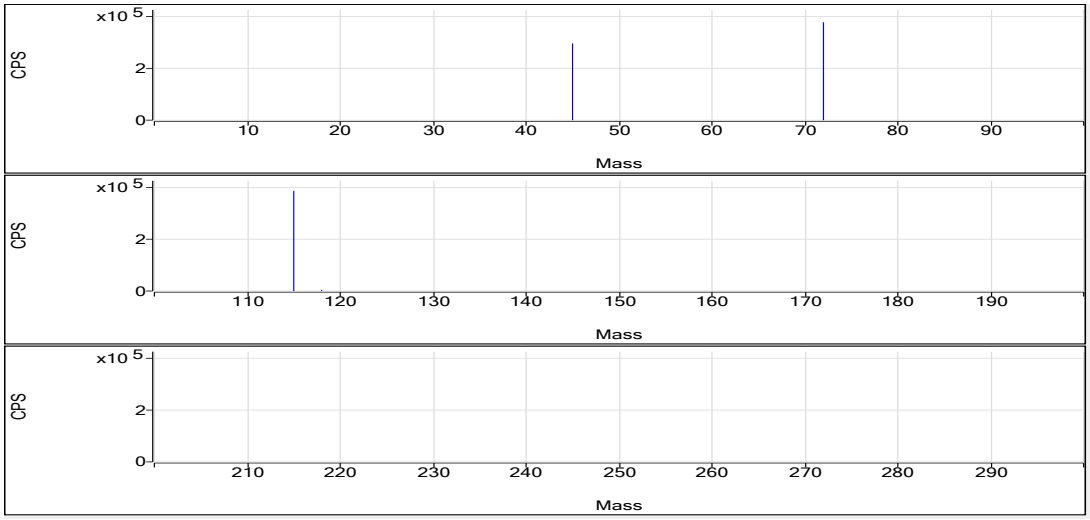
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1646309.97	0.2	110.1	Analog	0.1000	3
No Gas	Ge	72	1134615.69	0.7	102.0	Pulse	0.1000	3
H2	Sc	45	296169.66	1.0	100.0	Pulse	0.1000	3
H2	Ge	72	377968.29	0.4	97.0	Pulse	0.1000	3
H2	In	115	386972.64	1.6	103.1	Pulse	0.1000	3
He	Sc	45	67267.90	1.0	101.9	Pulse	0.1000	3
He	Ge	72	184192.24	0.4	98.1	Pulse	0.1000	3
He	In	115	84746.47	0.9	102.4	Pulse	0.1000	3
He	Tb	159	221321.65	1.5	105.3	Pulse	0.1000	3
He	Bi	209	133645.78	1.0	104.1	Pulse	0.1000	3

No Gas

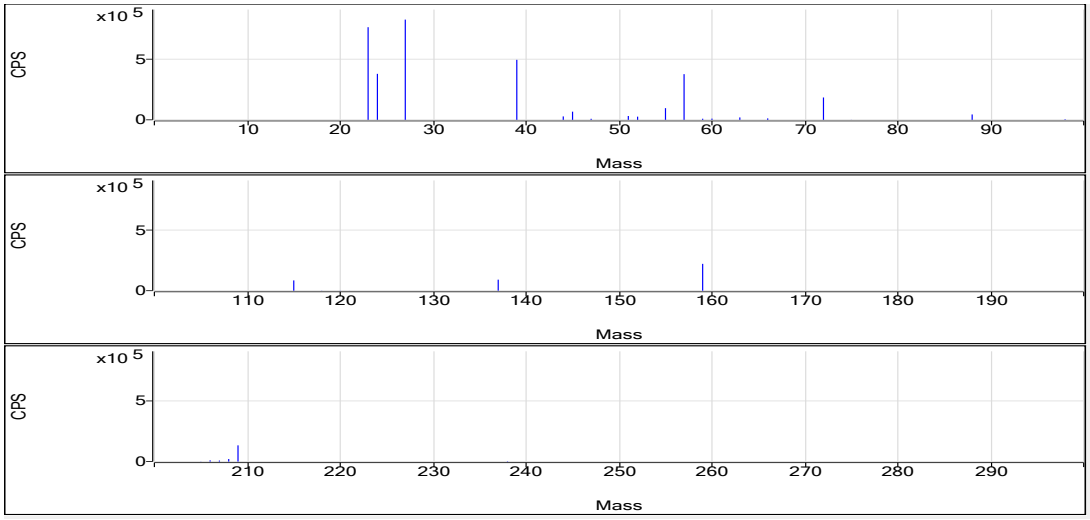


H2



Quantitation Report

He



Quantitation Report

Data File Name	312_CCV.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:22:43 PM
Sample Name	ccv 361008
Sample Type	CCV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

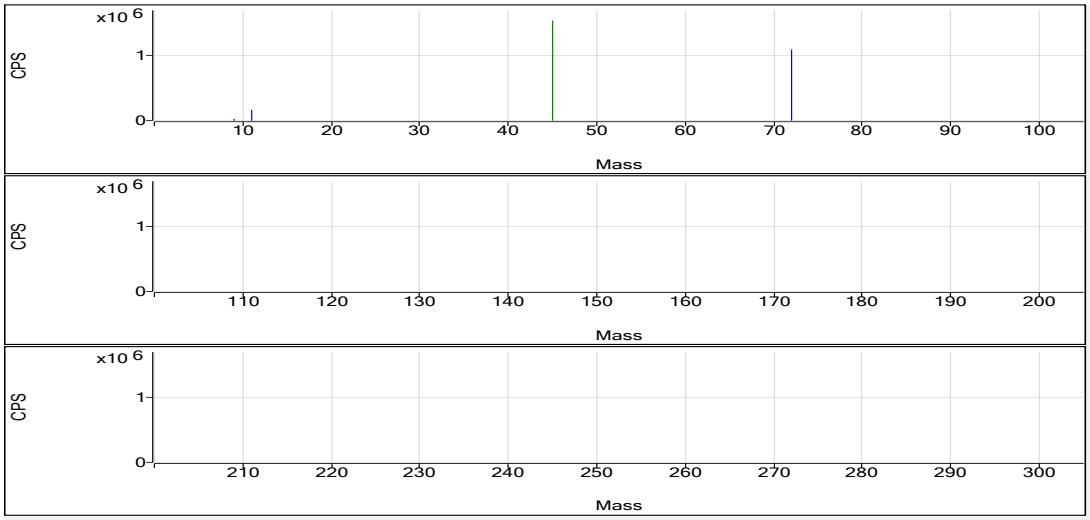
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	27.666	ppb	2.9	27938.50	0.0181	Pulse	0.5000	3
B	11	45	No Gas	281.447	ppb	3.6	164758.97	0.1067	Pulse	0.5000	3
Se	78	115	H2	28.544	ppb	0.9	2531.78	0.0068	Pulse	1.5000	3
Na	23	45	He	4731.042	ppb	0.3	830770.71	13.0245	Pulse	0.1000	3
Mg	24	45	He	5005.313	ppb	1.7	413043.98	6.4762	Pulse	0.1000	3
Al	27	45	He	4960.853	ppb	0.6	161087.20	2.5255	Pulse	0.1000	3
K	39	45	He	5058.895	ppb	1.2	519416.88	8.1437	Pulse	0.1000	3
Ca	44	45	He	4978.355	ppb	1.2	23980.35	0.3760	Pulse	0.1000	3
Ti	47	45	He	298.834	ppb	3.2	9443.31	0.1480	Pulse	0.1000	3
V	51	45	He	302.134	ppb	1.4	318885.31	4.9996	Pulse	0.1000	3
Cr	52	45	He	291.792	ppb	0.9	379575.27	5.9511	Pulse	0.1000	3
Mn	55	45	He	300.498	ppb	2.2	212400.56	3.3304	Pulse	0.1000	3
Fe	57	45	He	5020.834	ppb	1.0	126994.71	1.9910	Pulse	0.1000	3
Co	59	115	He	278.990	ppb	1.9	600141.50	7.3732	Pulse	0.1000	3
Ni	60	115	He	300.104	ppb	1.6	157467.50	1.9345	Pulse	0.1000	3
Cu	63	115	He	300.739	ppb	1.9	426656.92	5.2418	Pulse	0.1000	3
Zn	66	115	He	296.302	ppb	1.6	67193.10	0.8255	Pulse	0.1000	3
As	75	115	He	296.138	ppb	2.5	54725.18	0.6724	Pulse	0.5000	3
Sr	88	115	He	30.045	ppb	2.6	31558.92	0.3877	Pulse	0.1000	3
Mo	98	115	He	30.199	ppb	2.1	36898.95	0.4533	Pulse	0.1000	3
Ag	107	115	He	30.212	ppb	0.9	68571.60	0.8423	Pulse	0.1000	3
Cd	111	115	He	30.146	ppb	1.5	9852.82	0.1210	Pulse	0.5000	3
Sn	120	115	He	30.327	ppb	1.9	35579.57	0.4371	Pulse	0.1000	3
Sb	121	72	He	30.110	ppb	3.6	31903.96	0.1808	Pulse	0.1000	3
Ba	137	115	He	305.890	ppb	1.6	124591.78	1.5306	Pulse	0.1000	3
Tl	205	209	He	29.820	ppb	1.0	112408.53	0.8652	Pulse	0.1000	3
Pb	208	209	He	29.827	ppb	0.6	156039.41	1.2010	Pulse	0.1000	3
U	238	209	He	49.866	ppb	0.1	244207.85	1.8796	Pulse	0.1000	3

Quantitation Report

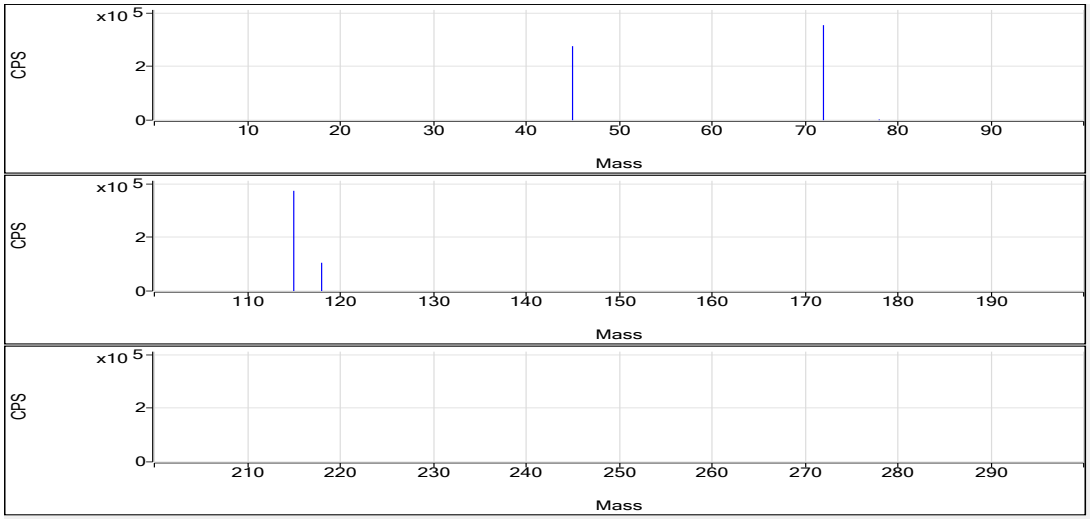
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1544721.28	2.4	103.3	Analog	0.1000	3
No Gas	Ge	72	1096941.34	0.7	98.6	Pulse	0.1000	3
H2	Sc	45	276074.55	2.8	93.2	Pulse	0.1000	3
H2	Ge	72	354454.37	1.9	91.0	Pulse	0.1000	3
H2	In	115	373927.85	2.0	99.6	Pulse	0.1000	3
He	Sc	45	63786.30	1.1	96.7	Pulse	0.1000	3
He	Ge	72	176447.27	1.2	93.9	Pulse	0.1000	3
He	In	115	81413.47	1.8	98.4	Pulse	0.1000	3
He	Tb	159	212483.34	1.1	101.1	Pulse	0.1000	3
He	Bi	209	129929.21	0.8	101.2	Pulse	0.1000	3

No Gas

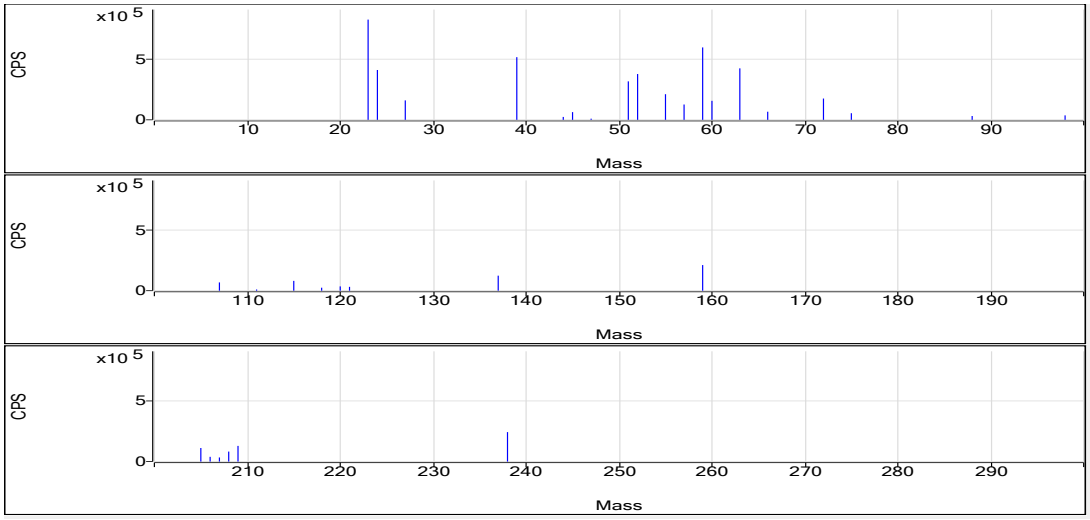


H2



Quantitation Report

He



Quantitation Report

Data File Name	313_CCB.d
Acq/Data Batch	C:\Agilent\ICPMH\1\DATA\20H26A00.b
Acq Time	8/26/2020 9:24:37 PM
Sample Name	ccb 360854
Sample Type	CCB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	us19_usr_ins03786
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/26/2020 9:48:09 AM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

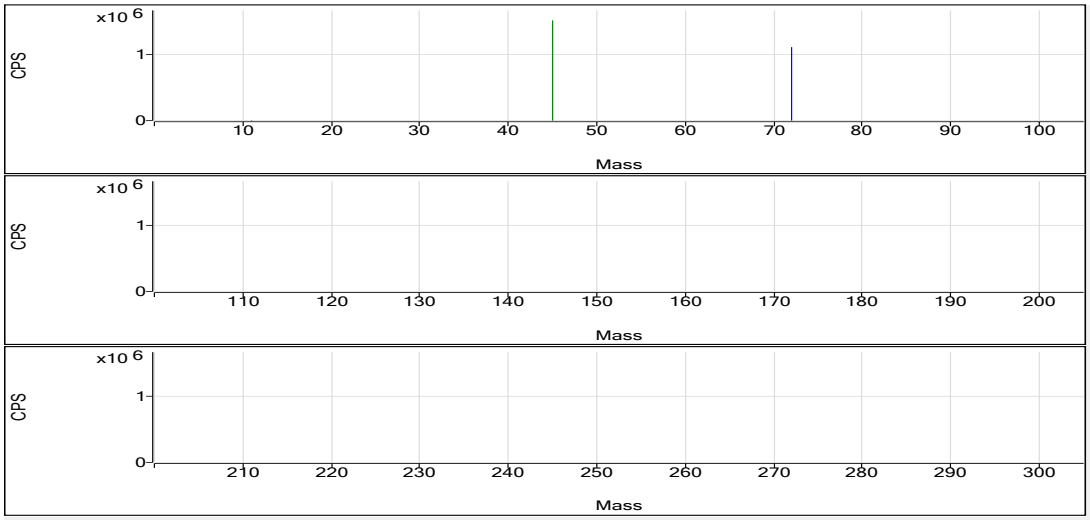
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.038	ppb	44.1	62.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	6.726	ppb	2.7	6466.09	0.0043	Pulse	0.5000	3
Se	78	115	H2	0.015	ppb	88.4	3.34	0.0000	Pulse	1.5000	3
Na	23	45	He	25.397	ppb	9.1	16586.35	0.2620	Pulse	0.1000	3
Mg	24	45	He	4.063	ppb	28.8	540.03	0.0085	Pulse	0.1000	3
Al	27	45	He	5.324	ppb	9.7	340.02	0.0054	Pulse	0.1000	3
K	39	45	He	2.116	ppb	575.2	36960.31	0.5837	Pulse	0.1000	3
Ca	44	45	He	-2.469	ppb	N/A	196.68	0.0031	Pulse	0.1000	3
Ti	47	45	He	0.000	ppb	N/A	0.00	0.0000	Pulse	0.1000	3
V	51	45	He	0.290	ppb	25.8	1333.44	0.0211	Pulse	0.1000	3
Cr	52	45	He	0.267	ppb	24.4	1773.50	0.0280	Pulse	0.1000	3
Mn	55	45	He	0.434	ppb	13.7	1476.79	0.0233	Pulse	0.1000	3
Fe	57	45	He	6.323	ppb	57.7	343.35	0.0054	Pulse	0.1000	3
Co	59	115	He	0.070	ppb	33.9	273.35	0.0034	Pulse	0.1000	3
Ni	60	115	He	0.239	ppb	97.9	740.05	0.0091	Pulse	0.1000	3
Cu	63	115	He	0.116	ppb	70.2	1213.42	0.0150	Pulse	0.1000	3
Zn	66	115	He	-0.856	ppb	N/A	1476.80	0.0183	Pulse	0.1000	3
As	75	115	He	0.030	ppb	232.8	104.00	0.0013	Pulse	0.5000	3
Sr	88	115	He	0.066	ppb	68.0	143.34	0.0018	Pulse	0.1000	3
Mo	98	115	He	0.085	ppb	36.9	103.34	0.0013	Pulse	0.1000	3
Ag	107	115	He	-0.013	ppb	N/A	30.00	0.0004	Pulse	0.1000	3
Cd	111	115	He	0.006	ppb	97.2	4.00	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.385	ppb	53.5	1486.79	0.0184	Pulse	0.1000	3
Sb	121	72	He	0.166	ppb	6.9	206.68	0.0012	Pulse	0.1000	3
Ba	137	115	He	0.223	ppb	45.9	103.34	0.0013	Pulse	0.1000	3
Tl	205	209	He	0.107	ppb	22.9	503.36	0.0039	Pulse	0.1000	3
Pb	208	209	He	-0.018	ppb	N/A	453.35	0.0035	Pulse	0.1000	3
U	238	209	He	0.033	ppb	4.2	176.68	0.0014	Pulse	0.1000	3

Quantitation Report

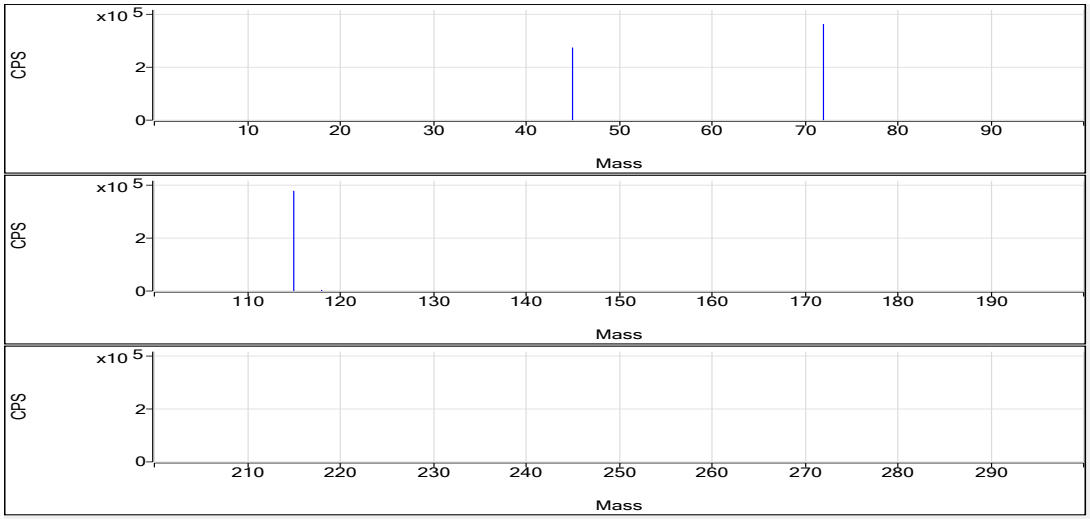
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1515893.31	0.9	101.4	Analog	0.1000	3
No Gas	Ge	72	1111505.97	0.5	99.9	Pulse	0.1000	3
H2	Sc	45	273576.87	0.3	92.3	Pulse	0.1000	3
H2	Ge	72	362401.39	0.8	93.0	Pulse	0.1000	3
H2	In	115	377657.22	1.3	100.6	Pulse	0.1000	3
He	Sc	45	63304.06	2.0	95.9	Pulse	0.1000	3
He	Ge	72	179020.53	0.4	95.3	Pulse	0.1000	3
He	In	115	80900.04	0.6	97.7	Pulse	0.1000	3
He	Tb	159	210565.08	1.0	100.1	Pulse	0.1000	3
He	Bi	209	129851.74	0.6	101.2	Pulse	0.1000	3

No Gas

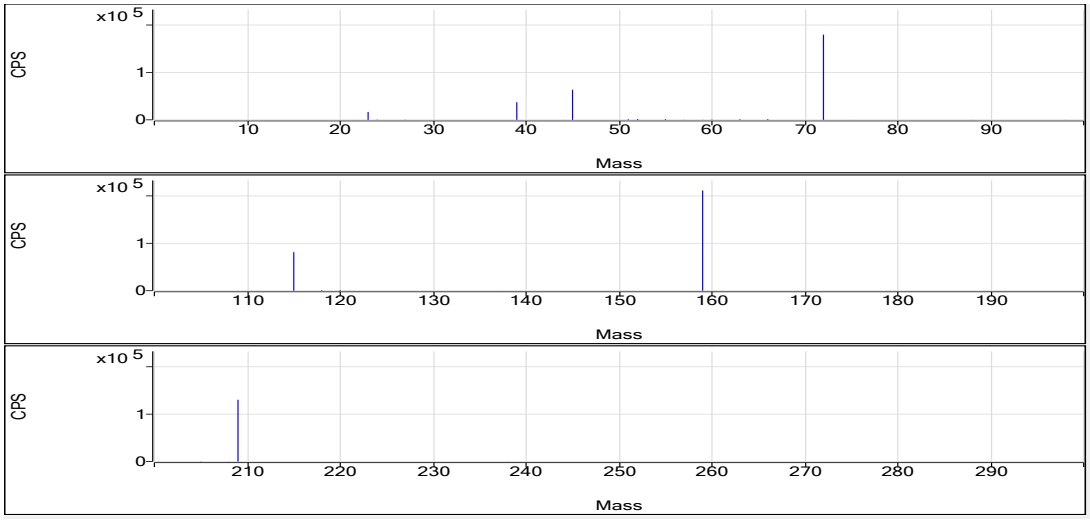


H2



Quantitation Report

He



Quantitation Report

Data File Name	007CALB.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 10:05:56 AM
Sample Name	ICIS 128763
Sample Type	CalBlk
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

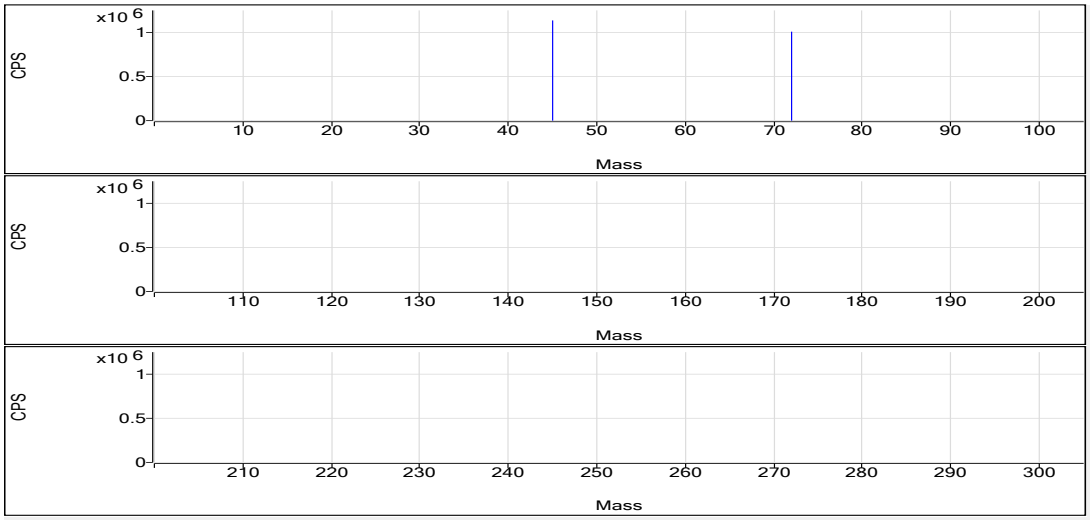
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.000	ppb	N/A	4.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	0.000	ppb	N/A	505.34	0.0004	Pulse	0.5000	3
Se	78	115	H2	0.000	ppb	N/A	0.89	0.0000	Pulse	1.5000	3
Na	23	72	He	0.000	ppb	N/A	17587.56	0.0673	Pulse	0.1000	3
Mg	24	45	He	0.000	ppb	N/A	123.34	0.0014	Pulse	0.1000	3
Al	27	45	He	0.000	ppb	N/A	116.67	0.0013	Pulse	0.1000	3
K	39	45	He	0.000	ppb	N/A	34017.14	0.3911	Pulse	0.1000	3
Ca	44	45	He	0.000	ppb	N/A	160.01	0.0018	Pulse	0.1000	3
Ti	47	45	He	0.000	ppb	N/A	0.00	0.0000	Pulse	0.1000	3
V	51	45	He	0.000	ppb	N/A	1580.15	0.0182	Pulse	0.1000	3
Cr	52	45	He	0.000	ppb	N/A	2173.59	0.0250	Pulse	0.1000	3
Mn	55	45	He	0.000	ppb	N/A	210.01	0.0024	Pulse	0.1000	3
Fe	57	45	He	0.000	ppb	N/A	220.01	0.0025	Pulse	0.1000	3
Co	59	115	He	0.000	ppb	N/A	33.33	0.0002	Pulse	0.1000	3
Ni	60	115	He	0.000	ppb	N/A	933.40	0.0069	Pulse	0.1000	3
Cu	63	115	He	0.000	ppb	N/A	1493.46	0.0110	Pulse	0.1000	3
Zn	66	115	He	0.000	ppb	N/A	1856.86	0.0136	Pulse	0.1000	3
As	75	115	He	0.000	ppb	N/A	48.00	0.0004	Pulse	0.5000	3
Sr	88	115	He	0.000	ppb	N/A	23.33	0.0002	Pulse	0.1000	3
Mo	98	115	He	0.000	ppb	N/A	140.01	0.0010	Pulse	0.1000	3
Ag	107	115	He	0.000	ppb	N/A	43.33	0.0003	Pulse	0.1000	3
Cd	111	115	He	0.000	ppb	N/A	2.67	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.000	ppb	N/A	1710.21	0.0126	Pulse	0.1000	3
Sb	121	72	He	0.000	ppb	N/A	40.00	0.0002	Pulse	0.1000	3
Ba	137	115	He	0.000	ppb	N/A	6.67	0.0000	Pulse	0.1000	3
Tl	205	209	He	0.000	ppb	N/A	6.67	0.0000	Pulse	0.1000	3
Pb	208	209	He	0.000	ppb	N/A	303.34	0.0012	Pulse	0.1000	3
U	238	209	He	0.000	ppb	N/A	20.00	0.0001	Pulse	0.1000	3

Quantitation Report

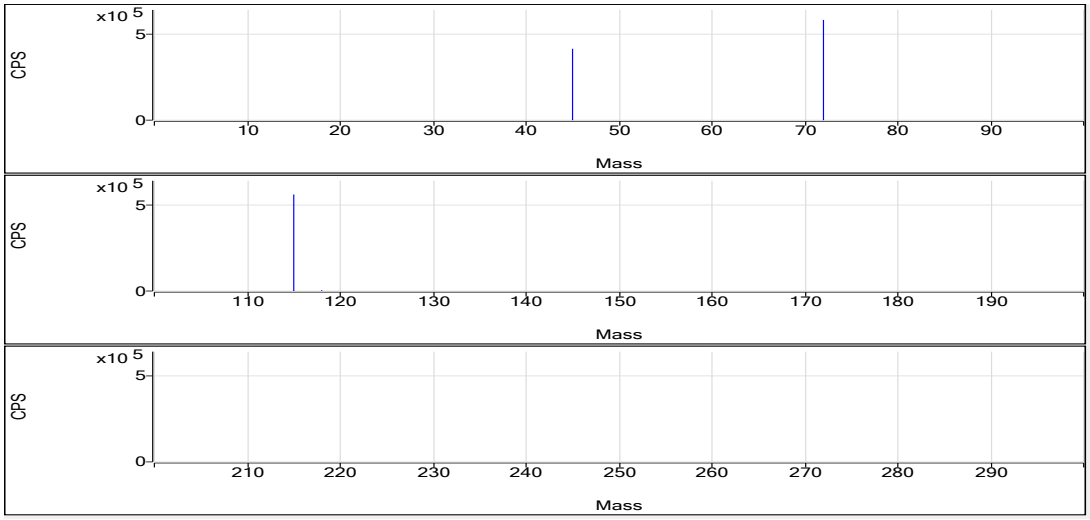
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1136860.01	1.0	100.0	Pulse	0.1000	3
No Gas	Ge	72	1009111.94	1.1	100.0	Pulse	0.1000	3
H2	Sc	45	416245.91	0.8	100.0	Pulse	0.1000	3
H2	Ge	72	584267.75	0.6	100.0	Pulse	0.1000	3
H2	In	115	562810.81	0.2	100.0	Pulse	0.1000	3
He	Sc	45	86982.70	1.1	100.0	Pulse	0.1000	3
He	Ge	72	261479.99	0.7	100.0	Pulse	0.1000	3
He	In	115	136165.42	1.5	100.0	Pulse	0.1000	3
He	Tb	159	399920.42	0.5	100.0	Pulse	0.1000	3
He	Bi	209	259401.00	0.4	100.0	Pulse	0.1000	3

No Gas

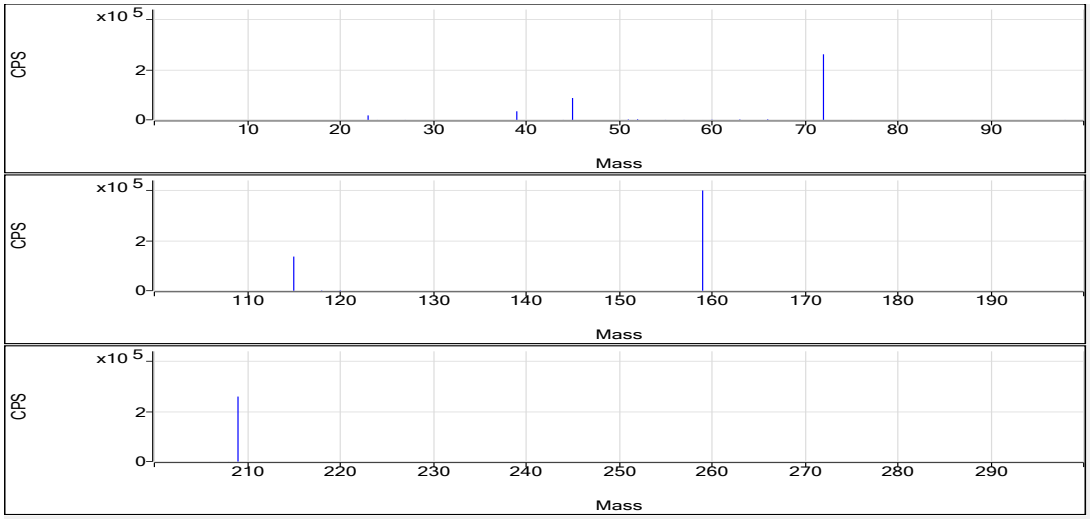


H2



Quantitation Report

He



Quantitation Report

Data File Name	008CALS.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 10:08:12 AM
Sample Name	STD1 271472
Sample Type	CalStd
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

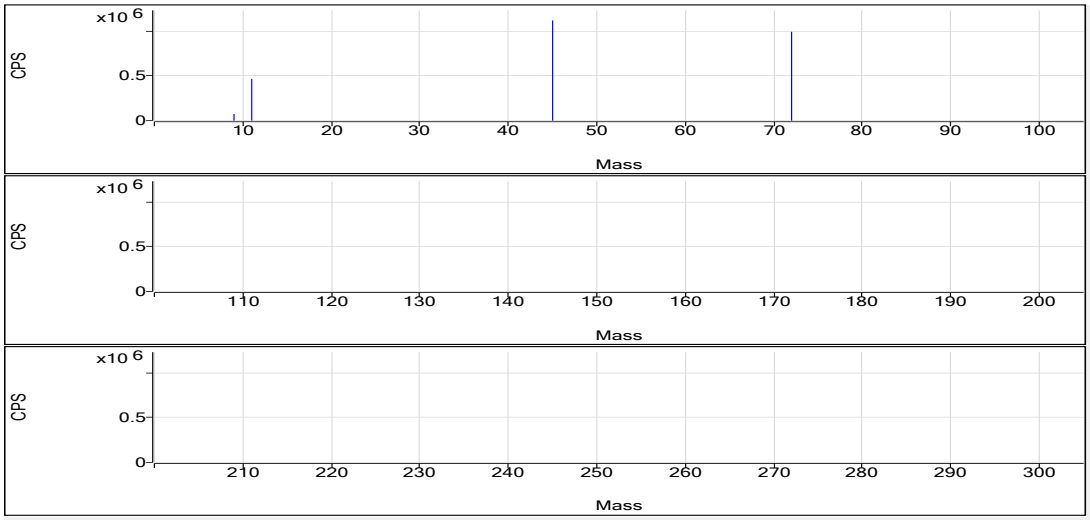
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	100.000	ppb	1.1	74327.79	0.0663	Pulse	0.5000	3
B	11	45	No Gas	1000.000	ppb	0.7	466670.90	0.4164	Pulse	0.5000	3
Se	78	115	H2	100.000	ppb	1.0	13047.72	0.0233	Pulse	1.5000	3
Na	23	72	He	10000.000	ppb	1.0	2515999.39	9.8929	Analog	0.1000	3
Mg	24	45	He	10000.000	ppb	1.9	1376815.14	16.0687	Analog	0.1000	3
Al	27	45	He	10000.000	ppb	2.0	537118.69	6.2687	Pulse	0.1000	3
K	39	45	He	10000.000	ppb	1.6	1286545.55	15.0144	Analog	0.1000	3
Ca	44	45	He	10000.000	ppb	2.1	68970.06	0.8050	Pulse	0.1000	3
Ti	47	45	He	1000.000	ppb	1.2	49401.62	0.5764	Pulse	0.1000	3
V	51	45	He	1000.000	ppb	2.3	1686013.20	19.6788	Analog	0.1000	3
Cr	52	45	He	1000.000	ppb	1.3	2155314.86	25.1532	Analog	0.1000	3
Mn	55	45	He	1000.000	ppb	1.5	1112013.60	12.9780	Pulse	0.1000	3
Fe	57	45	He	10000.000	ppb	2.4	444761.86	5.1912	Pulse	0.1000	3
Co	59	115	He	1000.000	ppb	2.1	3628069.11	26.9910	Analog	0.1000	3
Ni	60	115	He	1000.000	ppb	2.3	981231.84	7.3003	Pulse	0.1000	3
Cu	63	115	He	1000.000	ppb	1.6	2797975.17	20.8148	Analog	0.1000	3
Zn	66	115	He	1000.000	ppb	1.5	400100.28	2.9765	Pulse	0.1000	3
As	75	115	He	1000.000	ppb	1.2	284536.73	2.1167	Pulse	0.5000	3
Sr	88	115	He	100.000	ppb	1.1	154548.83	1.1497	Pulse	0.1000	3
Mo	98	115	He	100.000	ppb	0.6	227310.09	1.6909	Pulse	0.1000	3
Ag	107	115	He	100.000	ppb	1.5	454029.83	3.3777	Pulse	0.1000	3
Cd	111	115	He	100.000	ppb	0.9	63441.69	0.4719	Pulse	0.5000	3
Sn	120	115	He	100.000	ppb	1.0	201101.94	1.4960	Pulse	0.1000	3
Sb	121	72	He	100.000	ppb	0.4	181557.04	0.7138	Pulse	0.1000	3
Ba	137	115	He	1000.000	ppb	0.5	643705.22	4.7883	Pulse	0.1000	3
Tl	205	209	He	100.000	ppb	1.4	809326.66	3.1785	Pulse	0.1000	3
Pb	208	209	He	100.000	ppb	0.9	1128501.31	4.4319	Pulse	0.1000	3
U	238	209	He	100.000	ppb	0.8	1069269.38	4.1992	Pulse	0.1000	3

Quantitation Report

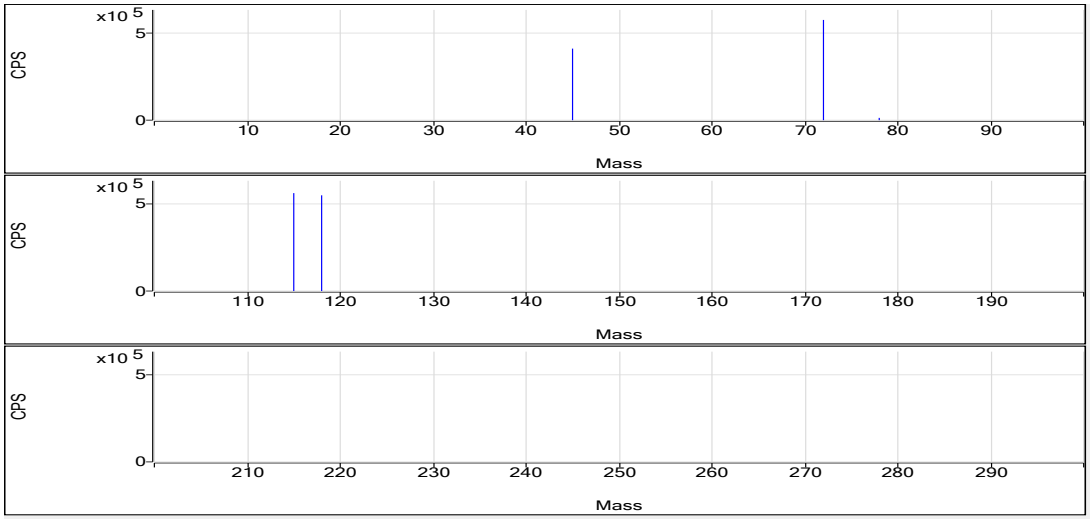
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1120845.22	0.5	98.6	Pulse	0.1000	3
No Gas	Ge	72	993608.60	0.1	98.5	Pulse	0.1000	3
H2	Sc	45	409301.84	0.3	98.3	Pulse	0.1000	3
H2	Ge	72	573397.47	0.2	98.1	Pulse	0.1000	3
H2	In	115	560138.21	0.8	99.5	Pulse	0.1000	3
He	Sc	45	85702.18	2.1	98.5	Pulse	0.1000	3
He	Ge	72	254342.76	1.2	97.3	Pulse	0.1000	3
He	In	115	134438.54	1.4	98.7	Pulse	0.1000	3
He	Tb	159	393517.19	0.7	98.4	Pulse	0.1000	3
He	Bi	209	254644.13	0.8	98.2	Pulse	0.1000	3

No Gas

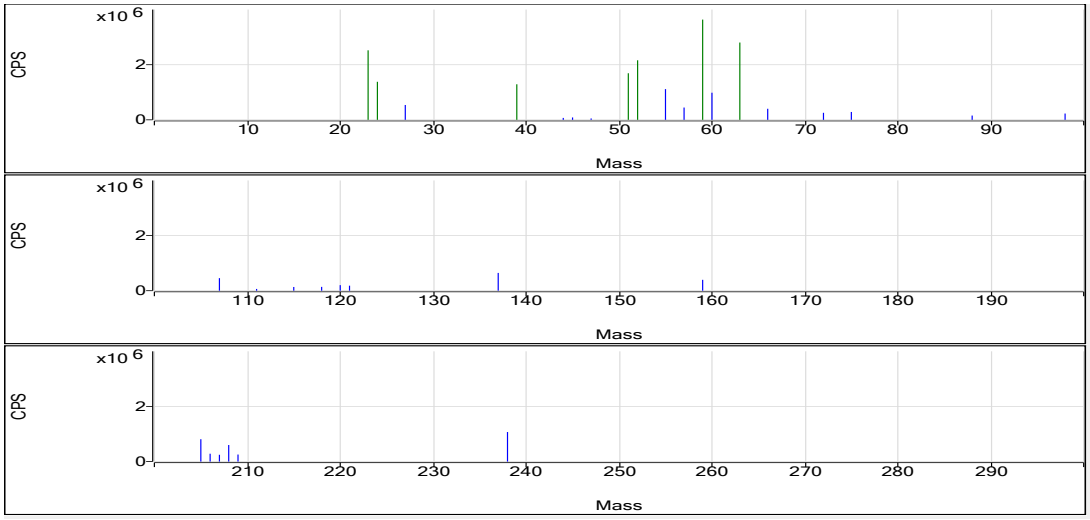


H2



Quantitation Report

He



Quantitation Report

Data File Name	009_ICV.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 10:10:27 AM
Sample Name	ICV 339729
Sample Type	ICV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

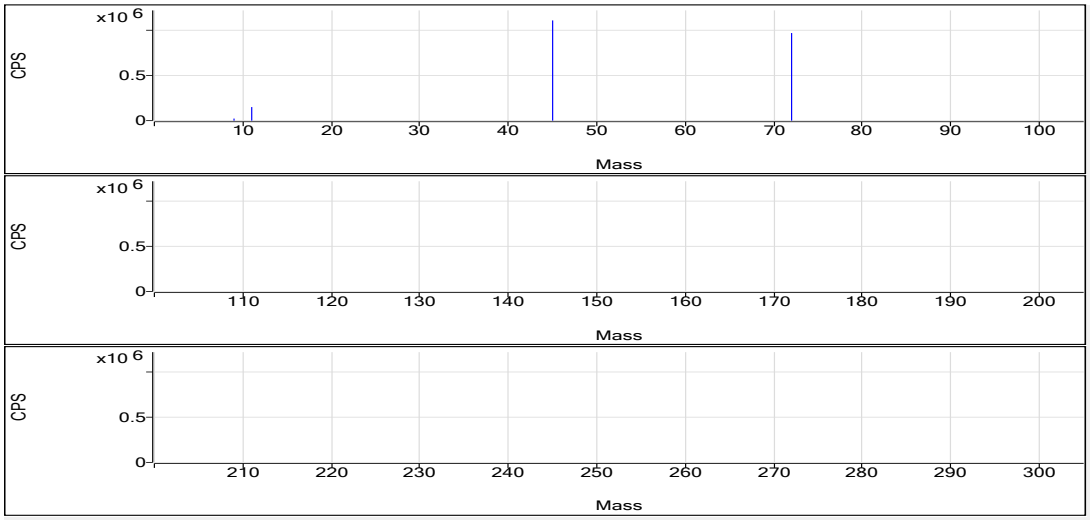
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	31.099	ppb	0.6	22938.26	0.0206	Pulse	0.5000	3
B	11	45	No Gas	324.517	ppb	0.1	150595.24	0.1354	Pulse	0.5000	3
Se	78	115	H2	30.765	ppb	2.5	4009.90	0.0072	Pulse	1.5000	3
Na	23	72	He	5121.993	ppb	1.1	1299639.10	5.0999	Analog	0.1000	3
Mg	24	45	He	4931.448	ppb	1.4	686247.88	7.9249	Pulse	0.1000	3
Al	27	45	He	5043.746	ppb	0.6	273863.88	3.1624	Pulse	0.1000	3
K	39	45	He	5006.793	ppb	1.4	667874.49	7.7127	Pulse	0.1000	3
Ca	44	45	He	5038.973	ppb	2.0	35206.51	0.4065	Pulse	0.1000	3
Ti	47	45	He	307.137	ppb	1.7	15331.86	0.1770	Pulse	0.1000	3
V	51	45	He	290.686	ppb	1.1	496481.22	5.7333	Pulse	0.1000	3
Cr	52	45	He	297.596	ppb	1.2	649724.70	7.5030	Pulse	0.1000	3
Mn	55	45	He	308.636	ppb	0.5	347012.20	4.0072	Pulse	0.1000	3
Fe	57	45	He	5042.673	ppb	1.1	226794.28	2.6190	Pulse	0.1000	3
Co	59	115	He	303.888	ppb	0.6	1099784.02	8.2024	Pulse	0.1000	3
Ni	60	115	He	310.389	ppb	2.2	304418.64	2.2707	Pulse	0.1000	3
Cu	63	115	He	304.936	ppb	1.6	851993.63	6.3548	Pulse	0.1000	3
Zn	66	115	He	318.659	ppb	2.0	128406.83	0.9578	Pulse	0.1000	3
As	75	115	He	309.042	ppb	1.5	87737.20	0.6544	Pulse	0.5000	3
Sr	88	115	He	30.902	ppb	2.1	47647.92	0.3554	Pulse	0.1000	3
Mo	98	115	He	31.286	ppb	1.5	71020.61	0.5297	Pulse	0.1000	3
Ag	107	115	He	31.095	ppb	1.4	140847.62	1.0505	Pulse	0.1000	3
Cd	111	115	He	31.150	ppb	1.1	19712.61	0.1470	Pulse	0.5000	3
Sn	120	115	He	30.803	ppb	1.7	62949.98	0.4695	Pulse	0.1000	3
Sb	121	72	He	28.133	ppb	1.1	51205.51	0.2009	Pulse	0.1000	3
Ba	137	115	He	309.136	ppb	0.3	198479.87	1.4803	Pulse	0.1000	3
Tl	205	209	He	30.647	ppb	0.8	250052.02	0.9741	Pulse	0.1000	3
Pb	208	209	He	29.629	ppb	0.7	337282.38	1.3139	Pulse	0.1000	3
U	238	209	He	371.723	ppb	0.5	4006784.63	15.6093	Analog	0.1000	3

Quantitation Report

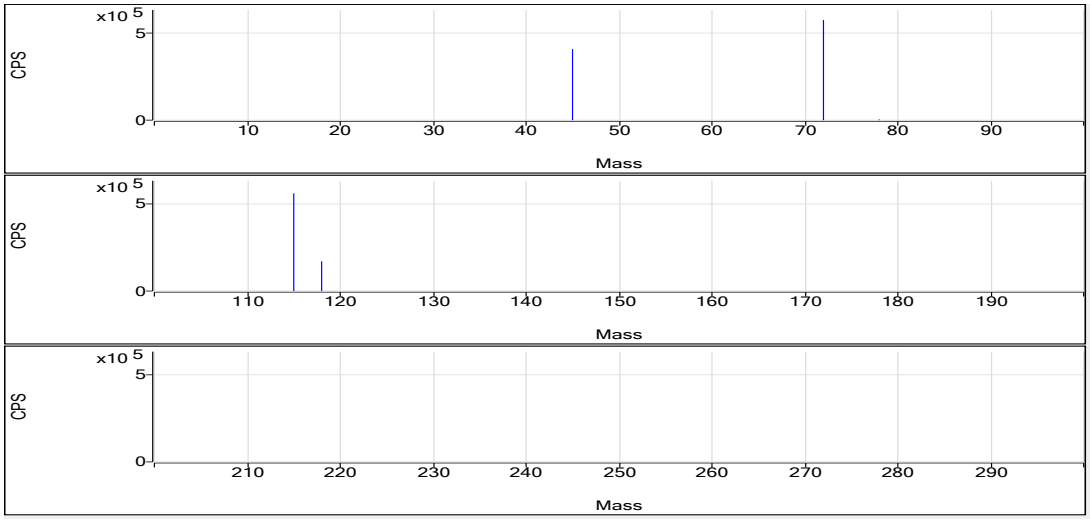
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1112077.74	0.2	97.8	Pulse	0.1000	3
No Gas	Ge	72	972051.39	0.7	96.3	Pulse	0.1000	3
H2	Sc	45	407307.91	0.9	97.9	Pulse	0.1000	3
H2	Ge	72	574097.45	1.5	98.3	Pulse	0.1000	3
H2	In	115	559496.79	1.0	99.4	Pulse	0.1000	3
He	Sc	45	86600.61	0.8	99.6	Pulse	0.1000	3
He	Ge	72	254829.82	0.4	97.5	Pulse	0.1000	3
He	In	115	134084.92	0.9	98.5	Pulse	0.1000	3
He	Tb	159	398299.45	0.7	99.6	Pulse	0.1000	3
He	Bi	209	256693.26	0.1	99.0	Pulse	0.1000	3

No Gas

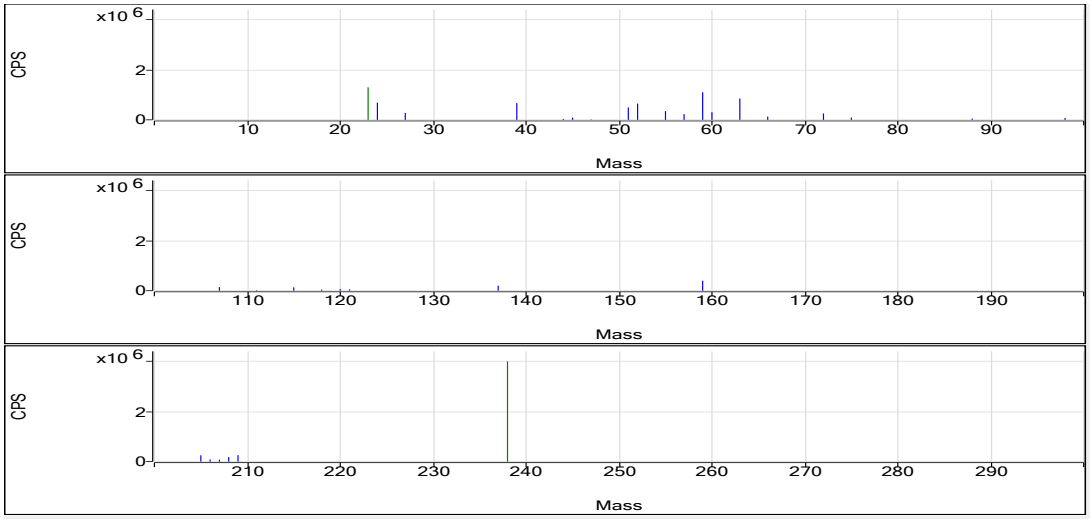


H2



Quantitation Report

He



Quantitation Report

Data File Name	010_ICB.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 10:12:42 AM
Sample Name	ICB 305187
Sample Type	ICB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

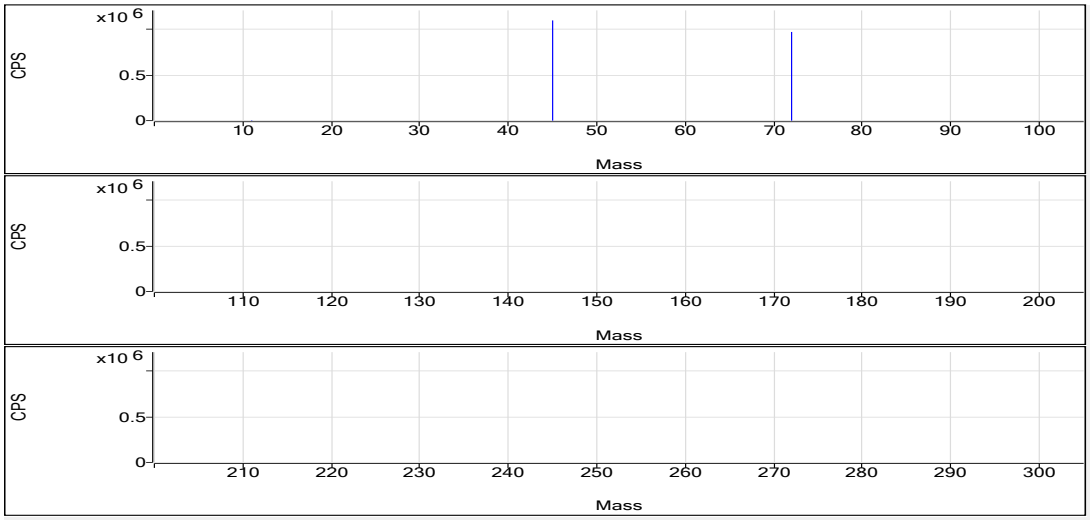
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.013	ppb	54.3	14.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	9.189	ppb	5.1	4694.77	0.0043	Pulse	0.5000	3
Se	78	115	H2	0.090	ppb	27.4	12.44	0.0000	Pulse	1.5000	3
Na	23	72	He	-0.058	ppb	N/A	17027.00	0.0672	Pulse	0.1000	3
Mg	24	45	He	1.200	ppb	26.0	286.68	0.0033	Pulse	0.1000	3
Al	27	45	He	0.281	ppb	347.0	130.00	0.0015	Pulse	0.1000	3
K	39	45	He	-3.858	ppb	N/A	33085.23	0.3854	Pulse	0.1000	3
Ca	44	45	He	1.281	ppb	431.1	166.68	0.0019	Pulse	0.1000	3
Ti	47	45	He	0.270	ppb	114.9	13.33	0.0002	Pulse	0.1000	3
V	51	45	He	-0.170	ppb	N/A	1273.44	0.0148	Pulse	0.1000	3
Cr	52	45	He	0.130	ppb	37.1	2426.98	0.0283	Pulse	0.1000	3
Mn	55	45	He	0.063	ppb	80.5	276.68	0.0032	Pulse	0.1000	3
Fe	57	45	He	1.480	ppb	156.9	283.35	0.0033	Pulse	0.1000	3
Co	59	115	He	0.091	ppb	23.1	360.02	0.0027	Pulse	0.1000	3
Ni	60	115	He	0.094	ppb	102.7	1006.74	0.0075	Pulse	0.1000	3
Cu	63	115	He	0.146	ppb	16.5	1870.20	0.0140	Pulse	0.1000	3
Zn	66	115	He	0.396	ppb	115.0	1976.88	0.0148	Pulse	0.1000	3
As	75	115	He	0.168	ppb	2.3	94.67	0.0007	Pulse	0.5000	3
Sr	88	115	He	0.016	ppb	147.2	46.67	0.0003	Pulse	0.1000	3
Mo	98	115	He	0.041	ppb	49.2	230.01	0.0017	Pulse	0.1000	3
Ag	107	115	He	0.002	ppb	53.5	53.33	0.0004	Pulse	0.1000	3
Cd	111	115	He	0.007	ppb	106.8	7.33	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.014	ppb	221.0	1706.83	0.0128	Pulse	0.1000	3
Sb	121	72	He	0.287	ppb	17.9	556.70	0.0022	Pulse	0.1000	3
Ba	137	115	He	0.073	ppb	49.3	53.33	0.0004	Pulse	0.1000	3
Tl	205	209	He	0.020	ppb	27.6	173.34	0.0007	Pulse	0.1000	3
Pb	208	209	He	-0.007	ppb	N/A	223.34	0.0009	Pulse	0.1000	3
U	238	209	He	0.197	ppb	3.4	2156.93	0.0084	Pulse	0.1000	3

Quantitation Report

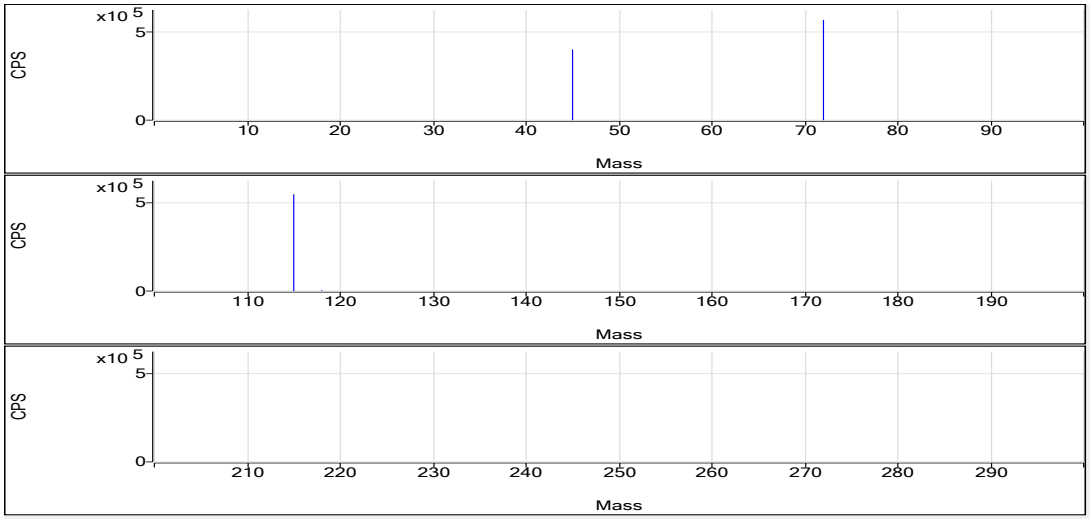
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1100703.81	1.4	96.8	Pulse	0.1000	3
No Gas	Ge	72	974030.92	0.5	96.5	Pulse	0.1000	3
H2	Sc	45	403072.04	0.6	96.8	Pulse	0.1000	3
H2	Ge	72	571170.66	0.6	97.8	Pulse	0.1000	3
H2	In	115	551226.60	0.3	97.9	Pulse	0.1000	3
He	Sc	45	85856.40	0.5	98.7	Pulse	0.1000	3
He	Ge	72	253411.20	0.6	96.9	Pulse	0.1000	3
He	In	115	133533.20	0.2	98.1	Pulse	0.1000	3
He	Tb	159	393882.13	0.4	98.5	Pulse	0.1000	3
He	Bi	209	257860.12	0.9	99.4	Pulse	0.1000	3

No Gas

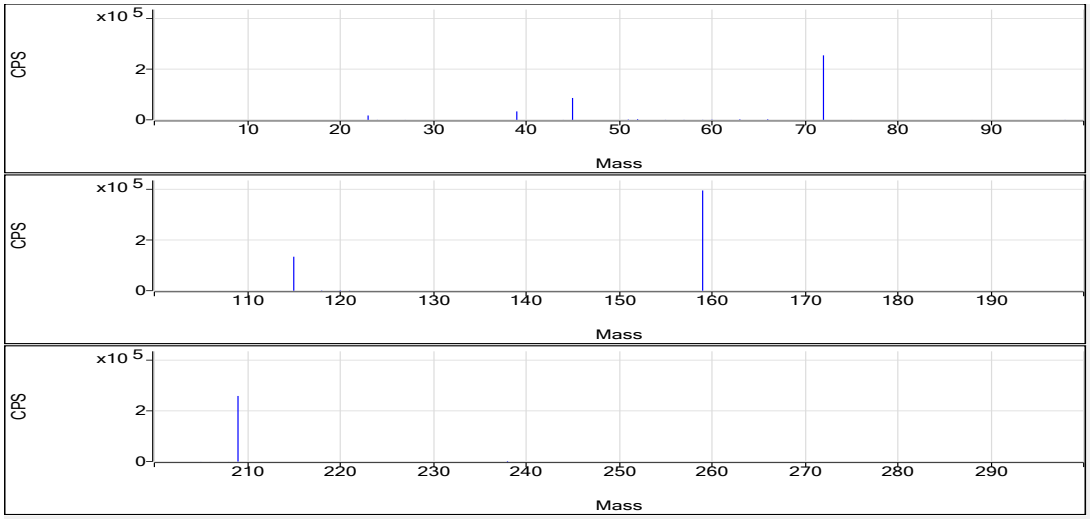


H2



Quantitation Report

He



Quantitation Report

Data File Name	011_LLC.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 10:14:58 AM
Sample Name	CRI 303794
Sample Type	LLC
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

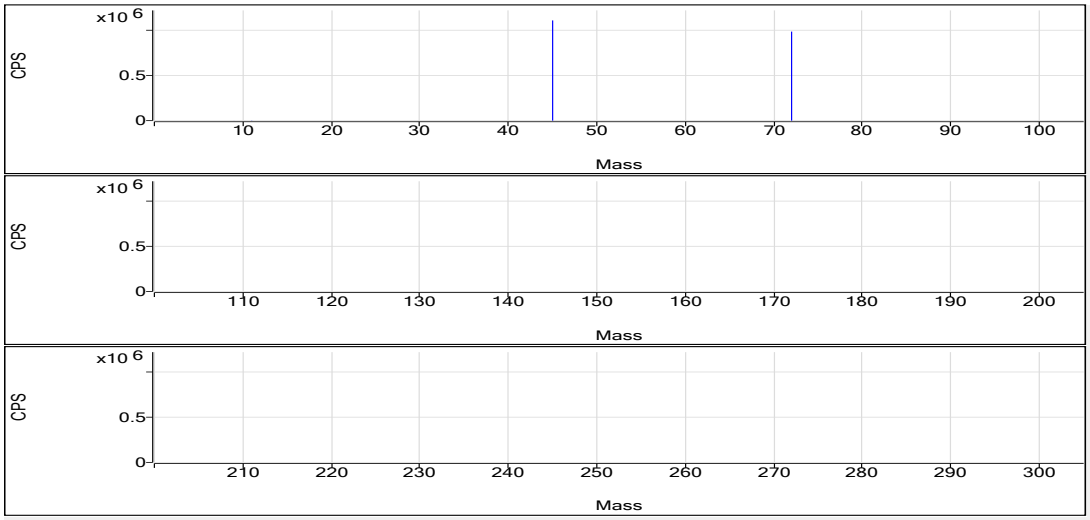
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.512	ppb	8.4	378.68	0.0003	Pulse	0.5000	3
B	11	45	No Gas	3.179	ppb	5.7	1948.81	0.0018	Pulse	0.5000	3
Se	78	115	H2	1.074	ppb	13.5	139.55	0.0003	Pulse	1.5000	3
Na	23	72	He	201.095	ppb	1.4	67575.15	0.2648	Pulse	0.1000	3
Mg	24	45	He	51.657	ppb	1.8	7178.65	0.0844	Pulse	0.1000	3
Al	27	45	He	28.749	ppb	21.9	1647.12	0.0194	Pulse	0.1000	3
K	39	45	He	212.876	ppb	5.8	59735.54	0.7023	Pulse	0.1000	3
Ca	44	45	He	103.496	ppb	4.1	863.40	0.0102	Pulse	0.1000	3
Ti	47	45	He	10.057	ppb	27.3	493.36	0.0058	Pulse	0.1000	3
V	51	45	He	0.282	ppb	11.9	2016.88	0.0237	Pulse	0.1000	3
Cr	52	45	He	2.244	ppb	6.5	6921.88	0.0814	Pulse	0.1000	3
Mn	55	45	He	2.170	ppb	8.3	2600.34	0.0306	Pulse	0.1000	3
Fe	57	45	He	53.600	ppb	9.1	2580.32	0.0303	Pulse	0.1000	3
Co	59	115	He	0.570	ppb	2.0	2083.56	0.0156	Pulse	0.1000	3
Ni	60	115	He	1.071	ppb	4.0	1956.87	0.0147	Pulse	0.1000	3
Cu	63	115	He	1.119	ppb	9.4	4567.54	0.0343	Pulse	0.1000	3
Zn	66	115	He	12.960	ppb	11.2	6931.96	0.0520	Pulse	0.1000	3
As	75	115	He	2.064	ppb	4.7	629.35	0.0047	Pulse	0.5000	3
Sr	88	115	He	0.978	ppb	9.7	1523.47	0.0114	Pulse	0.1000	3
Mo	98	115	He	0.500	ppb	11.1	1263.43	0.0095	Pulse	0.1000	3
Ag	107	115	He	0.549	ppb	9.5	2510.32	0.0188	Pulse	0.1000	3
Cd	111	115	He	0.499	ppb	9.2	316.67	0.0024	Pulse	0.5000	3
Sn	120	115	He	2.015	ppb	3.7	5661.39	0.0425	Pulse	0.1000	3
Sb	121	72	He	1.115	ppb	5.8	2070.23	0.0081	Pulse	0.1000	3
Ba	137	115	He	2.075	ppb	9.5	1330.12	0.0100	Pulse	0.1000	3
Tl	205	209	He	0.514	ppb	5.9	4217.49	0.0164	Pulse	0.1000	3
Pb	208	209	He	0.543	ppb	13.4	6496.31	0.0252	Pulse	0.1000	3
U	238	209	He	1.066	ppb	4.3	11545.60	0.0448	Pulse	0.1000	3

Quantitation Report

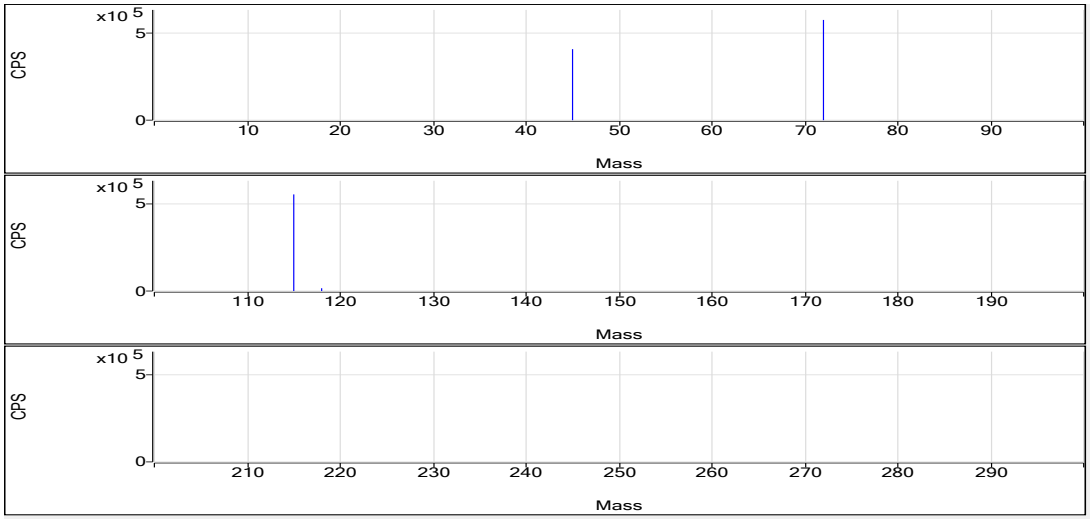
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1103306.31	0.9	97.0	Pulse	0.1000	3
No Gas	Ge	72	980215.27	0.6	97.1	Pulse	0.1000	3
H2	Sc	45	407491.26	0.9	97.9	Pulse	0.1000	3
H2	Ge	72	575045.30	1.3	98.4	Pulse	0.1000	3
H2	In	115	554374.11	0.5	98.5	Pulse	0.1000	3
He	Sc	45	85047.88	0.4	97.8	Pulse	0.1000	3
He	Ge	72	255142.05	0.6	97.6	Pulse	0.1000	3
He	In	115	133358.88	2.1	97.9	Pulse	0.1000	3
He	Tb	159	395577.69	1.0	98.9	Pulse	0.1000	3
He	Bi	209	257594.96	0.6	99.3	Pulse	0.1000	3

No Gas

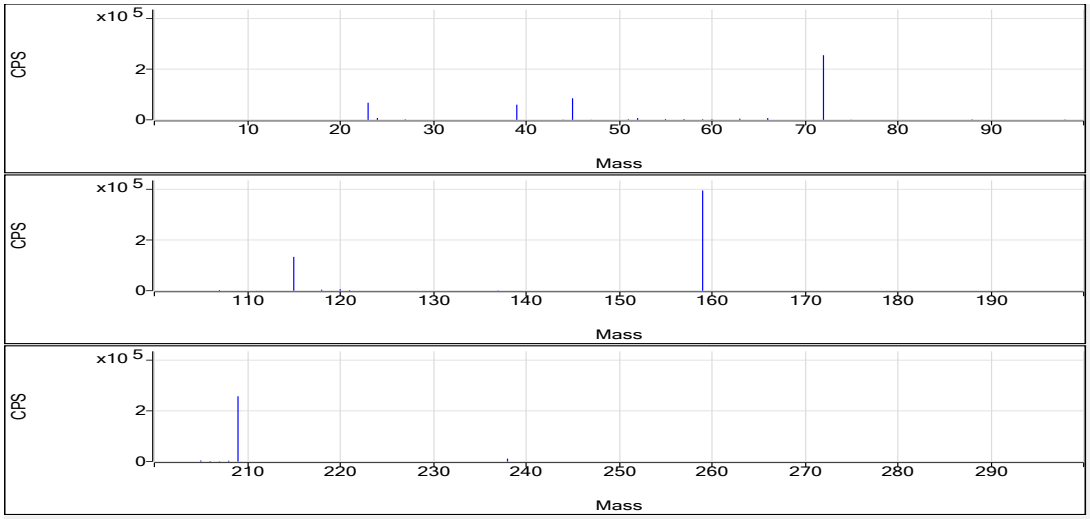


H2



Quantitation Report

He



Quantitation Report

Data File Name	012ICSA.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 10:17:13 AM
Sample Name	ICSA 330130
Sample Type	ICSA
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

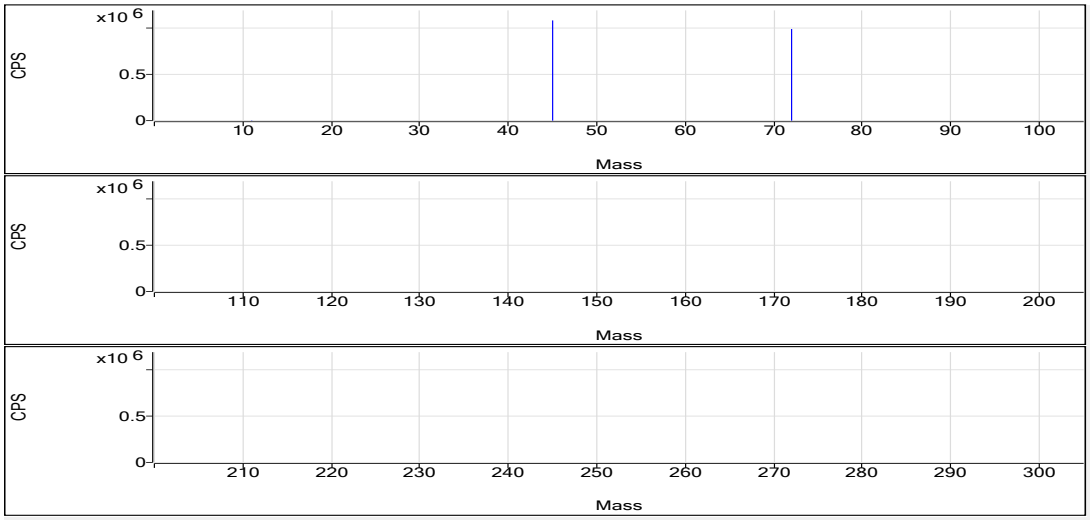
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.004	ppb	105.4	7.33	0.0000	Pulse	0.5000	3
B	11	45	No Gas	6.397	ppb	3.2	3350.40	0.0031	Pulse	0.5000	3
Se	78	115	H2	0.044	ppb	70.4	6.22	0.0000	Pulse	1.5000	3
Na	23	72	He	229844.096	ppb	1.0	55777952.50	225.9036	Analog	0.1000	3
Mg	24	45	He	91002.940	ppb	1.6	12027847.32	146.2181	Analog	0.1000	3
Al	27	45	He	95383.755	ppb	1.6	4917572.32	59.7820	Analog	0.1000	3
K	39	45	He	97603.930	ppb	2.7	11771431.91	143.1208	Analog	0.1000	3
Ca	44	45	He	284468.692	ppb	1.7	1879485.60	22.8490	Analog	0.1000	3
Ti	47	45	He	1929.186	ppb	1.5	91470.69	1.1120	Pulse	0.1000	3
V	51	45	He	-0.475	ppb	N/A	726.71	0.0088	Pulse	0.1000	3
Cr	52	45	He	1.532	ppb	9.5	5221.13	0.0635	Pulse	0.1000	3
Mn	55	45	He	2.546	ppb	3.5	2917.07	0.0354	Pulse	0.1000	3
Fe	57	45	He	237678.350	ppb	2.0	10144192.14	123.3251	Analog	0.1000	3
Co	59	115	He	2.397	ppb	4.7	8102.55	0.0649	Pulse	0.1000	3
Ni	60	115	He	2.572	ppb	4.6	3197.14	0.0256	Pulse	0.1000	3
Cu	63	115	He	0.935	ppb	6.1	3800.64	0.0304	Pulse	0.1000	3
Zn	66	115	He	3.795	ppb	10.0	3103.79	0.0249	Pulse	0.1000	3
As	75	115	He	0.483	ppb	9.3	172.00	0.0014	Pulse	0.5000	3
Sr	88	115	He	2.500	ppb	5.2	3607.26	0.0289	Pulse	0.1000	3
Mo	98	115	He	2114.115	ppb	2.1	4459008.27	35.7268	Analog	0.1000	3
Ag	107	115	He	0.086	ppb	2.1	403.35	0.0032	Pulse	0.1000	3
Cd	111	115	He	0.307	ppb	4.3	183.33	0.0015	Pulse	0.5000	3
Sn	120	115	He	0.109	ppb	79.8	1770.19	0.0142	Pulse	0.1000	3
Sb	121	72	He	0.391	ppb	20.3	726.71	0.0029	Pulse	0.1000	3
Ba	137	115	He	0.843	ppb	10.3	510.03	0.0041	Pulse	0.1000	3
Tl	205	209	He	0.010	ppb	31.5	76.67	0.0003	Pulse	0.1000	3
Pb	208	209	He	0.407	ppb	4.1	4430.47	0.0192	Pulse	0.1000	3
U	238	209	He	0.061	ppb	1.7	610.04	0.0026	Pulse	0.1000	3

Quantitation Report

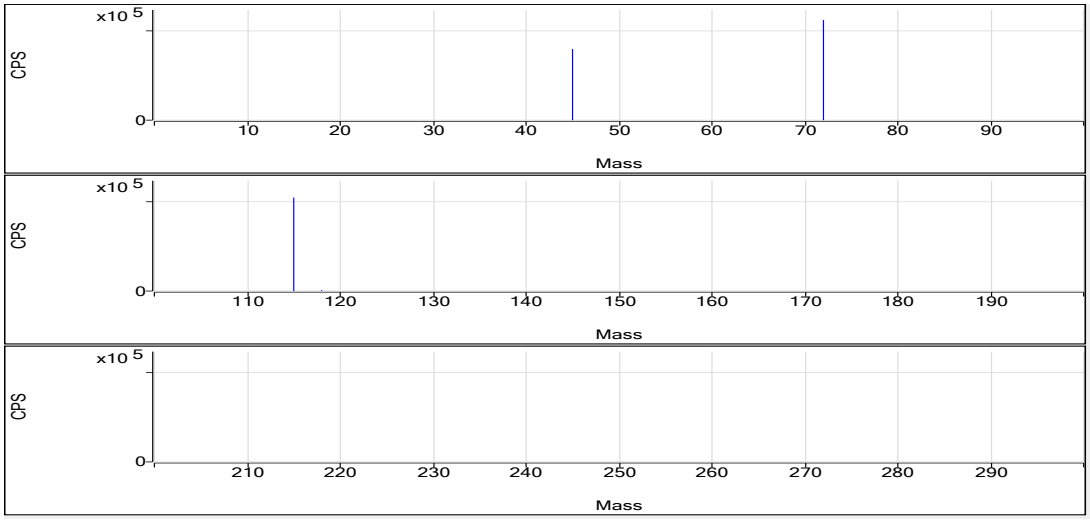
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1079095.64	0.6	94.9	Pulse	0.1000	3
No Gas	Ge	72	986486.50	0.9	97.8	Pulse	0.1000	3
H2	Sc	45	398647.89	0.1	95.8	Pulse	0.1000	3
H2	Ge	72	561114.63	0.8	96.0	Pulse	0.1000	3
H2	In	115	523069.80	0.2	92.9	Pulse	0.1000	3
He	Sc	45	82272.47	1.6	94.6	Pulse	0.1000	3
He	Ge	72	246920.71	0.8	94.4	Pulse	0.1000	3
He	In	115	124839.64	1.9	91.7	Pulse	0.1000	3
He	Tb	159	374417.95	0.3	93.6	Pulse	0.1000	3
He	Bi	209	230471.81	1.6	88.8	Pulse	0.1000	3

No Gas

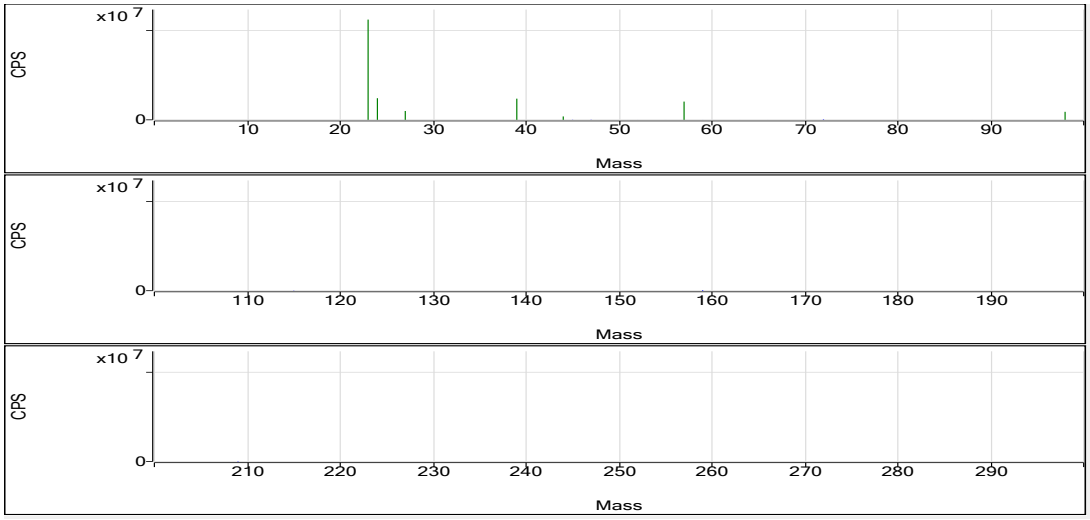


H2



Quantitation Report

He



Quantitation Report

Data File Name	013ICSB.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 10:19:26 AM
Sample Name	ICSAB 330134
Sample Type	ICSAB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

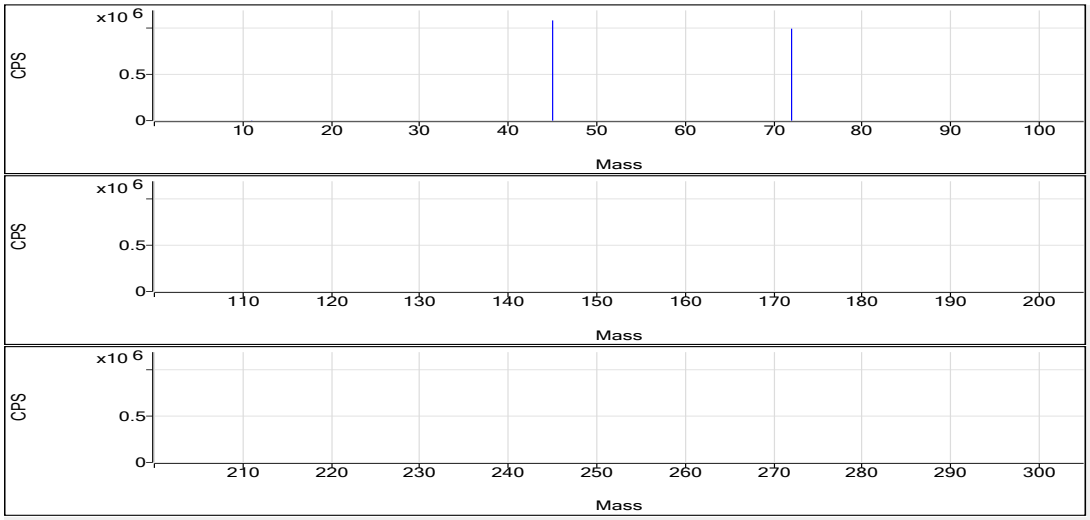
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.011	ppb	70.4	12.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	4.729	ppb	1.7	2595.58	0.0024	Pulse	0.5000	3
Se	78	115	H2	105.313	ppb	0.4	12822.40	0.0245	Pulse	1.5000	3
Na	23	72	He	224120.845	ppb	1.3	55107554.18	220.2801	Analog	0.1000	3
Mg	24	45	He	88753.039	ppb	0.5	11885138.99	142.6032	Analog	0.1000	3
Al	27	45	He	92736.404	ppb	1.1	4843772.22	58.1228	Analog	0.1000	3
K	39	45	He	96626.481	ppb	0.5	11808366.49	141.6914	Analog	0.1000	3
Ca	44	45	He	279976.563	ppb	0.3	1874158.10	22.4882	Analog	0.1000	3
Ti	47	45	He	1918.434	ppb	0.9	92150.93	1.1058	Pulse	0.1000	3
V	51	45	He	187.387	ppb	1.2	308525.20	3.7023	Pulse	0.1000	3
Cr	52	45	He	186.634	ppb	1.3	392898.63	4.7148	Pulse	0.1000	3
Mn	55	45	He	195.931	ppb	1.2	212064.89	2.5447	Pulse	0.1000	3
Fe	57	45	He	231709.989	ppb	0.6	10019680.27	120.2283	Analog	0.1000	3
Co	59	115	He	195.546	ppb	2.1	654759.27	5.2782	Pulse	0.1000	3
Ni	60	115	He	198.631	ppb	1.6	180575.67	1.4556	Pulse	0.1000	3
Cu	63	115	He	191.518	ppb	1.5	495660.10	3.9953	Pulse	0.1000	3
Zn	66	115	He	105.854	ppb	3.1	40591.74	0.3273	Pulse	0.1000	3
As	75	115	He	107.088	ppb	1.8	28161.68	0.2270	Pulse	0.5000	3
Sr	88	115	He	2.414	ppb	6.2	3467.22	0.0279	Pulse	0.1000	3
Mo	98	115	He	2100.785	ppb	1.9	4404107.95	35.5016	Analog	0.1000	3
Ag	107	115	He	50.126	ppb	1.6	210065.61	1.6933	Pulse	0.1000	3
Cd	111	115	He	99.431	ppb	2.0	58212.51	0.4693	Pulse	0.5000	3
Sn	120	115	He	0.050	ppb	110.5	1653.49	0.0133	Pulse	0.1000	3
Sb	121	72	He	0.423	ppb	6.8	793.39	0.0032	Pulse	0.1000	3
Ba	137	115	He	0.775	ppb	14.8	466.70	0.0038	Pulse	0.1000	3
Tl	205	209	He	0.006	ppb	45.3	50.00	0.0002	Pulse	0.1000	3
Pb	208	209	He	0.396	ppb	5.2	4260.43	0.0187	Pulse	0.1000	3
U	238	209	He	0.049	ppb	6.8	486.70	0.0021	Pulse	0.1000	3

Quantitation Report

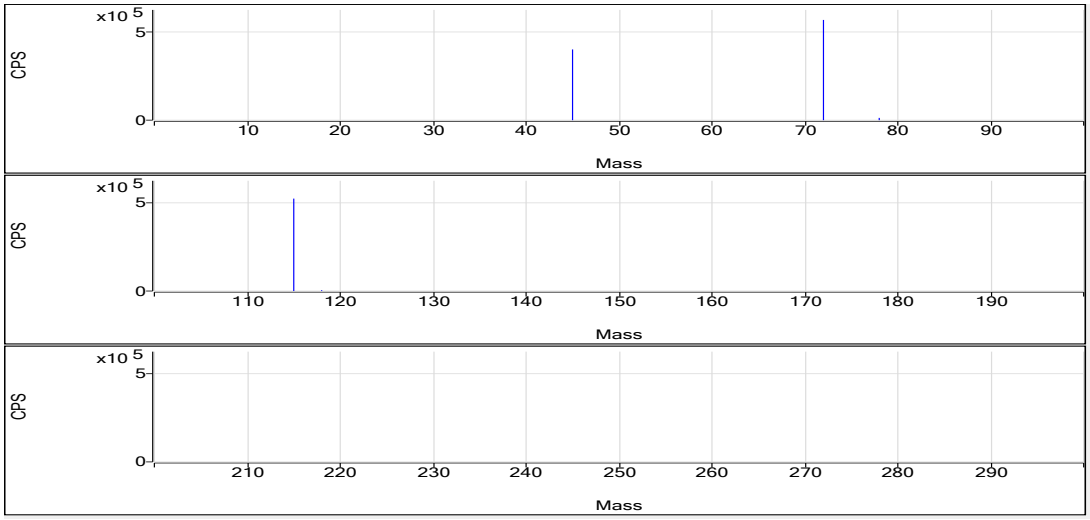
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1076415.92	0.5	94.7	Pulse	0.1000	3
No Gas	Ge	72	987784.26	0.3	97.9	Pulse	0.1000	3
H2	Sc	45	399973.65	0.3	96.1	Pulse	0.1000	3
H2	Ge	72	566808.43	0.1	97.0	Pulse	0.1000	3
H2	In	115	522667.35	0.1	92.9	Pulse	0.1000	3
He	Sc	45	83341.88	1.3	95.8	Pulse	0.1000	3
He	Ge	72	250182.94	0.8	95.7	Pulse	0.1000	3
He	In	115	124087.48	2.2	91.1	Pulse	0.1000	3
He	Tb	159	371812.77	0.5	93.0	Pulse	0.1000	3
He	Bi	209	227363.95	0.6	87.6	Pulse	0.1000	3

No Gas

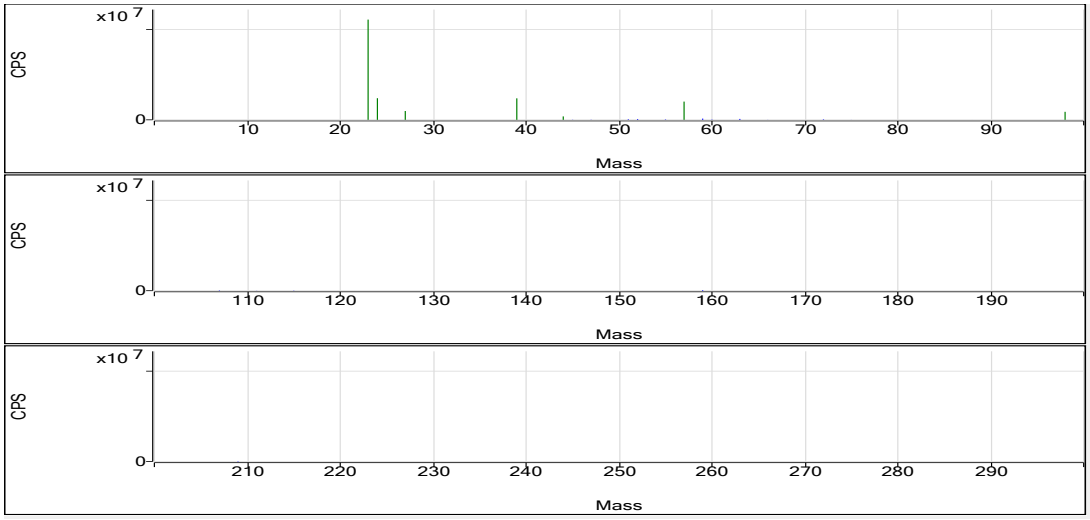


H2



Quantitation Report

He



Quantitation Report

Data File Name	014_LRC.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 10:21:40 AM
Sample Name	LRC 281210
Sample Type	LRC
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

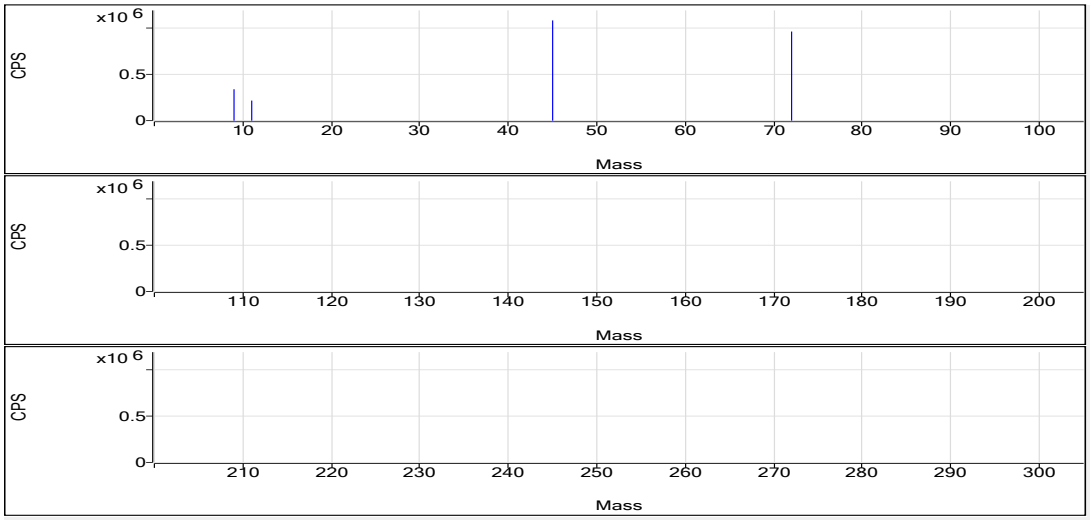
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	472.331	ppb	0.6	340364.95	0.3132	Pulse	0.5000	3
B	11	45	No Gas	480.128	ppb	0.7	217488.60	0.2001	Pulse	0.5000	3
Se	78	115	H2	476.102	ppb	0.3	64353.62	0.1109	Pulse	1.5000	3
Na	23	72	He	46645.768	ppb	1.2	11622638.58	45.8997	Analog	0.1000	3
Mg	24	45	He	46238.895	ppb	0.9	6318593.45	74.2946	Analog	0.1000	3
Al	27	45	He	48310.857	ppb	0.4	2575304.34	30.2796	Analog	0.1000	3
K	39	45	He	48418.548	ppb	1.1	6054870.32	71.1952	Analog	0.1000	3
Ca	44	45	He	47884.280	ppb	2.2	327200.93	3.8477	Pulse	0.1000	3
Ti	47	45	He	507.097	ppb	3.0	24855.30	0.2923	Pulse	0.1000	3
V	51	45	He	469.022	ppb	1.1	785781.08	9.2395	Pulse	0.1000	3
Cr	52	45	He	474.661	ppb	0.8	1016515.45	11.9523	Pulse	0.1000	3
Mn	55	45	He	489.979	ppb	1.5	540886.08	6.3602	Pulse	0.1000	3
Fe	57	45	He	48447.708	ppb	1.5	2138009.34	25.1403	Analog	0.1000	3
Co	59	115	He	476.613	ppb	0.4	1778062.89	12.8644	Analog	0.1000	3
Ni	60	115	He	464.701	ppb	1.2	469339.74	3.3961	Pulse	0.1000	3
Cu	63	115	He	454.640	ppb	1.4	1308600.81	9.4692	Pulse	0.1000	3
Zn	66	115	He	470.706	ppb	0.5	194636.22	1.4083	Pulse	0.1000	3
As	75	115	He	486.220	ppb	1.2	142258.69	1.0294	Pulse	0.5000	3
Sr	88	115	He	468.610	ppb	1.7	744430.80	5.3870	Pulse	0.1000	3
Mo	98	115	He	482.096	ppb	1.4	1126022.07	8.1478	Pulse	0.1000	3
Ag	107	115	He	202.314	ppb	18.5	946349.39	6.8332	Pulse	0.1000	3
Cd	111	115	He	467.220	ppb	1.4	304713.06	2.2049	Pulse	0.5000	3
Sn	120	115	He	467.643	ppb	1.2	960442.93	6.9497	Pulse	0.1000	3
Sb	121	72	He	494.629	ppb	0.5	893937.96	3.5303	Pulse	0.1000	3
Ba	137	115	He	473.018	ppb	1.1	313033.23	2.2650	Pulse	0.1000	3
Tl	205	209	He	521.168	ppb	0.1	3951537.44	16.5650	Analog	0.1000	3
Pb	208	209	He	494.456	ppb	0.6	5226274.22	21.9090	Analog	0.1000	3
U	238	209	He	522.705	ppb	1.2	5235827.42	21.9493	Analog	0.1000	3

Quantitation Report

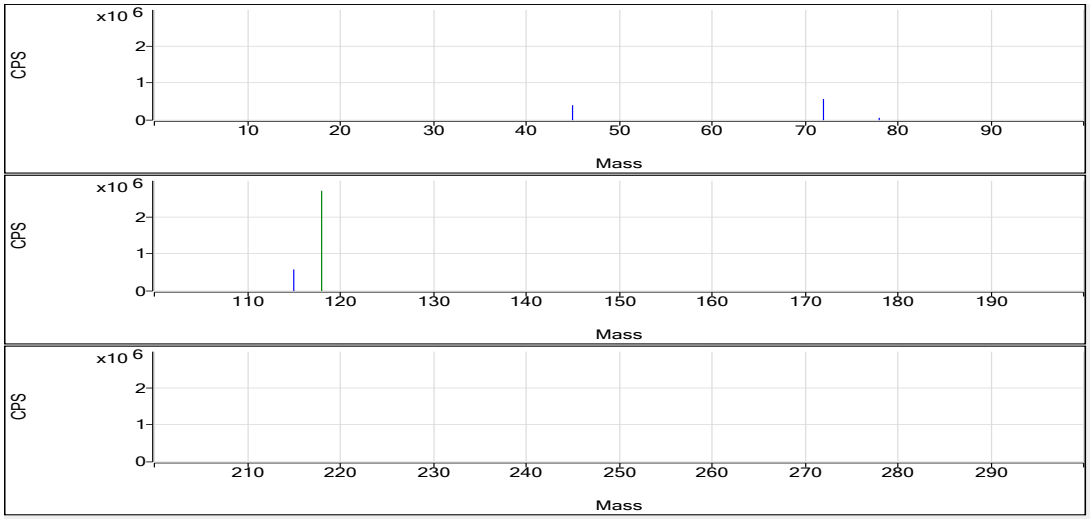
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1086694.51	0.8	95.6	Pulse	0.1000	3
No Gas	Ge	72	966015.40	0.3	95.7	Pulse	0.1000	3
H2	Sc	45	402994.34	1.3	96.8	Pulse	0.1000	3
H2	Ge	72	569217.35	0.8	97.4	Pulse	0.1000	3
H2	In	115	580286.47	1.1	103.1	Pulse	0.1000	3
He	Sc	45	85052.06	1.1	97.8	Pulse	0.1000	3
He	Ge	72	253231.60	1.2	96.8	Pulse	0.1000	3
He	In	115	138216.38	1.6	101.5	Pulse	0.1000	3
He	Tb	159	378810.70	0.2	94.7	Pulse	0.1000	3
He	Bi	209	238547.03	0.3	92.0	Pulse	0.1000	3

No Gas

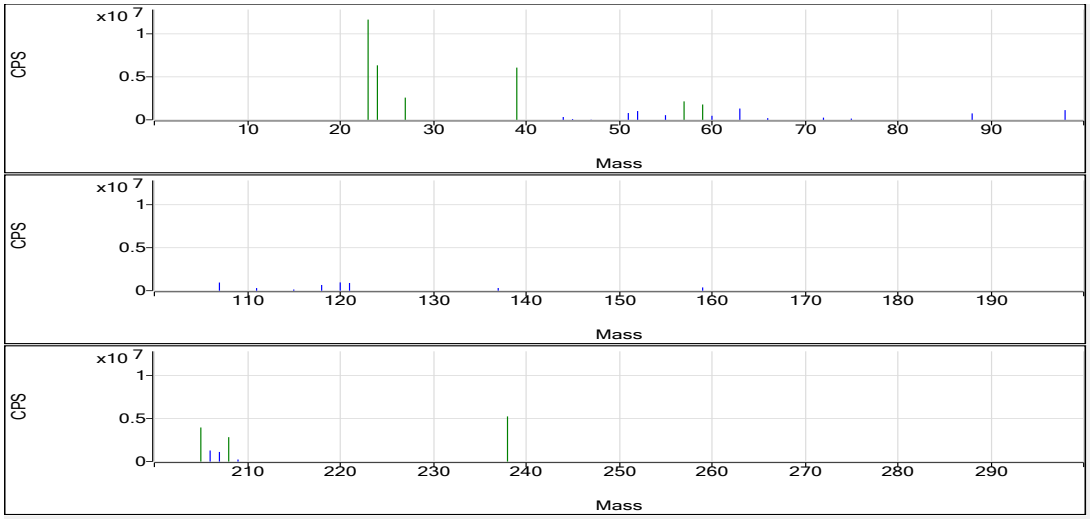


H2



Quantitation Report

He



Quantitation Report

Data File Name	015SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 10:23:54 AM
Sample Name	RINSE
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

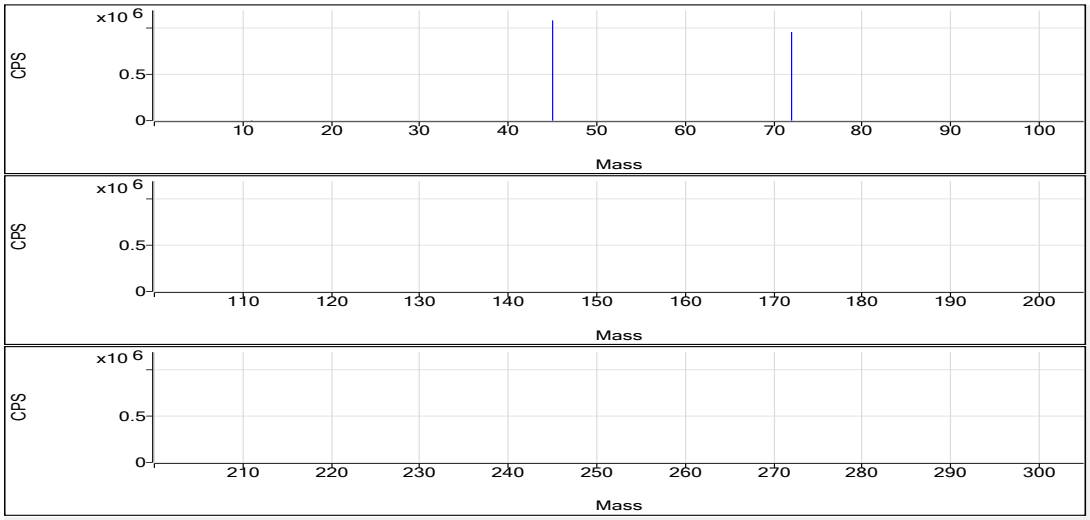
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.210	ppb	10.4	155.33	0.0001	Pulse	0.5000	3
B	11	45	No Gas	8.246	ppb	2.3	4199.29	0.0039	Pulse	0.5000	3
Se	78	115	H2	0.667	ppb	3.1	85.56	0.0002	Pulse	1.5000	3
Na	23	72	He	40.311	ppb	13.6	26955.27	0.1069	Pulse	0.1000	3
Mg	24	45	He	15.612	ppb	19.9	2220.25	0.0265	Pulse	0.1000	3
Al	27	45	He	16.279	ppb	31.3	966.74	0.0115	Pulse	0.1000	3
K	39	45	He	34.726	ppb	51.0	37011.30	0.4418	Pulse	0.1000	3
Ca	44	45	He	32.681	ppb	19.4	373.35	0.0045	Pulse	0.1000	3
Ti	47	45	He	0.342	ppb	91.4	16.67	0.0002	Pulse	0.1000	3
V	51	45	He	-0.400	ppb	N/A	863.39	0.0103	Pulse	0.1000	3
Cr	52	45	He	0.163	ppb	71.3	2433.63	0.0291	Pulse	0.1000	3
Mn	55	45	He	0.126	ppb	47.0	340.02	0.0041	Pulse	0.1000	3
Fe	57	45	He	25.685	ppb	19.0	1330.11	0.0159	Pulse	0.1000	3
Co	59	115	He	0.086	ppb	24.4	340.02	0.0026	Pulse	0.1000	3
Ni	60	115	He	0.076	ppb	72.2	980.07	0.0074	Pulse	0.1000	3
Cu	63	115	He	0.212	ppb	29.2	2033.55	0.0154	Pulse	0.1000	3
Zn	66	115	He	0.352	ppb	149.0	1940.20	0.0147	Pulse	0.1000	3
As	75	115	He	0.221	ppb	16.6	108.67	0.0008	Pulse	0.5000	3
Sr	88	115	He	0.079	ppb	12.5	143.34	0.0011	Pulse	0.1000	3
Mo	98	115	He	0.824	ppb	9.4	1976.88	0.0150	Pulse	0.1000	3
Ag	107	115	He	0.261	ppb	11.3	1206.76	0.0091	Pulse	0.1000	3
Cd	111	115	He	0.107	ppb	49.4	69.33	0.0005	Pulse	0.5000	3
Sn	120	115	He	0.407	ppb	20.3	2460.38	0.0186	Pulse	0.1000	3
Sb	121	72	He	0.441	ppb	18.3	833.39	0.0033	Pulse	0.1000	3
Ba	137	115	He	0.121	ppb	19.9	83.33	0.0006	Pulse	0.1000	3
Tl	205	209	He	0.244	ppb	6.7	1946.88	0.0078	Pulse	0.1000	3
Pb	208	209	He	0.084	ppb	29.8	1223.41	0.0049	Pulse	0.1000	3
U	238	209	He	0.230	ppb	12.0	2433.67	0.0097	Pulse	0.1000	3

Quantitation Report

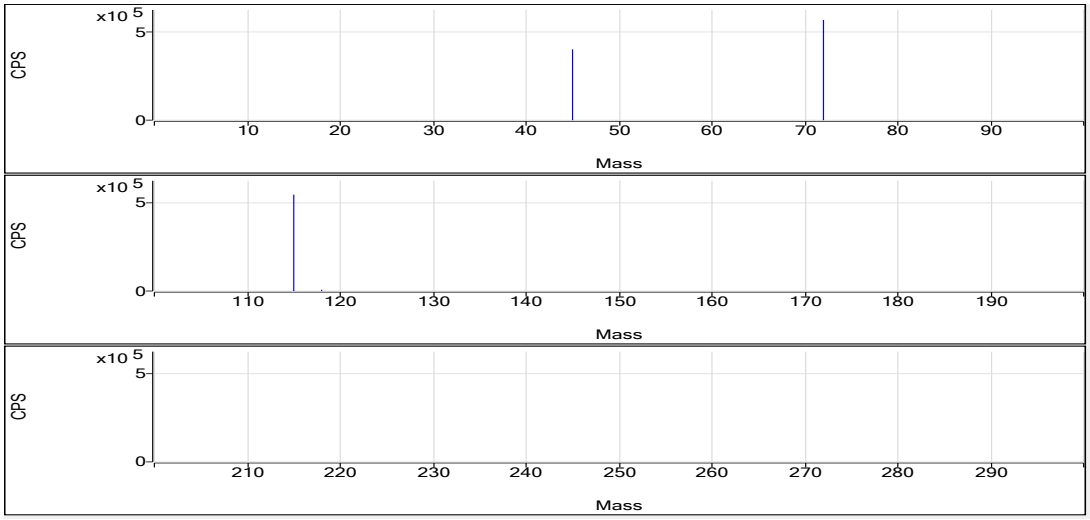
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1083968.27	1.0	95.3	Pulse	0.1000	3
No Gas	Ge	72	958887.51	1.6	95.0	Pulse	0.1000	3
H2	Sc	45	400218.73	0.5	96.1	Pulse	0.1000	3
H2	Ge	72	566591.95	0.2	97.0	Pulse	0.1000	3
H2	In	115	544918.18	0.8	96.8	Pulse	0.1000	3
He	Sc	45	83733.51	1.6	96.3	Pulse	0.1000	3
He	Ge	72	252245.75	0.2	96.5	Pulse	0.1000	3
He	In	115	132225.52	0.3	97.1	Pulse	0.1000	3
He	Tb	159	380396.53	0.4	95.1	Pulse	0.1000	3
He	Bi	209	249620.48	0.8	96.2	Pulse	0.1000	3

No Gas

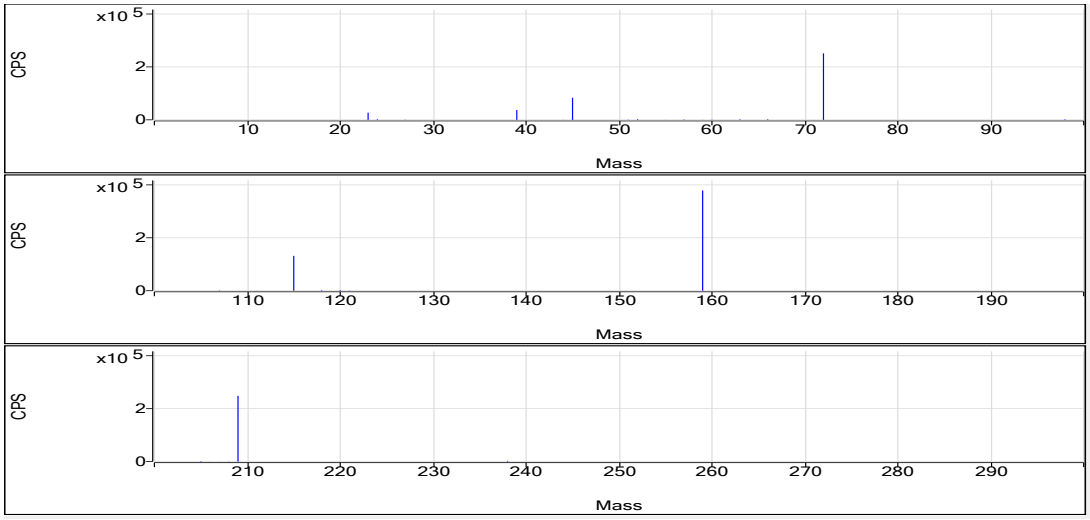


H2



Quantitation Report

He



Quantitation Report

Data File Name	016SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 10:26:10 AM
Sample Name	RINSE
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

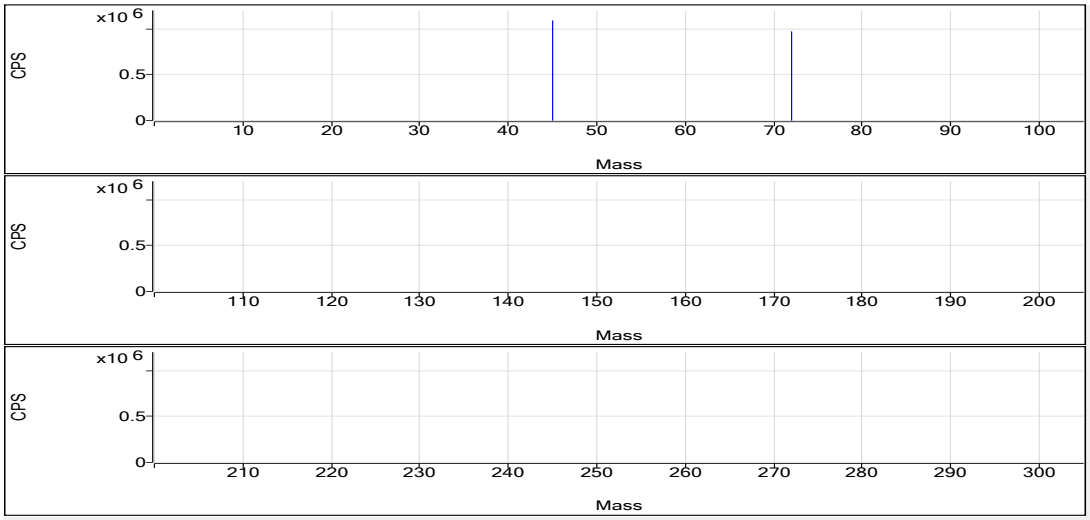
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.034	ppb	19.8	29.33	0.0000	Pulse	0.5000	3
B	11	45	No Gas	2.418	ppb	8.6	1585.43	0.0015	Pulse	0.5000	3
Se	78	115	H2	0.135	ppb	24.2	18.00	0.0000	Pulse	1.5000	3
Na	23	72	He	14.928	ppb	9.8	20831.99	0.0819	Pulse	0.1000	3
Mg	24	45	He	4.815	ppb	15.1	786.73	0.0091	Pulse	0.1000	3
Al	27	45	He	4.792	ppb	26.2	373.35	0.0043	Pulse	0.1000	3
K	39	45	He	17.545	ppb	94.9	35861.62	0.4167	Pulse	0.1000	3
Ca	44	45	He	15.154	ppb	75.6	263.35	0.0031	Pulse	0.1000	3
Ti	47	45	He	0.203	ppb	100.4	10.00	0.0001	Pulse	0.1000	3
V	51	45	He	-0.496	ppb	N/A	723.38	0.0084	Pulse	0.1000	3
Cr	52	45	He	0.076	ppb	113.4	2313.60	0.0269	Pulse	0.1000	3
Mn	55	45	He	-0.019	ppb	N/A	186.67	0.0022	Pulse	0.1000	3
Fe	57	45	He	9.144	ppb	17.8	626.71	0.0073	Pulse	0.1000	3
Co	59	115	He	0.033	ppb	14.7	150.01	0.0011	Pulse	0.1000	3
Ni	60	115	He	0.001	ppb	17547.5	900.07	0.0069	Pulse	0.1000	3
Cu	63	115	He	0.092	ppb	11.4	1690.16	0.0129	Pulse	0.1000	3
Zn	66	115	He	0.452	ppb	153.6	1963.54	0.0150	Pulse	0.1000	3
As	75	115	He	0.013	ppb	199.2	50.00	0.0004	Pulse	0.5000	3
Sr	88	115	He	0.016	ppb	85.2	46.67	0.0004	Pulse	0.1000	3
Mo	98	115	He	0.360	ppb	10.3	933.40	0.0071	Pulse	0.1000	3
Ag	107	115	He	0.128	ppb	19.2	610.04	0.0046	Pulse	0.1000	3
Cd	111	115	He	0.022	ppb	53.3	16.00	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.057	ppb	196.3	1760.20	0.0134	Pulse	0.1000	3
Sb	121	72	He	0.126	ppb	30.7	266.68	0.0011	Pulse	0.1000	3
Ba	137	115	He	0.037	ppb	42.7	30.00	0.0002	Pulse	0.1000	3
Tl	205	209	He	0.038	ppb	14.8	310.02	0.0012	Pulse	0.1000	3
Pb	208	209	He	0.009	ppb	96.2	390.02	0.0016	Pulse	0.1000	3
U	238	209	He	0.044	ppb	22.8	483.36	0.0019	Pulse	0.1000	3

Quantitation Report

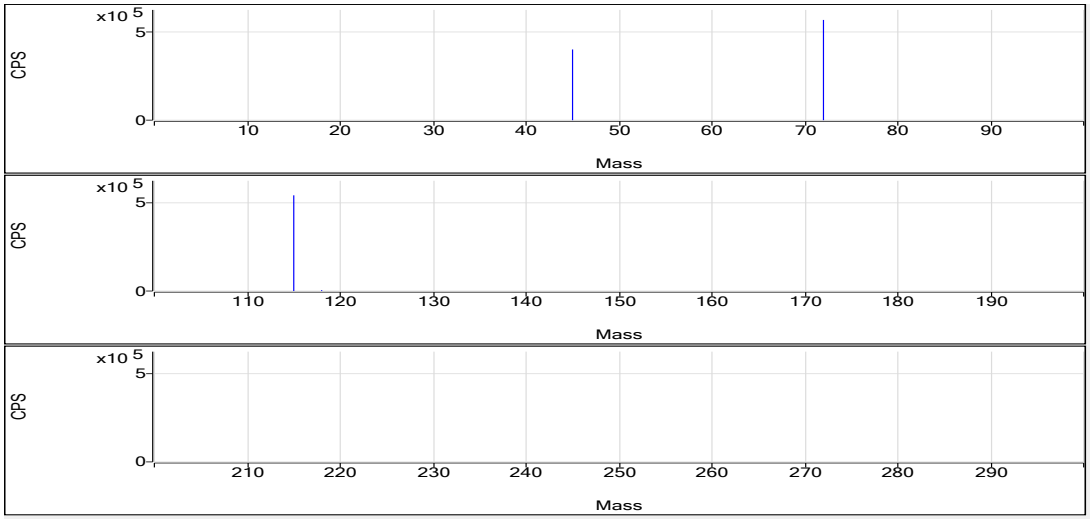
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1092991.55	0.6	96.1	Pulse	0.1000	3
No Gas	Ge	72	973871.26	0.8	96.5	Pulse	0.1000	3
H2	Sc	45	402667.73	0.3	96.7	Pulse	0.1000	3
H2	Ge	72	570845.02	0.5	97.7	Pulse	0.1000	3
H2	In	115	545083.35	0.3	96.9	Pulse	0.1000	3
He	Sc	45	86047.60	0.8	98.9	Pulse	0.1000	3
He	Ge	72	254302.58	0.9	97.3	Pulse	0.1000	3
He	In	115	131181.20	0.4	96.3	Pulse	0.1000	3
He	Tb	159	383679.55	0.6	95.9	Pulse	0.1000	3
He	Bi	209	250414.42	0.9	96.5	Pulse	0.1000	3

No Gas

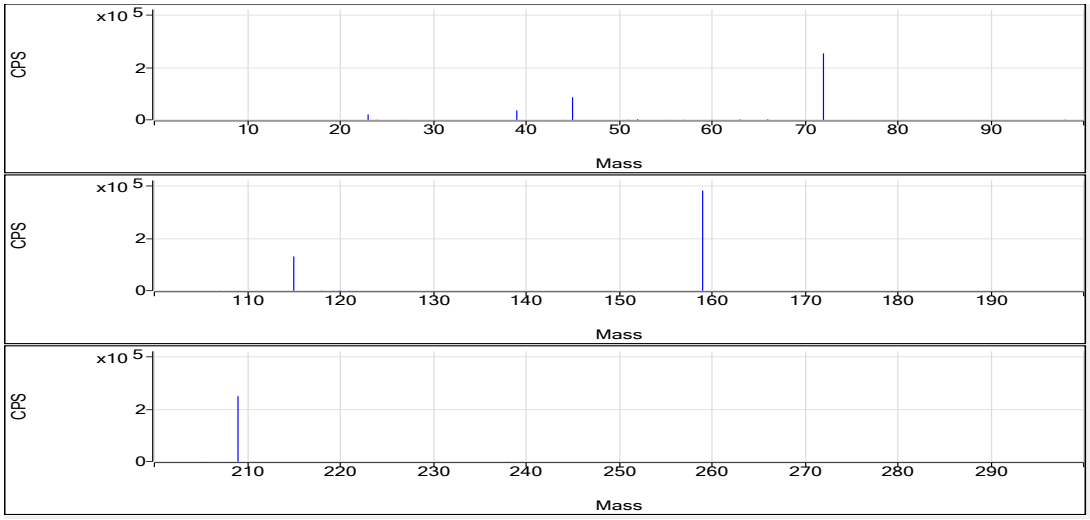


H2



Quantitation Report

He



Quantitation Report

Data File Name	017_CCV.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 10:28:26 AM
Sample Name	CCV 303766
Sample Type	CCV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

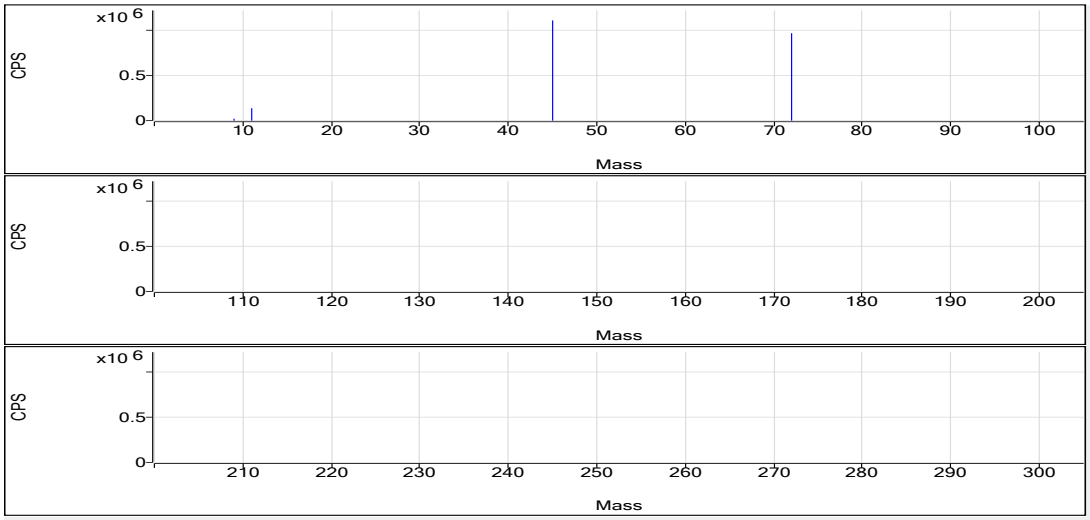
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	29.318	ppb	1.5	21444.71	0.0194	Pulse	0.5000	3
B	11	45	No Gas	296.731	ppb	0.7	136599.31	0.1239	Pulse	0.5000	3
Se	78	115	H2	30.449	ppb	1.5	3934.32	0.0071	Pulse	1.5000	3
Na	23	72	He	5128.204	ppb	0.3	1274120.47	5.1060	Analog	0.1000	3
Mg	24	45	He	4787.502	ppb	0.8	658629.37	7.6936	Pulse	0.1000	3
Al	27	45	He	4902.984	ppb	0.9	263177.35	3.0742	Pulse	0.1000	3
K	39	45	He	4939.605	ppb	0.4	651866.98	7.6144	Pulse	0.1000	3
Ca	44	45	He	4900.584	ppb	0.3	33853.35	0.3954	Pulse	0.1000	3
Ti	47	45	He	302.784	ppb	0.8	14941.51	0.1745	Pulse	0.1000	3
V	51	45	He	285.394	ppb	0.7	481918.63	5.6292	Pulse	0.1000	3
Cr	52	45	He	289.814	ppb	0.5	625587.45	7.3075	Pulse	0.1000	3
Mn	55	45	He	298.234	ppb	1.0	331488.66	3.8722	Pulse	0.1000	3
Fe	57	45	He	4896.629	ppb	0.7	217719.84	2.5432	Pulse	0.1000	3
Co	59	115	He	295.428	ppb	1.5	1048935.19	7.9740	Pulse	0.1000	3
Ni	60	115	He	302.361	ppb	1.9	290972.21	2.2121	Pulse	0.1000	3
Cu	63	115	He	296.546	ppb	1.1	812995.19	6.1803	Pulse	0.1000	3
Zn	66	115	He	308.368	ppb	2.1	121988.02	0.9273	Pulse	0.1000	3
As	75	115	He	308.693	ppb	1.2	85986.17	0.6537	Pulse	0.5000	3
Sr	88	115	He	30.389	ppb	1.4	45975.58	0.3495	Pulse	0.1000	3
Mo	98	115	He	30.078	ppb	1.9	66993.75	0.5093	Pulse	0.1000	3
Ag	107	115	He	29.364	ppb	2.2	130487.99	0.9921	Pulse	0.1000	3
Cd	111	115	He	30.516	ppb	2.5	18944.24	0.1440	Pulse	0.5000	3
Sn	120	115	He	30.868	ppb	3.8	61875.87	0.4705	Pulse	0.1000	3
Sb	121	72	He	30.524	ppb	1.8	54394.34	0.2180	Pulse	0.1000	3
Ba	137	115	He	304.191	ppb	1.5	191605.05	1.4566	Pulse	0.1000	3
Tl	205	209	He	29.989	ppb	1.3	236798.68	0.9532	Pulse	0.1000	3
Pb	208	209	He	28.944	ppb	0.4	318868.84	1.2836	Pulse	0.1000	3
U	238	209	He	49.349	ppb	0.3	514799.81	2.0723	Pulse	0.1000	3

Quantitation Report

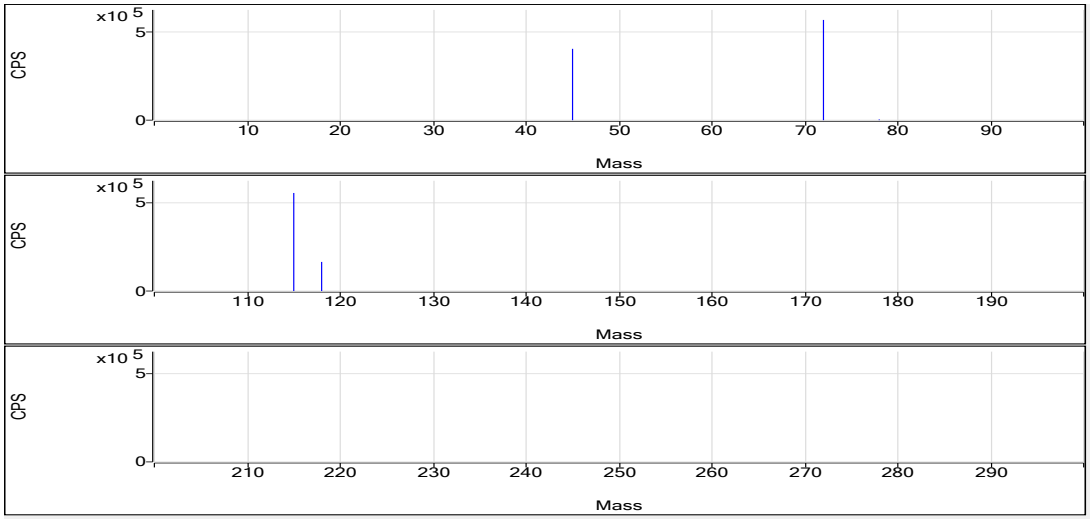
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1102885.56	0.8	97.0	Pulse	0.1000	3
No Gas	Ge	72	961815.20	0.1	95.3	Pulse	0.1000	3
H2	Sc	45	403419.02	0.4	96.9	Pulse	0.1000	3
H2	Ge	72	566862.93	1.7	97.0	Pulse	0.1000	3
H2	In	115	554642.53	1.1	98.5	Pulse	0.1000	3
He	Sc	45	85611.32	0.9	98.4	Pulse	0.1000	3
He	Ge	72	249533.04	0.6	95.4	Pulse	0.1000	3
He	In	115	131561.32	1.5	96.6	Pulse	0.1000	3
He	Tb	159	386935.95	0.8	96.8	Pulse	0.1000	3
He	Bi	209	248418.98	0.5	95.8	Pulse	0.1000	3

No Gas

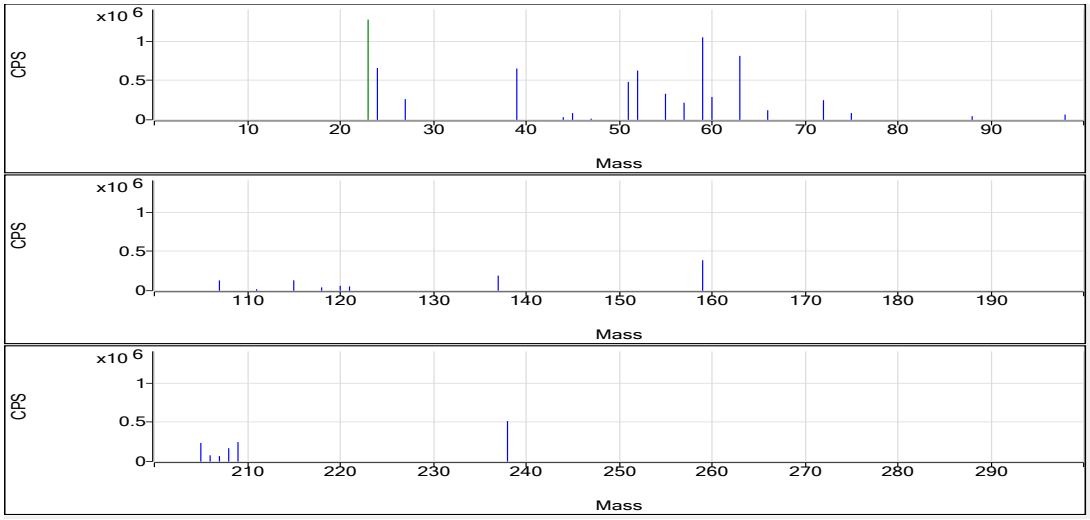


H2



Quantitation Report

He



Quantitation Report

Data File Name	018_CCB.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 10:30:42 AM
Sample Name	CCB 305187
Sample Type	CCB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

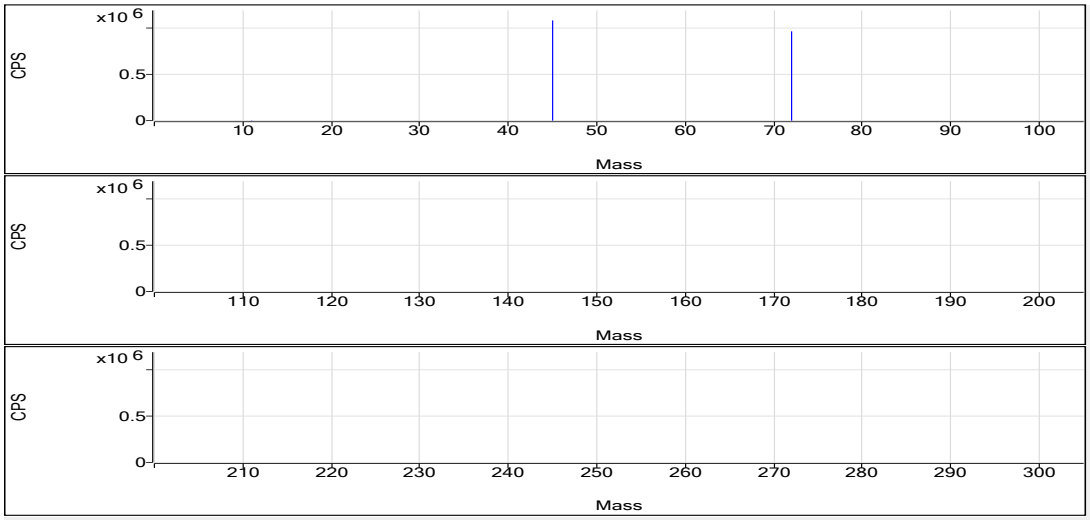
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.020	ppb	8.4	18.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	5.825	ppb	5.2	3103.00	0.0029	Pulse	0.5000	3
Se	78	115	H2	0.111	ppb	3.5	15.11	0.0000	Pulse	1.5000	3
Na	23	72	He	5.918	ppb	17.5	18592.26	0.0731	Pulse	0.1000	3
Mg	24	45	He	1.619	ppb	19.6	340.02	0.0040	Pulse	0.1000	3
Al	27	45	He	0.817	ppb	29.3	156.68	0.0019	Pulse	0.1000	3
K	39	45	He	12.883	ppb	135.8	34695.41	0.4099	Pulse	0.1000	3
Ca	44	45	He	5.084	ppb	154.7	190.01	0.0022	Pulse	0.1000	3
Ti	47	45	He	0.000	ppb	N/A	0.00	0.0000	Pulse	0.1000	3
V	51	45	He	-0.440	ppb	N/A	806.72	0.0095	Pulse	0.1000	3
Cr	52	45	He	0.142	ppb	52.1	2416.95	0.0286	Pulse	0.1000	3
Mn	55	45	He	0.078	ppb	74.8	290.01	0.0034	Pulse	0.1000	3
Fe	57	45	He	3.928	ppb	79.6	386.69	0.0046	Pulse	0.1000	3
Co	59	115	He	0.061	ppb	56.8	250.01	0.0019	Pulse	0.1000	3
Ni	60	115	He	0.110	ppb	259.7	1003.41	0.0077	Pulse	0.1000	3
Cu	63	115	He	0.087	ppb	53.1	1676.82	0.0128	Pulse	0.1000	3
Zn	66	115	He	0.200	ppb	175.3	1866.87	0.0142	Pulse	0.1000	3
As	75	115	He	0.092	ppb	22.7	72.00	0.0005	Pulse	0.5000	3
Sr	88	115	He	0.014	ppb	72.9	43.33	0.0003	Pulse	0.1000	3
Mo	98	115	He	0.210	ppb	13.7	600.04	0.0046	Pulse	0.1000	3
Ag	107	115	He	0.075	ppb	19.3	373.36	0.0028	Pulse	0.1000	3
Cd	111	115	He	0.014	ppb	85.9	11.33	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.219	ppb	198.0	2075.33	0.0158	Pulse	0.1000	3
Sb	121	72	He	0.050	ppb	17.7	130.01	0.0005	Pulse	0.1000	3
Ba	137	115	He	0.032	ppb	56.5	26.67	0.0002	Pulse	0.1000	3
Tl	205	209	He	0.020	ppb	26.9	166.67	0.0007	Pulse	0.1000	3
Pb	208	209	He	0.000	ppb	N/A	293.35	0.0012	Pulse	0.1000	3
U	238	209	He	0.033	ppb	15.9	370.02	0.0015	Pulse	0.1000	3

Quantitation Report

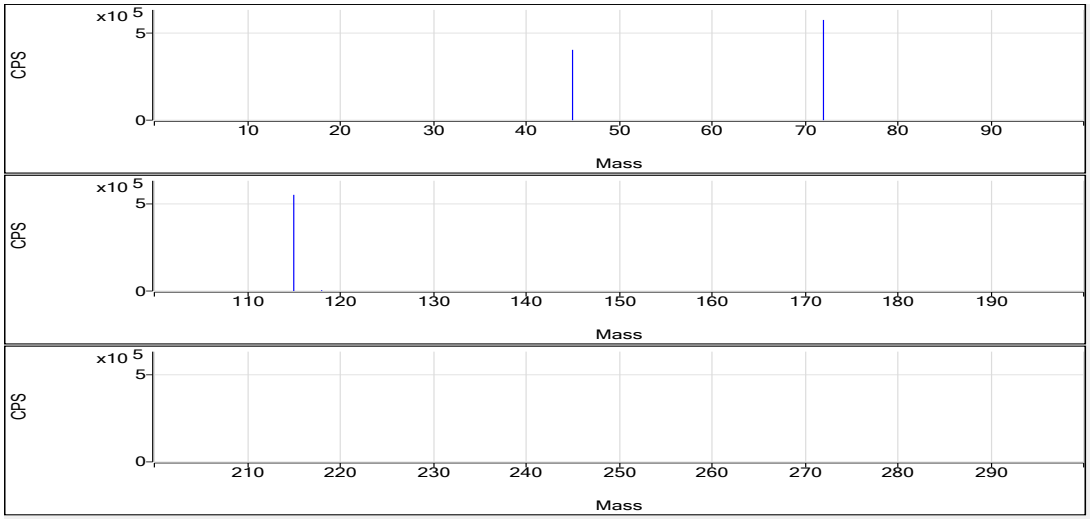
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1082284.28	0.9	95.2	Pulse	0.1000	3
No Gas	Ge	72	964381.03	0.6	95.6	Pulse	0.1000	3
H2	Sc	45	402815.51	0.5	96.8	Pulse	0.1000	3
H2	Ge	72	574077.40	0.4	98.3	Pulse	0.1000	3
H2	In	115	551042.97	1.2	97.9	Pulse	0.1000	3
He	Sc	45	84669.39	0.9	97.3	Pulse	0.1000	3
He	Ge	72	254451.19	1.1	97.3	Pulse	0.1000	3
He	In	115	131200.94	0.6	96.4	Pulse	0.1000	3
He	Tb	159	381698.59	0.7	95.4	Pulse	0.1000	3
He	Bi	209	252436.76	1.3	97.3	Pulse	0.1000	3

No Gas

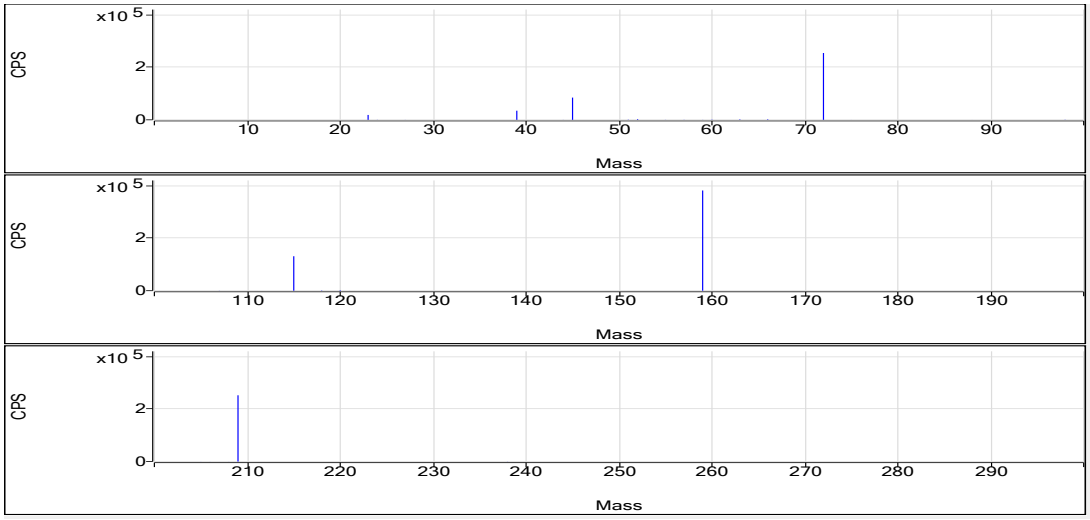


H2



Quantitation Report

He



US EPA Tune Check Report

Operator Name	US19_USR_INS75560
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\~EPA.b
Acq. Date-Time	8/19/2020 9:17:13 AM
Report Comment	ICP-MS 30647 E08 Daily Tune Check
Instrument Name	G8403A SG19504696

[No Gas]

Sensitivity

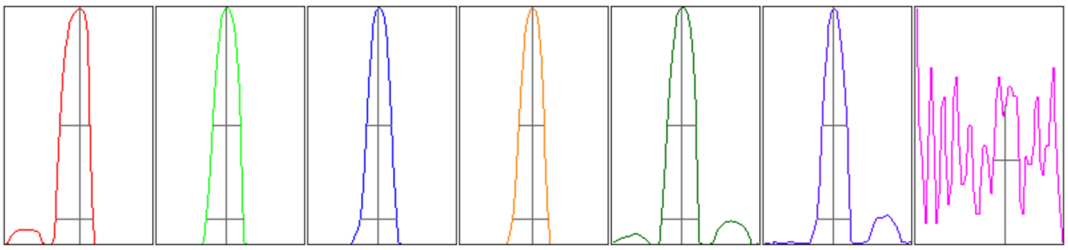
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
7	10.00	3419	34188.43			0.638	5.000
89	10.00	12957	129567.71			0.319	5.000
205	10.00	6192	61923.02			0.560	5.000
140	10.00	11206	112064.61			0.362	
70		264	2640.77			1.747	
156		66	655.15			1.701	
220		1	9.30			24.813	

Mass	RSD% (Flag)
7	
89	
205	
140	
70	
156	
220	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	3427	3411	3391	3416	3450
89	12900	12965	12941	13014	12965
205	6234	6159	6163	6223	6181
140	11137	11217	11241	11226	11211
70	271	259	266	265	260
156	67	65	66	64	65
220	1	1	1	1	1

Integration Time [sec] 0.1

Resolution/Axis



US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	5794.17	7.05	6.90 - 7.10	
89	23717.23	88.95	88.90 - 89.10	
205	12349.06	204.95	204.90 - 205.10	
140	22197.79	140.00	-	
70	469.34	69.95	-	
156	135.76	155.95	-	
220	1.10	220.35	-	

Mass	W-50%	W-10%	W-10% (Required)	W-10% (Flag)
7	0.61	0.760	0.800	
89	0.56	0.750	0.800	
205	0.50	0.742	0.800	
140	0.52	0.728		
70	0.58	0.753		
156	0.50	0.683		
220	0.53			

Integration Time [sec]	0.1
Acquisition Time [sec]	260.3
Y Axis	Linear

Tune Parameters

Plasma Parameters

Plasma Mode	General Purpose	Nebulizer Gas	1.05 L/min	Makeup Gas	0.00 L/min
RF Power	1550 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	0.90 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	2 °C		

Lens Parameters

Extract 1	0.0 V	Omega Lens	9.7 V	Deflect	10.0 V
Extract 2	-250.0 V	Cell Entrance	-30 V	Plate Bias	-35 V
Omega Bias	-105 V	Cell Exit	-50 V		

Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	180 V		

QP Parameters

Mass Gain	140	Axis Gain	1.0017	QP Bias	-3.0 V
Mass Offset	125	Axis Offset	-0.01		

Hardware Settings

Torch

Torch H	-0.5 mm	Torch V	0.1 mm

EM

Discriminator	3.3 mV	Analog HV	2143 V	Pulse HV	1079 V

Quantitation Report

Data File Name	235_CCV.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 8:14:01 PM
Sample Name	CCV 303766
Sample Type	CCV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

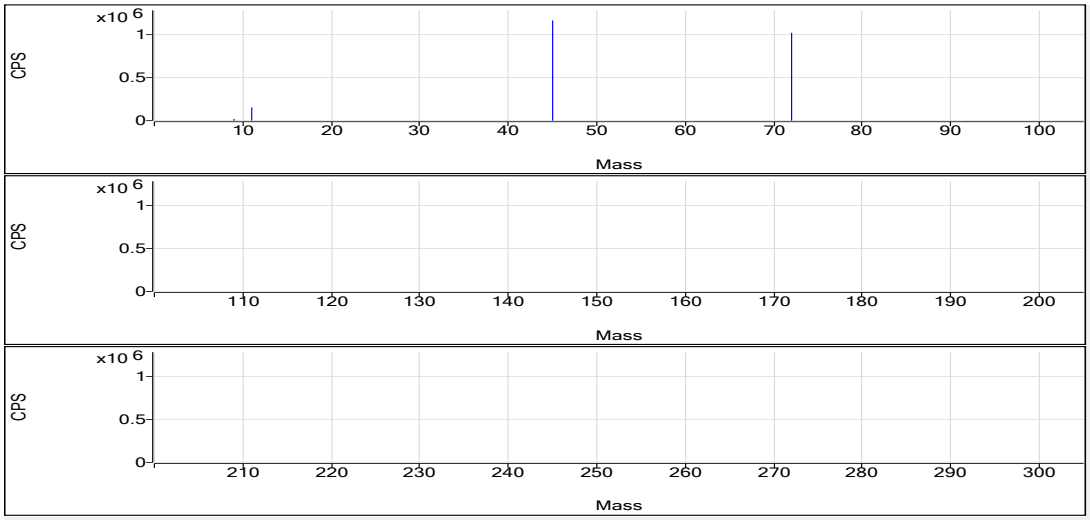
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	25.665	ppb	0.5	19813.80	0.0170	Pulse	0.5000	3
B	11	45	No Gas	315.378	ppb	0.3	153194.07	0.1316	Pulse	0.5000	3
Se	78	115	H2	30.391	ppb	2.4	4148.16	0.0071	Pulse	1.5000	3
Na	23	72	He	4857.860	ppb	1.5	1277121.57	4.8404	Analog	0.1000	3
Mg	24	45	He	4824.977	ppb	3.2	657726.06	7.7538	Pulse	0.1000	3
Al	27	45	He	4811.463	ppb	2.8	255929.11	3.0169	Pulse	0.1000	3
K	39	45	He	5076.243	ppb	1.6	663057.43	7.8142	Pulse	0.1000	3
Ca	44	45	He	5045.483	ppb	2.4	34535.24	0.4071	Pulse	0.1000	3
Ti	47	45	He	309.606	ppb	1.9	15145.07	0.1785	Pulse	0.1000	3
V	51	45	He	305.623	ppb	2.4	511310.70	6.0269	Pulse	0.1000	3
Cr	52	45	He	309.431	ppb	2.2	661795.15	7.8004	Pulse	0.1000	3
Mn	55	45	He	313.967	ppb	1.5	345884.42	4.0763	Pulse	0.1000	3
Fe	57	45	He	5210.657	ppb	1.7	229611.57	2.7062	Pulse	0.1000	3
Co	59	115	He	307.375	ppb	1.5	1120852.30	8.2965	Pulse	0.1000	3
Ni	60	115	He	312.371	ppb	1.4	308709.16	2.2851	Pulse	0.1000	3
Cu	63	115	He	306.346	ppb	1.6	862450.87	6.3841	Pulse	0.1000	3
Zn	66	115	He	320.887	ppb	1.0	130294.59	0.9644	Pulse	0.1000	3
As	75	115	He	320.905	ppb	1.8	91794.66	0.6795	Pulse	0.5000	3
Sr	88	115	He	31.238	ppb	0.8	48540.59	0.3593	Pulse	0.1000	3
Mo	98	115	He	32.516	ppb	0.8	74377.03	0.5505	Pulse	0.1000	3
Ag	107	115	He	30.533	ppb	2.4	139339.34	1.0315	Pulse	0.1000	3
Cd	111	115	He	31.593	ppb	2.4	20141.90	0.1491	Pulse	0.5000	3
Sn	120	115	He	32.346	ppb	3.3	66517.01	0.4924	Pulse	0.1000	3
Sb	121	72	He	31.400	ppb	1.7	59173.84	0.2243	Pulse	0.1000	3
Ba	137	115	He	320.309	ppb	2.2	207187.25	1.5338	Pulse	0.1000	3
Tl	205	209	He	31.120	ppb	2.1	252985.32	0.9892	Pulse	0.1000	3
Pb	208	209	He	29.640	ppb	0.9	336186.47	1.3144	Pulse	0.1000	3
U	238	209	He	49.594	ppb	0.8	532654.50	2.0826	Pulse	0.1000	3

Quantitation Report

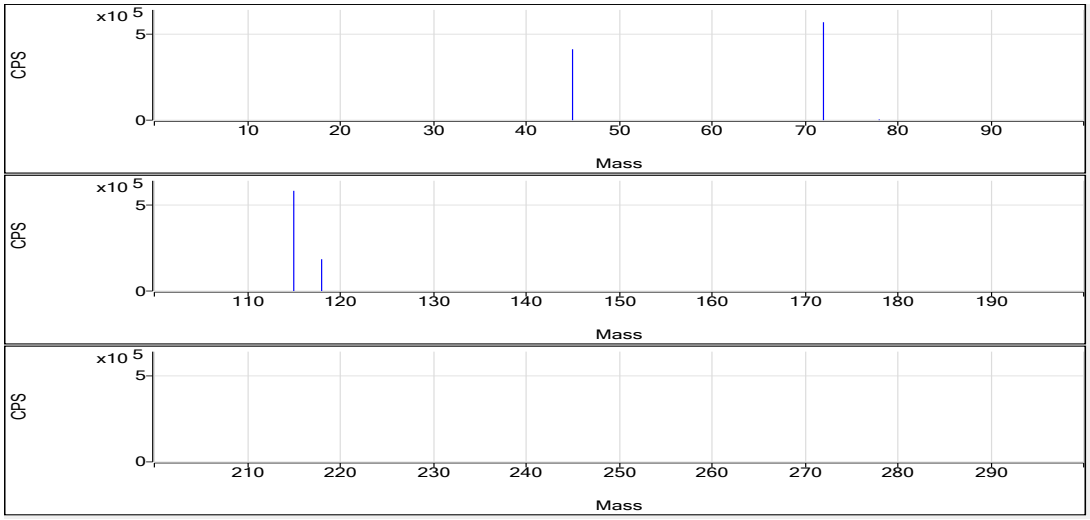
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1163949.15	0.7	102.4	Pulse	0.1000	3
No Gas	Ge	72	1018466.31	0.3	100.9	Pulse	0.1000	3
H2	Sc	45	414576.39	1.0	99.6	Pulse	0.1000	3
H2	Ge	72	572431.12	1.1	98.0	Pulse	0.1000	3
H2	In	115	585805.47	0.5	104.1	Pulse	0.1000	3
He	Sc	45	84874.19	2.7	97.6	Pulse	0.1000	3
He	Ge	72	263854.63	0.5	100.9	Pulse	0.1000	3
He	In	115	135119.08	1.8	99.2	Pulse	0.1000	3
He	Tb	159	396844.96	0.4	99.2	Pulse	0.1000	3
He	Bi	209	255768.98	0.3	98.6	Pulse	0.1000	3

No Gas

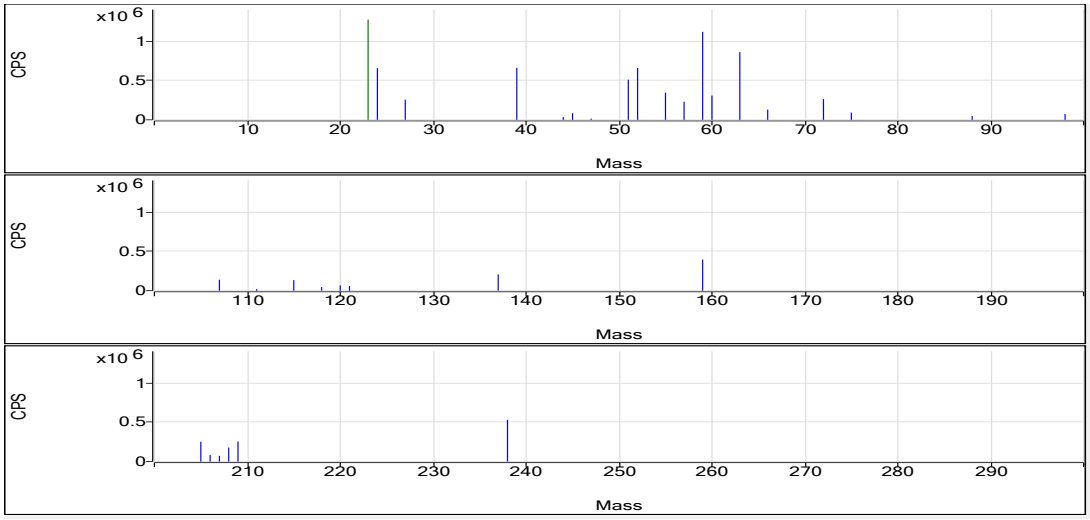


H2



Quantitation Report

He



Quantitation Report

Data File Name	236_CCB.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 8:16:17 PM
Sample Name	CCB 305187
Sample Type	CCB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

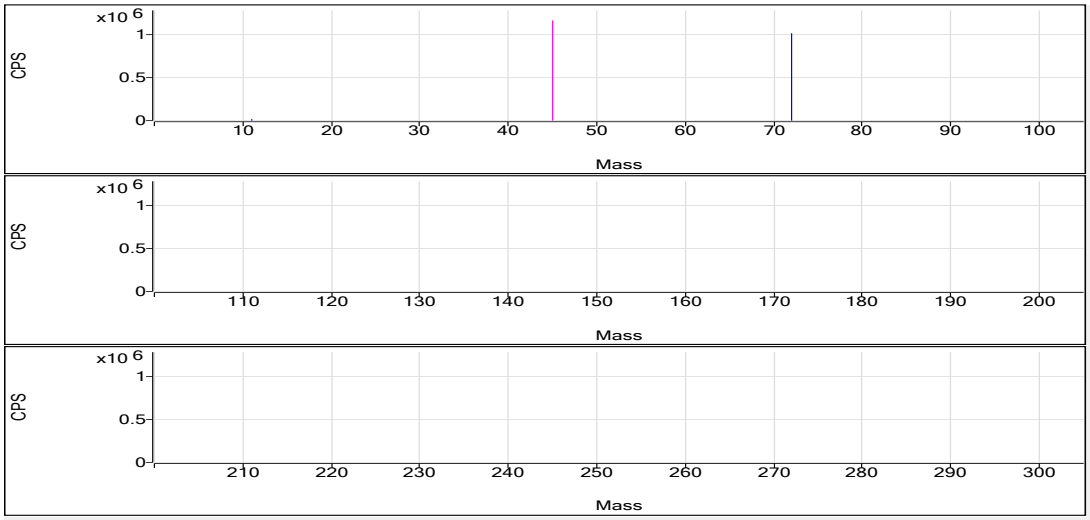
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.034	ppb	14.4	31.33	0.0000	Pulse	0.5000	3
B	11	45	No Gas	35.620	ppb	1.2	17804.67	0.0153	Pulse	0.5000	3
Se	78	115	H2	0.074	ppb	9.4	10.89	0.0000	Pulse	1.5000	3
Na	23	72	He	49.273	ppb	2.6	30542.82	0.1157	Pulse	0.1000	3
Mg	24	45	He	3.462	ppb	33.4	586.70	0.0070	Pulse	0.1000	3
Al	27	45	He	0.517	ppb	274.4	140.00	0.0017	Pulse	0.1000	3
K	39	45	He	16.588	ppb	58.6	34905.82	0.4153	Pulse	0.1000	3
Ca	44	45	He	16.609	ppb	36.8	266.68	0.0032	Pulse	0.1000	3
Ti	47	45	He	0.137	ppb	173.2	6.67	0.0001	Pulse	0.1000	3
V	51	45	He	-0.323	ppb	N/A	993.40	0.0118	Pulse	0.1000	3
Cr	52	45	He	0.086	ppb	153.2	2283.59	0.0272	Pulse	0.1000	3
Mn	55	45	He	0.291	ppb	33.1	520.03	0.0062	Pulse	0.1000	3
Fe	57	45	He	1.081	ppb	131.5	260.01	0.0031	Pulse	0.1000	3
Co	59	115	He	0.068	ppb	9.5	276.68	0.0021	Pulse	0.1000	3
Ni	60	115	He	-0.008	ppb	N/A	906.73	0.0068	Pulse	0.1000	3
Cu	63	115	He	0.067	ppb	105.1	1650.16	0.0124	Pulse	0.1000	3
Zn	66	115	He	0.391	ppb	50.1	1973.54	0.0148	Pulse	0.1000	3
As	75	115	He	0.090	ppb	43.1	72.67	0.0005	Pulse	0.5000	3
Sr	88	115	He	0.087	ppb	12.6	156.67	0.0012	Pulse	0.1000	3
Mo	98	115	He	0.295	ppb	18.0	803.39	0.0060	Pulse	0.1000	3
Ag	107	115	He	0.002	ppb	127.7	50.00	0.0004	Pulse	0.1000	3
Cd	111	115	He	0.013	ppb	30.1	10.67	0.0001	Pulse	0.5000	3
Sn	120	115	He	-0.057	ppb	N/A	1563.48	0.0117	Pulse	0.1000	3
Sb	121	72	He	0.028	ppb	22.2	93.33	0.0004	Pulse	0.1000	3
Ba	137	115	He	0.068	ppb	80.9	50.00	0.0004	Pulse	0.1000	3
Tl	205	209	He	0.034	ppb	16.0	283.35	0.0011	Pulse	0.1000	3
Pb	208	209	He	-0.011	ppb	N/A	173.33	0.0007	Pulse	0.1000	3
U	238	209	He	0.057	ppb	18.9	630.04	0.0025	Pulse	0.1000	3

Quantitation Report

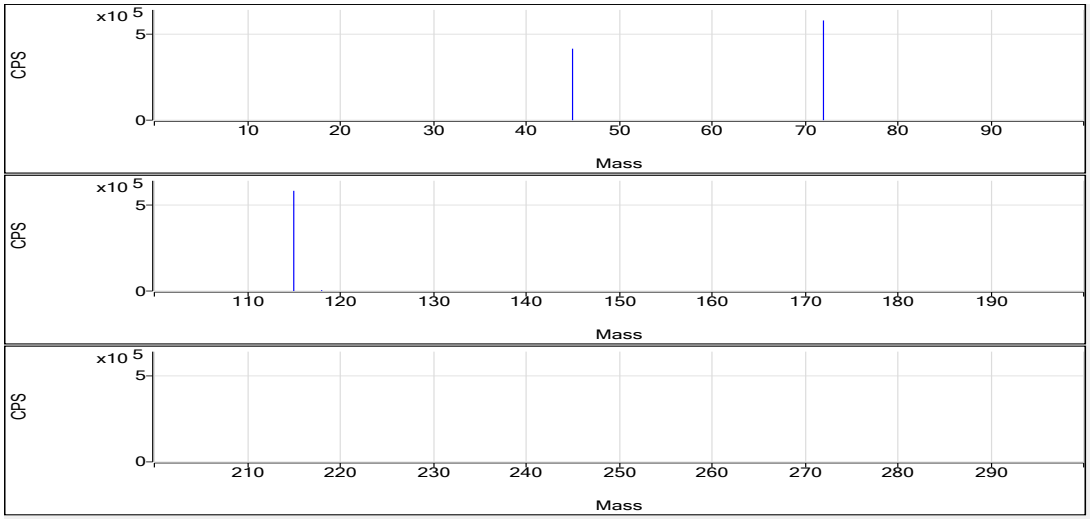
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1166942.09	3.0	102.6	Mix	0.1000	3
No Gas	Ge	72	1017671.41	1.0	100.8	Pulse	0.1000	3
H2	Sc	45	414694.20	1.0	99.6	Pulse	0.1000	3
H2	Ge	72	578614.72	1.1	99.0	Pulse	0.1000	3
H2	In	115	581548.48	0.8	103.3	Pulse	0.1000	3
He	Sc	45	84039.52	0.5	96.6	Pulse	0.1000	3
He	Ge	72	264043.99	0.4	101.0	Pulse	0.1000	3
He	In	115	133469.59	1.3	98.0	Pulse	0.1000	3
He	Tb	159	391324.11	1.0	97.9	Pulse	0.1000	3
He	Bi	209	253656.42	1.4	97.8	Pulse	0.1000	3

No Gas

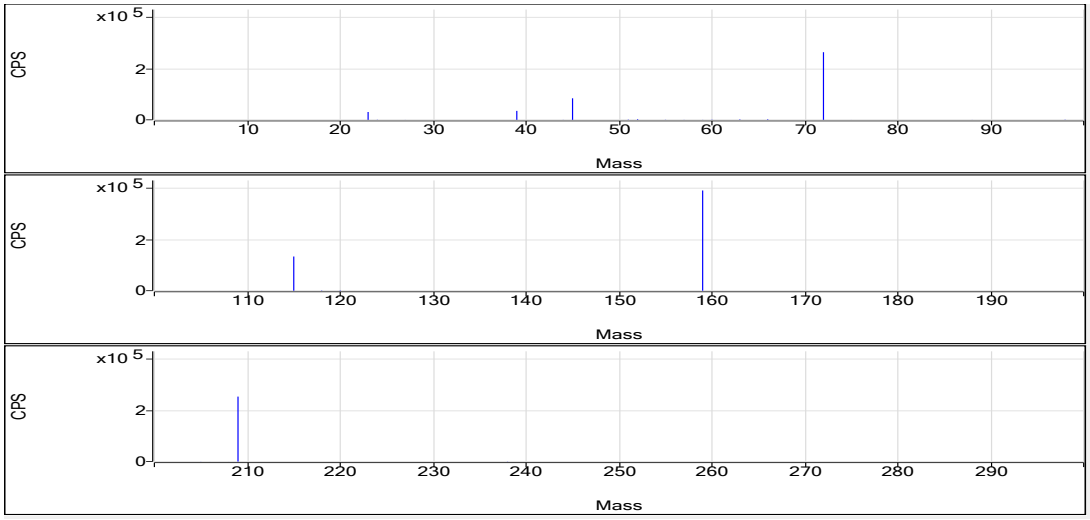


H2



Quantitation Report

He



Quantitation Report

Data File Name	237SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 8:18:33 PM
Sample Name	mb 410-33792/1-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

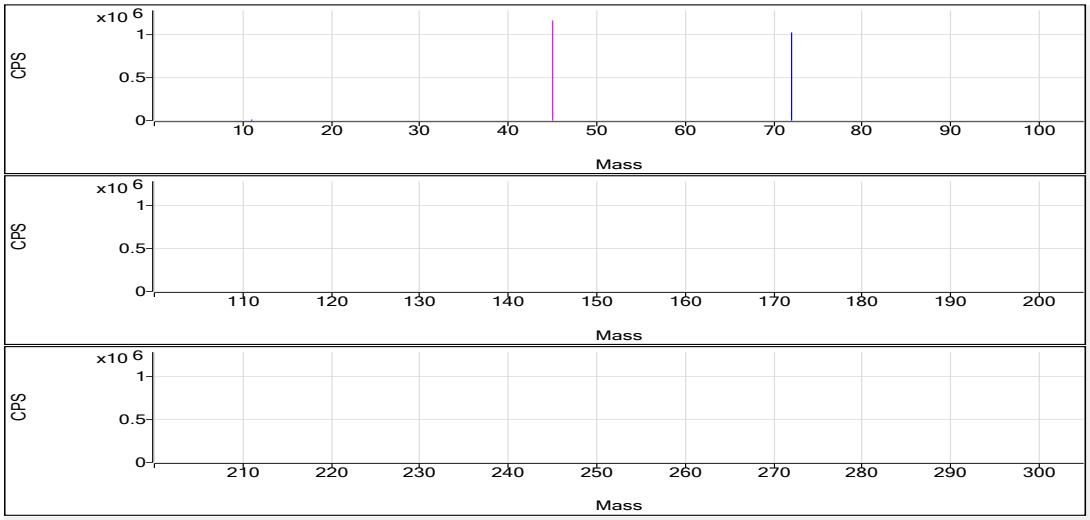
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.008	ppb	170.6	10.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	25.006	ppb	4.0	12711.48	0.0108	Pulse	0.5000	3
Se	78	115	H2	0.015	ppb	103.9	2.89	0.0000	Pulse	1.5000	3
Na	23	72	He	43.349	ppb	2.0	28741.83	0.1098	Pulse	0.1000	3
Mg	24	45	He	2.762	ppb	18.1	483.36	0.0059	Pulse	0.1000	3
Al	27	45	He	0.501	ppb	64.6	136.67	0.0017	Pulse	0.1000	3
K	39	45	He	11.092	ppb	103.8	33689.55	0.4073	Pulse	0.1000	3
Ca	44	45	He	9.213	ppb	65.4	213.34	0.0026	Pulse	0.1000	3
Ti	47	45	He	0.280	ppb	113.7	13.33	0.0002	Pulse	0.1000	3
V	51	45	He	-0.450	ppb	N/A	770.05	0.0093	Pulse	0.1000	3
Cr	52	45	He	0.106	ppb	88.8	2286.93	0.0277	Pulse	0.1000	3
Mn	55	45	He	0.199	ppb	3.5	413.35	0.0050	Pulse	0.1000	3
Fe	57	45	He	0.874	ppb	209.1	246.68	0.0030	Pulse	0.1000	3
Co	59	115	He	0.017	ppb	93.7	93.34	0.0007	Pulse	0.1000	3
Ni	60	115	He	-0.060	ppb	N/A	846.72	0.0064	Pulse	0.1000	3
Cu	63	115	He	0.062	ppb	62.3	1616.82	0.0123	Pulse	0.1000	3
Zn	66	115	He	-1.127	ppb	N/A	1356.77	0.0103	Pulse	0.1000	3
As	75	115	He	0.022	ppb	169.0	52.67	0.0004	Pulse	0.5000	3
Sr	88	115	He	0.064	ppb	51.7	120.00	0.0009	Pulse	0.1000	3
Mo	98	115	He	0.223	ppb	3.5	633.37	0.0048	Pulse	0.1000	3
Ag	107	115	He	-0.004	ppb	N/A	23.33	0.0002	Pulse	0.1000	3
Cd	111	115	He	-0.001	ppb	N/A	2.00	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.021	ppb	280.3	1700.17	0.0129	Pulse	0.1000	3
Sb	121	72	He	0.027	ppb	53.9	90.00	0.0003	Pulse	0.1000	3
Ba	137	115	He	0.059	ppb	69.2	43.34	0.0003	Pulse	0.1000	3
Tl	205	209	He	0.005	ppb	82.5	43.33	0.0002	Pulse	0.1000	3
Pb	208	209	He	-0.015	ppb	N/A	133.33	0.0005	Pulse	0.1000	3
U	238	209	He	0.009	ppb	45.9	113.34	0.0004	Pulse	0.1000	3

Quantitation Report

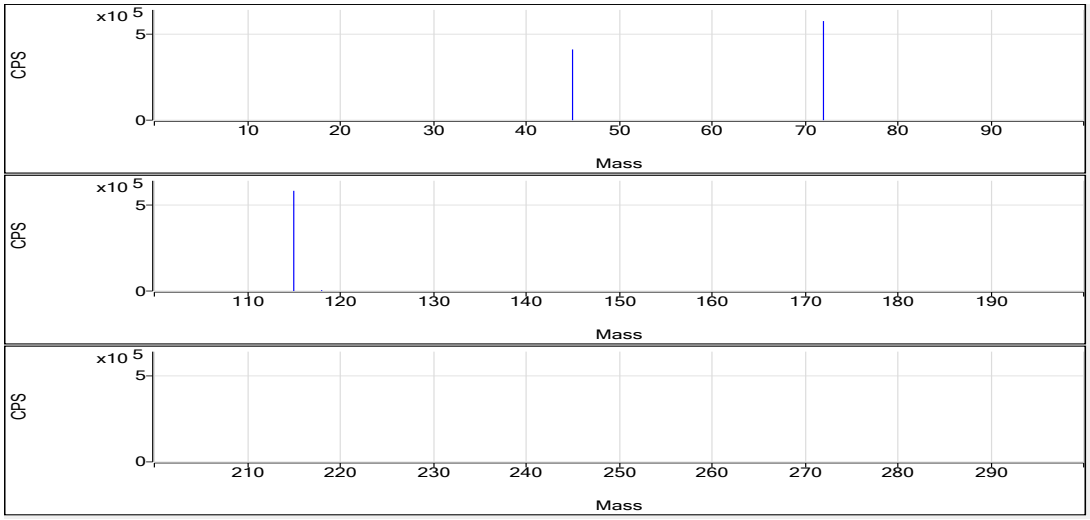
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1172944.44	2.9	103.2	Mix	0.1000	3
No Gas	Ge	72	1031203.63	0.8	102.2	Pulse	0.1000	3
H2	Sc	45	409037.96	0.8	98.3	Pulse	0.1000	3
H2	Ge	72	573191.51	0.3	98.1	Pulse	0.1000	3
H2	In	115	579690.85	1.1	103.0	Pulse	0.1000	3
He	Sc	45	82735.43	1.6	95.1	Pulse	0.1000	3
He	Ge	72	261653.00	0.7	100.1	Pulse	0.1000	3
He	In	115	131882.15	1.4	96.9	Pulse	0.1000	3
He	Tb	159	393491.54	0.7	98.4	Pulse	0.1000	3
He	Bi	209	253886.72	1.2	97.9	Pulse	0.1000	3

No Gas

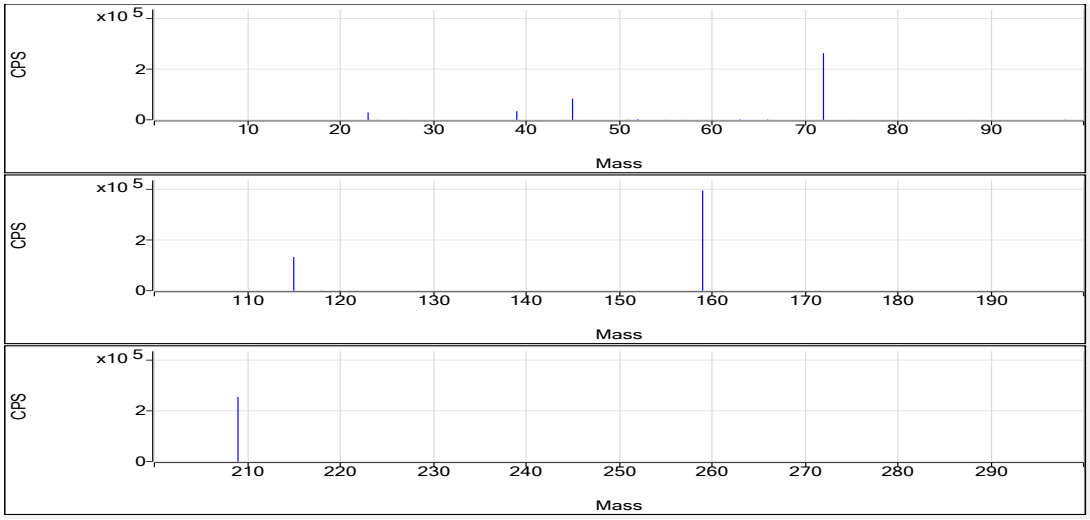


H2



Quantitation Report

He



Quantitation Report

Data File Name	238SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 8:20:48 PM
Sample Name	lcs 410-33792/2-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

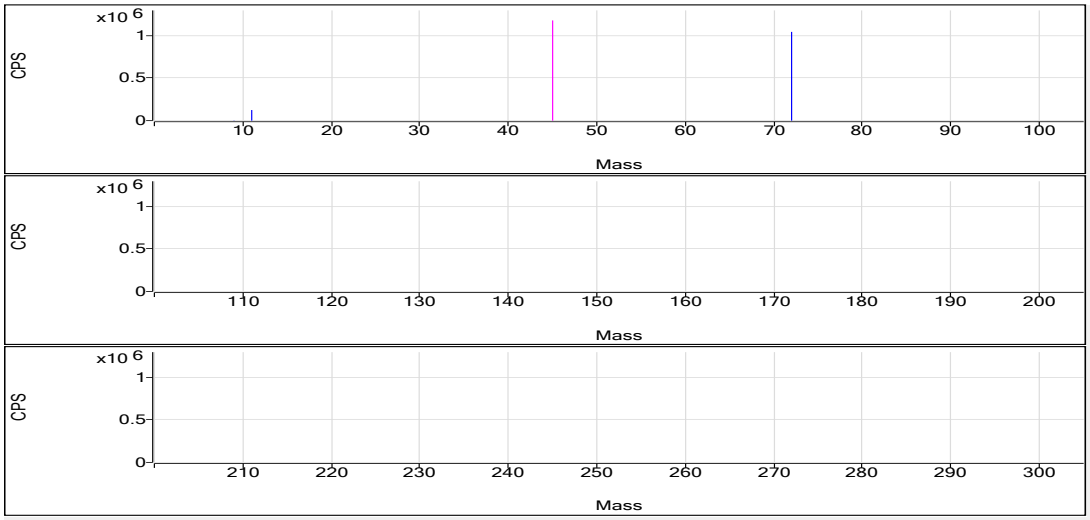
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	3.657	ppb	4.2	2858.30	0.0024	Pulse	0.5000	3
B	11	45	No Gas	253.573	ppb	2.4	124669.70	0.1059	Pulse	0.5000	3
Se	78	115	H2	10.377	ppb	1.9	1434.07	0.0024	Pulse	1.5000	3
Na	23	72	He	9854.267	ppb	0.9	2627036.16	9.7497	Analog	0.1000	3
Mg	24	45	He	2017.938	ppb	1.2	276967.76	3.2437	Pulse	0.1000	3
Al	27	45	He	199.284	ppb	5.2	10780.97	0.1262	Pulse	0.1000	3
K	39	45	He	10824.524	ppb	2.0	1384949.35	16.2201	Analog	0.1000	3
Ca	44	45	He	4276.853	ppb	1.5	29487.32	0.3453	Pulse	0.1000	3
Ti	47	45	He	267.558	ppb	1.8	13169.81	0.1542	Pulse	0.1000	3
V	51	45	He	53.072	ppb	1.6	90649.87	1.0616	Pulse	0.1000	3
Cr	52	45	He	53.869	ppb	0.4	117723.16	1.3786	Pulse	0.1000	3
Mn	55	45	He	54.068	ppb	0.4	60112.20	0.7040	Pulse	0.1000	3
Fe	57	45	He	326.515	ppb	3.2	14684.62	0.1720	Pulse	0.1000	3
Co	59	115	He	264.474	ppb	1.4	975059.90	7.1386	Pulse	0.1000	3
Ni	60	115	He	53.904	ppb	1.0	54638.04	0.4000	Pulse	0.1000	3
Cu	63	115	He	53.189	ppb	1.6	152643.44	1.1175	Pulse	0.1000	3
Zn	66	115	He	539.716	ppb	2.4	220278.00	1.6127	Pulse	0.1000	3
As	75	115	He	10.812	ppb	1.9	3173.70	0.0232	Pulse	0.5000	3
Sr	88	115	He	41.964	ppb	2.1	65907.59	0.4826	Pulse	0.1000	3
Mo	98	115	He	55.207	ppb	2.0	127562.17	0.9340	Pulse	0.1000	3
Ag	107	115	He	53.505	ppb	1.5	246862.41	1.8074	Pulse	0.1000	3
Cd	111	115	He	5.417	ppb	1.9	3495.12	0.0256	Pulse	0.5000	3
Sn	120	115	He	55.609	ppb	2.1	114389.90	0.8375	Pulse	0.1000	3
Sb	121	72	He	6.135	ppb	4.4	11838.86	0.0439	Pulse	0.1000	3
Ba	137	115	He	54.693	ppb	3.1	35774.08	0.2619	Pulse	0.1000	3
Tl	205	209	He	2.114	ppb	4.1	17078.33	0.0672	Pulse	0.1000	3
Pb	208	209	He	5.223	ppb	0.8	59087.99	0.2326	Pulse	0.1000	3
U	238	209	He	0.005	ppb	60.5	73.33	0.0003	Pulse	0.1000	3

Quantitation Report

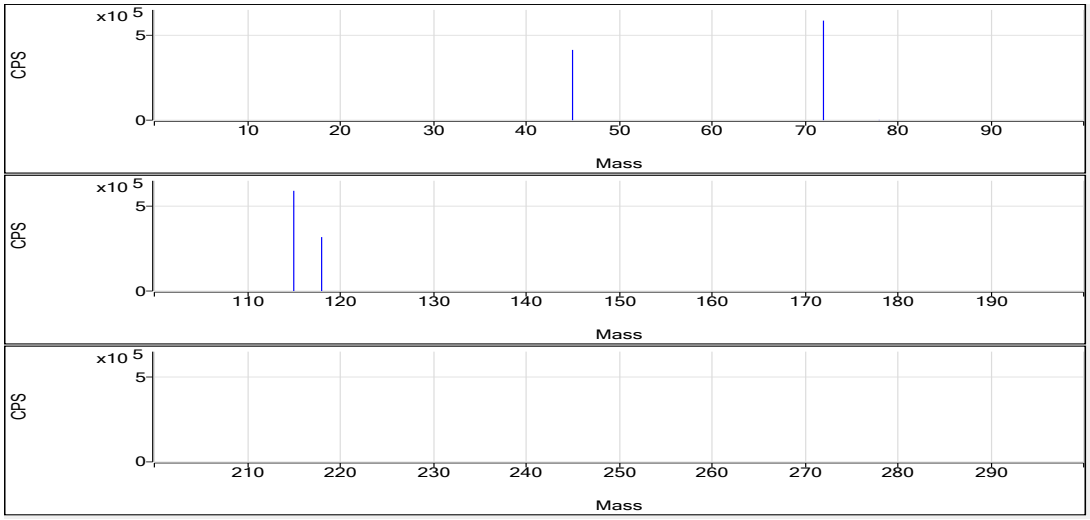
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1177566.08	2.4	103.6	Mix	0.1000	3
No Gas	Ge	72	1042860.56	0.4	103.3	Pulse	0.1000	3
H2	Sc	45	415582.13	1.1	99.8	Pulse	0.1000	3
H2	Ge	72	588874.64	1.3	100.8	Pulse	0.1000	3
H2	In	115	592865.52	0.4	105.3	Pulse	0.1000	3
He	Sc	45	85390.52	0.6	98.2	Pulse	0.1000	3
He	Ge	72	269424.66	1.4	103.0	Pulse	0.1000	3
He	In	115	136603.00	1.3	100.3	Pulse	0.1000	3
He	Tb	159	392993.88	0.8	98.3	Pulse	0.1000	3
He	Bi	209	254069.74	0.6	97.9	Pulse	0.1000	3

No Gas

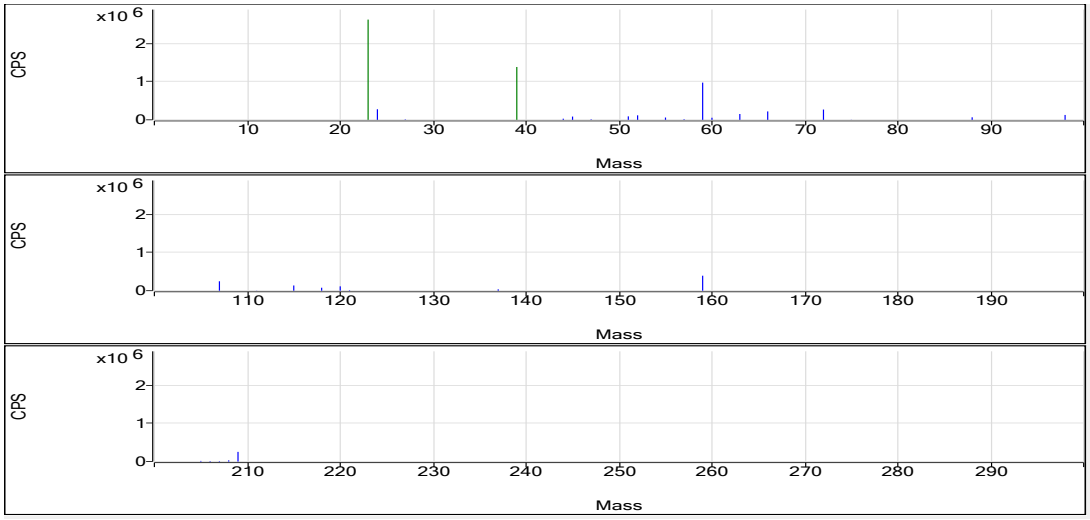


H2



Quantitation Report

He



Quantitation Report

Data File Name	239SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 8:23:02 PM
Sample Name	410-10656-i-28-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

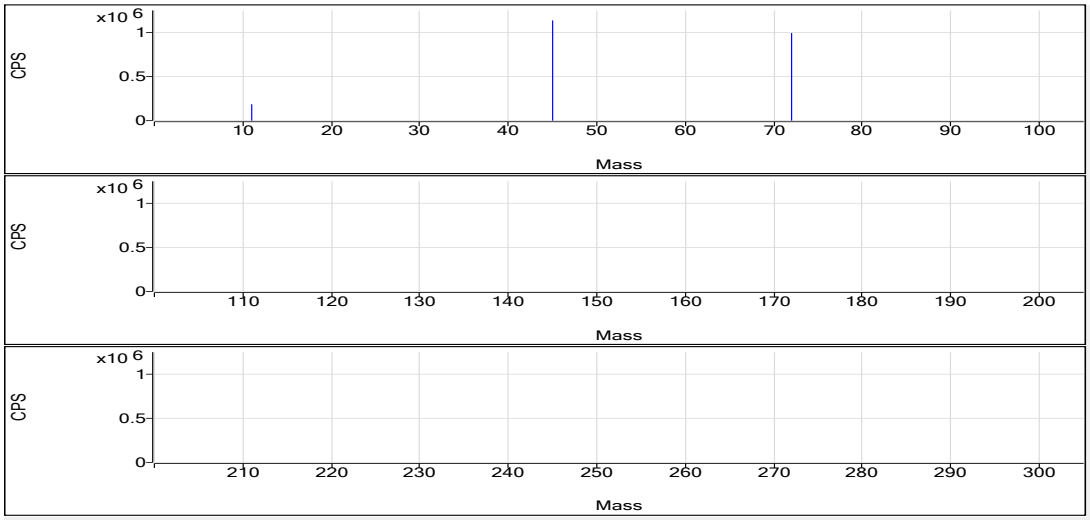
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.012	ppb	46.3	13.33	0.0000	Pulse	0.5000	3
B	11	45	No Gas	392.868	ppb	0.3	185440.16	0.1638	Pulse	0.5000	3
Se	78	115	H2	0.515	ppb	4.8	66.89	0.0001	Pulse	1.5000	3
Na	23	72	He	824642.847	ppb	0.5	212330736.84	810.3308	Analog	0.1000	3
Mg	24	45	He	49462.568	ppb	1.2	6682588.65	79.4742	Analog	0.1000	3
Al	27	45	He	8.192	ppb	33.2	543.37	0.0065	Pulse	0.1000	3
K	39	45	He	44989.882	ppb	0.9	5565161.58	66.1814	Analog	0.1000	3
Ca	44	45	He	247564.094	ppb	1.9	1672037.89	19.8850	Analog	0.1000	3
Ti	47	45	He	0.891	ppb	57.0	43.33	0.0005	Pulse	0.1000	3
V	51	45	He	0.472	ppb	18.5	2306.94	0.0274	Pulse	0.1000	3
Cr	52	45	He	0.700	ppb	7.9	3580.57	0.0426	Pulse	0.1000	3
Mn	55	45	He	1323.138	ppb	2.1	1443745.97	17.1709	Analog	0.1000	3
Fe	57	45	He	74609.424	ppb	1.1	3255355.37	38.7146	Analog	0.1000	3
Co	59	115	He	2.475	ppb	3.1	8626.20	0.0670	Pulse	0.1000	3
Ni	60	115	He	1.941	ppb	5.4	2703.68	0.0210	Pulse	0.1000	3
Cu	63	115	He	0.250	ppb	13.7	2080.23	0.0162	Pulse	0.1000	3
Zn	66	115	He	0.591	ppb	40.9	1980.21	0.0154	Pulse	0.1000	3
As	75	115	He	48.176	ppb	1.5	13163.44	0.1023	Pulse	0.5000	3
Sr	88	115	He	2403.349	ppb	1.3	3554592.03	27.6274	Analog	0.1000	3
Mo	98	115	He	1.017	ppb	11.7	2343.62	0.0182	Pulse	0.1000	3
Ag	107	115	He	0.006	ppb	157.1	66.67	0.0005	Pulse	0.1000	3
Cd	111	115	He	0.006	ppb	206.7	6.00	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.198	ppb	24.9	1996.87	0.0155	Pulse	0.1000	3
Sb	121	72	He	0.135	ppb	21.5	293.35	0.0011	Pulse	0.1000	3
Ba	137	115	He	1299.190	ppb	0.8	800439.65	6.2209	Pulse	0.1000	3
Tl	205	209	He	0.006	ppb	38.9	46.67	0.0002	Pulse	0.1000	3
Pb	208	209	He	0.039	ppb	17.4	653.37	0.0029	Pulse	0.1000	3
U	238	209	He	0.006	ppb	32.3	76.67	0.0003	Pulse	0.1000	3

Quantitation Report

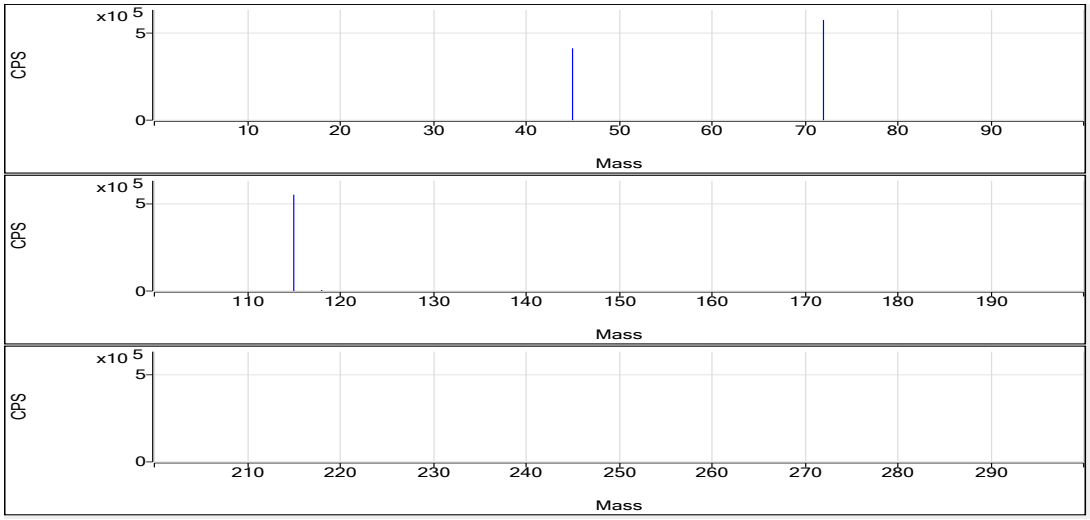
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1131778.45	1.0	99.6	Pulse	0.1000	3
No Gas	Ge	72	988734.00	0.9	98.0	Pulse	0.1000	3
H2	Sc	45	410468.20	1.3	98.6	Pulse	0.1000	3
H2	Ge	72	572179.60	1.4	97.9	Pulse	0.1000	3
H2	In	115	549969.35	1.2	97.7	Pulse	0.1000	3
He	Sc	45	84092.86	1.2	96.7	Pulse	0.1000	3
He	Ge	72	262030.40	0.7	100.2	Pulse	0.1000	3
He	In	115	128674.40	1.1	94.5	Pulse	0.1000	3
He	Tb	159	372219.37	0.9	93.1	Pulse	0.1000	3
He	Bi	209	226844.91	2.1	87.4	Pulse	0.1000	3

No Gas

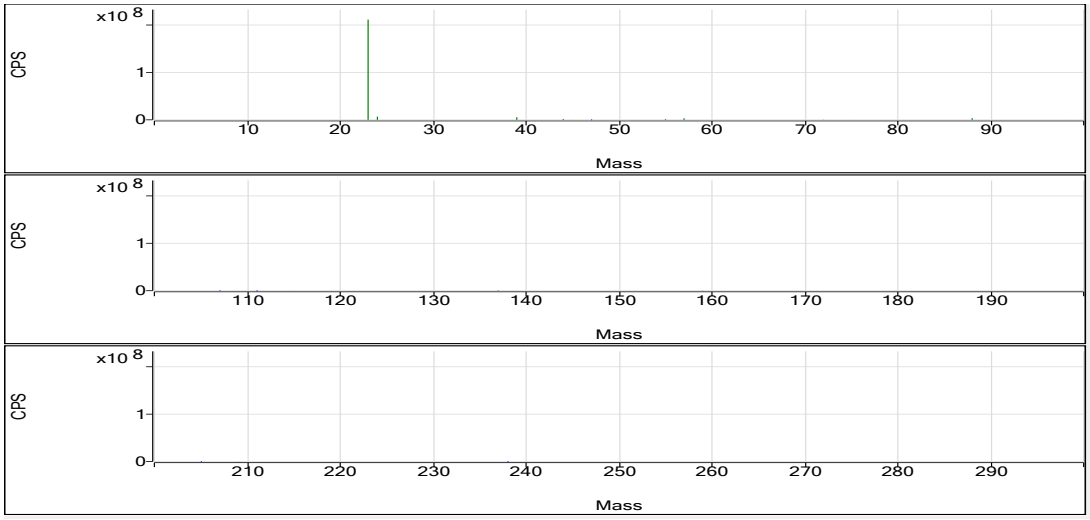


H2



Quantitation Report

He



Quantitation Report

Data File Name	240SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 8:25:21 PM
Sample Name	410-10656-i-28-a PDS
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

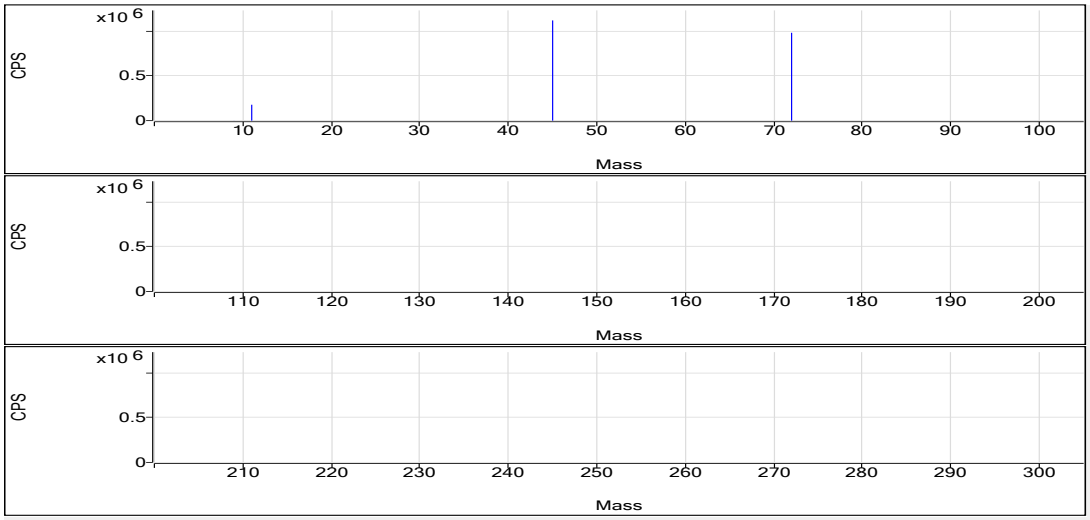
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.865	ppb	0.9	644.69	0.0006	Pulse	0.5000	3
B	11	45	No Gas	380.479	ppb	0.9	177132.09	0.1587	Pulse	0.5000	3
Se	78	115	H2	2.698	ppb	3.4	346.89	0.0006	Pulse	1.5000	3
Na	23	72	He	810223.479	ppb	0.3	208154943.56	796.1628	Analog	0.1000	3
Mg	24	45	He	48611.321	ppb	0.2	6622450.32	78.1064	Analog	0.1000	3
Al	27	45	He	57.833	ppb	2.0	3187.13	0.0376	Pulse	0.1000	3
K	39	45	He	44622.028	ppb	0.5	5565592.84	65.6434	Analog	0.1000	3
Ca	44	45	He	243424.797	ppb	1.5	1657595.03	19.5525	Analog	0.1000	3
Ti	47	45	He	21.804	ppb	14.2	1066.75	0.0126	Pulse	0.1000	3
V	51	45	He	1.488	ppb	6.6	4020.69	0.0474	Pulse	0.1000	3
Cr	52	45	He	2.617	ppb	5.6	7695.66	0.0908	Pulse	0.1000	3
Mn	55	45	He	1301.681	ppb	1.4	1432114.40	16.8925	Analog	0.1000	3
Fe	57	45	He	72857.121	ppb	2.1	3204867.56	37.8054	Analog	0.1000	3
Co	59	115	He	3.464	ppb	1.8	12092.12	0.0937	Pulse	0.1000	3
Ni	60	115	He	3.553	ppb	1.6	4227.46	0.0328	Pulse	0.1000	3
Cu	63	115	He	2.323	ppb	2.1	7648.97	0.0593	Pulse	0.1000	3
Zn	66	115	He	21.422	ppb	1.1	9947.11	0.0771	Pulse	0.1000	3
As	75	115	He	51.355	ppb	1.6	14064.98	0.1090	Pulse	0.5000	3
Sr	88	115	He	2369.899	ppb	0.4	3514478.49	27.2429	Analog	0.1000	3
Mo	98	115	He	1.893	ppb	4.0	4257.46	0.0330	Pulse	0.1000	3
Ag	107	115	He	0.962	ppb	1.0	4230.81	0.0328	Pulse	0.1000	3
Cd	111	115	He	0.982	ppb	13.1	600.02	0.0047	Pulse	0.5000	3
Sn	120	115	He	4.358	ppb	4.9	9960.57	0.0772	Pulse	0.1000	3
Sb	121	72	He	2.032	ppb	2.1	3830.66	0.0147	Pulse	0.1000	3
Ba	137	115	He	1282.114	ppb	0.8	791943.50	6.1392	Pulse	0.1000	3
Tl	205	209	He	0.980	ppb	2.1	7015.50	0.0312	Pulse	0.1000	3
Pb	208	209	He	1.020	ppb	1.6	10438.72	0.0464	Pulse	0.1000	3
U	238	209	He	2.069	ppb	1.4	19575.45	0.0870	Pulse	0.1000	3

Quantitation Report

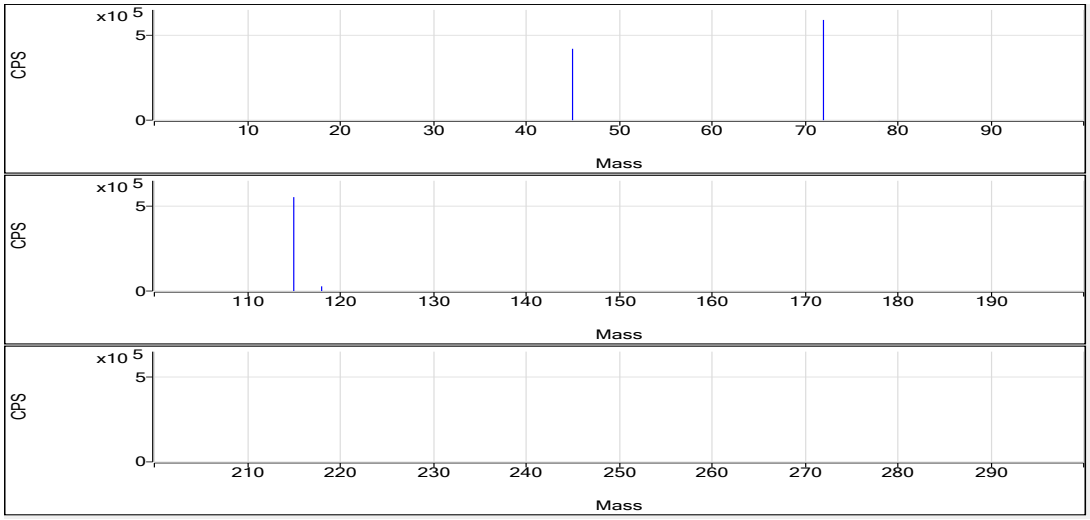
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1116173.61	0.3	98.2	Pulse	0.1000	3
No Gas	Ge	72	978736.83	0.6	97.0	Pulse	0.1000	3
H2	Sc	45	418565.69	1.3	100.6	Pulse	0.1000	3
H2	Ge	72	587785.03	1.2	100.6	Pulse	0.1000	3
H2	In	115	550649.16	0.6	97.8	Pulse	0.1000	3
He	Sc	45	84786.42	1.2	97.5	Pulse	0.1000	3
He	Ge	72	261448.13	0.7	100.0	Pulse	0.1000	3
He	In	115	129004.97	1.1	94.7	Pulse	0.1000	3
He	Tb	159	373394.66	0.6	93.4	Pulse	0.1000	3
He	Bi	209	225133.48	0.7	86.8	Pulse	0.1000	3

No Gas

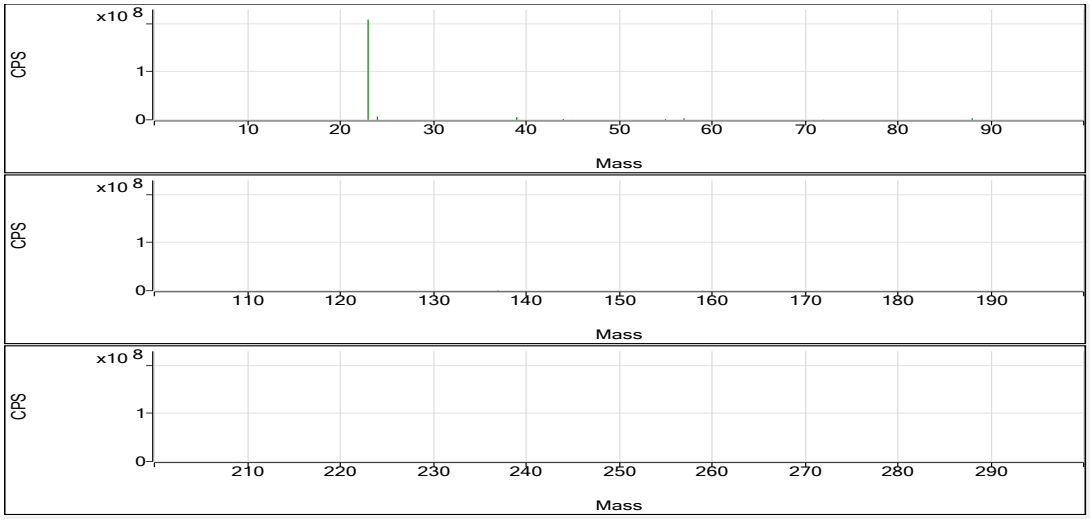


H2



Quantitation Report

He



Quantitation Report

Data File Name	241SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 8:27:38 PM
Sample Name	410-10656-i-28-b du
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

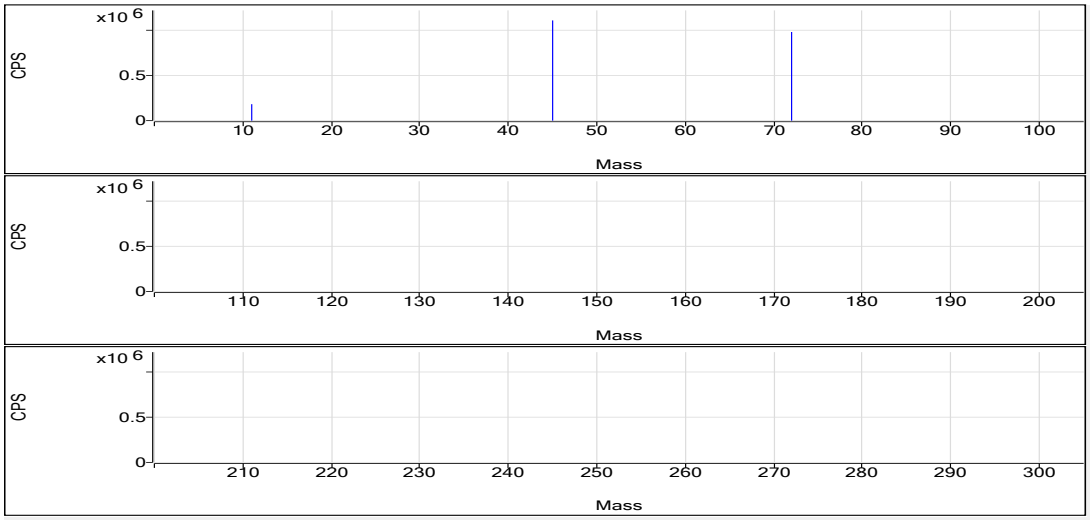
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.022	ppb	14.3	20.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	393.833	ppb	0.4	183038.97	0.1642	Pulse	0.5000	3
Se	78	115	H2	0.456	ppb	1.7	59.78	0.0001	Pulse	1.5000	3
Na	23	72	He	831416.259	ppb	0.3	214857496.80	816.9861	Analog	0.1000	3
Mg	24	45	He	50036.786	ppb	1.4	6819176.15	80.3968	Analog	0.1000	3
Al	27	45	He	6.767	ppb	2.9	473.36	0.0056	Pulse	0.1000	3
K	39	45	He	45967.361	ppb	0.1	5734791.79	67.6108	Analog	0.1000	3
Ca	44	45	He	251762.543	ppb	1.3	1715222.32	20.2222	Analog	0.1000	3
Ti	47	45	He	0.613	ppb	66.5	30.00	0.0004	Pulse	0.1000	3
V	51	45	He	0.393	ppb	35.6	2196.92	0.0259	Pulse	0.1000	3
Cr	52	45	He	0.754	ppb	18.9	3727.28	0.0439	Pulse	0.1000	3
Mn	55	45	He	1334.546	ppb	1.0	1468976.12	17.3189	Analog	0.1000	3
Fe	57	45	He	75253.354	ppb	1.1	3312112.45	39.0487	Analog	0.1000	3
Co	59	115	He	2.462	ppb	2.9	8589.48	0.0667	Pulse	0.1000	3
Ni	60	115	He	1.628	ppb	9.3	2410.30	0.0187	Pulse	0.1000	3
Cu	63	115	He	0.183	ppb	9.8	1903.52	0.0148	Pulse	0.1000	3
Zn	66	115	He	0.553	ppb	16.6	1966.89	0.0153	Pulse	0.1000	3
As	75	115	He	49.985	ppb	2.3	13664.58	0.1061	Pulse	0.5000	3
Sr	88	115	He	2452.848	ppb	1.6	3630289.22	28.1964	Analog	0.1000	3
Mo	98	115	He	0.874	ppb	5.1	2033.56	0.0158	Pulse	0.1000	3
Ag	107	115	He	-0.003	ppb	N/A	26.67	0.0002	Pulse	0.1000	3
Cd	111	115	He	0.004	ppb	216.1	4.67	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.161	ppb	26.6	1926.88	0.0150	Pulse	0.1000	3
Sb	121	72	He	0.101	ppb	10.6	230.01	0.0009	Pulse	0.1000	3
Ba	137	115	He	1318.985	ppb	1.4	813162.12	6.3157	Pulse	0.1000	3
Tl	205	209	He	0.002	ppb	52.8	16.67	0.0001	Pulse	0.1000	3
Pb	208	209	He	0.036	ppb	10.8	620.03	0.0028	Pulse	0.1000	3
U	238	209	He	0.005	ppb	39.5	60.00	0.0003	Pulse	0.1000	3

Quantitation Report

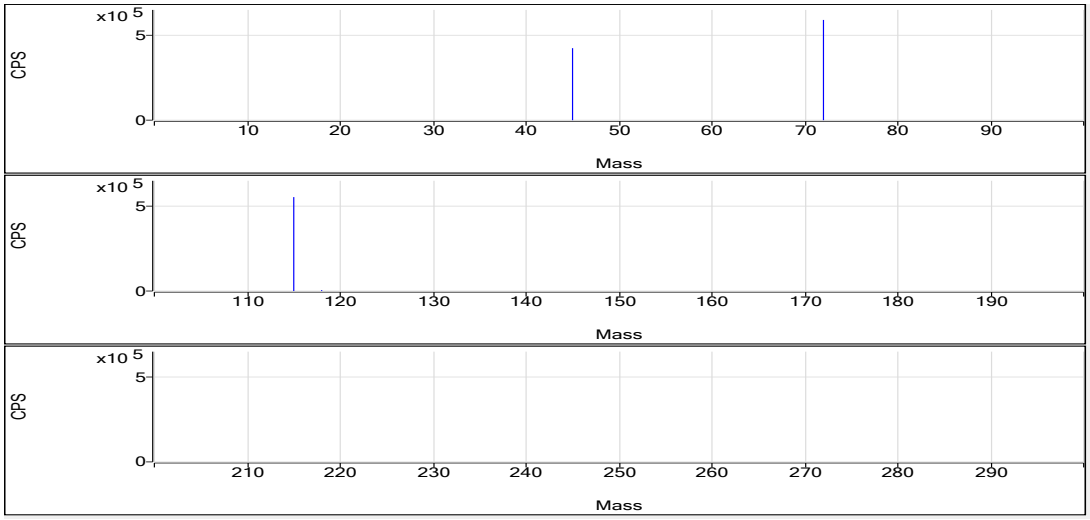
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1114424.96	0.8	98.0	Pulse	0.1000	3
No Gas	Ge	72	985620.90	1.5	97.7	Pulse	0.1000	3
H2	Sc	45	424726.58	0.8	102.0	Pulse	0.1000	3
H2	Ge	72	591244.46	1.1	101.2	Pulse	0.1000	3
H2	In	115	554088.73	0.4	98.5	Pulse	0.1000	3
He	Sc	45	84820.54	0.3	97.5	Pulse	0.1000	3
He	Ge	72	262987.81	0.4	100.6	Pulse	0.1000	3
He	In	115	128769.73	1.5	94.6	Pulse	0.1000	3
He	Tb	159	368980.87	1.0	92.3	Pulse	0.1000	3
He	Bi	209	224810.12	1.4	86.7	Pulse	0.1000	3

No Gas

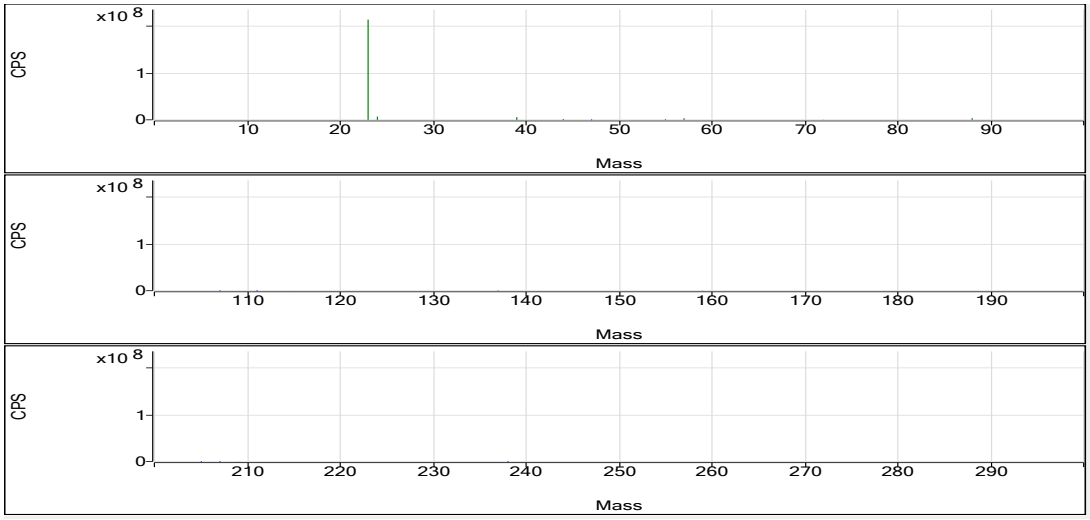


H2



Quantitation Report

He



Quantitation Report

Data File Name	242SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 8:29:55 PM
Sample Name	410-10656-i-28-c ms
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

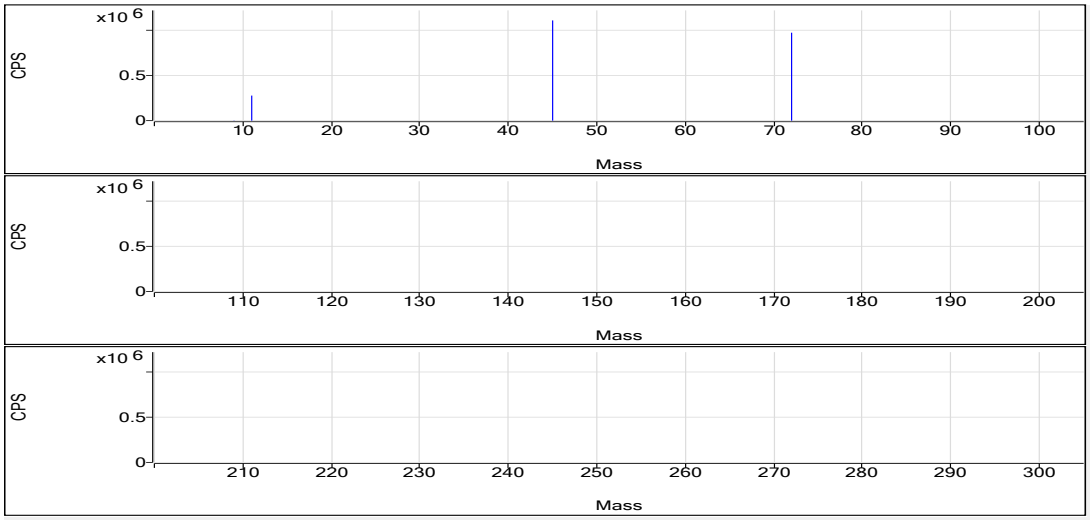
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	3.391	ppb	3.9	2484.89	0.0023	Pulse	0.5000	3
B	11	45	No Gas	599.926	ppb	1.0	275758.56	0.2500	Pulse	0.5000	3
Se	78	115	H2	11.185	ppb	0.4	1447.19	0.0026	Pulse	1.5000	3
Na	23	72	He	828612.728	ppb	0.7	215301610.13	814.2314	Analog	0.1000	3
Mg	24	45	He	51740.178	ppb	1.9	6960018.65	83.1337	Analog	0.1000	3
Al	27	45	He	187.933	ppb	2.4	9973.70	0.1191	Pulse	0.1000	3
K	39	45	He	55863.436	ppb	0.7	6872493.23	82.0822	Analog	0.1000	3
Ca	44	45	He	256253.633	ppb	1.7	1723249.98	20.5829	Analog	0.1000	3
Ti	47	45	He	244.808	ppb	2.2	11815.24	0.1411	Pulse	0.1000	3
V	51	45	He	48.334	ppb	1.5	81083.69	0.9685	Pulse	0.1000	3
Cr	52	45	He	48.272	ppb	1.7	103646.22	1.2380	Pulse	0.1000	3
Mn	55	45	He	1396.221	ppb	1.7	1516967.74	18.1192	Analog	0.1000	3
Fe	57	45	He	74946.655	ppb	1.5	3255930.99	38.8896	Analog	0.1000	3
Co	59	115	He	240.319	ppb	0.5	839062.77	6.4866	Pulse	0.1000	3
Ni	60	115	He	48.555	ppb	2.5	46696.46	0.3610	Pulse	0.1000	3
Cu	63	115	He	46.208	ppb	0.2	125766.58	0.9723	Pulse	0.1000	3
Zn	66	115	He	487.939	ppb	1.6	188767.80	1.4593	Pulse	0.1000	3
As	75	115	He	59.544	ppb	1.5	16346.72	0.1264	Pulse	0.5000	3
Sr	88	115	He	2465.388	ppb	0.5	3665934.22	28.3405	Analog	0.1000	3
Mo	98	115	He	50.986	ppb	1.3	111584.38	0.8626	Pulse	0.1000	3
Ag	107	115	He	45.829	ppb	0.2	200257.61	1.5481	Pulse	0.1000	3
Cd	111	115	He	4.871	ppb	2.5	2976.33	0.0230	Pulse	0.5000	3
Sn	120	115	He	50.614	ppb	0.3	98747.38	0.7634	Pulse	0.1000	3
Sb	121	72	He	5.971	ppb	0.5	11308.37	0.0428	Pulse	0.1000	3
Ba	137	115	He	1336.986	ppb	0.8	828101.68	6.4019	Pulse	0.1000	3
Tl	205	209	He	1.947	ppb	3.8	13791.06	0.0619	Pulse	0.1000	3
Pb	208	209	He	4.800	ppb	1.1	47635.55	0.2138	Pulse	0.1000	3
U	238	209	He	0.004	ppb	91.1	50.00	0.0002	Pulse	0.1000	3

Quantitation Report

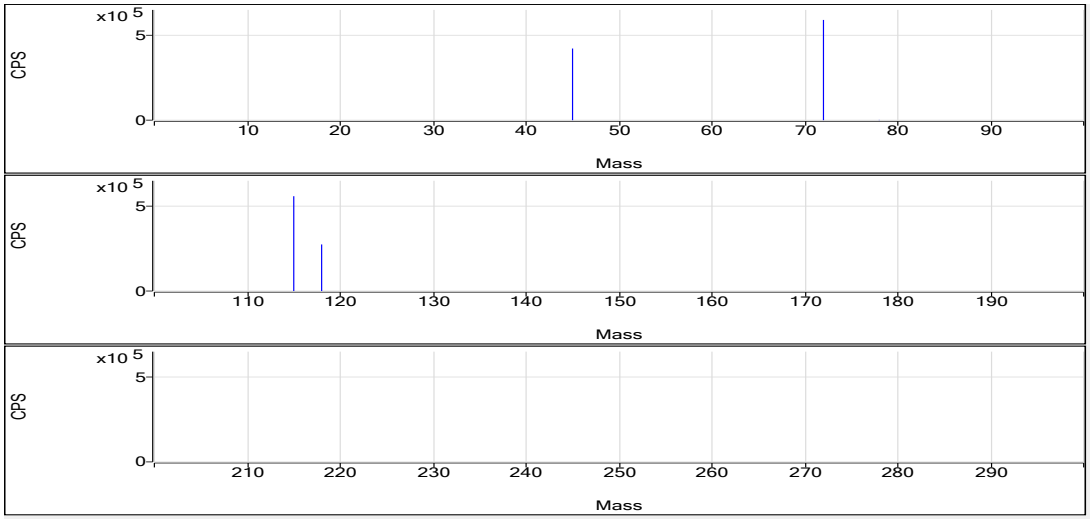
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1103275.90	1.4	97.0	Pulse	0.1000	3
No Gas	Ge	72	968156.71	1.0	95.9	Pulse	0.1000	3
H2	Sc	45	419473.41	0.6	100.8	Pulse	0.1000	3
H2	Ge	72	586824.20	1.2	100.4	Pulse	0.1000	3
H2	In	115	555144.54	0.7	98.6	Pulse	0.1000	3
He	Sc	45	83727.42	0.6	96.3	Pulse	0.1000	3
He	Ge	72	264428.93	0.5	101.1	Pulse	0.1000	3
He	In	115	129353.77	0.3	95.0	Pulse	0.1000	3
He	Tb	159	369488.78	0.5	92.4	Pulse	0.1000	3
He	Bi	209	222758.14	0.7	85.9	Pulse	0.1000	3

No Gas

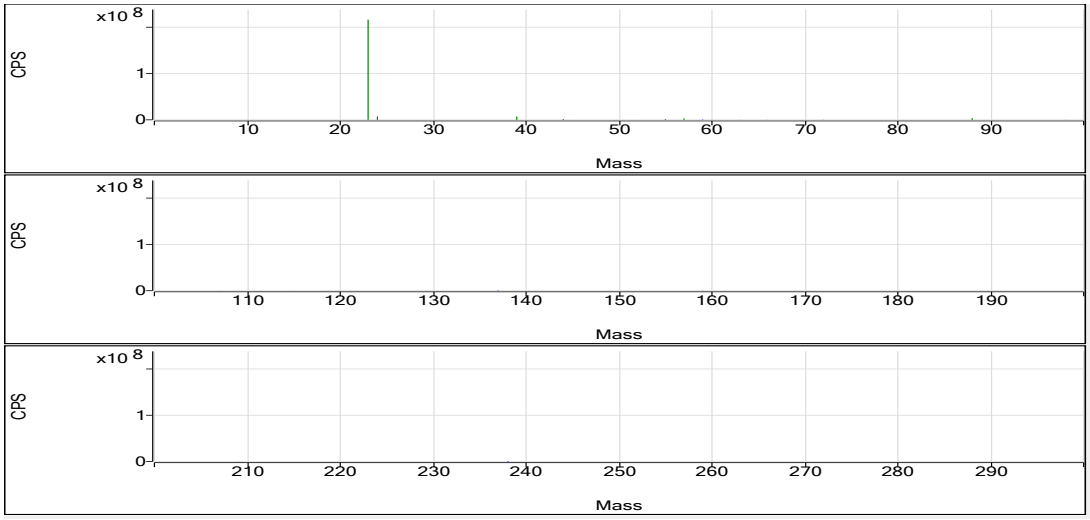


H2



Quantitation Report

He



Quantitation Report

Data File Name	243SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 8:32:12 PM
Sample Name	410-10656-i-28-d msd
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

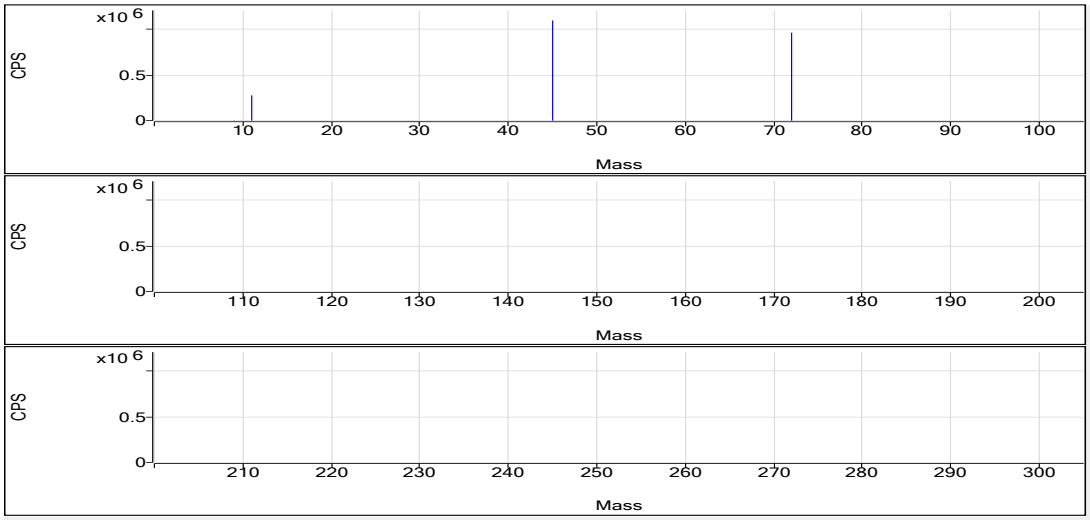
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	3.315	ppb	2.3	2424.21	0.0022	Pulse	0.5000	3
B	11	45	No Gas	605.484	ppb	1.2	277684.03	0.2523	Pulse	0.5000	3
Se	78	115	H2	11.172	ppb	3.4	1445.85	0.0026	Pulse	1.5000	3
Na	23	72	He	829760.412	ppb	0.8	216226676.78	815.3591	Analog	0.1000	3
Mg	24	45	He	50917.606	ppb	0.4	7013520.52	81.8120	Analog	0.1000	3
Al	27	45	He	194.376	ppb	2.2	10557.41	0.1232	Pulse	0.1000	3
K	39	45	He	54727.120	ppb	1.5	6894010.73	80.4205	Analog	0.1000	3
Ca	44	45	He	252187.405	ppb	0.8	1736491.85	20.2563	Analog	0.1000	3
Ti	47	45	He	249.971	ppb	2.9	12352.29	0.1441	Pulse	0.1000	3
V	51	45	He	49.622	ppb	0.7	85193.68	0.9938	Pulse	0.1000	3
Cr	52	45	He	48.198	ppb	1.3	105965.95	1.2361	Pulse	0.1000	3
Mn	55	45	He	1348.552	ppb	1.1	1500329.35	17.5007	Analog	0.1000	3
Fe	57	45	He	73623.474	ppb	0.9	3275114.85	38.2030	Analog	0.1000	3
Co	59	115	He	247.942	ppb	1.0	860906.39	6.6924	Pulse	0.1000	3
Ni	60	115	He	50.238	ppb	2.2	48021.14	0.3733	Pulse	0.1000	3
Cu	63	115	He	48.176	ppb	1.0	130340.07	1.0132	Pulse	0.1000	3
Zn	66	115	He	503.057	ppb	0.2	193495.53	1.5041	Pulse	0.1000	3
As	75	115	He	60.795	ppb	1.5	16596.35	0.1290	Pulse	0.5000	3
Sr	88	115	He	2464.398	ppb	0.2	3644422.03	28.3291	Analog	0.1000	3
Mo	98	115	He	52.464	ppb	1.8	114175.29	0.8876	Pulse	0.1000	3
Ag	107	115	He	47.887	ppb	0.5	208098.95	1.6177	Pulse	0.1000	3
Cd	111	115	He	4.812	ppb	2.1	2923.66	0.0227	Pulse	0.5000	3
Sn	120	115	He	52.131	ppb	0.9	101097.97	0.7859	Pulse	0.1000	3
Sb	121	72	He	5.788	ppb	2.0	10994.73	0.0415	Pulse	0.1000	3
Ba	137	115	He	1345.741	ppb	0.8	828940.79	6.4438	Pulse	0.1000	3
Tl	205	209	He	2.027	ppb	4.3	14441.74	0.0645	Pulse	0.1000	3
Pb	208	209	He	4.855	ppb	1.4	48459.83	0.2163	Pulse	0.1000	3
U	238	209	He	0.004	ppb	128.8	56.67	0.0003	Pulse	0.1000	3

Quantitation Report

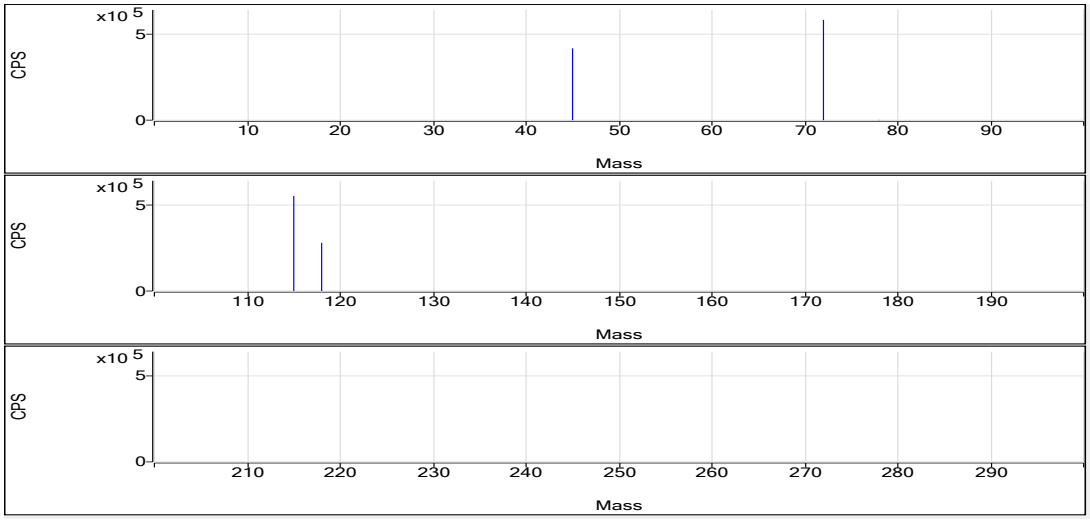
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1100743.24	0.8	96.8	Pulse	0.1000	3
No Gas	Ge	72	966498.32	0.9	95.8	Pulse	0.1000	3
H2	Sc	45	419442.90	1.7	100.8	Pulse	0.1000	3
H2	Ge	72	585375.71	0.3	100.2	Pulse	0.1000	3
H2	In	115	555310.62	1.1	98.7	Pulse	0.1000	3
He	Sc	45	85729.07	0.8	98.6	Pulse	0.1000	3
He	Ge	72	265199.77	0.8	101.4	Pulse	0.1000	3
He	In	115	128645.17	0.8	94.5	Pulse	0.1000	3
He	Tb	159	368861.91	1.1	92.2	Pulse	0.1000	3
He	Bi	209	224091.94	1.1	86.4	Pulse	0.1000	3

No Gas

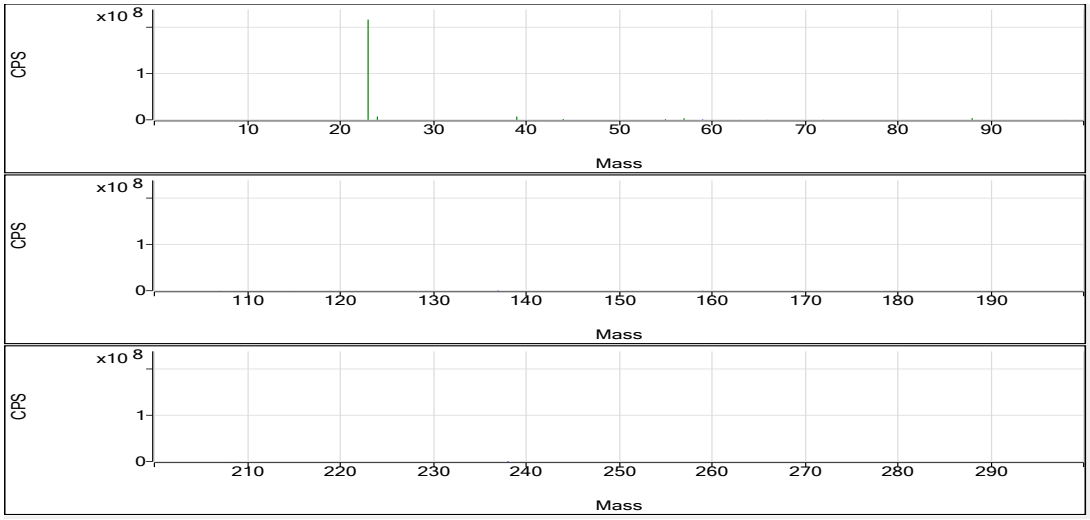


H2



Quantitation Report

He



Quantitation Report

Data File Name	244SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 8:34:33 PM
Sample Name	410-10656-i-28-a SD@5
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

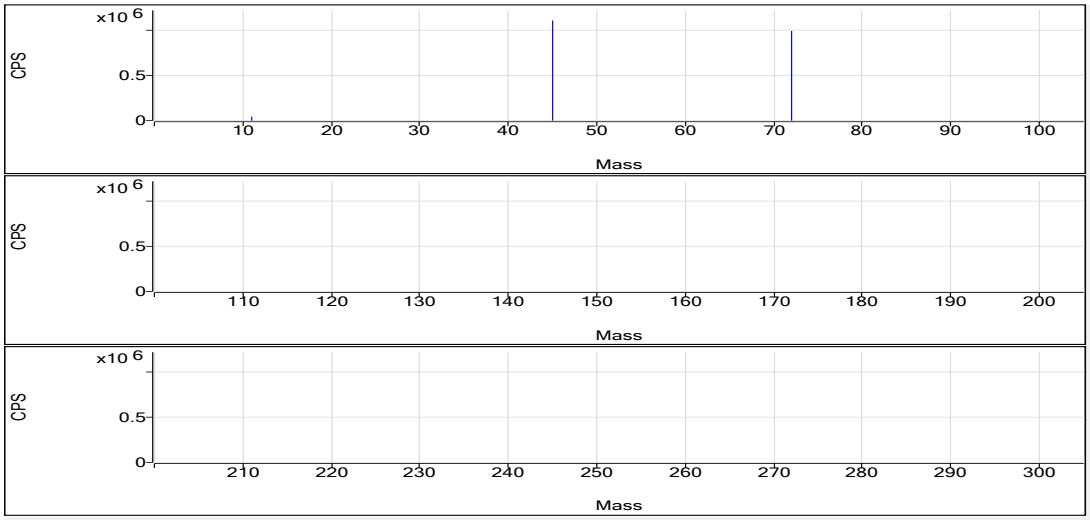
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.013	ppb	96.8	14.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	95.072	ppb	1.2	44559.45	0.0400	Pulse	0.5000	3
Se	78	115	H2	0.128	ppb	42.0	18.00	0.0000	Pulse	1.5000	3
Na	23	72	He	168218.606	ppb	2.1	44504226.00	165.3526	Analog	0.1000	3
Mg	24	45	He	10405.041	ppb	0.5	1441540.70	16.7195	Analog	0.1000	3
Al	27	45	He	2.307	ppb	22.5	240.01	0.0028	Pulse	0.1000	3
K	39	45	He	9036.081	ppb	2.0	1172932.92	13.6048	Mix	0.1000	3
Ca	44	45	He	48522.290	ppb	0.4	336167.87	3.8989	Pulse	0.1000	3
Ti	47	45	He	0.267	ppb	86.6	13.33	0.0002	Pulse	0.1000	3
V	51	45	He	-0.409	ppb	N/A	873.39	0.0101	Pulse	0.1000	3
Cr	52	45	He	0.159	ppb	21.7	2500.30	0.0290	Pulse	0.1000	3
Mn	55	45	He	259.494	ppb	1.3	290507.01	3.3695	Pulse	0.1000	3
Fe	57	45	He	14874.095	ppb	0.7	665632.10	7.7202	Pulse	0.1000	3
Co	59	115	He	0.553	ppb	4.8	2020.22	0.0152	Pulse	0.1000	3
Ni	60	115	He	0.451	ppb	22.1	1350.12	0.0101	Pulse	0.1000	3
Cu	63	115	He	0.126	ppb	47.9	1810.18	0.0136	Pulse	0.1000	3
Zn	66	115	He	1.789	ppb	8.0	2520.31	0.0189	Pulse	0.1000	3
As	75	115	He	9.801	ppb	4.1	2807.63	0.0211	Pulse	0.5000	3
Sr	88	115	He	457.315	ppb	1.2	699796.92	5.2571	Pulse	0.1000	3
Mo	98	115	He	0.593	ppb	39.8	1467.48	0.0110	Pulse	0.1000	3
Ag	107	115	He	0.009	ppb	99.9	83.33	0.0006	Pulse	0.1000	3
Cd	111	115	He	0.004	ppb	152.0	5.33	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.023	ppb	28.9	1720.16	0.0129	Pulse	0.1000	3
Sb	121	72	He	0.050	ppb	23.3	136.68	0.0005	Pulse	0.1000	3
Ba	137	115	He	259.326	ppb	1.3	165299.76	1.2418	Pulse	0.1000	3
Tl	205	209	He	0.001	ppb	214.1	13.33	0.0001	Pulse	0.1000	3
Pb	208	209	He	0.000	ppb	1754.4	286.68	0.0012	Pulse	0.1000	3
U	238	209	He	0.005	ppb	33.9	70.00	0.0003	Pulse	0.1000	3

Quantitation Report

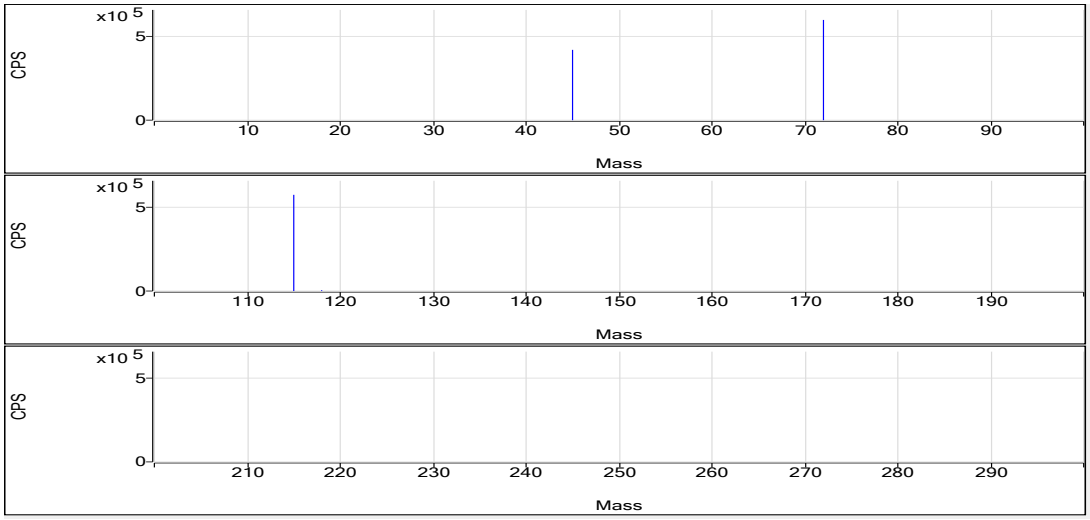
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1114380.92	0.4	98.0	Pulse	0.1000	3
No Gas	Ge	72	996506.21	0.4	98.8	Pulse	0.1000	3
H2	Sc	45	418955.28	1.0	100.7	Pulse	0.1000	3
H2	Ge	72	597277.66	1.0	102.2	Pulse	0.1000	3
H2	In	115	573343.49	0.9	101.9	Pulse	0.1000	3
He	Sc	45	86221.87	0.8	99.1	Pulse	0.1000	3
He	Ge	72	269188.03	1.1	102.9	Pulse	0.1000	3
He	In	115	133123.01	1.0	97.8	Pulse	0.1000	3
He	Tb	159	382233.70	0.9	95.6	Pulse	0.1000	3
He	Bi	209	241582.33	0.2	93.1	Pulse	0.1000	3

No Gas

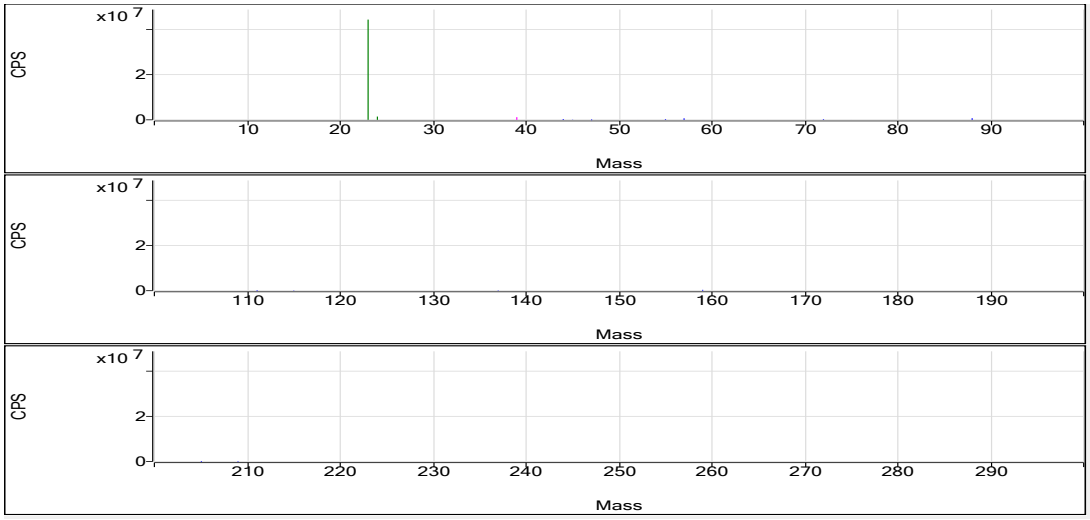


H2



Quantitation Report

He



Quantitation Report

Data File Name	245SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 8:36:47 PM
Sample Name	410-10656-i-23-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

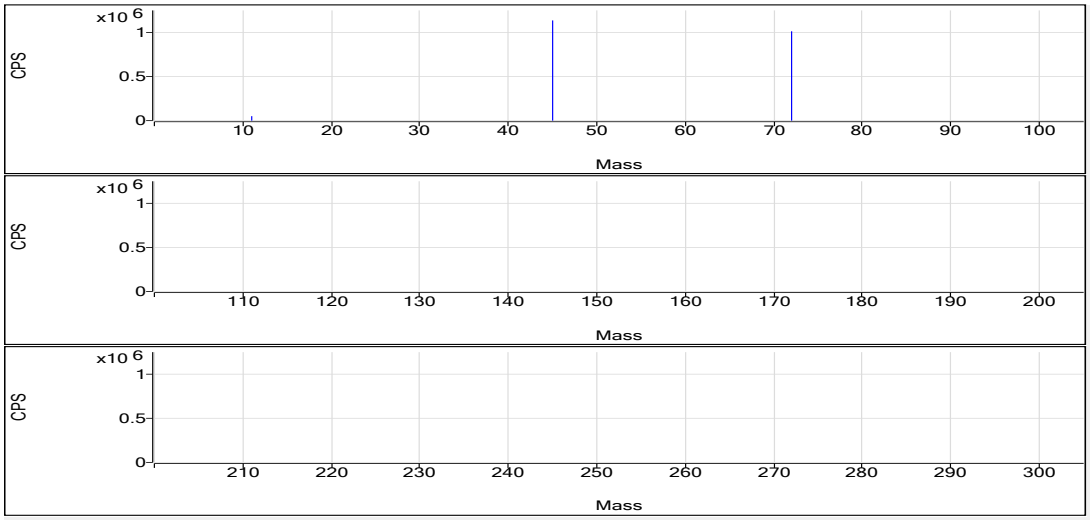
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.046	ppb	23.2	39.33	0.0000	Pulse	0.5000	3
B	11	45	No Gas	105.963	ppb	0.5	50307.56	0.0445	Pulse	0.5000	3
Se	78	115	H2	0.664	ppb	7.8	90.44	0.0002	Pulse	1.5000	3
Na	23	72	He	4477.444	ppb	0.6	1211257.69	4.4666	Analog	0.1000	3
Mg	24	45	He	6431.556	ppb	1.0	885244.83	10.3352	Pulse	0.1000	3
Al	27	45	He	14.271	ppb	17.2	880.09	0.0103	Pulse	0.1000	3
K	39	45	He	3825.028	ppb	2.3	512577.10	5.9845	Pulse	0.1000	3
Ca	44	45	He	22662.657	ppb	1.0	156060.83	1.8220	Pulse	0.1000	3
Ti	47	45	He	0.542	ppb	94.2	26.67	0.0003	Pulse	0.1000	3
V	51	45	He	0.563	ppb	18.8	2503.63	0.0292	Pulse	0.1000	3
Cr	52	45	He	0.891	ppb	10.5	4060.73	0.0474	Pulse	0.1000	3
Mn	55	45	He	2725.915	ppb	1.2	3029780.79	35.3728	Analog	0.1000	3
Fe	57	45	He	22169.392	ppb	1.0	985479.85	11.5054	Pulse	0.1000	3
Co	59	115	He	10.984	ppb	1.4	40213.66	0.2967	Pulse	0.1000	3
Ni	60	115	He	5.790	ppb	4.1	6655.10	0.0491	Pulse	0.1000	3
Cu	63	115	He	1.679	ppb	17.8	6218.91	0.0459	Pulse	0.1000	3
Zn	66	115	He	3.237	ppb	10.9	3147.11	0.0232	Pulse	0.1000	3
As	75	115	He	17.199	ppb	1.2	4981.56	0.0368	Pulse	0.5000	3
Sr	88	115	He	175.213	ppb	0.8	272970.08	2.0143	Pulse	0.1000	3
Mo	98	115	He	1.683	ppb	6.5	3990.70	0.0295	Pulse	0.1000	3
Ag	107	115	He	0.004	ppb	163.0	63.33	0.0005	Pulse	0.1000	3
Cd	111	115	He	0.052	ppb	62.3	36.00	0.0003	Pulse	0.5000	3
Sn	120	115	He	0.088	ppb	87.4	1880.20	0.0139	Pulse	0.1000	3
Sb	121	72	He	0.166	ppb	18.2	363.35	0.0013	Pulse	0.1000	3
Ba	137	115	He	128.323	ppb	2.2	83279.77	0.6145	Pulse	0.1000	3
Tl	205	209	He	0.009	ppb	49.4	80.00	0.0003	Pulse	0.1000	3
Pb	208	209	He	2.117	ppb	1.2	23772.72	0.0950	Pulse	0.1000	3
U	238	209	He	0.024	ppb	11.3	270.02	0.0011	Pulse	0.1000	3

Quantitation Report

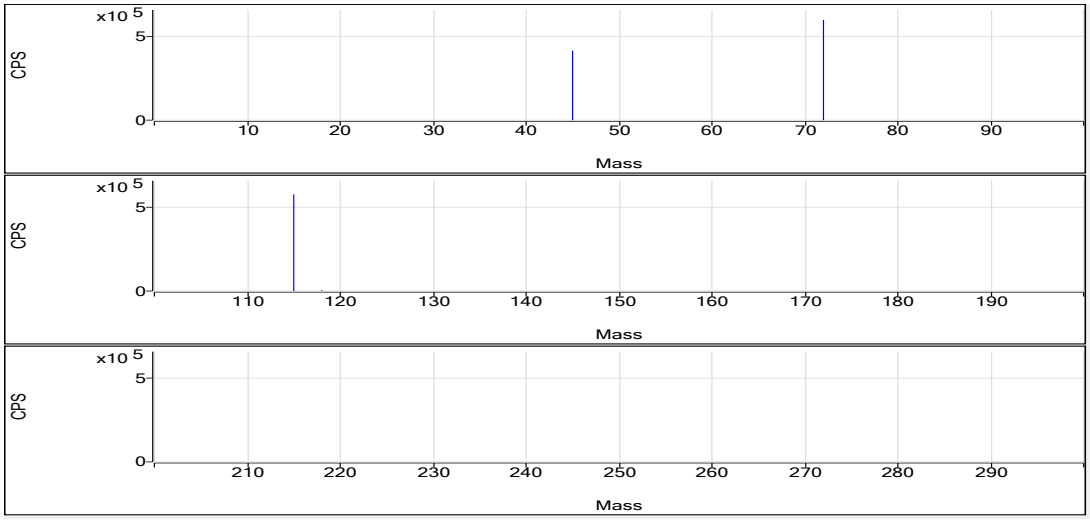
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1130047.14	1.1	99.4	Pulse	0.1000	3
No Gas	Ge	72	1007606.39	0.6	99.9	Pulse	0.1000	3
H2	Sc	45	416159.47	1.3	100.0	Pulse	0.1000	3
H2	Ge	72	600179.84	0.8	102.7	Pulse	0.1000	3
H2	In	115	578927.19	0.8	102.9	Pulse	0.1000	3
He	Sc	45	85658.54	0.9	98.5	Pulse	0.1000	3
He	Ge	72	271177.62	0.5	103.7	Pulse	0.1000	3
He	In	115	135528.55	1.6	99.5	Pulse	0.1000	3
He	Tb	159	387621.32	0.4	96.9	Pulse	0.1000	3
He	Bi	209	250298.99	0.7	96.5	Pulse	0.1000	3

No Gas

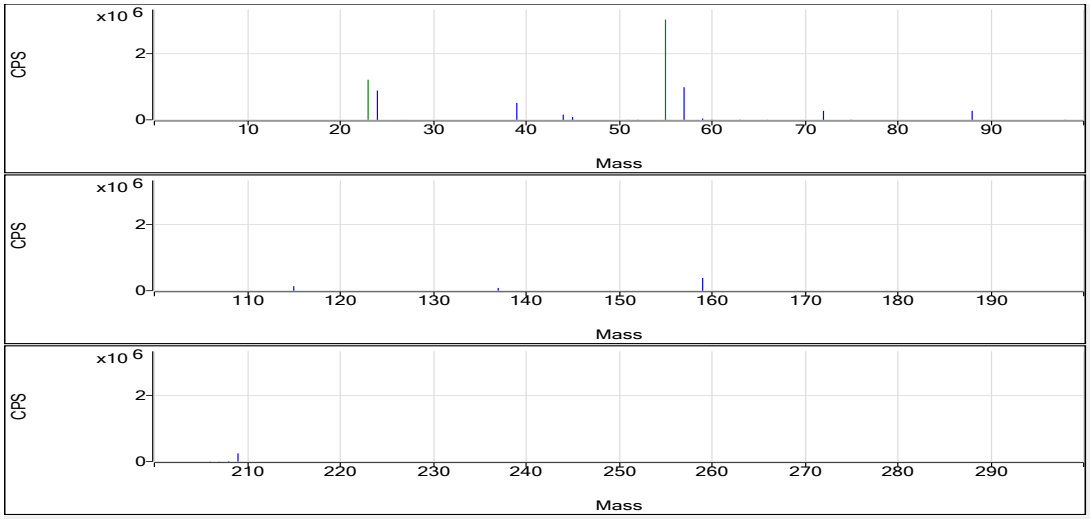


H2



Quantitation Report

He



Quantitation Report

Data File Name	246SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 8:39:03 PM
Sample Name	410-10656-i-24-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

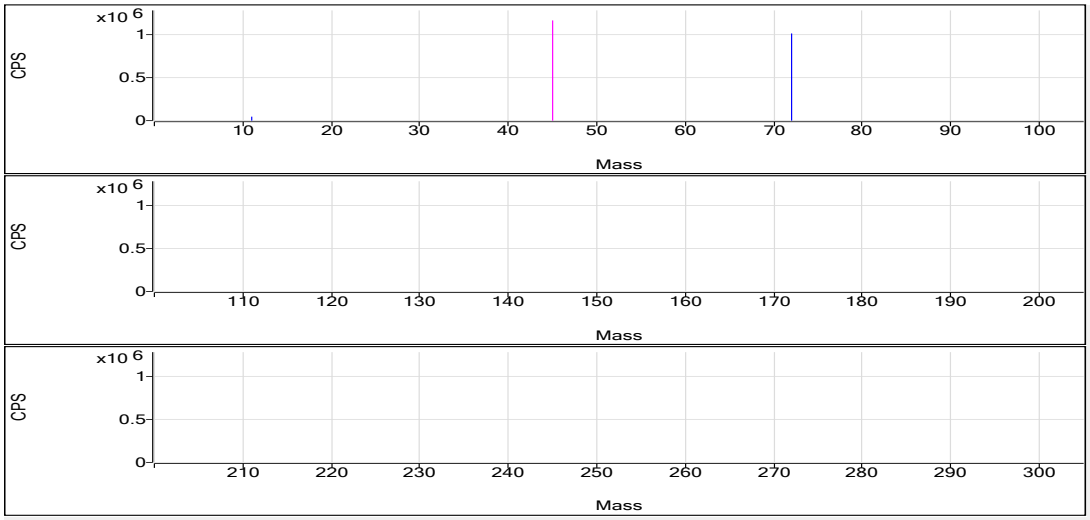
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.061	ppb	20.7	52.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	94.091	ppb	1.5	46013.14	0.0396	Pulse	0.5000	3
Se	78	115	H2	0.385	ppb	6.1	52.89	0.0001	Pulse	1.5000	3
Na	23	72	He	7096.906	ppb	0.6	1892205.49	7.0404	Analog	0.1000	3
Mg	24	45	He	5901.327	ppb	0.7	810098.50	9.4832	Pulse	0.1000	3
Al	27	45	He	87.357	ppb	3.1	4791.53	0.0561	Pulse	0.1000	3
K	39	45	He	2759.148	ppb	1.4	378066.47	4.4259	Pulse	0.1000	3
Ca	44	45	He	24880.171	ppb	1.2	170853.65	2.0001	Pulse	0.1000	3
Ti	47	45	He	3.791	ppb	13.4	186.68	0.0022	Pulse	0.1000	3
V	51	45	He	1.801	ppb	2.8	4577.58	0.0536	Pulse	0.1000	3
Cr	52	45	He	0.742	ppb	7.4	3727.29	0.0436	Pulse	0.1000	3
Mn	55	45	He	1124.886	ppb	0.8	1247043.00	14.5985	Pulse	0.1000	3
Fe	57	45	He	20641.907	ppb	0.3	915128.08	10.7129	Pulse	0.1000	3
Co	59	115	He	3.788	ppb	1.7	13760.36	0.1025	Pulse	0.1000	3
Ni	60	115	He	6.554	ppb	2.4	7338.80	0.0547	Pulse	0.1000	3
Cu	63	115	He	2.434	ppb	4.1	8272.62	0.0616	Pulse	0.1000	3
Zn	66	115	He	41.694	ppb	3.7	18419.05	0.1372	Pulse	0.1000	3
As	75	115	He	10.438	ppb	2.5	3013.67	0.0224	Pulse	0.5000	3
Sr	88	115	He	174.611	ppb	0.8	269576.75	2.0074	Pulse	0.1000	3
Mo	98	115	He	1.784	ppb	6.3	4184.10	0.0312	Pulse	0.1000	3
Ag	107	115	He	0.002	ppb	276.8	50.00	0.0004	Pulse	0.1000	3
Cd	111	115	He	0.028	ppb	14.3	20.67	0.0002	Pulse	0.5000	3
Sn	120	115	He	0.292	ppb	101.6	2267.12	0.0169	Pulse	0.1000	3
Sb	121	72	He	0.387	ppb	11.5	783.39	0.0029	Pulse	0.1000	3
Ba	137	115	He	128.675	ppb	1.6	82742.88	0.6162	Pulse	0.1000	3
Tl	205	209	He	0.015	ppb	37.3	126.67	0.0005	Pulse	0.1000	3
Pb	208	209	He	2.574	ppb	1.1	28713.37	0.1152	Pulse	0.1000	3
U	238	209	He	0.089	ppb	11.0	953.41	0.0038	Pulse	0.1000	3

Quantitation Report

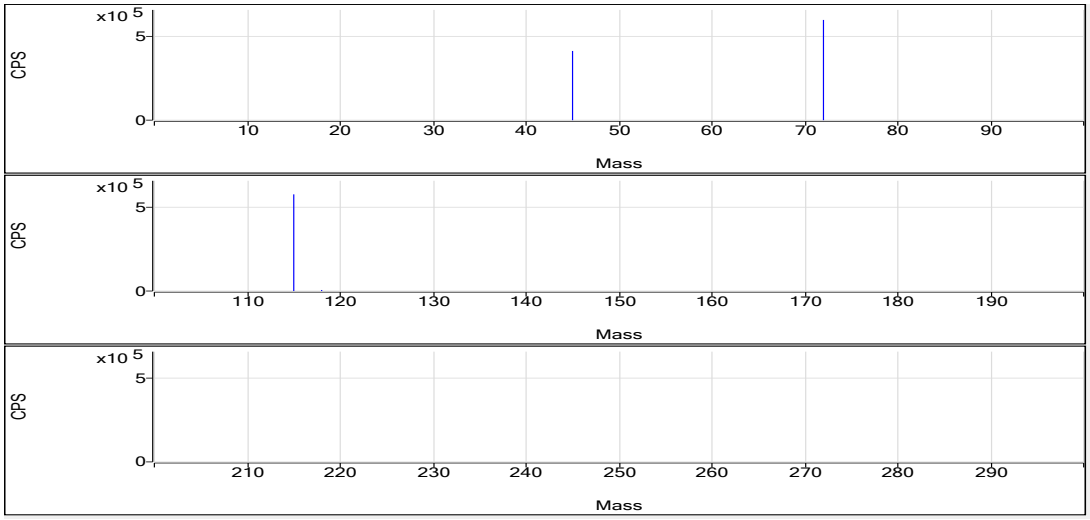
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1162711.96	1.6	102.3	Mix	0.1000	3
No Gas	Ge	72	1011375.82	0.4	100.2	Pulse	0.1000	3
H2	Sc	45	414424.37	0.5	99.6	Pulse	0.1000	3
H2	Ge	72	600172.51	0.1	102.7	Pulse	0.1000	3
H2	In	115	578931.62	0.7	102.9	Pulse	0.1000	3
He	Sc	45	85423.64	0.2	98.2	Pulse	0.1000	3
He	Ge	72	268766.48	0.7	102.8	Pulse	0.1000	3
He	In	115	134300.55	1.5	98.6	Pulse	0.1000	3
He	Tb	159	383769.07	1.1	96.0	Pulse	0.1000	3
He	Bi	209	249249.49	1.0	96.1	Pulse	0.1000	3

No Gas

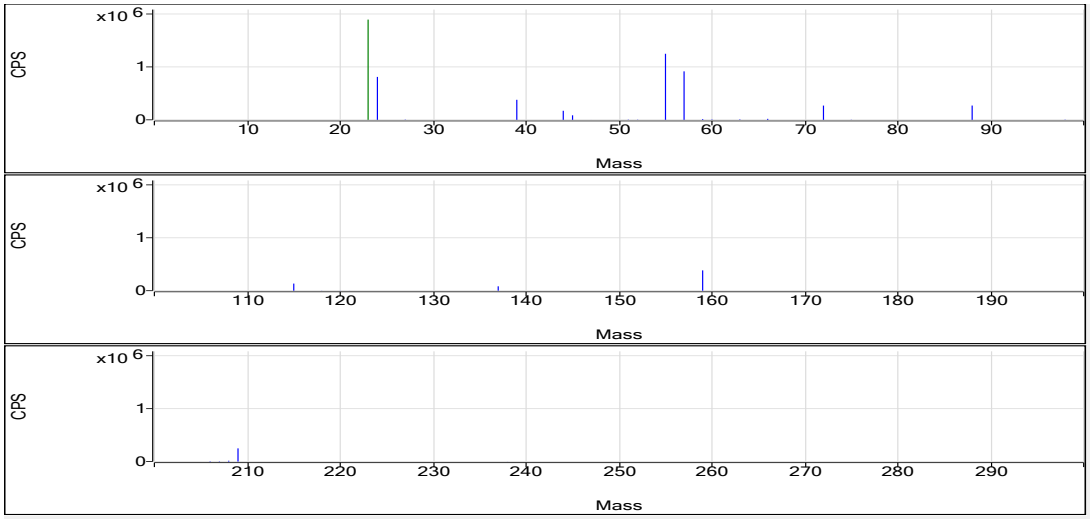


H2



Quantitation Report

He



Quantitation Report

Data File Name	247_CCV.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 8:41:17 PM
Sample Name	CCV 303766
Sample Type	CCV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

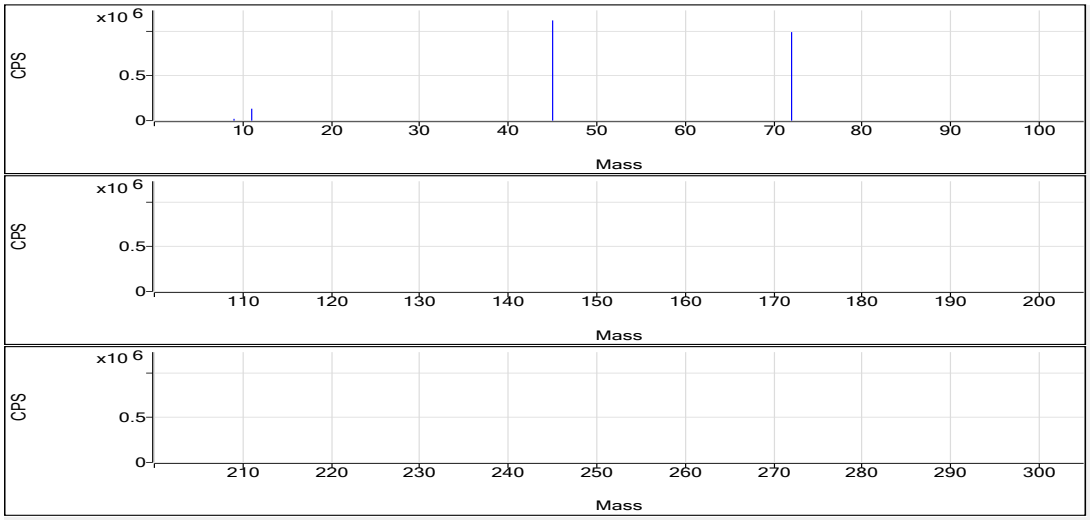
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	27.286	ppb	2.2	20256.41	0.0181	Pulse	0.5000	3
B	11	45	No Gas	285.259	ppb	0.6	133317.91	0.1191	Pulse	0.5000	3
Se	78	115	H2	31.033	ppb	0.6	4200.85	0.0072	Pulse	1.5000	3
Na	23	72	He	4947.893	ppb	1.0	1309980.27	4.9289	Analog	0.1000	3
Mg	24	45	He	4811.860	ppb	0.3	654545.93	7.7328	Pulse	0.1000	3
Al	27	45	He	4926.526	ppb	0.5	261474.20	3.0890	Pulse	0.1000	3
K	39	45	He	5128.035	ppb	0.2	667860.41	7.8900	Pulse	0.1000	3
Ca	44	45	He	5217.398	ppb	0.9	35624.48	0.4209	Pulse	0.1000	3
Ti	47	45	He	307.395	ppb	0.7	14998.19	0.1772	Pulse	0.1000	3
V	51	45	He	305.621	ppb	0.5	510158.05	6.0269	Pulse	0.1000	3
Cr	52	45	He	309.712	ppb	0.4	660865.59	7.8075	Pulse	0.1000	3
Mn	55	45	He	312.160	ppb	0.6	343066.40	4.0529	Pulse	0.1000	3
Fe	57	45	He	5239.194	ppb	0.7	230313.90	2.7210	Pulse	0.1000	3
Co	59	115	He	305.862	ppb	0.5	1118609.10	8.2557	Pulse	0.1000	3
Ni	60	115	He	307.368	ppb	0.6	304675.05	2.2486	Pulse	0.1000	3
Cu	63	115	He	299.106	ppb	1.4	844580.25	6.2335	Pulse	0.1000	3
Zn	66	115	He	313.348	ppb	0.4	127643.74	0.9420	Pulse	0.1000	3
As	75	115	He	324.985	ppb	0.7	93238.35	0.6881	Pulse	0.5000	3
Sr	88	115	He	31.443	ppb	1.9	48992.71	0.3616	Pulse	0.1000	3
Mo	98	115	He	31.357	ppb	0.3	71937.67	0.5309	Pulse	0.1000	3
Ag	107	115	He	29.793	ppb	1.4	136375.12	1.0065	Pulse	0.1000	3
Cd	111	115	He	31.227	ppb	1.5	19969.61	0.1474	Pulse	0.5000	3
Sn	120	115	He	32.268	ppb	0.8	66560.34	0.4912	Pulse	0.1000	3
Sb	121	72	He	31.434	ppb	1.1	59665.82	0.2245	Pulse	0.1000	3
Ba	137	115	He	317.342	ppb	1.2	205888.52	1.5196	Pulse	0.1000	3
Tl	205	209	He	31.110	ppb	1.1	246015.86	0.9888	Pulse	0.1000	3
Pb	208	209	He	29.913	ppb	0.2	330051.86	1.3265	Pulse	0.1000	3
U	238	209	He	50.040	ppb	0.5	522816.28	2.1014	Pulse	0.1000	3

Quantitation Report

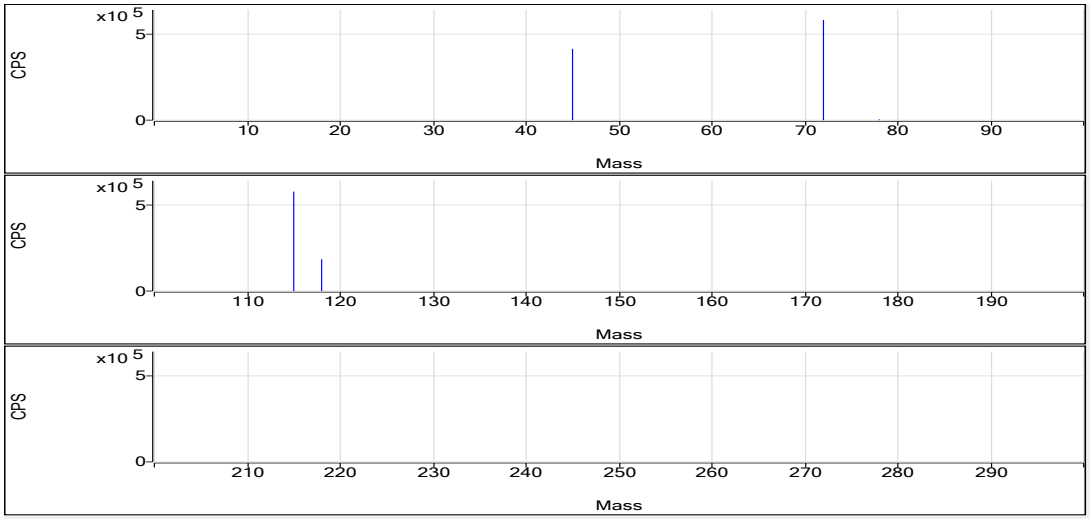
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1119439.33	1.0	98.5	Pulse	0.1000	3
No Gas	Ge	72	988882.38	1.2	98.0	Pulse	0.1000	3
H2	Sc	45	416997.13	0.3	100.2	Pulse	0.1000	3
H2	Ge	72	585734.34	1.1	100.3	Pulse	0.1000	3
H2	In	115	581023.13	0.6	103.2	Pulse	0.1000	3
He	Sc	45	84646.37	0.5	97.3	Pulse	0.1000	3
He	Ge	72	265775.03	0.4	101.6	Pulse	0.1000	3
He	In	115	135498.79	0.9	99.5	Pulse	0.1000	3
He	Tb	159	387779.26	0.7	97.0	Pulse	0.1000	3
He	Bi	209	248809.19	1.2	95.9	Pulse	0.1000	3

No Gas

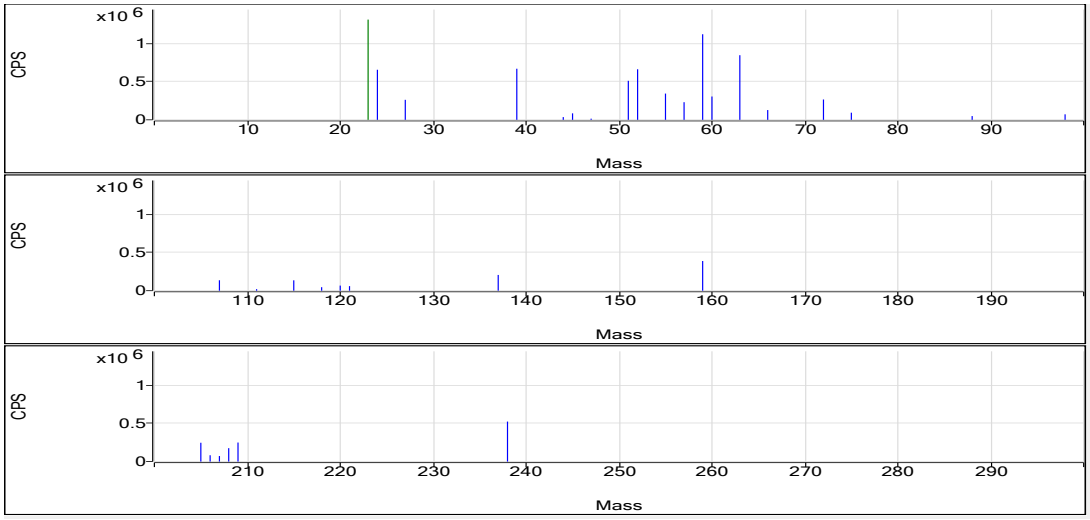


H2



Quantitation Report

He



Quantitation Report

Data File Name	248_CCB.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 8:43:32 PM
Sample Name	CCB 305187
Sample Type	CCB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

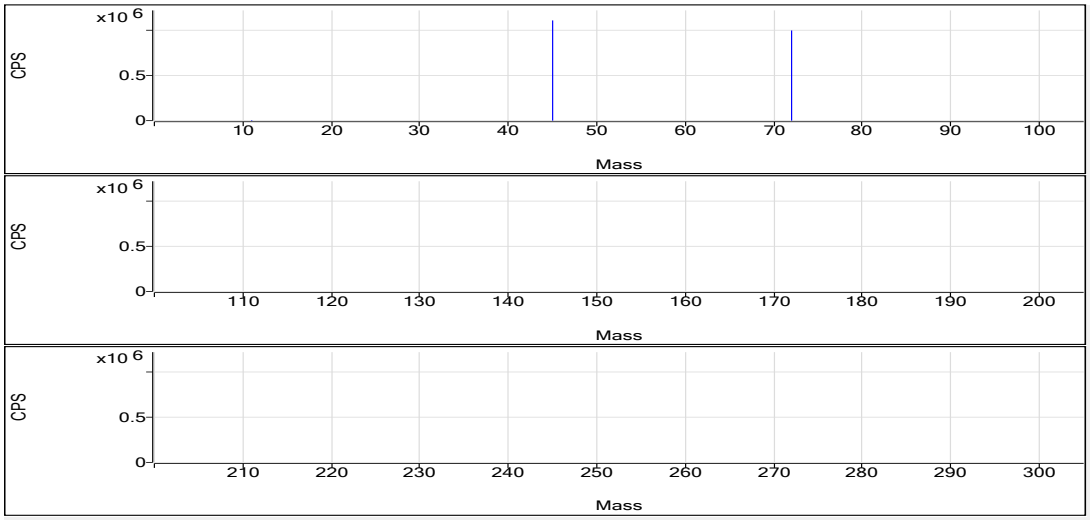
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.031	ppb	22.1	27.33	0.0000	Pulse	0.5000	3
B	11	45	No Gas	13.109	ppb	2.9	6525.45	0.0059	Pulse	0.5000	3
Se	78	115	H2	0.065	ppb	30.2	9.56	0.0000	Pulse	1.5000	3
Na	23	72	He	137.613	ppb	1.0	53297.74	0.2025	Pulse	0.1000	3
Mg	24	45	He	3.100	ppb	4.3	533.36	0.0064	Pulse	0.1000	3
Al	27	45	He	1.490	ppb	89.9	190.01	0.0023	Pulse	0.1000	3
K	39	45	He	25.801	ppb	32.5	35794.65	0.4288	Pulse	0.1000	3
Ca	44	45	He	13.993	ppb	48.5	246.68	0.0030	Pulse	0.1000	3
Ti	47	45	He	0.142	ppb	173.2	6.67	0.0001	Pulse	0.1000	3
V	51	45	He	-0.544	ppb	N/A	623.37	0.0075	Pulse	0.1000	3
Cr	52	45	He	0.071	ppb	30.0	2233.58	0.0268	Pulse	0.1000	3
Mn	55	45	He	0.303	ppb	23.5	530.03	0.0063	Pulse	0.1000	3
Fe	57	45	He	4.734	ppb	7.4	416.69	0.0050	Pulse	0.1000	3
Co	59	115	He	0.085	ppb	22.3	336.68	0.0025	Pulse	0.1000	3
Ni	60	115	He	0.041	ppb	176.1	950.06	0.0072	Pulse	0.1000	3
Cu	63	115	He	0.134	ppb	22.3	1826.86	0.0138	Pulse	0.1000	3
Zn	66	115	He	0.033	ppb	1411.9	1823.51	0.0137	Pulse	0.1000	3
As	75	115	He	0.118	ppb	33.0	80.00	0.0006	Pulse	0.5000	3
Sr	88	115	He	0.147	ppb	9.3	246.68	0.0019	Pulse	0.1000	3
Mo	98	115	He	0.293	ppb	11.3	793.39	0.0060	Pulse	0.1000	3
Ag	107	115	He	0.002	ppb	143.2	53.33	0.0004	Pulse	0.1000	3
Cd	111	115	He	0.004	ppb	111.8	5.33	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.039	ppb	144.7	1746.83	0.0132	Pulse	0.1000	3
Sb	121	72	He	0.019	ppb	54.4	76.67	0.0003	Pulse	0.1000	3
Ba	137	115	He	0.136	ppb	6.0	93.33	0.0007	Pulse	0.1000	3
Tl	205	209	He	0.033	ppb	13.2	266.68	0.0011	Pulse	0.1000	3
Pb	208	209	He	-0.008	ppb	N/A	206.67	0.0008	Pulse	0.1000	3
U	238	209	He	0.049	ppb	5.0	536.70	0.0022	Pulse	0.1000	3

Quantitation Report

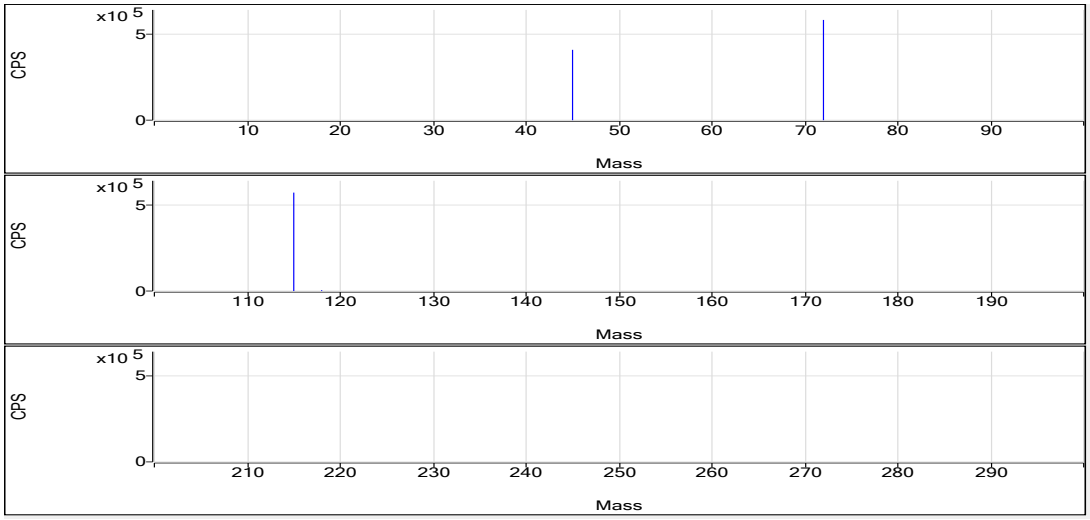
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1106619.57	0.0	97.3	Pulse	0.1000	3
No Gas	Ge	72	995819.10	0.2	98.7	Pulse	0.1000	3
H2	Sc	45	409583.71	0.4	98.4	Pulse	0.1000	3
H2	Ge	72	583666.80	0.6	99.9	Pulse	0.1000	3
H2	In	115	573154.40	1.0	101.8	Pulse	0.1000	3
He	Sc	45	83455.63	2.1	95.9	Pulse	0.1000	3
He	Ge	72	263245.55	1.3	100.7	Pulse	0.1000	3
He	In	115	132793.76	1.0	97.5	Pulse	0.1000	3
He	Tb	159	382959.23	1.0	95.8	Pulse	0.1000	3
He	Bi	209	249146.25	1.3	96.0	Pulse	0.1000	3

No Gas

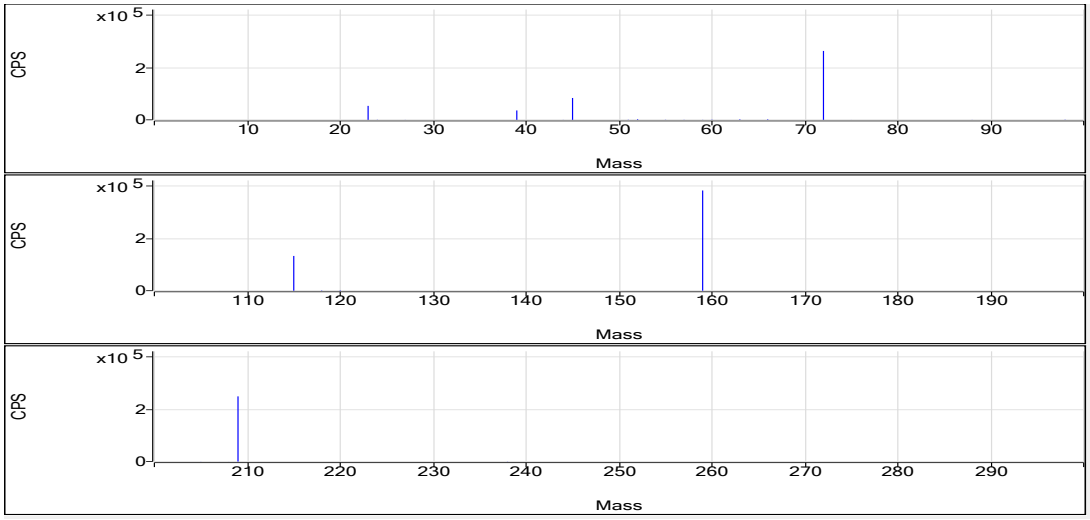


H2



Quantitation Report

He



Quantitation Report

Data File Name	249SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 8:45:47 PM
Sample Name	410-10656-i-29-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

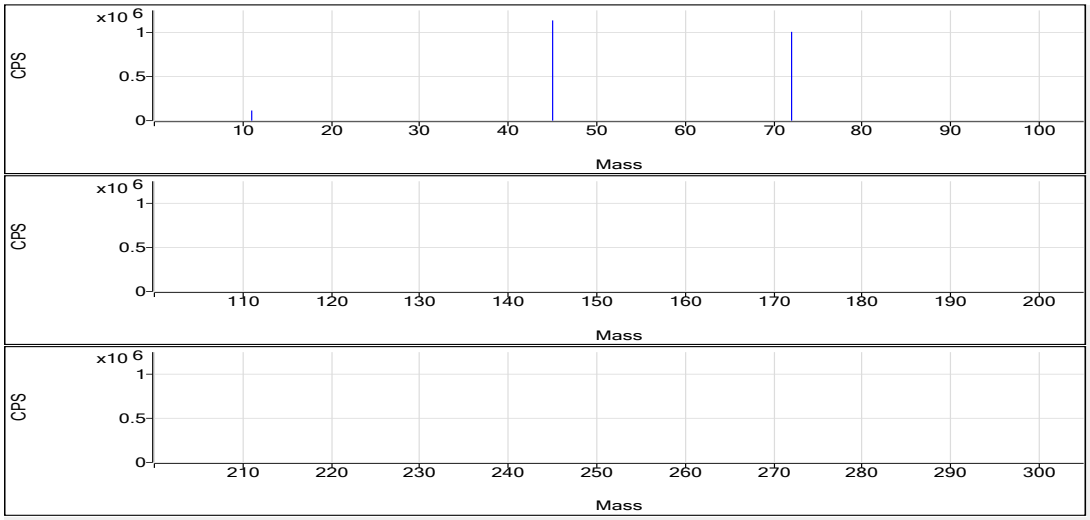
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.012	ppb	48.7	13.33	0.0000	Pulse	0.5000	3
B	11	45	No Gas	241.956	ppb	0.7	114656.93	0.1011	Pulse	0.5000	3
Se	78	115	H2	0.373	ppb	6.4	50.00	0.0001	Pulse	1.5000	3
Na	23	72	He	142137.804	ppb	0.3	37532290.27	139.7266	Analog	0.1000	3
Mg	24	45	He	16907.623	ppb	1.2	2301347.52	27.1673	Analog	0.1000	3
Al	27	45	He	19.771	ppb	10.0	1163.42	0.0137	Pulse	0.1000	3
K	39	45	He	20686.408	ppb	0.6	2595697.46	30.6415	Analog	0.1000	3
Ca	44	45	He	104721.041	ppb	0.9	712633.14	8.4125	Pulse	0.1000	3
Ti	47	45	He	1.023	ppb	59.7	50.00	0.0006	Pulse	0.1000	3
V	51	45	He	1.168	ppb	8.0	3483.87	0.0411	Pulse	0.1000	3
Cr	52	45	He	1.242	ppb	9.2	4760.96	0.0562	Pulse	0.1000	3
Mn	55	45	He	859.992	ppb	1.2	945486.05	11.1613	Pulse	0.1000	3
Fe	57	45	He	41661.743	ppb	0.4	1831423.67	21.6193	Analog	0.1000	3
Co	59	115	He	0.958	ppb	3.3	3447.22	0.0261	Pulse	0.1000	3
Ni	60	115	He	1.077	ppb	9.1	1943.54	0.0147	Pulse	0.1000	3
Cu	63	115	He	0.570	ppb	4.9	3017.08	0.0228	Pulse	0.1000	3
Zn	66	115	He	10.898	ppb	6.0	6068.16	0.0459	Pulse	0.1000	3
As	75	115	He	2.342	ppb	6.1	701.36	0.0053	Pulse	0.5000	3
Sr	88	115	He	780.460	ppb	1.1	1185241.13	8.9718	Pulse	0.1000	3
Mo	98	115	He	0.782	ppb	3.7	1880.19	0.0142	Pulse	0.1000	3
Ag	107	115	He	0.003	ppb	261.8	56.67	0.0004	Pulse	0.1000	3
Cd	111	115	He	0.009	ppb	1.4	8.00	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.551	ppb	29.3	2740.37	0.0207	Pulse	0.1000	3
Sb	121	72	He	0.078	ppb	11.5	190.01	0.0007	Pulse	0.1000	3
Ba	137	115	He	721.936	ppb	1.4	456674.32	3.4569	Pulse	0.1000	3
Tl	205	209	He	0.007	ppb	12.5	56.67	0.0002	Pulse	0.1000	3
Pb	208	209	He	1.072	ppb	5.0	11725.80	0.0487	Pulse	0.1000	3
U	238	209	He	0.016	ppb	28.7	176.68	0.0007	Pulse	0.1000	3

Quantitation Report

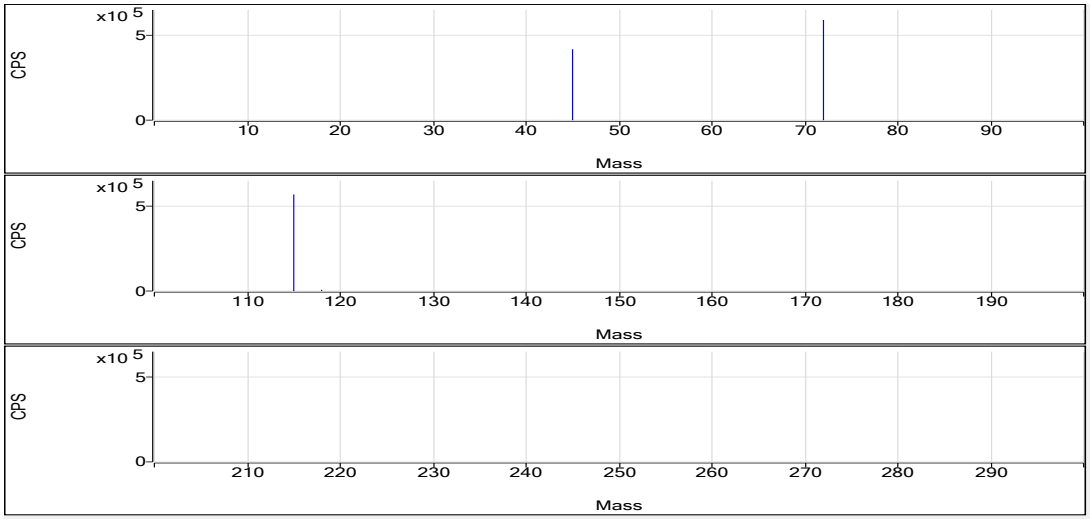
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1134328.42	0.5	99.8	Pulse	0.1000	3
No Gas	Ge	72	1005018.19	0.3	99.6	Pulse	0.1000	3
H2	Sc	45	415432.40	0.6	99.8	Pulse	0.1000	3
H2	Ge	72	586850.45	0.8	100.4	Pulse	0.1000	3
H2	In	115	565722.37	1.0	100.5	Pulse	0.1000	3
He	Sc	45	84713.09	0.4	97.4	Pulse	0.1000	3
He	Ge	72	268611.96	0.2	102.7	Pulse	0.1000	3
He	In	115	132116.96	1.0	97.0	Pulse	0.1000	3
He	Tb	159	384717.61	0.4	96.2	Pulse	0.1000	3
He	Bi	209	240953.56	1.4	92.9	Pulse	0.1000	3

No Gas

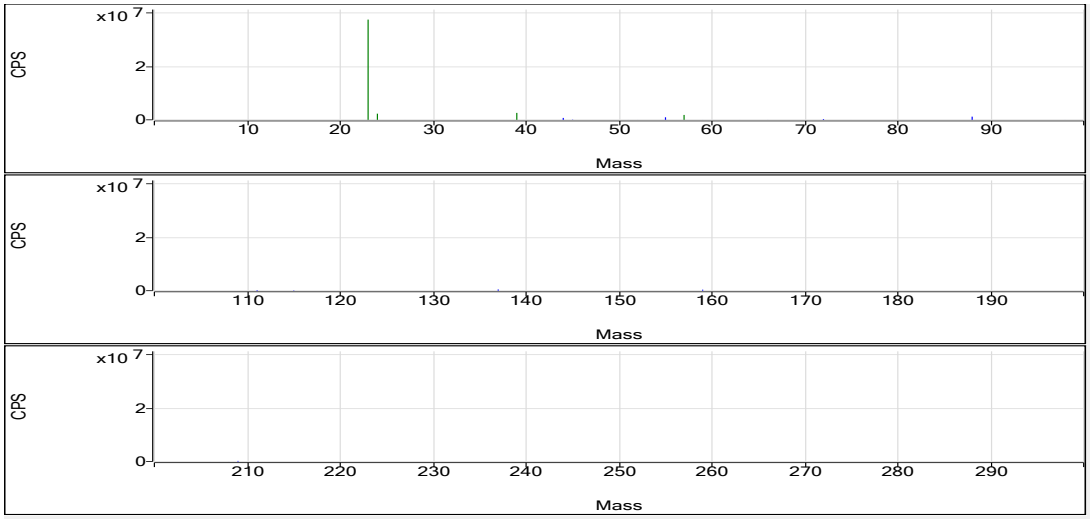


H2



Quantitation Report

He



Quantitation Report

Data File Name	250SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 8:48:01 PM
Sample Name	410-10656-i-30-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

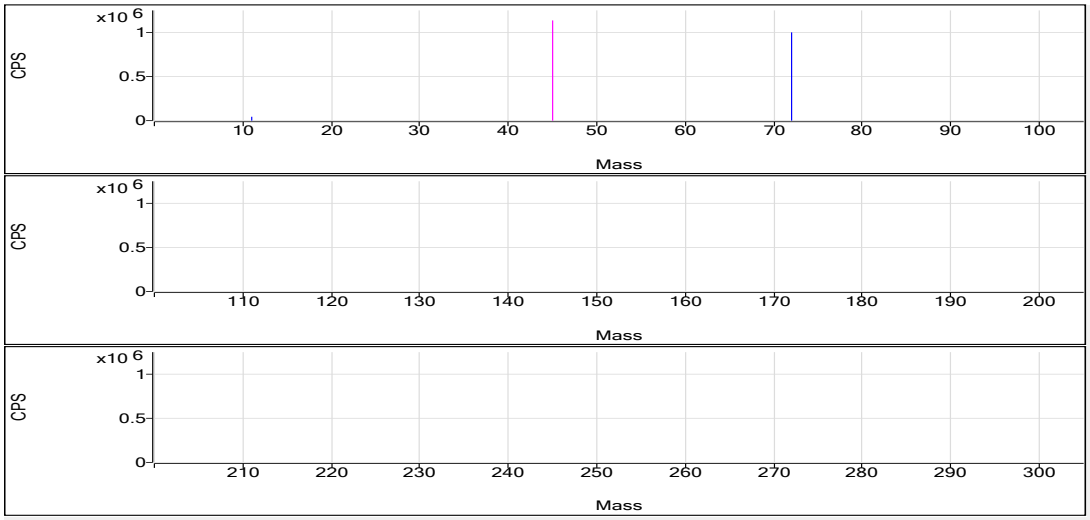
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.004	ppb	105.0	8.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	91.825	ppb	1.9	43948.36	0.0386	Pulse	0.5000	3
Se	78	115	H2	0.123	ppb	18.6	17.34	0.0000	Pulse	1.5000	3
Na	23	72	He	69287.819	ppb	0.5	18162172.65	68.1469	Analog	0.1000	3
Mg	24	45	He	7315.636	ppb	0.3	983307.15	11.7556	Pulse	0.1000	3
Al	27	45	He	11.535	ppb	8.6	716.71	0.0086	Pulse	0.1000	3
K	39	45	He	4739.558	ppb	1.0	612435.88	7.3219	Pulse	0.1000	3
Ca	44	45	He	36791.117	ppb	0.4	247324.33	2.9567	Pulse	0.1000	3
Ti	47	45	He	0.967	ppb	49.4	46.67	0.0006	Pulse	0.1000	3
V	51	45	He	0.300	ppb	37.1	2013.55	0.0241	Pulse	0.1000	3
Cr	52	45	He	0.574	ppb	9.2	3297.15	0.0394	Pulse	0.1000	3
Mn	55	45	He	241.490	ppb	1.0	262311.03	3.1359	Pulse	0.1000	3
Fe	57	45	He	6144.693	ppb	1.3	266889.60	3.1908	Pulse	0.1000	3
Co	59	115	He	0.143	ppb	11.3	546.70	0.0041	Pulse	0.1000	3
Ni	60	115	He	0.456	ppb	14.1	1356.78	0.0102	Pulse	0.1000	3
Cu	63	115	He	0.358	ppb	2.5	2453.65	0.0184	Pulse	0.1000	3
Zn	66	115	He	1.783	ppb	27.0	2520.32	0.0189	Pulse	0.1000	3
As	75	115	He	0.707	ppb	4.8	246.67	0.0019	Pulse	0.5000	3
Sr	88	115	He	182.809	ppb	1.2	280084.94	2.1016	Pulse	0.1000	3
Mo	98	115	He	0.551	ppb	3.5	1376.78	0.0103	Pulse	0.1000	3
Ag	107	115	He	-0.005	ppb	N/A	20.00	0.0002	Pulse	0.1000	3
Cd	111	115	He	0.004	ppb	112.8	5.33	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.107	ppb	72.6	1886.88	0.0142	Pulse	0.1000	3
Sb	121	72	He	0.108	ppb	11.0	246.68	0.0009	Pulse	0.1000	3
Ba	137	115	He	159.654	ppb	1.4	101891.14	0.7645	Pulse	0.1000	3
Tl	205	209	He	0.001	ppb	54.9	16.67	0.0001	Pulse	0.1000	3
Pb	208	209	He	0.676	ppb	2.0	7624.48	0.0311	Pulse	0.1000	3
U	238	209	He	0.013	ppb	18.3	156.68	0.0006	Pulse	0.1000	3

Quantitation Report

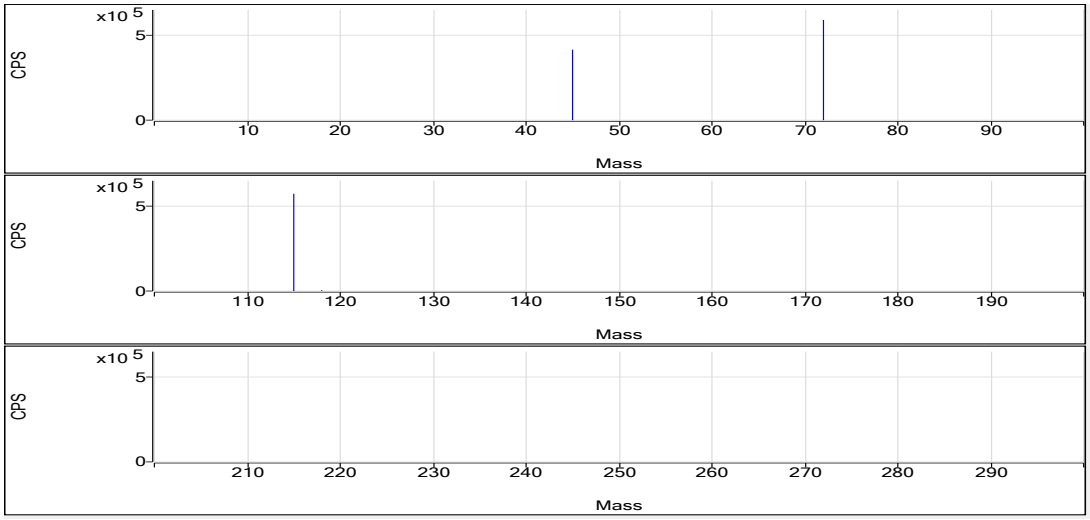
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1137669.18	1.2	100.1	Mix	0.1000	3
No Gas	Ge	72	1001904.65	0.9	99.3	Pulse	0.1000	3
H2	Sc	45	414173.14	0.5	99.5	Pulse	0.1000	3
H2	Ge	72	589167.31	0.7	100.8	Pulse	0.1000	3
H2	In	115	571895.89	0.7	101.6	Pulse	0.1000	3
He	Sc	45	83646.81	0.6	96.2	Pulse	0.1000	3
He	Ge	72	266518.65	1.1	101.9	Pulse	0.1000	3
He	In	115	133270.50	0.4	97.9	Pulse	0.1000	3
He	Tb	159	382277.98	0.4	95.6	Pulse	0.1000	3
He	Bi	209	244899.46	0.6	94.4	Pulse	0.1000	3

No Gas

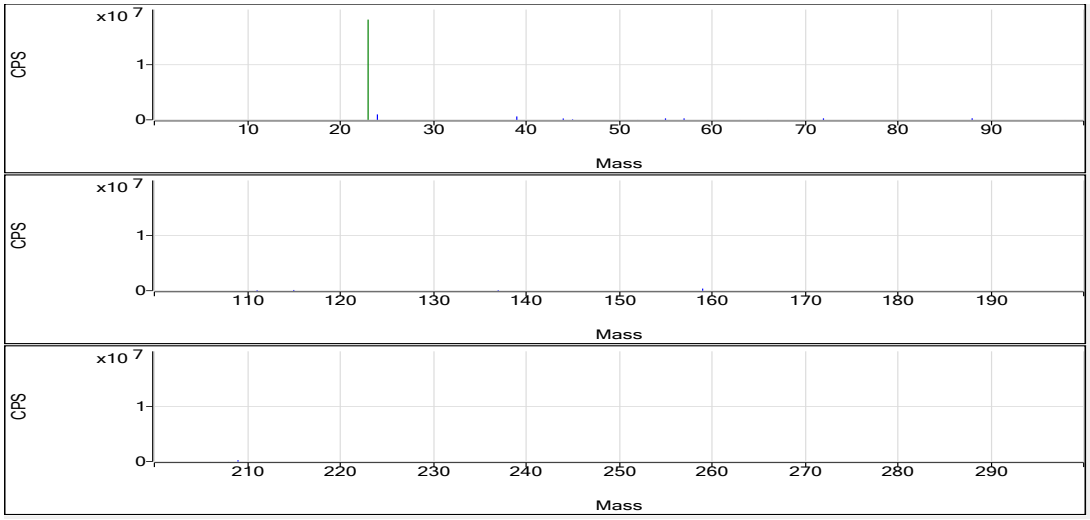


H2



Quantitation Report

He



Quantitation Report

Data File Name	251SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 8:50:16 PM
Sample Name	410-10656-i-31-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

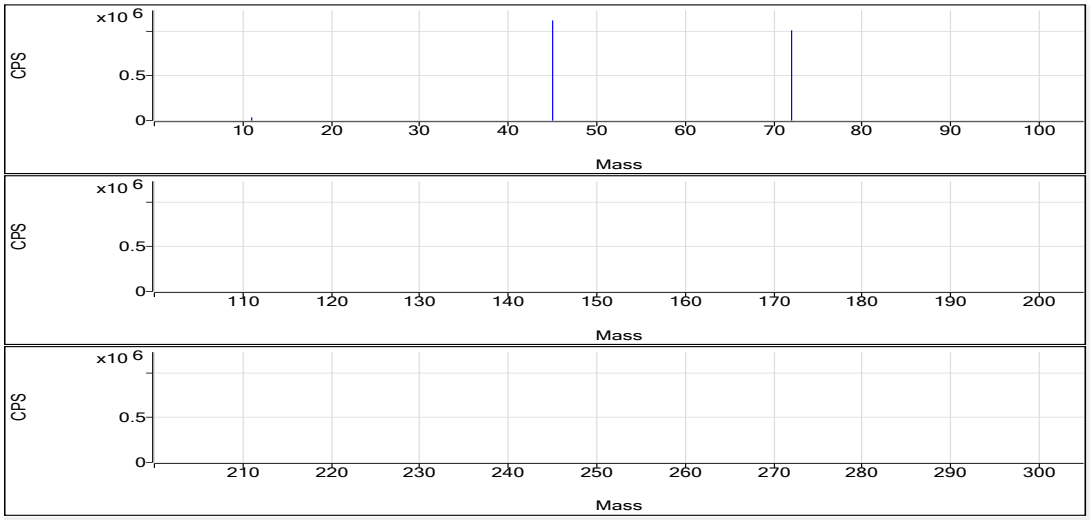
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.013	ppb	77.7	14.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	77.754	ppb	1.3	36675.60	0.0328	Pulse	0.5000	3
Se	78	115	H2	0.123	ppb	27.1	17.56	0.0000	Pulse	1.5000	3
Na	23	72	He	11716.019	ppb	2.0	3094928.50	11.5790	Analog	0.1000	3
Mg	24	45	He	9652.336	ppb	0.5	1297525.55	15.5101	Analog	0.1000	3
Al	27	45	He	9.689	ppb	10.4	620.03	0.0074	Pulse	0.1000	3
K	39	45	He	4532.592	ppb	0.5	587199.07	7.0192	Pulse	0.1000	3
Ca	44	45	He	48952.644	ppb	1.1	329060.47	3.9335	Pulse	0.1000	3
Ti	47	45	He	0.346	ppb	35.0	16.67	0.0002	Pulse	0.1000	3
V	51	45	He	0.221	ppb	43.4	1883.53	0.0225	Pulse	0.1000	3
Cr	52	45	He	0.320	ppb	24.5	2763.70	0.0330	Pulse	0.1000	3
Mn	55	45	He	147.024	ppb	0.8	159795.56	1.9101	Pulse	0.1000	3
Fe	57	45	He	1241.861	ppb	0.9	54115.48	0.6469	Pulse	0.1000	3
Co	59	115	He	0.129	ppb	22.5	500.02	0.0037	Pulse	0.1000	3
Ni	60	115	He	0.315	ppb	65.0	1226.76	0.0092	Pulse	0.1000	3
Cu	63	115	He	0.501	ppb	17.4	2867.05	0.0214	Pulse	0.1000	3
Zn	66	115	He	0.980	ppb	21.8	2216.91	0.0165	Pulse	0.1000	3
As	75	115	He	3.071	ppb	3.0	918.70	0.0069	Pulse	0.5000	3
Sr	88	115	He	216.671	ppb	1.0	333915.33	2.4909	Pulse	0.1000	3
Mo	98	115	He	1.567	ppb	6.6	3687.30	0.0275	Pulse	0.1000	3
Ag	107	115	He	-0.001	ppb	N/A	40.00	0.0003	Pulse	0.1000	3
Cd	111	115	He	0.006	ppb	28.5	6.67	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.145	ppb	40.4	1973.55	0.0147	Pulse	0.1000	3
Sb	121	72	He	0.136	ppb	20.7	300.02	0.0011	Pulse	0.1000	3
Ba	137	115	He	171.422	ppb	2.1	110036.59	0.8209	Pulse	0.1000	3
Tl	205	209	He	0.000	ppb	2085.0	6.67	0.0000	Pulse	0.1000	3
Pb	208	209	He	0.494	ppb	8.3	5740.72	0.0231	Pulse	0.1000	3
U	238	209	He	0.150	ppb	9.1	1583.50	0.0064	Pulse	0.1000	3

Quantitation Report

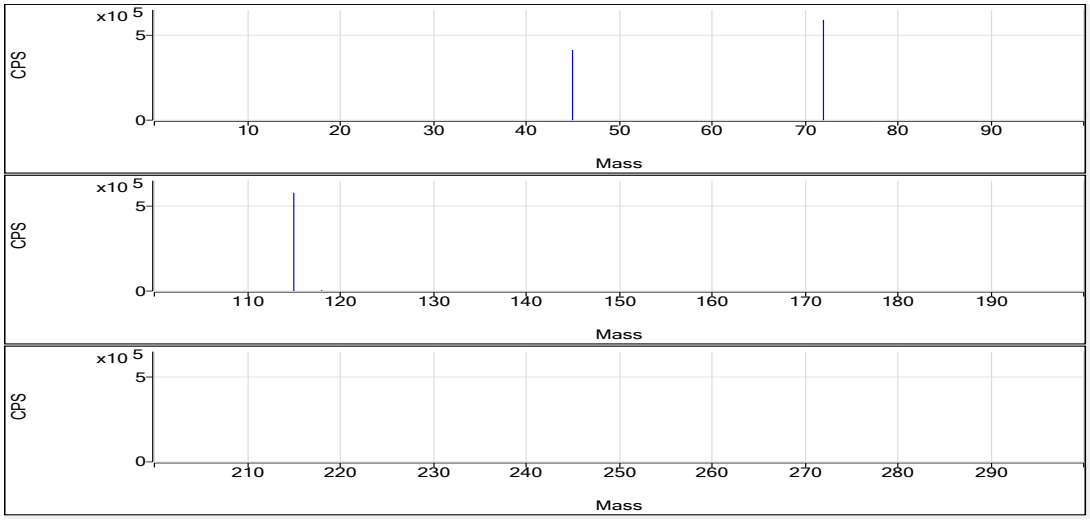
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1118674.18	0.8	98.4	Pulse	0.1000	3
No Gas	Ge	72	1007986.50	0.4	99.9	Pulse	0.1000	3
H2	Sc	45	412662.34	0.8	99.1	Pulse	0.1000	3
H2	Ge	72	589546.08	1.0	100.9	Pulse	0.1000	3
H2	In	115	577852.06	1.4	102.7	Pulse	0.1000	3
He	Sc	45	83657.01	0.5	96.2	Pulse	0.1000	3
He	Ge	72	267340.05	1.5	102.2	Pulse	0.1000	3
He	In	115	134055.10	0.4	98.5	Pulse	0.1000	3
He	Tb	159	386043.70	0.5	96.5	Pulse	0.1000	3
He	Bi	209	249010.18	0.3	96.0	Pulse	0.1000	3

No Gas

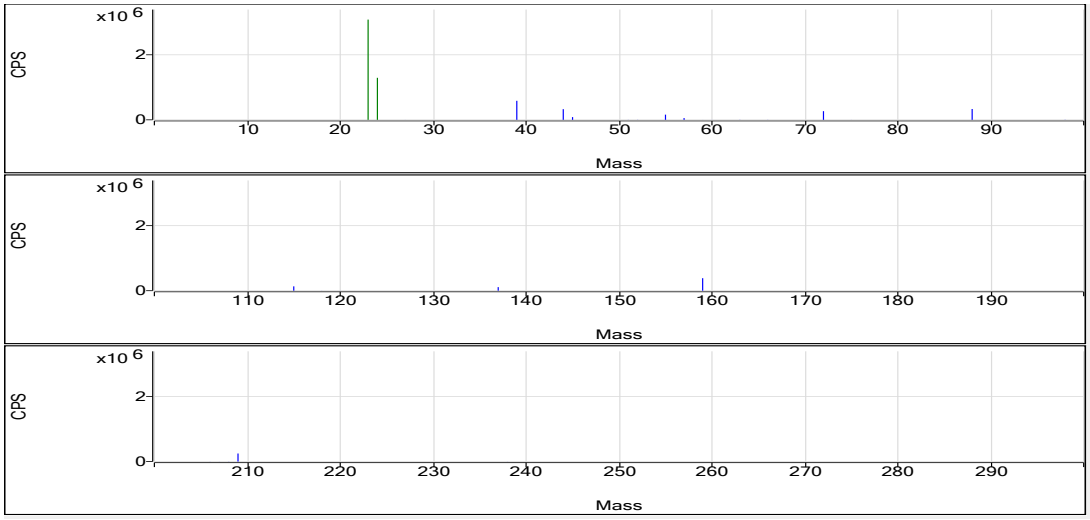


H2



Quantitation Report

He



Quantitation Report

Data File Name	252SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 8:52:30 PM
Sample Name	410-10656-i-32-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

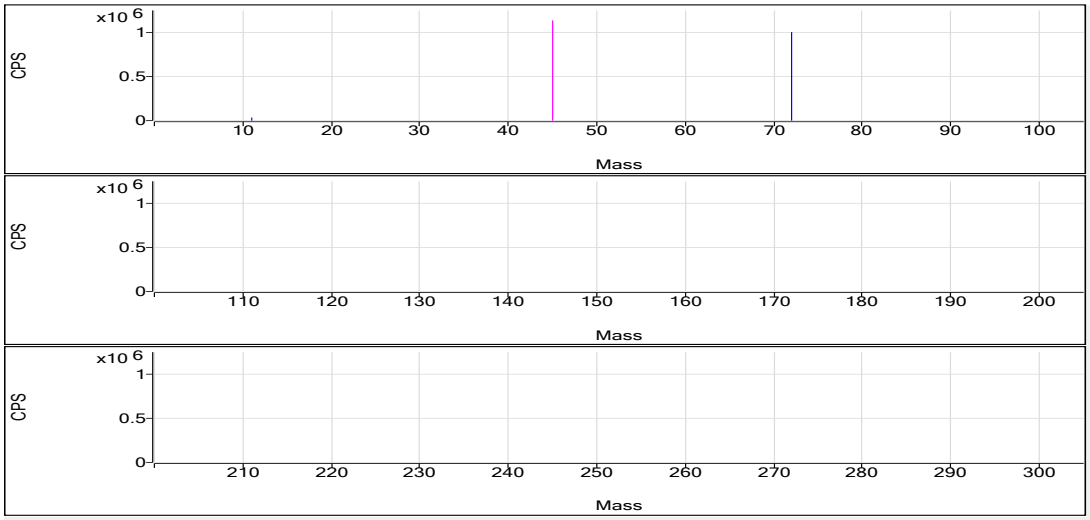
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.011	ppb	60.3	12.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	72.240	ppb	2.6	34491.72	0.0305	Pulse	0.5000	3
Se	78	115	H2	0.437	ppb	7.4	59.11	0.0001	Pulse	1.5000	3
Na	23	72	He	85786.320	ppb	1.3	22438303.83	84.3577	Analog	0.1000	3
Mg	24	45	He	7475.789	ppb	0.6	1008362.96	12.0130	Pulse	0.1000	3
Al	27	45	He	43.176	ppb	5.7	2384.22	0.0284	Pulse	0.1000	3
K	39	45	He	4863.302	ppb	0.2	629793.77	7.5028	Pulse	0.1000	3
Ca	44	45	He	32948.324	ppb	0.6	222284.43	2.6481	Pulse	0.1000	3
Ti	47	45	He	1.375	ppb	34.1	66.67	0.0008	Pulse	0.1000	3
V	51	45	He	-0.235	ppb	N/A	1136.75	0.0135	Pulse	0.1000	3
Cr	52	45	He	0.188	ppb	13.7	2493.64	0.0297	Pulse	0.1000	3
Mn	55	45	He	498.100	ppb	0.4	542722.49	6.4656	Pulse	0.1000	3
Fe	57	45	He	65.622	ppb	7.1	3070.56	0.0366	Pulse	0.1000	3
Co	59	115	He	0.367	ppb	11.4	1360.11	0.0101	Pulse	0.1000	3
Ni	60	115	He	3.420	ppb	3.8	4267.44	0.0318	Pulse	0.1000	3
Cu	63	115	He	8.104	ppb	2.8	24080.81	0.1796	Pulse	0.1000	3
Zn	66	115	He	22.138	ppb	2.3	10624.32	0.0792	Pulse	0.1000	3
As	75	115	He	0.672	ppb	14.4	238.67	0.0018	Pulse	0.5000	3
Sr	88	115	He	184.390	ppb	2.4	284262.95	2.1198	Pulse	0.1000	3
Mo	98	115	He	4.102	ppb	4.1	9433.45	0.0704	Pulse	0.1000	3
Ag	107	115	He	0.001	ppb	164.4	46.67	0.0003	Pulse	0.1000	3
Cd	111	115	He	0.203	ppb	15.8	131.33	0.0010	Pulse	0.5000	3
Sn	120	115	He	0.049	ppb	105.1	1783.51	0.0133	Pulse	0.1000	3
Sb	121	72	He	1.156	ppb	5.3	2236.94	0.0084	Pulse	0.1000	3
Ba	137	115	He	45.898	ppb	2.4	29492.55	0.2198	Pulse	0.1000	3
Tl	205	209	He	0.044	ppb	17.2	356.68	0.0014	Pulse	0.1000	3
Pb	208	209	He	0.865	ppb	3.1	9918.71	0.0395	Pulse	0.1000	3
U	238	209	He	0.563	ppb	2.4	5961.63	0.0237	Pulse	0.1000	3

Quantitation Report

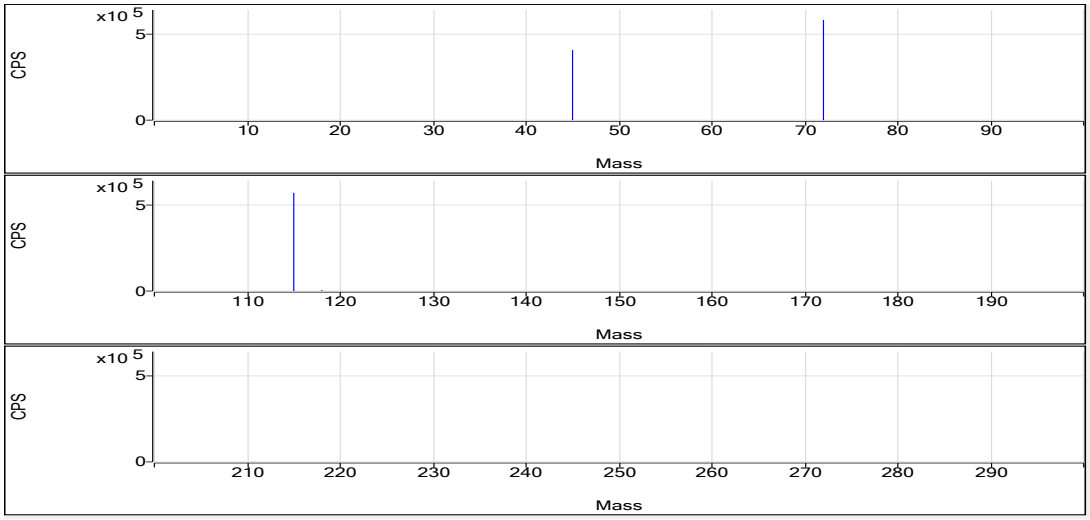
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1131531.29	1.6	99.5	Mix	0.1000	3
No Gas	Ge	72	999444.83	0.8	99.0	Pulse	0.1000	3
H2	Sc	45	407973.29	0.6	98.0	Pulse	0.1000	3
H2	Ge	72	583476.63	0.1	99.9	Pulse	0.1000	3
H2	In	115	571498.44	0.3	101.5	Pulse	0.1000	3
He	Sc	45	83941.78	0.8	96.5	Pulse	0.1000	3
He	Ge	72	266010.90	0.9	101.7	Pulse	0.1000	3
He	In	115	134139.67	2.0	98.5	Pulse	0.1000	3
He	Tb	159	386396.54	0.3	96.6	Pulse	0.1000	3
He	Bi	209	251270.96	0.5	96.9	Pulse	0.1000	3

No Gas

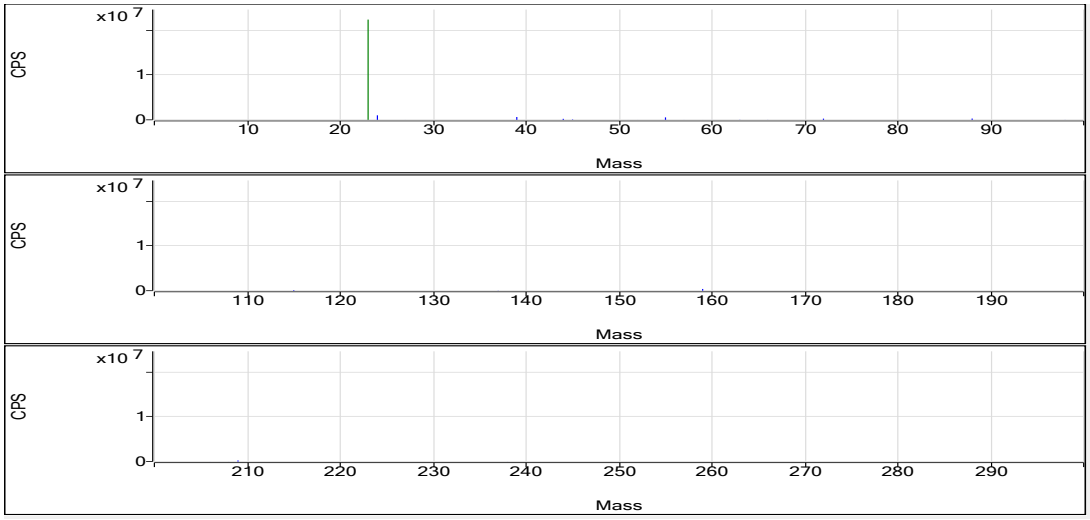


H2



Quantitation Report

He



Quantitation Report

Data File Name	253SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 8:54:44 PM
Sample Name	410-10656-i-27-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

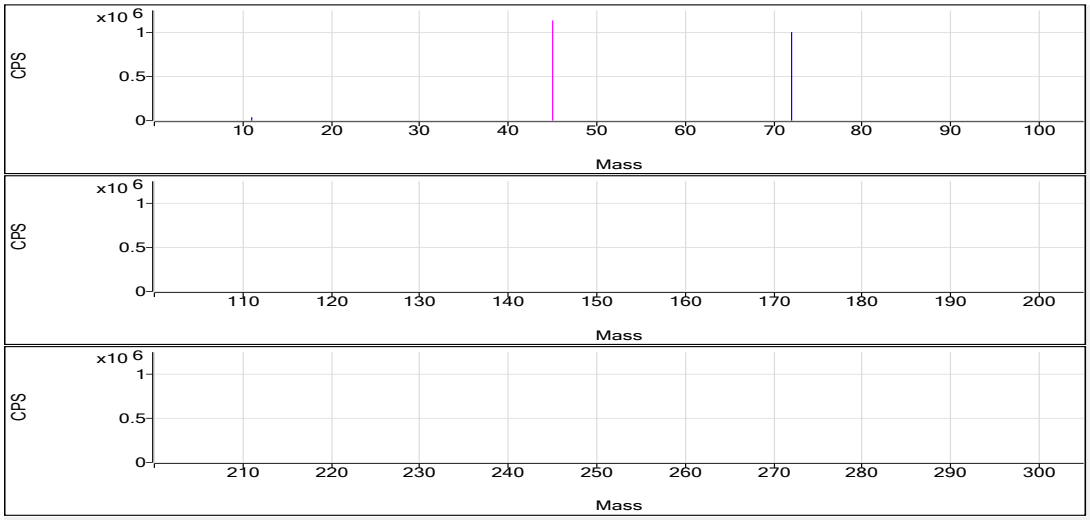
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.006	ppb	62.1	9.33	0.0000	Pulse	0.5000	3
B	11	45	No Gas	80.719	ppb	2.0	38836.31	0.0340	Pulse	0.5000	3
Se	78	115	H2	0.281	ppb	9.4	38.67	0.0001	Pulse	1.5000	3
Na	23	72	He	23859.361	ppb	0.4	6301694.49	23.5106	Analog	0.1000	3
Mg	24	45	He	10045.622	ppb	1.0	1369635.71	16.1420	Analog	0.1000	3
Al	27	45	He	5.257	ppb	17.3	393.35	0.0046	Pulse	0.1000	3
K	39	45	He	5079.799	ppb	1.2	663465.64	7.8194	Pulse	0.1000	3
Ca	44	45	He	45116.216	ppb	0.9	307607.52	3.6254	Pulse	0.1000	3
Ti	47	45	He	0.069	ppb	173.2	3.33	0.0000	Pulse	0.1000	3
V	51	45	He	0.053	ppb	179.8	1630.15	0.0192	Pulse	0.1000	3
Cr	52	45	He	0.155	ppb	36.1	2450.28	0.0289	Pulse	0.1000	3
Mn	55	45	He	325.392	ppb	0.5	358452.95	4.2246	Pulse	0.1000	3
Fe	57	45	He	494.872	ppb	2.5	22000.67	0.2593	Pulse	0.1000	3
Co	59	115	He	0.529	ppb	8.3	1926.87	0.0145	Pulse	0.1000	3
Ni	60	115	He	2.523	ppb	21.8	3347.20	0.0253	Pulse	0.1000	3
Cu	63	115	He	2.860	ppb	3.9	9353.37	0.0705	Pulse	0.1000	3
Zn	66	115	He	64.456	ppb	1.7	27156.47	0.2046	Pulse	0.1000	3
As	75	115	He	1.594	ppb	4.4	494.68	0.0037	Pulse	0.5000	3
Sr	88	115	He	330.140	ppb	1.6	503727.52	3.7952	Pulse	0.1000	3
Mo	98	115	He	2.121	ppb	1.9	4894.37	0.0369	Pulse	0.1000	3
Ag	107	115	He	-0.002	ppb	N/A	33.33	0.0003	Pulse	0.1000	3
Cd	111	115	He	0.128	ppb	24.7	82.67	0.0006	Pulse	0.5000	3
Sn	120	115	He	0.207	ppb	24.0	2076.90	0.0156	Pulse	0.1000	3
Sb	121	72	He	0.463	ppb	5.2	926.73	0.0035	Pulse	0.1000	3
Ba	137	115	He	163.260	ppb	2.3	103758.13	0.7818	Pulse	0.1000	3
Tl	205	209	He	0.143	ppb	7.3	1146.77	0.0046	Pulse	0.1000	3
Pb	208	209	He	0.386	ppb	1.5	4593.82	0.0183	Pulse	0.1000	3
U	238	209	He	0.036	ppb	27.3	400.02	0.0016	Pulse	0.1000	3

Quantitation Report

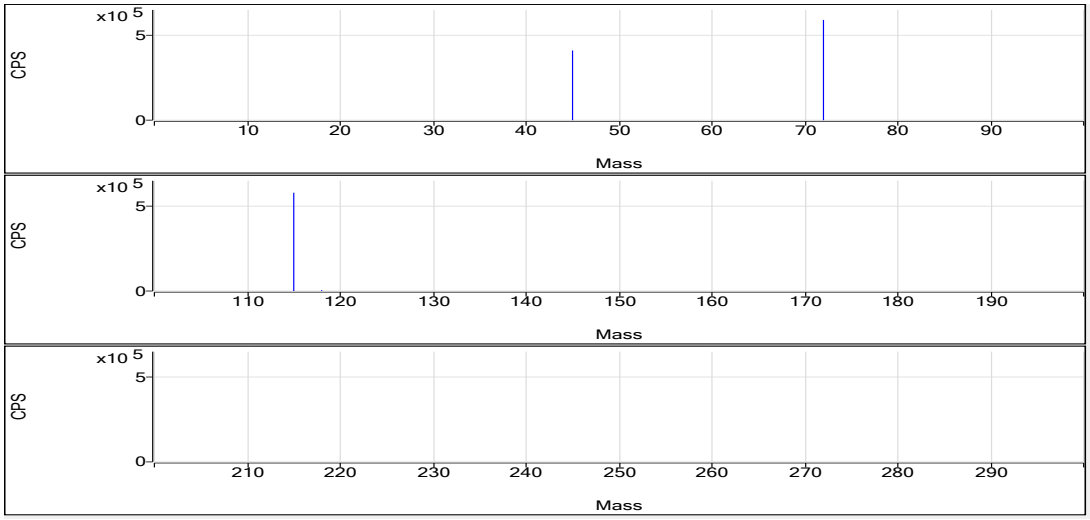
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1141980.09	2.4	100.5	Mix	0.1000	3
No Gas	Ge	72	1008851.81	0.2	100.0	Pulse	0.1000	3
H2	Sc	45	408743.67	1.3	98.2	Pulse	0.1000	3
H2	Ge	72	587737.91	1.2	100.6	Pulse	0.1000	3
H2	In	115	576434.42	0.8	102.4	Pulse	0.1000	3
He	Sc	45	84850.85	0.6	97.5	Pulse	0.1000	3
He	Ge	72	268039.70	0.5	102.5	Pulse	0.1000	3
He	In	115	132747.18	1.5	97.5	Pulse	0.1000	3
He	Tb	159	388701.33	0.9	97.2	Pulse	0.1000	3
He	Bi	209	251653.31	0.6	97.0	Pulse	0.1000	3

No Gas

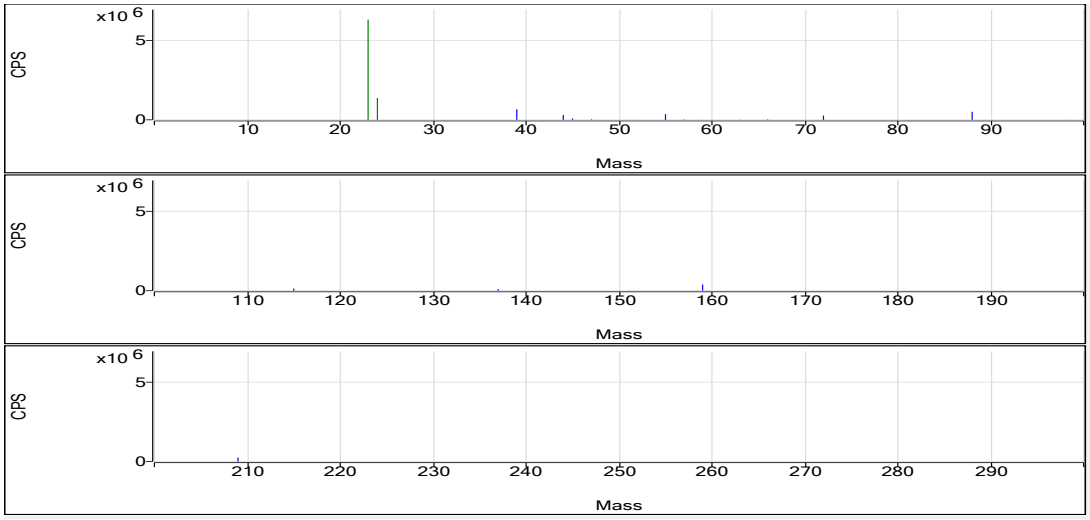


H2



Quantitation Report

He



Quantitation Report

Data File Name	254SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 8:56:57 PM
Sample Name	410-10656-i-39-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

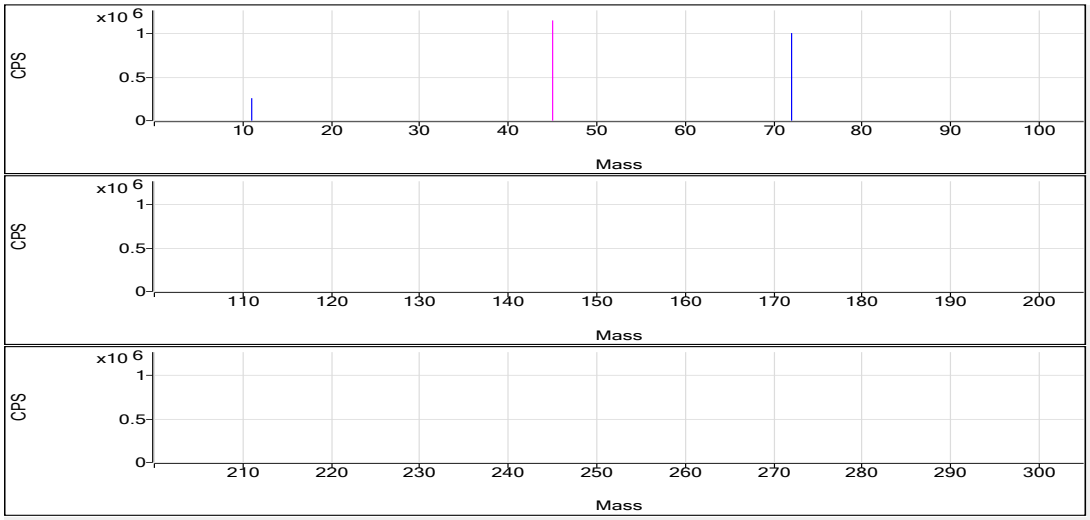
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.047	ppb	91.6	40.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	537.620	ppb	2.2	258862.87	0.2241	Pulse	0.5000	3
Se	78	115	H2	0.276	ppb	27.7	38.00	0.0001	Pulse	1.5000	3
Na	23	72	He	28387.459	ppb	1.3	7512760.72	27.9597	Analog	0.1000	3
Mg	24	45	He	8958.156	ppb	1.4	1231319.83	14.3947	Analog	0.1000	3
Al	27	45	He	38.397	ppb	23.7	2171.07	0.0254	Pulse	0.1000	3
K	39	45	He	7734.329	ppb	0.4	1000827.48	11.7012	Pulse	0.1000	3
Ca	44	45	He	38590.498	ppb	1.1	265245.24	3.1012	Pulse	0.1000	3
Ti	47	45	He	2.233	ppb	10.2	110.00	0.0013	Pulse	0.1000	3
V	51	45	He	1.386	ppb	7.5	3883.99	0.0454	Pulse	0.1000	3
Cr	52	45	He	3.180	ppb	0.9	8973.11	0.1049	Pulse	0.1000	3
Mn	55	45	He	647.397	ppb	1.2	718667.90	8.4028	Pulse	0.1000	3
Fe	57	45	He	19713.708	ppb	1.0	875073.61	10.2313	Pulse	0.1000	3
Co	59	115	He	0.354	ppb	3.3	1326.78	0.0098	Pulse	0.1000	3
Ni	60	115	He	0.690	ppb	18.5	1610.15	0.0119	Pulse	0.1000	3
Cu	63	115	He	0.823	ppb	15.4	3804.63	0.0281	Pulse	0.1000	3
Zn	66	115	He	0.130	ppb	310.1	1896.86	0.0140	Pulse	0.1000	3
As	75	115	He	4.639	ppb	0.7	1376.74	0.0102	Pulse	0.5000	3
Sr	88	115	He	205.007	ppb	1.4	318982.53	2.3568	Pulse	0.1000	3
Mo	98	115	He	0.623	ppb	3.5	1563.47	0.0115	Pulse	0.1000	3
Ag	107	115	He	-0.004	ppb	N/A	26.67	0.0002	Pulse	0.1000	3
Cd	111	115	He	0.004	ppb	157.2	5.33	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.053	ppb	89.2	1806.87	0.0134	Pulse	0.1000	3
Sb	121	72	He	0.109	ppb	13.3	250.01	0.0009	Pulse	0.1000	3
Ba	137	115	He	175.058	ppb	2.6	113445.31	0.8383	Pulse	0.1000	3
Tl	205	209	He	0.001	ppb	85.7	13.33	0.0001	Pulse	0.1000	3
Pb	208	209	He	3.243	ppb	1.9	36707.70	0.1448	Pulse	0.1000	3
U	238	209	He	0.024	ppb	15.6	270.01	0.0011	Pulse	0.1000	3

Quantitation Report

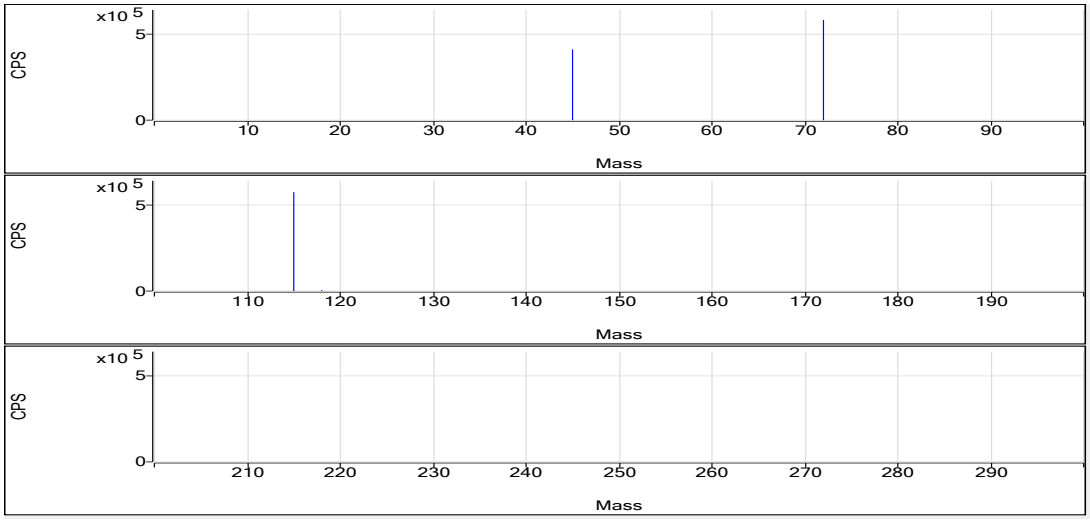
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1155681.23	1.9	101.7	Mix	0.1000	3
No Gas	Ge	72	1009715.77	0.8	100.1	Pulse	0.1000	3
H2	Sc	45	413693.81	0.6	99.4	Pulse	0.1000	3
H2	Ge	72	585839.67	0.6	100.3	Pulse	0.1000	3
H2	In	115	577663.25	0.9	102.6	Pulse	0.1000	3
He	Sc	45	85534.24	1.1	98.3	Pulse	0.1000	3
He	Ge	72	268721.27	1.1	102.8	Pulse	0.1000	3
He	In	115	135364.01	1.4	99.4	Pulse	0.1000	3
He	Tb	159	390907.37	0.1	97.7	Pulse	0.1000	3
He	Bi	209	253407.84	0.7	97.7	Pulse	0.1000	3

No Gas

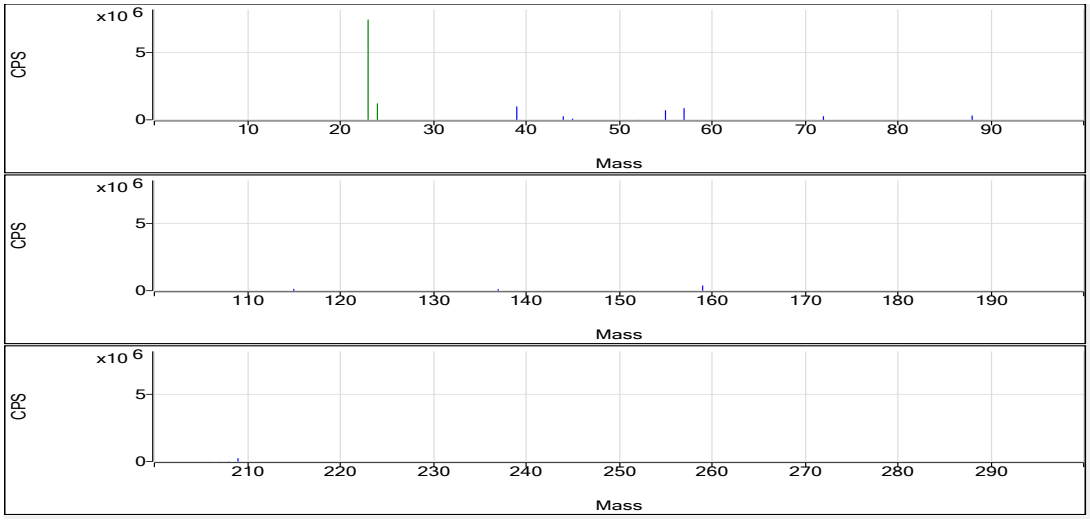


H2



Quantitation Report

He



Quantitation Report

Data File Name	255SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 8:59:13 PM
Sample Name	410-10656-i-40-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

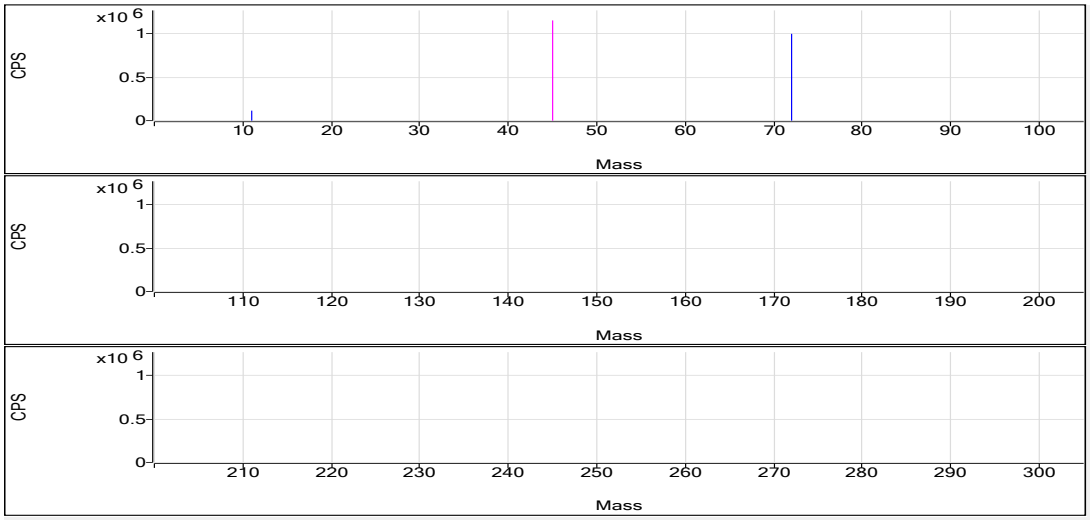
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.011	ppb	79.5	13.33	0.0000	Pulse	0.5000	3
B	11	45	No Gas	238.896	ppb	2.6	115502.58	0.0998	Pulse	0.5000	3
Se	78	115	H2	0.393	ppb	12.9	53.56	0.0001	Pulse	1.5000	3
Na	23	72	He	140860.248	ppb	1.1	37226422.78	138.4713	Analog	0.1000	3
Mg	24	45	He	17130.194	ppb	1.7	2325827.15	27.5249	Analog	0.1000	3
Al	27	45	He	17.822	ppb	5.3	1056.74	0.0125	Pulse	0.1000	3
K	39	45	He	20782.868	ppb	1.6	2601104.33	30.7826	Analog	0.1000	3
Ca	44	45	He	106430.839	ppb	1.1	722475.59	8.5498	Pulse	0.1000	3
Ti	47	45	He	1.504	ppb	20.1	73.33	0.0009	Pulse	0.1000	3
V	51	45	He	1.170	ppb	2.5	3480.55	0.0412	Pulse	0.1000	3
Cr	52	45	He	1.227	ppb	4.3	4717.60	0.0558	Pulse	0.1000	3
Mn	55	45	He	874.147	ppb	0.9	958690.51	11.3450	Pulse	0.1000	3
Fe	57	45	He	42085.608	ppb	0.2	1845610.55	21.8392	Analog	0.1000	3
Co	59	115	He	0.944	ppb	4.3	3420.53	0.0257	Pulse	0.1000	3
Ni	60	115	He	0.893	ppb	22.2	1776.84	0.0134	Pulse	0.1000	3
Cu	63	115	He	0.325	ppb	46.3	2356.96	0.0177	Pulse	0.1000	3
Zn	66	115	He	8.272	ppb	5.9	5071.06	0.0381	Pulse	0.1000	3
As	75	115	He	2.217	ppb	8.5	670.69	0.0050	Pulse	0.5000	3
Sr	88	115	He	787.993	ppb	0.4	1204255.40	9.0584	Pulse	0.1000	3
Mo	98	115	He	0.815	ppb	7.5	1966.89	0.0148	Pulse	0.1000	3
Ag	107	115	He	-0.004	ppb	N/A	23.33	0.0002	Pulse	0.1000	3
Cd	111	115	He	0.004	ppb	112.7	5.33	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.471	ppb	15.4	2600.35	0.0196	Pulse	0.1000	3
Sb	121	72	He	0.118	ppb	46.4	266.68	0.0010	Pulse	0.1000	3
Ba	137	115	He	715.706	ppb	1.0	455593.76	3.4271	Pulse	0.1000	3
Tl	205	209	He	0.002	ppb	90.1	23.33	0.0001	Pulse	0.1000	3
Pb	208	209	He	0.861	ppb	7.9	9561.72	0.0393	Pulse	0.1000	3
U	238	209	He	0.006	ppb	27.7	80.00	0.0003	Pulse	0.1000	3

Quantitation Report

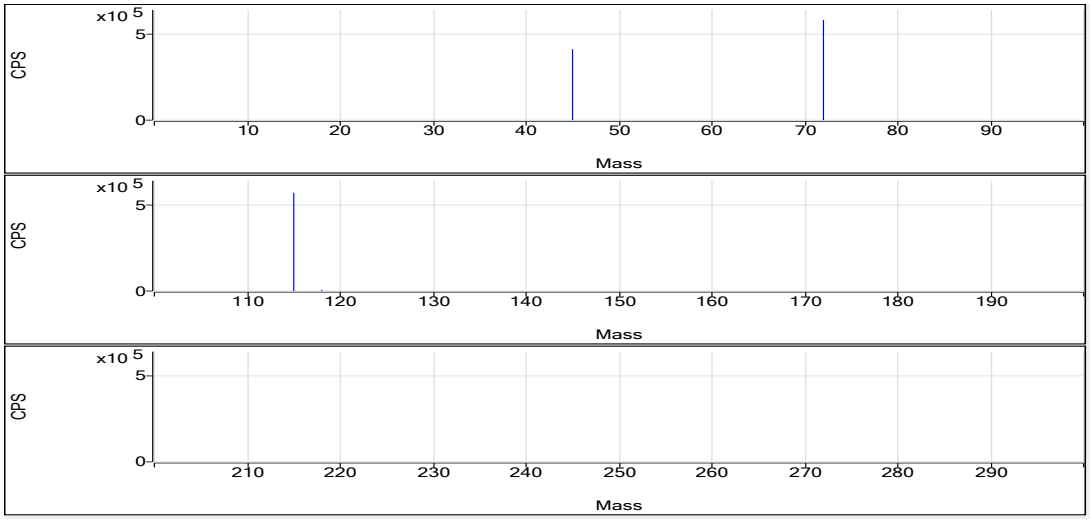
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1157700.37	2.2	101.8	Mix	0.1000	3
No Gas	Ge	72	1002648.53	0.8	99.4	Pulse	0.1000	3
H2	Sc	45	414826.69	0.8	99.7	Pulse	0.1000	3
H2	Ge	72	585906.96	1.2	100.3	Pulse	0.1000	3
H2	In	115	574249.81	1.0	102.0	Pulse	0.1000	3
He	Sc	45	84508.27	1.1	97.2	Pulse	0.1000	3
He	Ge	72	268841.42	0.5	102.8	Pulse	0.1000	3
He	In	115	132941.84	0.6	97.6	Pulse	0.1000	3
He	Tb	159	387947.75	0.1	97.0	Pulse	0.1000	3
He	Bi	209	243216.60	1.1	93.8	Pulse	0.1000	3

No Gas

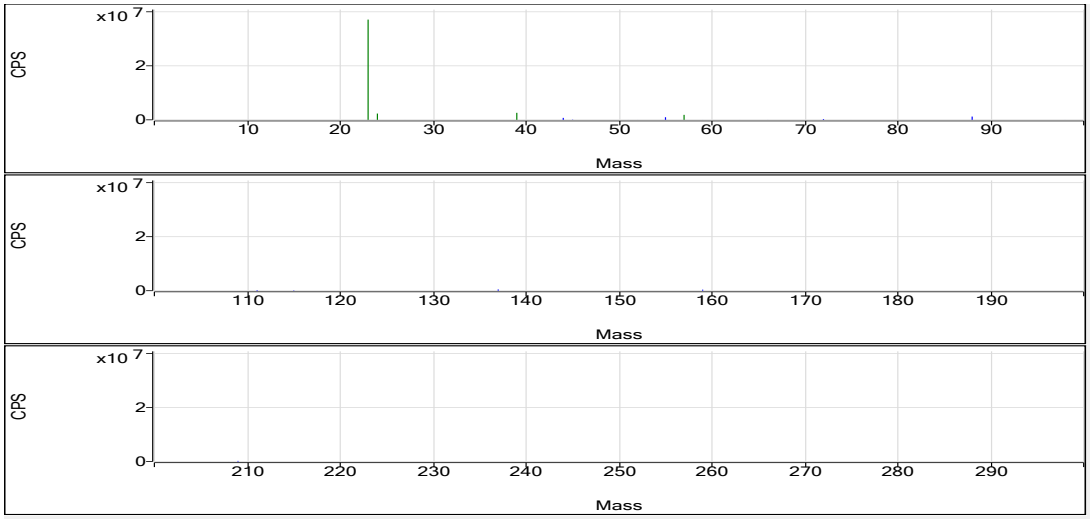


H2



Quantitation Report

He



Quantitation Report

Data File Name	256SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 9:01:28 PM
Sample Name	410-10770-k-1-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

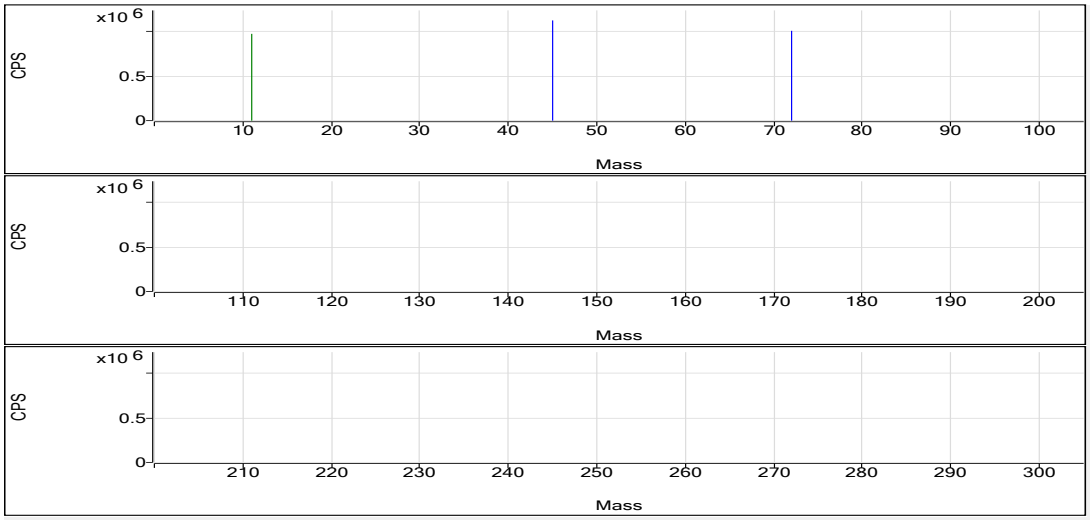
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.023	ppb	80.9	22.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	2081.029	ppb	0.5	975313.27	0.8660	Analog	0.5000	3
Se	78	115	H2	0.498	ppb	13.0	66.89	0.0001	Pulse	1.5000	3
Na	23	72	He	112610.222	ppb	1.8	30027250.39	110.7139	Analog	0.1000	3
Mg	24	45	He	43345.071	ppb	1.8	5938023.25	69.6450	Analog	0.1000	3
Al	27	45	He	7.653	ppb	14.4	523.36	0.0061	Pulse	0.1000	3
K	39	45	He	26588.443	ppb	1.1	3348742.87	39.2723	Analog	0.1000	3
Ca	44	45	He	117389.395	ppb	1.0	804090.01	9.4300	Pulse	0.1000	3
Ti	47	45	He	0.409	ppb	101.2	20.00	0.0002	Pulse	0.1000	3
V	51	45	He	-0.340	ppb	N/A	980.07	0.0115	Pulse	0.1000	3
Cr	52	45	He	0.300	ppb	16.0	2773.70	0.0325	Pulse	0.1000	3
Mn	55	45	He	3909.189	ppb	2.2	4324844.83	50.7265	Analog	0.1000	3
Fe	57	45	He	285.965	ppb	2.5	12866.13	0.1509	Pulse	0.1000	3
Co	59	115	He	0.924	ppb	8.4	3353.84	0.0252	Pulse	0.1000	3
Ni	60	115	He	2.265	ppb	9.4	3113.77	0.0234	Pulse	0.1000	3
Cu	63	115	He	0.109	ppb	29.1	1763.51	0.0132	Pulse	0.1000	3
Zn	66	115	He	-0.301	ppb	N/A	1696.84	0.0127	Pulse	0.1000	3
As	75	115	He	0.405	ppb	15.7	161.33	0.0012	Pulse	0.5000	3
Sr	88	115	He	1111.178	ppb	1.0	1701574.25	12.7735	Analog	0.1000	3
Mo	98	115	He	15.152	ppb	1.6	34245.86	0.2571	Pulse	0.1000	3
Ag	107	115	He	0.001	ppb	895.7	46.67	0.0004	Pulse	0.1000	3
Cd	111	115	He	0.003	ppb	57.4	4.67	0.0000	Pulse	0.5000	3
Sn	120	115	He	-0.059	ppb	N/A	1556.82	0.0117	Pulse	0.1000	3
Sb	121	72	He	0.018	ppb	98.2	76.67	0.0003	Pulse	0.1000	3
Ba	137	115	He	59.883	ppb	0.2	38204.04	0.2868	Pulse	0.1000	3
Tl	205	209	He	0.004	ppb	21.6	33.33	0.0001	Pulse	0.1000	3
Pb	208	209	He	-0.004	ppb	N/A	236.67	0.0010	Pulse	0.1000	3
U	238	209	He	0.062	ppb	11.7	650.04	0.0027	Pulse	0.1000	3

Quantitation Report

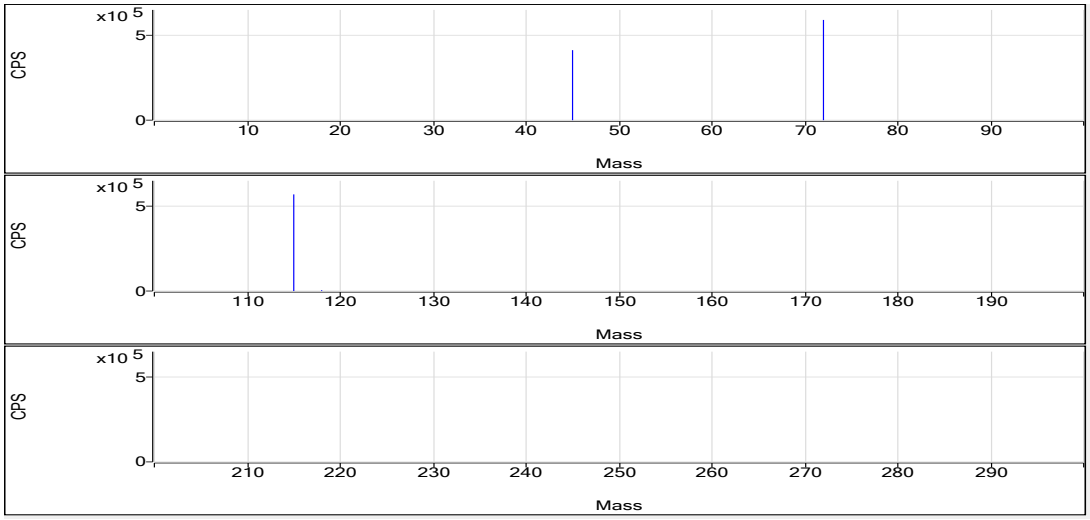
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1126231.28	0.5	99.1	Pulse	0.1000	3
No Gas	Ge	72	1009447.46	0.5	100.0	Pulse	0.1000	3
H2	Sc	45	412539.93	0.7	99.1	Pulse	0.1000	3
H2	Ge	72	590629.44	0.3	101.1	Pulse	0.1000	3
H2	In	115	569511.28	0.2	101.2	Pulse	0.1000	3
He	Sc	45	85279.31	1.7	98.0	Pulse	0.1000	3
He	Ge	72	271256.02	1.2	103.7	Pulse	0.1000	3
He	In	115	133214.22	0.5	97.8	Pulse	0.1000	3
He	Tb	159	384110.85	1.4	96.0	Pulse	0.1000	3
He	Bi	209	242997.47	0.3	93.7	Pulse	0.1000	3

No Gas

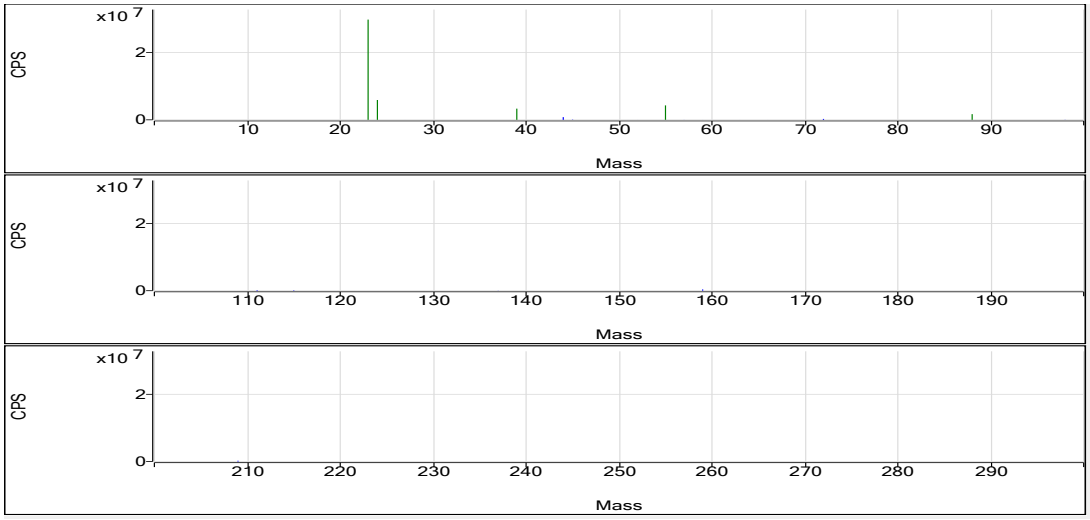


H2



Quantitation Report

He



Quantitation Report

Data File Name	257SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 9:03:42 PM
Sample Name	410-10770-k-1-a PDS
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

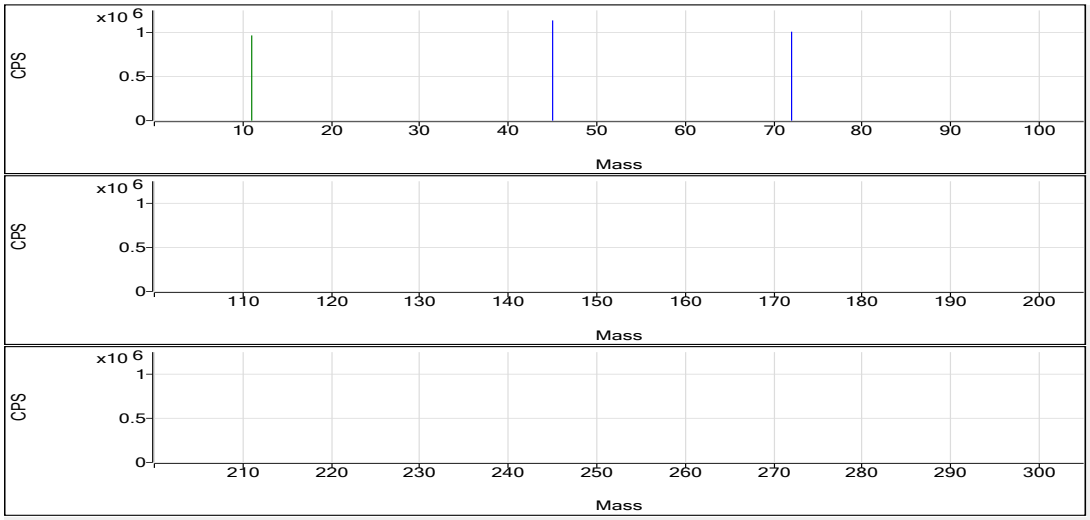
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.681	ppb	5.2	515.34	0.0005	Pulse	0.5000	3
B	11	45	No Gas	2043.662	ppb	2.3	962206.73	0.8504	Analog	0.5000	3
Se	78	115	H2	1.894	ppb	5.3	253.34	0.0004	Pulse	1.5000	3
Na	23	72	He	111154.097	ppb	1.6	29490347.89	109.2832	Analog	0.1000	3
Mg	24	45	He	42780.104	ppb	0.5	5798453.04	68.7373	Analog	0.1000	3
Al	27	45	He	46.549	ppb	7.9	2573.66	0.0305	Pulse	0.1000	3
K	39	45	He	26347.370	ppb	0.3	3283141.52	38.9198	Analog	0.1000	3
Ca	44	45	He	115920.112	ppb	1.0	785515.80	9.3120	Pulse	0.1000	3
Ti	47	45	He	16.239	ppb	12.7	790.06	0.0094	Pulse	0.1000	3
V	51	45	He	0.491	ppb	15.7	2346.94	0.0278	Pulse	0.1000	3
Cr	52	45	He	1.763	ppb	8.0	5844.72	0.0693	Pulse	0.1000	3
Mn	55	45	He	3849.631	ppb	2.5	4213657.96	49.9537	Analog	0.1000	3
Fe	57	45	He	347.580	ppb	3.1	15425.43	0.1829	Pulse	0.1000	3
Co	59	115	He	1.621	ppb	2.1	5841.42	0.0440	Pulse	0.1000	3
Ni	60	115	He	3.759	ppb	6.6	4550.88	0.0343	Pulse	0.1000	3
Cu	63	115	He	1.702	ppb	0.7	6158.20	0.0464	Pulse	0.1000	3
Zn	66	115	He	15.700	ppb	5.7	7985.85	0.0601	Pulse	0.1000	3
As	75	115	He	3.833	ppb	1.3	1124.06	0.0085	Pulse	0.5000	3
Sr	88	115	He	1077.899	ppb	0.5	1645288.83	12.3909	Analog	0.1000	3
Mo	98	115	He	15.475	ppb	2.5	34860.87	0.2625	Pulse	0.1000	3
Ag	107	115	He	0.749	ppb	10.2	3401.10	0.0256	Pulse	0.1000	3
Cd	111	115	He	0.834	ppb	5.0	525.35	0.0040	Pulse	0.5000	3
Sn	120	115	He	3.172	ppb	5.1	7915.91	0.0596	Pulse	0.1000	3
Sb	121	72	He	1.616	ppb	1.9	3153.81	0.0117	Pulse	0.1000	3
Ba	137	115	He	61.308	ppb	1.0	38986.47	0.2936	Pulse	0.1000	3
Tl	205	209	He	0.789	ppb	5.2	6131.67	0.0251	Pulse	0.1000	3
Pb	208	209	He	0.741	ppb	5.3	8304.70	0.0340	Pulse	0.1000	3
U	238	209	He	1.660	ppb	3.0	17048.58	0.0698	Pulse	0.1000	3

Quantitation Report

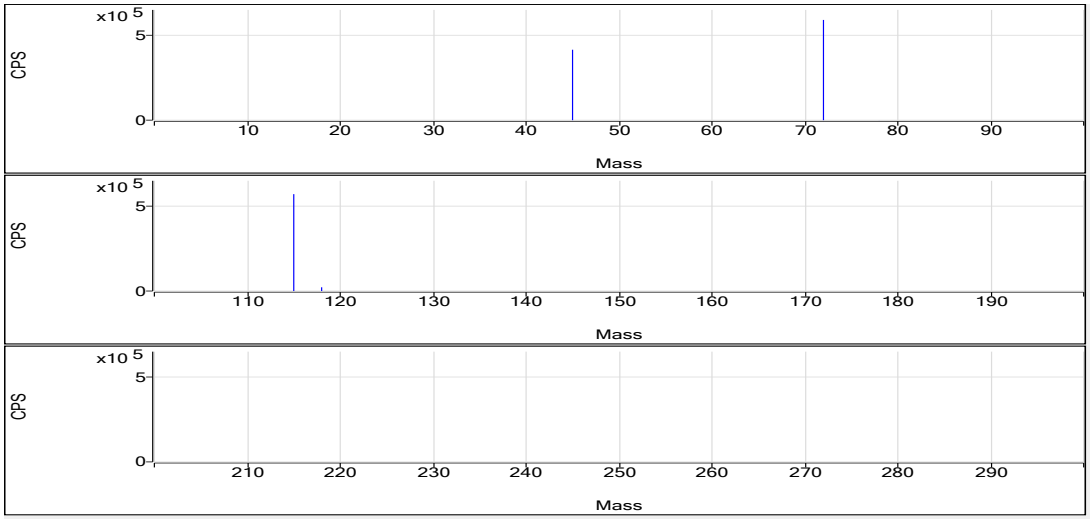
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1131619.20	1.3	99.5	Pulse	0.1000	3
No Gas	Ge	72	1004157.38	1.1	99.5	Pulse	0.1000	3
H2	Sc	45	416061.21	1.1	100.0	Pulse	0.1000	3
H2	Ge	72	592077.23	1.4	101.3	Pulse	0.1000	3
H2	In	115	572326.37	0.7	101.7	Pulse	0.1000	3
He	Sc	45	84357.58	0.7	97.0	Pulse	0.1000	3
He	Ge	72	269876.36	0.9	103.2	Pulse	0.1000	3
He	In	115	132779.95	0.4	97.5	Pulse	0.1000	3
He	Tb	159	387366.49	0.8	96.9	Pulse	0.1000	3
He	Bi	209	244328.91	0.2	94.2	Pulse	0.1000	3

No Gas

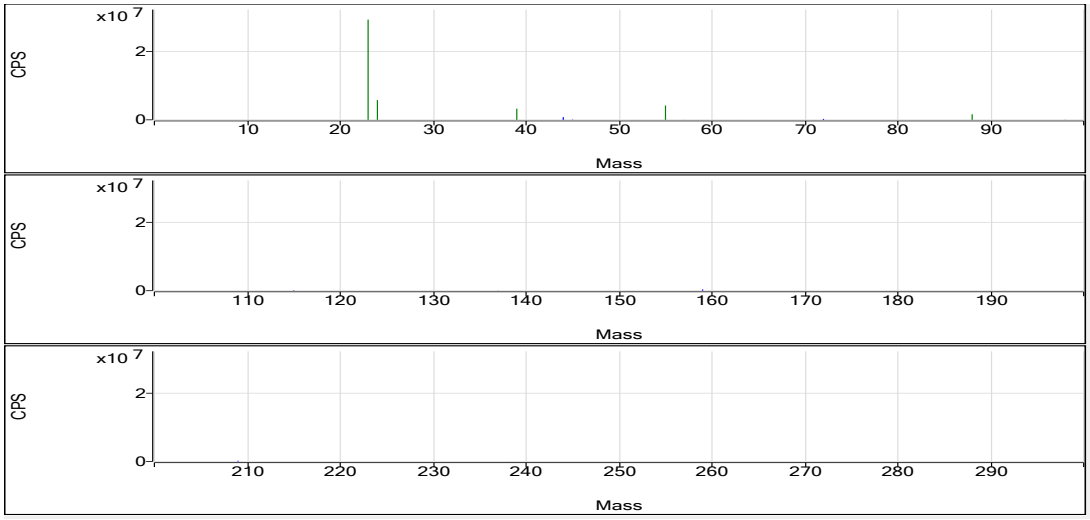


H2



Quantitation Report

He



Quantitation Report

Data File Name	258SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 9:05:55 PM
Sample Name	410-10770-k-1-b du
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

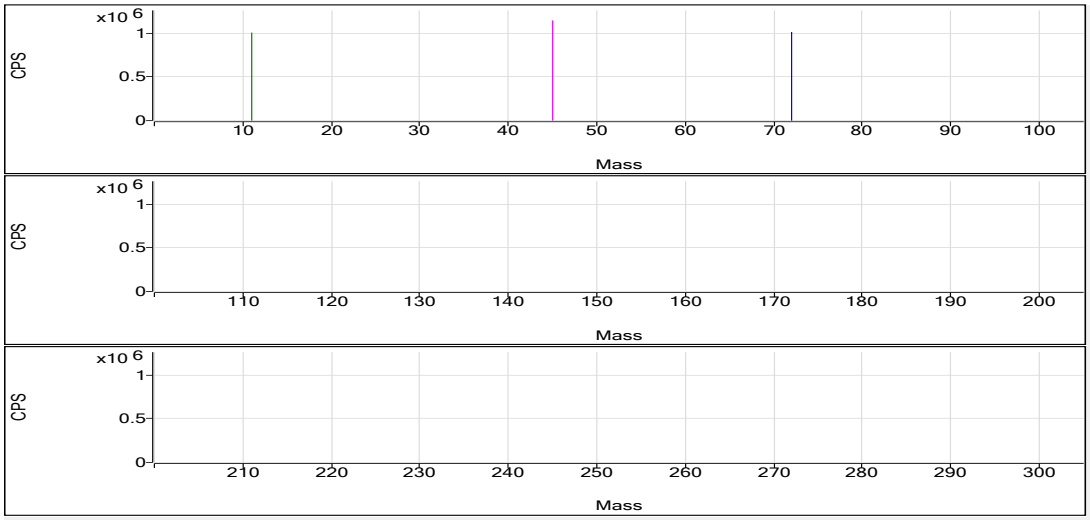
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.025	ppb	36.4	23.33	0.0000	Pulse	0.5000	3
B	11	45	No Gas	2111.845	ppb	2.8	1006782.50	0.8788	Analog	0.5000	3
Se	78	115	H2	0.545	ppb	9.7	73.11	0.0001	Pulse	1.5000	3
Na	23	72	He	115029.228	ppb	0.8	30281704.55	113.0907	Analog	0.1000	3
Mg	24	45	He	43895.109	ppb	1.0	5957239.71	70.5288	Analog	0.1000	3
Al	27	45	He	8.123	ppb	8.3	543.36	0.0064	Pulse	0.1000	3
K	39	45	He	26743.563	ppb	0.6	3336473.91	39.4991	Analog	0.1000	3
Ca	44	45	He	117081.929	ppb	0.4	794426.84	9.4053	Pulse	0.1000	3
Ti	47	45	He	0.478	ppb	49.0	23.33	0.0003	Pulse	0.1000	3
V	51	45	He	-0.368	ppb	N/A	923.39	0.0109	Pulse	0.1000	3
Cr	52	45	He	0.287	ppb	3.5	2720.34	0.0322	Pulse	0.1000	3
Mn	55	45	He	3898.245	ppb	1.2	4272525.87	50.5845	Analog	0.1000	3
Fe	57	45	He	283.086	ppb	2.4	12622.64	0.1494	Pulse	0.1000	3
Co	59	115	He	0.914	ppb	2.9	3297.17	0.0249	Pulse	0.1000	3
Ni	60	115	He	2.118	ppb	4.4	2950.41	0.0223	Pulse	0.1000	3
Cu	63	115	He	0.086	ppb	64.5	1686.83	0.0128	Pulse	0.1000	3
Zn	66	115	He	-0.773	ppb	N/A	1500.13	0.0113	Pulse	0.1000	3
As	75	115	He	0.440	ppb	10.9	170.00	0.0013	Pulse	0.5000	3
Sr	88	115	He	1100.520	ppb	0.9	1673493.36	12.6510	Analog	0.1000	3
Mo	98	115	He	15.070	ppb	0.4	33824.82	0.2557	Pulse	0.1000	3
Ag	107	115	He	0.004	ppb	149.1	60.00	0.0005	Pulse	0.1000	3
Cd	111	115	He	0.001	ppb	414.2	3.33	0.0000	Pulse	0.5000	3
Sn	120	115	He	-0.074	ppb	N/A	1516.81	0.0115	Pulse	0.1000	3
Sb	121	72	He	0.127	ppb	14.5	283.35	0.0011	Pulse	0.1000	3
Ba	137	115	He	59.049	ppb	2.1	37408.73	0.2828	Pulse	0.1000	3
Tl	205	209	He	0.006	ppb	91.7	50.00	0.0002	Pulse	0.1000	3
Pb	208	209	He	-0.007	ppb	N/A	216.67	0.0009	Pulse	0.1000	3
U	238	209	He	0.066	ppb	15.1	696.72	0.0028	Pulse	0.1000	3

Quantitation Report

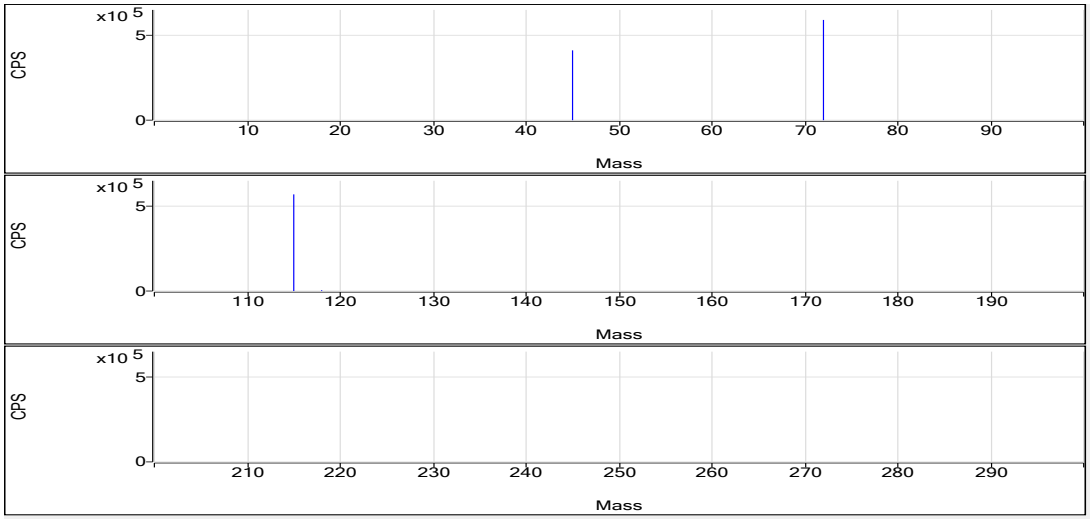
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1146040.43	2.1	100.8	Mix	0.1000	3
No Gas	Ge	72	1013543.73	0.3	100.4	Pulse	0.1000	3
H2	Sc	45	410858.98	1.1	98.7	Pulse	0.1000	3
H2	Ge	72	589864.17	0.9	101.0	Pulse	0.1000	3
H2	In	115	568850.02	0.5	101.1	Pulse	0.1000	3
He	Sc	45	84468.03	0.9	97.1	Pulse	0.1000	3
He	Ge	72	267778.91	1.0	102.4	Pulse	0.1000	3
He	In	115	132284.06	0.6	97.1	Pulse	0.1000	3
He	Tb	159	387102.73	0.7	96.8	Pulse	0.1000	3
He	Bi	209	245600.00	0.2	94.7	Pulse	0.1000	3

No Gas

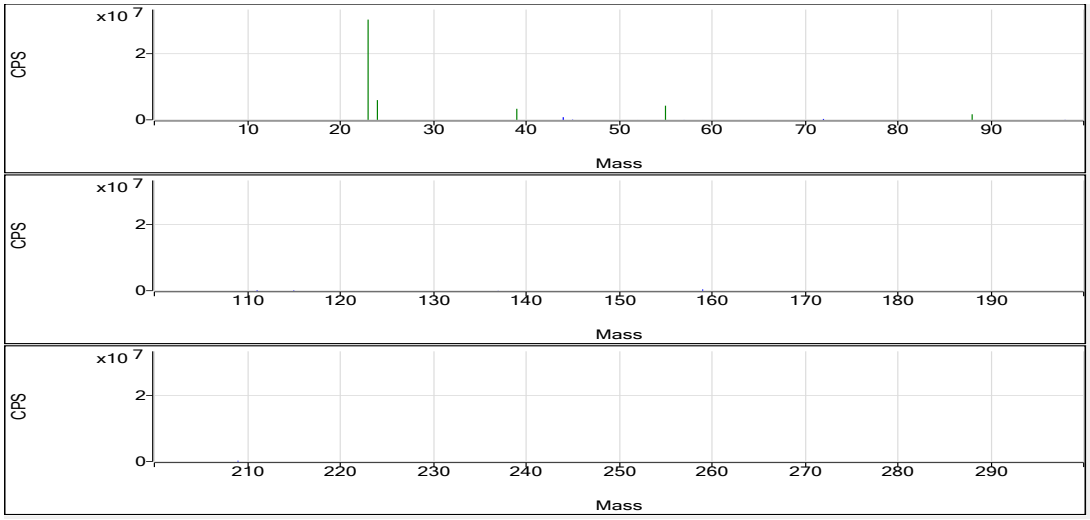


H2



Quantitation Report

He



Quantitation Report

Data File Name	259_CCV.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 9:08:08 PM
Sample Name	CCV 303766
Sample Type	CCV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

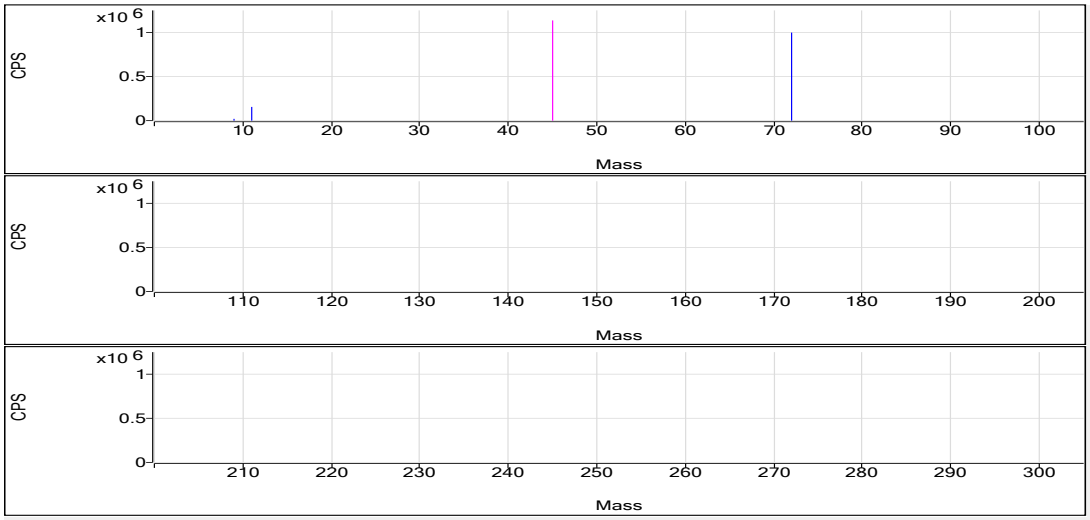
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	26.972	ppb	2.2	20454.66	0.0179	Pulse	0.5000	3
B	11	45	No Gas	328.169	ppb	1.0	156576.63	0.1369	Pulse	0.5000	3
Se	78	115	H2	31.053	ppb	1.3	4152.61	0.0072	Pulse	1.5000	3
Na	23	72	He	4962.377	ppb	0.7	1297788.31	4.9431	Analog	0.1000	3
Mg	24	45	He	4909.929	ppb	1.8	662233.84	7.8903	Pulse	0.1000	3
Al	27	45	He	4935.922	ppb	2.1	259747.17	3.0949	Pulse	0.1000	3
K	39	45	He	5086.194	ppb	1.8	657070.96	7.8288	Pulse	0.1000	3
Ca	44	45	He	5159.145	ppb	2.5	34929.44	0.4162	Pulse	0.1000	3
Ti	47	45	He	308.119	ppb	2.9	14904.76	0.1776	Pulse	0.1000	3
V	51	45	He	311.188	ppb	0.3	515083.66	6.1363	Pulse	0.1000	3
Cr	52	45	He	310.345	ppb	1.0	656662.40	7.8234	Pulse	0.1000	3
Mn	55	45	He	316.017	ppb	1.5	344363.70	4.1029	Pulse	0.1000	3
Fe	57	45	He	5210.384	ppb	0.9	227143.36	2.7060	Pulse	0.1000	3
Co	59	115	He	307.960	ppb	0.5	1117460.27	8.3123	Pulse	0.1000	3
Ni	60	115	He	311.596	ppb	0.7	306439.05	2.2795	Pulse	0.1000	3
Cu	63	115	He	305.220	ppb	0.3	855109.67	6.3607	Pulse	0.1000	3
Zn	66	115	He	317.885	ppb	1.1	128451.10	0.9555	Pulse	0.1000	3
As	75	115	He	323.938	ppb	0.7	92212.41	0.6859	Pulse	0.5000	3
Sr	88	115	He	31.779	ppb	1.7	49133.10	0.3655	Pulse	0.1000	3
Mo	98	115	He	31.276	ppb	1.5	71191.82	0.5296	Pulse	0.1000	3
Ag	107	115	He	30.631	ppb	0.2	139118.09	1.0348	Pulse	0.1000	3
Cd	111	115	He	31.737	ppb	0.8	20137.21	0.1498	Pulse	0.5000	3
Sn	120	115	He	32.117	ppb	0.2	65739.99	0.4890	Pulse	0.1000	3
Sb	121	72	He	31.637	ppb	0.8	59317.74	0.2259	Pulse	0.1000	3
Ba	137	115	He	318.738	ppb	0.5	205183.28	1.5263	Pulse	0.1000	3
Tl	205	209	He	30.817	ppb	0.9	248131.73	0.9795	Pulse	0.1000	3
Pb	208	209	He	29.934	ppb	0.0	336256.17	1.3274	Pulse	0.1000	3
U	238	209	He	50.536	ppb	0.2	537576.11	2.1222	Pulse	0.1000	3

Quantitation Report

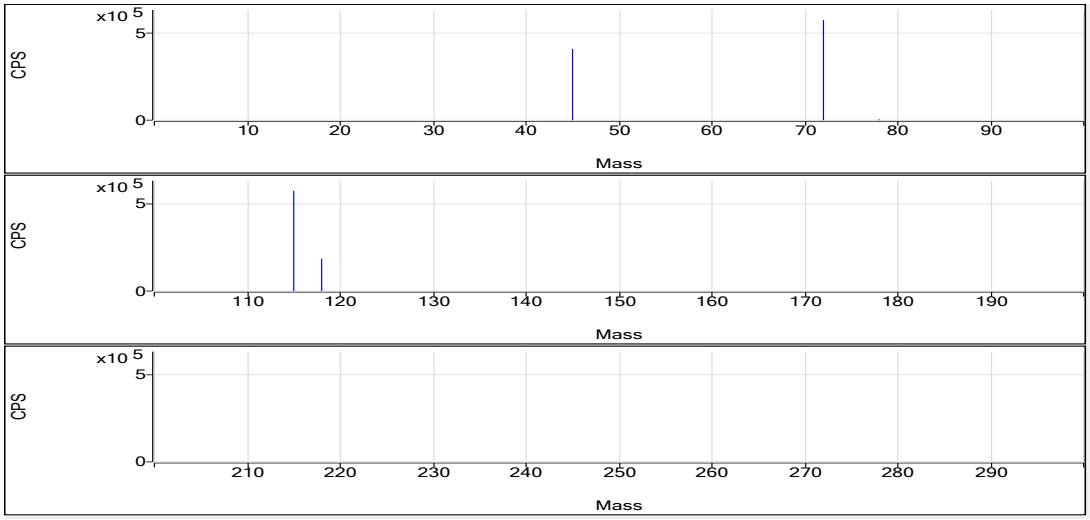
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1143509.41	1.2	100.6	Mix	0.1000	3
No Gas	Ge	72	1004478.68	0.9	99.5	Pulse	0.1000	3
H2	Sc	45	408020.46	0.5	98.0	Pulse	0.1000	3
H2	Ge	72	573824.04	0.7	98.2	Pulse	0.1000	3
H2	In	115	573997.31	0.6	102.0	Pulse	0.1000	3
He	Sc	45	83942.06	1.2	96.5	Pulse	0.1000	3
He	Ge	72	262538.87	0.6	100.4	Pulse	0.1000	3
He	In	115	134435.65	0.2	98.7	Pulse	0.1000	3
He	Tb	159	391781.07	1.0	98.0	Pulse	0.1000	3
He	Bi	209	253311.73	0.8	97.7	Pulse	0.1000	3

No Gas

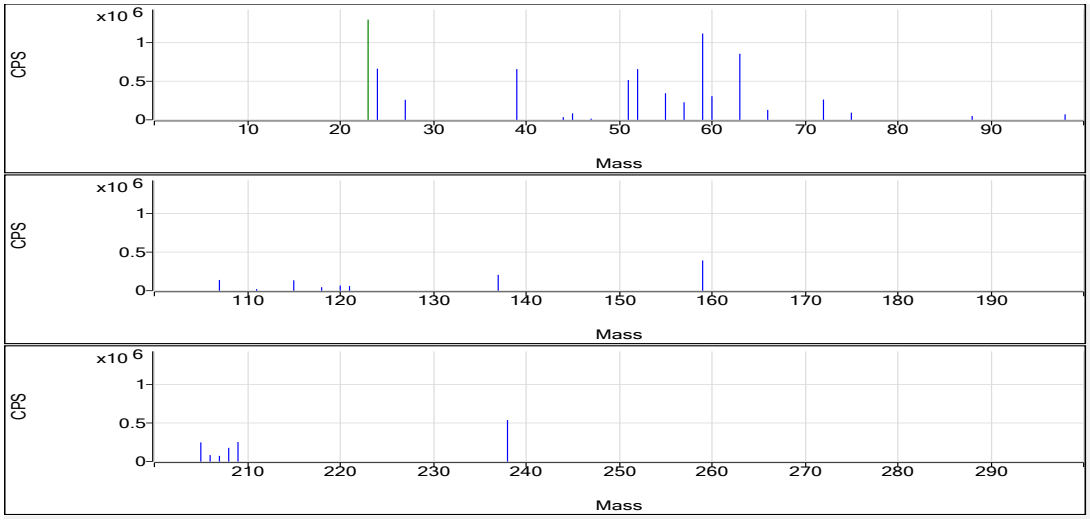


H2



Quantitation Report

He



Quantitation Report

Data File Name	260_CCB.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 9:10:24 PM
Sample Name	CCB 305187
Sample Type	CCB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

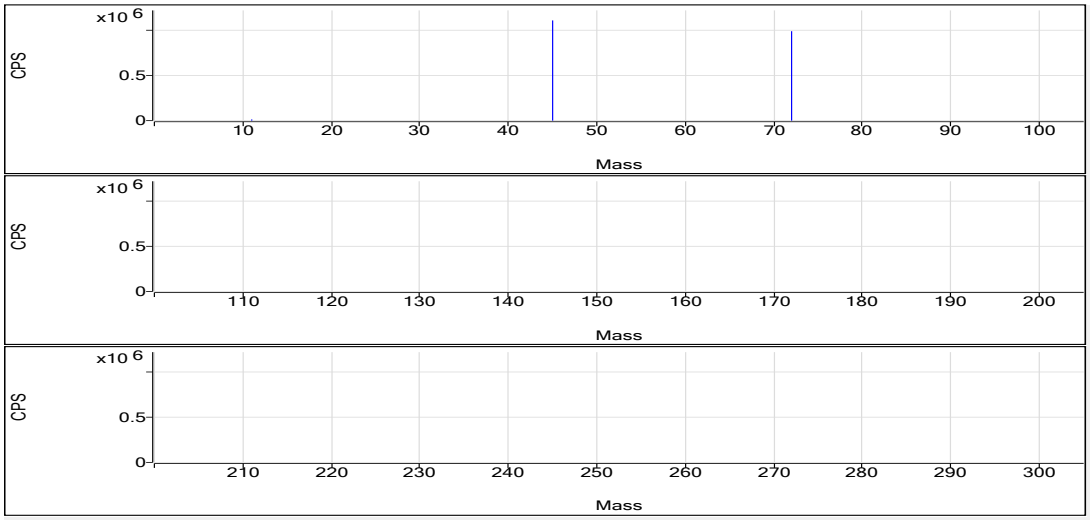
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.031	ppb	19.3	27.33	0.0000	Pulse	0.5000	3
B	11	45	No Gas	27.933	ppb	2.8	13416.73	0.0121	Pulse	0.5000	3
Se	78	115	H2	0.072	ppb	21.2	10.45	0.0000	Pulse	1.5000	3
Na	23	72	He	85.297	ppb	8.4	39386.88	0.1511	Pulse	0.1000	3
Mg	24	45	He	4.872	ppb	16.5	776.71	0.0092	Pulse	0.1000	3
Al	27	45	He	0.397	ppb	158.1	133.34	0.0016	Pulse	0.1000	3
K	39	45	He	15.981	ppb	108.0	34829.26	0.4144	Pulse	0.1000	3
Ca	44	45	He	11.666	ppb	113.5	233.34	0.0028	Pulse	0.1000	3
Ti	47	45	He	0.138	ppb	86.6	6.67	0.0001	Pulse	0.1000	3
V	51	45	He	-0.440	ppb	N/A	800.05	0.0095	Pulse	0.1000	3
Cr	52	45	He	0.068	ppb	118.3	2243.59	0.0267	Pulse	0.1000	3
Mn	55	45	He	0.566	ppb	17.5	820.05	0.0098	Pulse	0.1000	3
Fe	57	45	He	1.153	ppb	22.3	263.34	0.0031	Pulse	0.1000	3
Co	59	115	He	0.071	ppb	46.2	290.01	0.0022	Pulse	0.1000	3
Ni	60	115	He	0.057	ppb	332.0	970.07	0.0073	Pulse	0.1000	3
Cu	63	115	He	0.076	ppb	28.1	1673.48	0.0126	Pulse	0.1000	3
Zn	66	115	He	0.058	ppb	527.7	1840.19	0.0138	Pulse	0.1000	3
As	75	115	He	0.119	ppb	11.8	80.67	0.0006	Pulse	0.5000	3
Sr	88	115	He	0.135	ppb	32.2	230.01	0.0017	Pulse	0.1000	3
Mo	98	115	He	0.351	ppb	17.2	926.73	0.0070	Pulse	0.1000	3
Ag	107	115	He	-0.004	ppb	N/A	23.33	0.0002	Pulse	0.1000	3
Cd	111	115	He	0.010	ppb	105.3	8.67	0.0001	Pulse	0.5000	3
Sn	120	115	He	-0.015	ppb	N/A	1646.83	0.0123	Pulse	0.1000	3
Sb	121	72	He	0.025	ppb	116.7	86.67	0.0003	Pulse	0.1000	3
Ba	137	115	He	0.172	ppb	13.6	116.67	0.0009	Pulse	0.1000	3
Tl	205	209	He	0.059	ppb	18.8	480.03	0.0019	Pulse	0.1000	3
Pb	208	209	He	-0.009	ppb	N/A	193.34	0.0008	Pulse	0.1000	3
U	238	209	He	0.073	ppb	8.9	800.05	0.0032	Pulse	0.1000	3

Quantitation Report

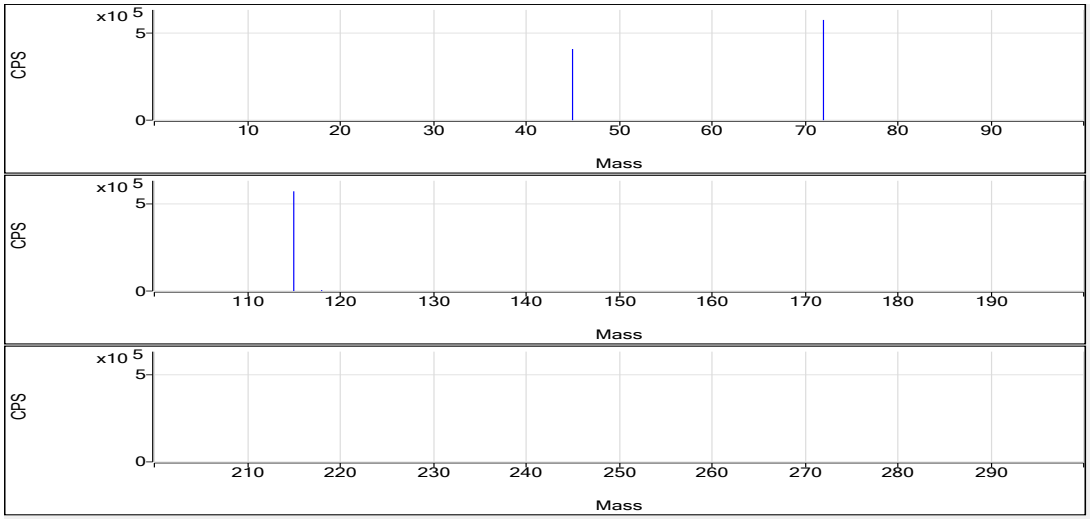
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1112270.40	0.8	97.8	Pulse	0.1000	3
No Gas	Ge	72	992723.84	0.4	98.4	Pulse	0.1000	3
H2	Sc	45	406278.20	0.9	97.6	Pulse	0.1000	3
H2	Ge	72	572240.77	1.1	97.9	Pulse	0.1000	3
H2	In	115	569382.32	0.3	101.2	Pulse	0.1000	3
He	Sc	45	84029.09	1.0	96.6	Pulse	0.1000	3
He	Ge	72	260822.85	1.3	99.7	Pulse	0.1000	3
He	In	115	133314.62	0.8	97.9	Pulse	0.1000	3
He	Tb	159	390274.32	1.3	97.6	Pulse	0.1000	3
He	Bi	209	254184.66	1.9	98.0	Pulse	0.1000	3

No Gas

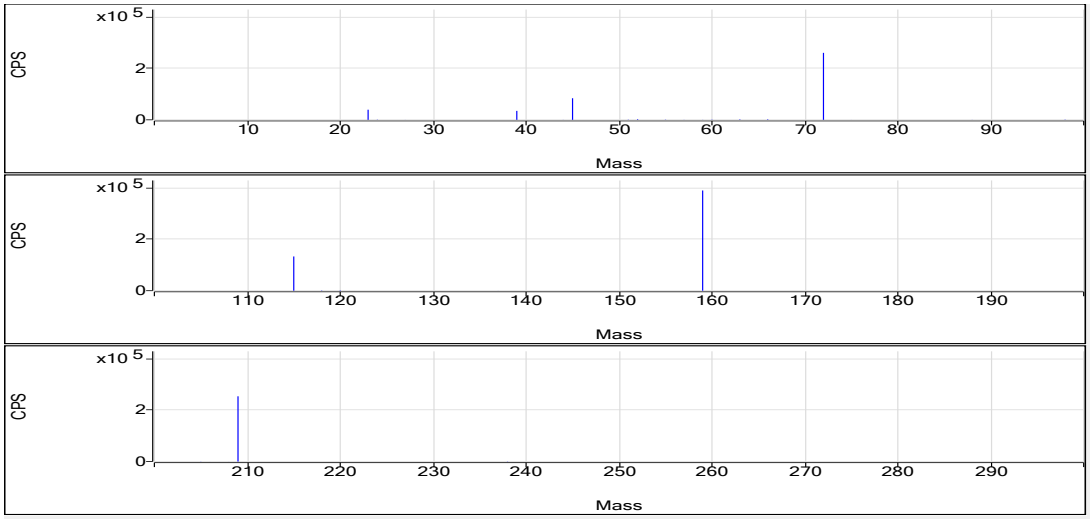


H2



Quantitation Report

He



Quantitation Report

Data File Name	261SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 9:12:39 PM
Sample Name	410-10770-k-1-c ms
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

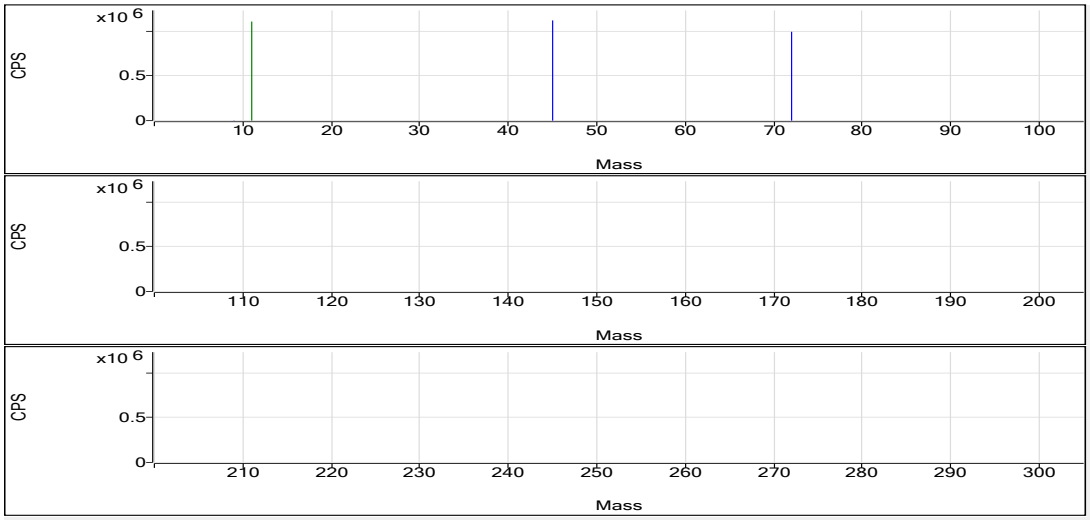
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	3.678	ppb	1.6	2732.93	0.0024	Pulse	0.5000	3
B	11	45	No Gas	2375.955	ppb	0.9	1105970.92	0.9887	Analog	0.5000	3
Se	78	115	H2	8.365	ppb	0.9	1104.94	0.0020	Pulse	1.5000	3
Na	23	72	He	124223.332	ppb	0.7	32217873.69	122.1245	Analog	0.1000	3
Mg	24	45	He	45114.268	ppb	1.8	6081294.28	72.4876	Analog	0.1000	3
Al	27	45	He	205.422	ppb	6.3	10914.41	0.1301	Pulse	0.1000	3
K	39	45	He	36157.151	ppb	1.0	4468705.04	53.2649	Analog	0.1000	3
Ca	44	45	He	119707.736	ppb	0.8	806762.51	9.6162	Pulse	0.1000	3
Ti	47	45	He	259.787	ppb	4.0	12562.53	0.1497	Pulse	0.1000	3
V	51	45	He	51.071	ppb	2.3	85760.05	1.0223	Pulse	0.1000	3
Cr	52	45	He	51.707	ppb	0.7	111107.44	1.3243	Pulse	0.1000	3
Mn	55	45	He	3909.930	ppb	0.9	4256555.04	50.7361	Analog	0.1000	3
Fe	57	45	He	563.792	ppb	0.5	24755.18	0.2951	Pulse	0.1000	3
Co	59	115	He	253.722	ppb	1.4	910235.58	6.8484	Pulse	0.1000	3
Ni	60	115	He	53.613	ppb	1.8	52884.60	0.3979	Pulse	0.1000	3
Cu	63	115	He	49.981	ppb	1.5	139667.09	1.0508	Pulse	0.1000	3
Zn	66	115	He	513.289	ppb	0.6	203961.35	1.5344	Pulse	0.1000	3
As	75	115	He	10.664	ppb	7.1	3045.68	0.0229	Pulse	0.5000	3
Sr	88	115	He	1109.316	ppb	1.1	1694946.54	12.7521	Analog	0.1000	3
Mo	98	115	He	67.298	ppb	1.0	151297.73	1.1383	Pulse	0.1000	3
Ag	107	115	He	44.452	ppb	2.6	199569.99	1.5016	Pulse	0.1000	3
Cd	111	115	He	5.243	ppb	1.9	3291.74	0.0248	Pulse	0.5000	3
Sn	120	115	He	52.319	ppb	0.7	104832.86	0.7887	Pulse	0.1000	3
Sb	121	72	He	5.276	ppb	3.6	9974.13	0.0378	Pulse	0.1000	3
Ba	137	115	He	110.465	ppb	2.1	70307.48	0.5290	Pulse	0.1000	3
Tl	205	209	He	2.064	ppb	0.9	15923.58	0.0656	Pulse	0.1000	3
Pb	208	209	He	4.976	ppb	0.5	53781.82	0.2216	Pulse	0.1000	3
U	238	209	He	0.072	ppb	19.8	753.39	0.0031	Pulse	0.1000	3

Quantitation Report

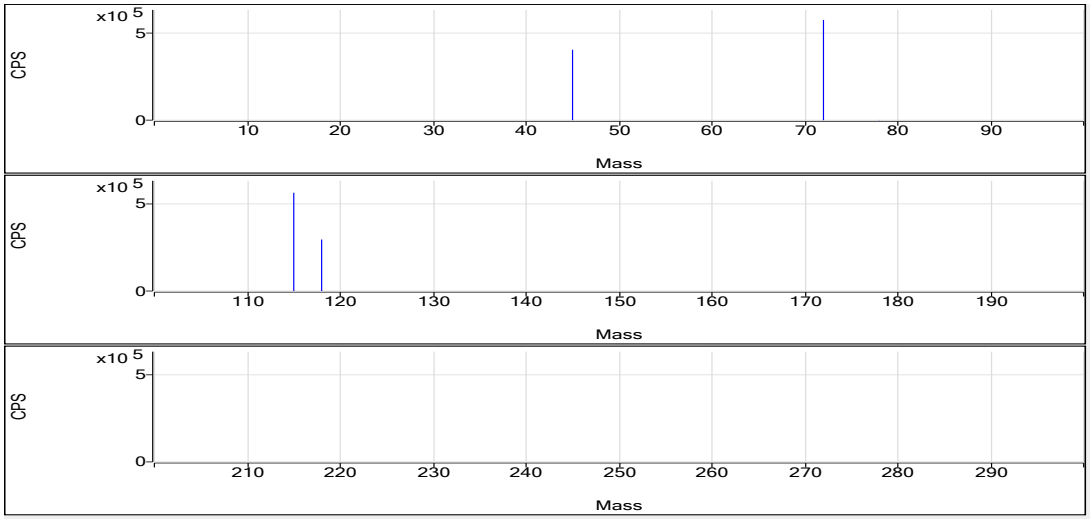
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1118625.53	1.2	98.4	Pulse	0.1000	3
No Gas	Ge	72	991970.64	1.4	98.3	Pulse	0.1000	3
H2	Sc	45	406193.39	1.4	97.6	Pulse	0.1000	3
H2	Ge	72	577968.48	0.9	98.9	Pulse	0.1000	3
H2	In	115	566624.78	0.8	100.7	Pulse	0.1000	3
He	Sc	45	83898.25	0.5	96.5	Pulse	0.1000	3
He	Ge	72	263813.31	0.3	100.9	Pulse	0.1000	3
He	In	115	132931.00	1.6	97.6	Pulse	0.1000	3
He	Tb	159	386115.08	0.3	96.5	Pulse	0.1000	3
He	Bi	209	242675.08	0.1	93.6	Pulse	0.1000	3

No Gas

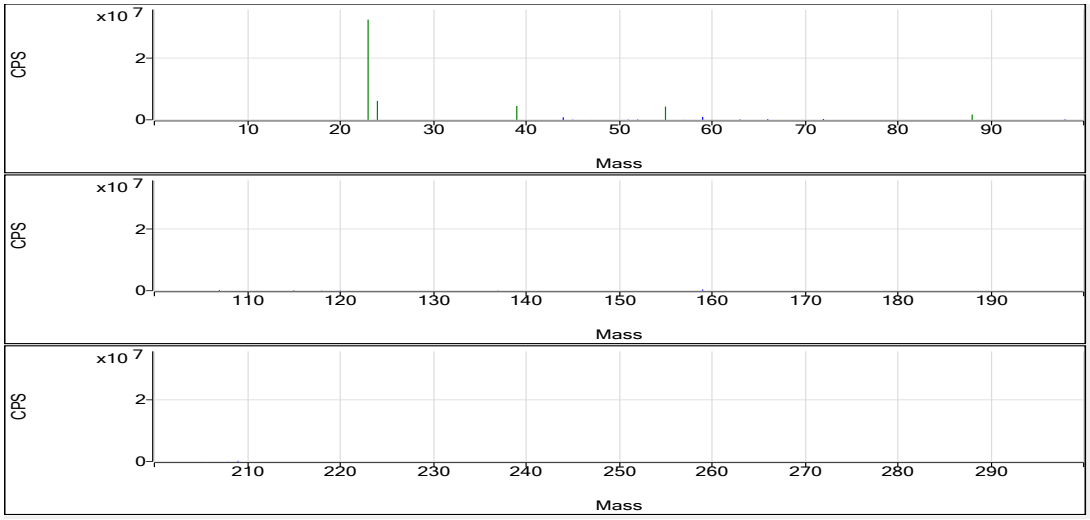


H2



Quantitation Report

He



Quantitation Report

Data File Name	262SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 9:14:51 PM
Sample Name	410-10770-k-1-d msd
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

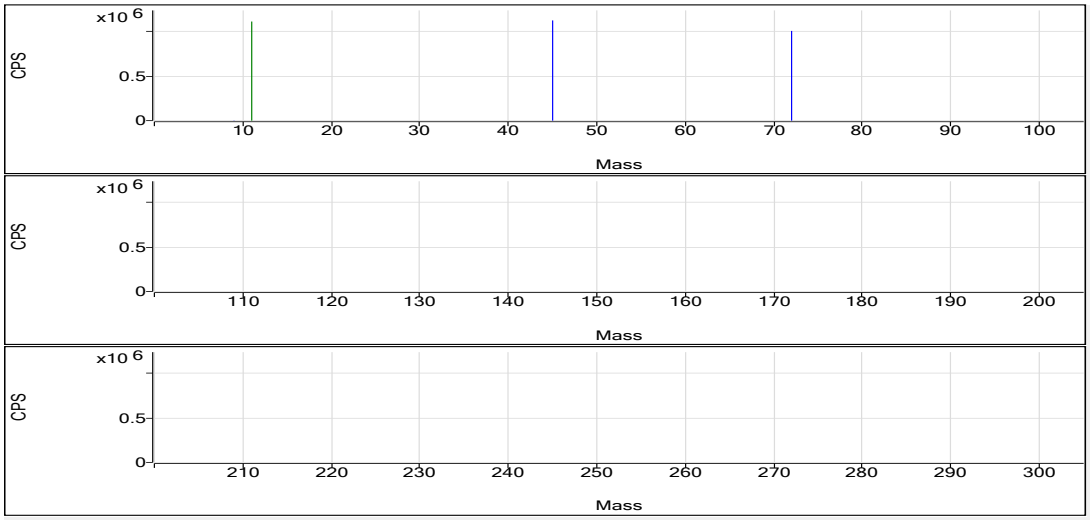
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	3.564	ppb	2.5	2666.92	0.0024	Pulse	0.5000	3
B	11	45	No Gas	2376.436	ppb	1.5	1113751.54	0.9889	Analog	0.5000	3
Se	78	115	H2	8.798	ppb	1.9	1168.94	0.0021	Pulse	1.5000	3
Na	23	72	He	122830.999	ppb	0.7	32193269.52	120.7564	Analog	0.1000	3
Mg	24	45	He	45181.239	ppb	2.4	6119218.24	72.5953	Analog	0.1000	3
Al	27	45	He	199.705	ppb	5.2	10657.55	0.1265	Pulse	0.1000	3
K	39	45	He	35863.985	ppb	2.3	4453795.97	52.8362	Analog	0.1000	3
Ca	44	45	He	119752.003	ppb	2.6	810857.05	9.6197	Pulse	0.1000	3
Ti	47	45	He	249.873	ppb	3.1	12138.80	0.1440	Pulse	0.1000	3
V	51	45	He	50.704	ppb	3.2	85552.29	1.0150	Pulse	0.1000	3
Cr	52	45	He	50.551	ppb	2.0	109189.06	1.2952	Pulse	0.1000	3
Mn	55	45	He	3924.439	ppb	2.1	4292837.33	50.9243	Analog	0.1000	3
Fe	57	45	He	566.637	ppb	3.3	24992.33	0.2965	Pulse	0.1000	3
Co	59	115	He	253.674	ppb	0.7	906272.46	6.8471	Pulse	0.1000	3
Ni	60	115	He	53.382	ppb	1.0	52439.52	0.3962	Pulse	0.1000	3
Cu	63	115	He	50.102	ppb	0.9	139414.13	1.0533	Pulse	0.1000	3
Zn	66	115	He	508.934	ppb	1.1	201382.23	1.5215	Pulse	0.1000	3
As	75	115	He	10.369	ppb	3.0	2950.99	0.0223	Pulse	0.5000	3
Sr	88	115	He	1112.965	ppb	1.2	1693418.78	12.7940	Analog	0.1000	3
Mo	98	115	He	67.412	ppb	0.5	150914.15	1.1402	Pulse	0.1000	3
Ag	107	115	He	43.945	ppb	3.6	196505.84	1.4845	Pulse	0.1000	3
Cd	111	115	He	5.104	ppb	1.1	3191.06	0.0241	Pulse	0.5000	3
Sn	120	115	He	52.933	ppb	1.3	105591.48	0.7978	Pulse	0.1000	3
Sb	121	72	He	5.073	ppb	2.1	9693.93	0.0364	Pulse	0.1000	3
Ba	137	115	He	109.853	ppb	0.8	69627.08	0.5261	Pulse	0.1000	3
Tl	205	209	He	2.028	ppb	0.9	15720.03	0.0645	Pulse	0.1000	3
Pb	208	209	He	4.944	ppb	1.3	53691.73	0.2202	Pulse	0.1000	3
U	238	209	He	0.063	ppb	15.9	666.71	0.0027	Pulse	0.1000	3

Quantitation Report

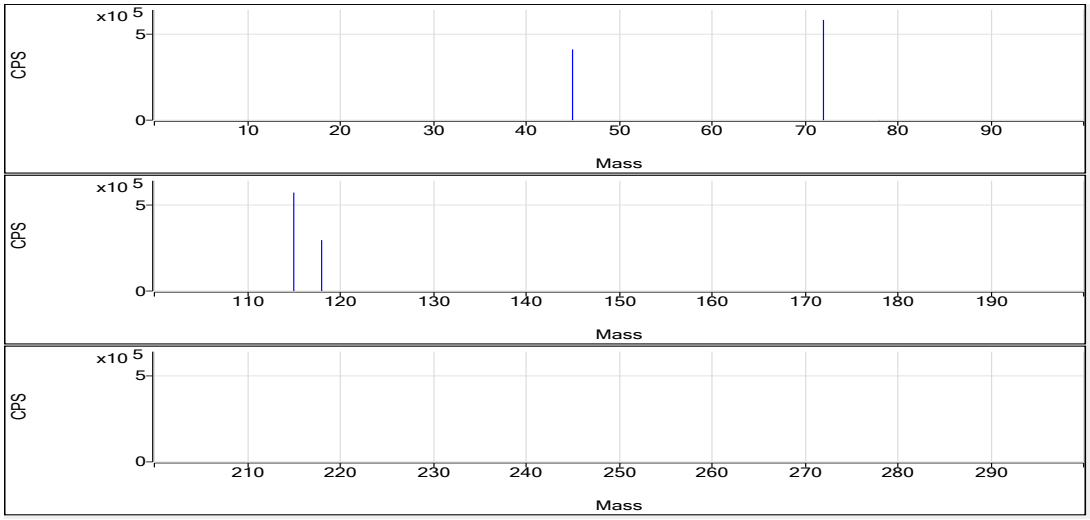
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1126180.35	1.3	99.1	Pulse	0.1000	3
No Gas	Ge	72	1008187.67	1.0	99.9	Pulse	0.1000	3
H2	Sc	45	409894.99	0.8	98.5	Pulse	0.1000	3
H2	Ge	72	580426.06	1.2	99.3	Pulse	0.1000	3
H2	In	115	569945.54	0.9	101.3	Pulse	0.1000	3
He	Sc	45	84331.32	2.9	97.0	Pulse	0.1000	3
He	Ge	72	266603.35	0.6	102.0	Pulse	0.1000	3
He	In	115	132358.91	0.5	97.2	Pulse	0.1000	3
He	Tb	159	384546.17	0.7	96.2	Pulse	0.1000	3
He	Bi	209	243812.98	0.3	94.0	Pulse	0.1000	3

No Gas

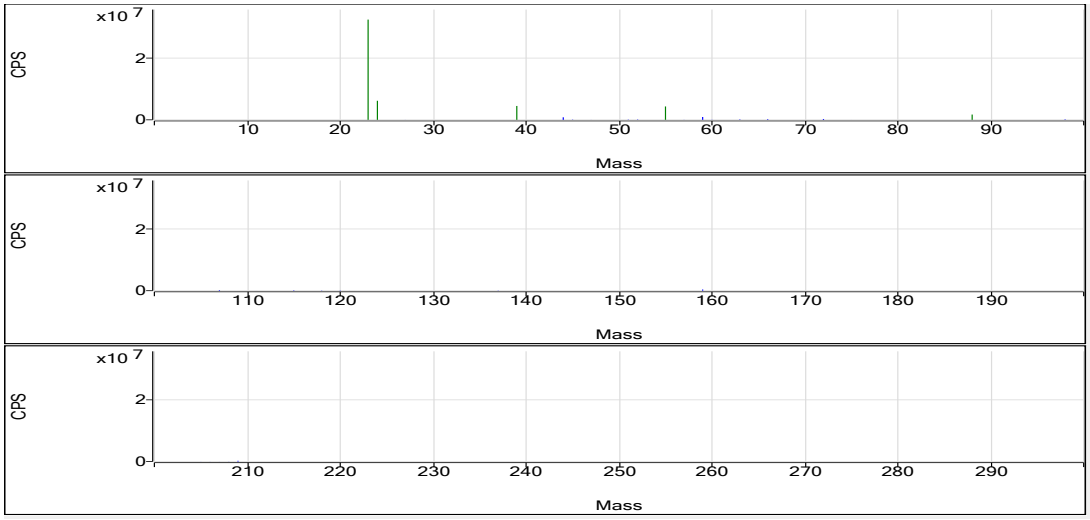


H2



Quantitation Report

He



Quantitation Report

Data File Name	263SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 9:17:06 PM
Sample Name	410-10770-k-1-a SD@5
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

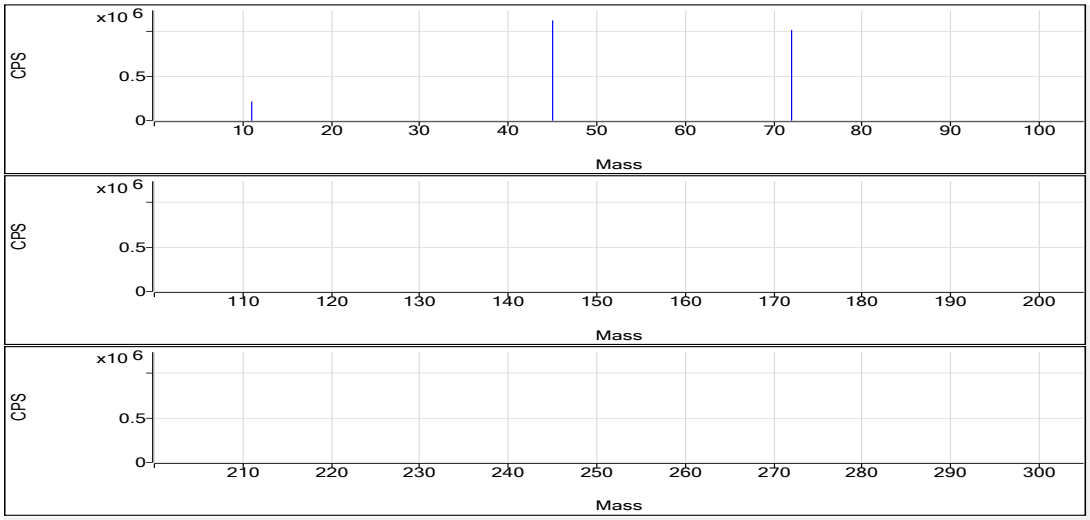
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.013	ppb	70.3	14.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	458.341	ppb	0.3	215581.70	0.1911	Pulse	0.5000	3
Se	78	115	H2	0.294	ppb	5.6	40.67	0.0001	Pulse	1.5000	3
Na	23	72	He	22601.243	ppb	0.1	6027931.37	22.2744	Analog	0.1000	3
Mg	24	45	He	9016.050	ppb	1.4	1218585.40	14.4877	Analog	0.1000	3
Al	27	45	He	1.587	ppb	28.9	196.68	0.0023	Pulse	0.1000	3
K	39	45	He	5076.604	ppb	1.8	657210.22	7.8148	Pulse	0.1000	3
Ca	44	45	He	23011.191	ppb	2.1	155570.12	1.8500	Pulse	0.1000	3
Ti	47	45	He	0.340	ppb	66.9	16.67	0.0002	Pulse	0.1000	3
V	51	45	He	-0.436	ppb	N/A	806.72	0.0096	Pulse	0.1000	3
Cr	52	45	He	0.173	ppb	15.8	2466.96	0.0293	Pulse	0.1000	3
Mn	55	45	He	752.001	ppb	2.4	820732.30	9.7601	Pulse	0.1000	3
Fe	57	45	He	56.774	ppb	8.3	2690.34	0.0320	Pulse	0.1000	3
Co	59	115	He	0.226	ppb	16.1	856.72	0.0063	Pulse	0.1000	3
Ni	60	115	He	0.392	ppb	6.8	1313.44	0.0097	Pulse	0.1000	3
Cu	63	115	He	0.098	ppb	66.5	1756.84	0.0130	Pulse	0.1000	3
Zn	66	115	He	0.178	ppb	256.9	1913.53	0.0142	Pulse	0.1000	3
As	75	115	He	0.101	ppb	22.2	76.67	0.0006	Pulse	0.5000	3
Sr	88	115	He	200.434	ppb	2.2	311405.24	2.3042	Pulse	0.1000	3
Mo	98	115	He	3.367	ppb	3.2	7829.12	0.0579	Pulse	0.1000	3
Ag	107	115	He	0.135	ppb	42.6	660.10	0.0049	Pulse	0.1000	3
Cd	111	115	He	0.001	ppb	338.7	3.33	0.0000	Pulse	0.5000	3
Sn	120	115	He	0.117	ppb	19.5	1933.55	0.0143	Pulse	0.1000	3
Sb	121	72	He	0.086	ppb	13.5	206.68	0.0008	Pulse	0.1000	3
Ba	137	115	He	11.595	ppb	8.1	7508.98	0.0556	Pulse	0.1000	3
Tl	205	209	He	0.004	ppb	70.8	36.67	0.0001	Pulse	0.1000	3
Pb	208	209	He	-0.010	ppb	N/A	180.00	0.0007	Pulse	0.1000	3
U	238	209	He	0.014	ppb	28.6	173.34	0.0007	Pulse	0.1000	3

Quantitation Report

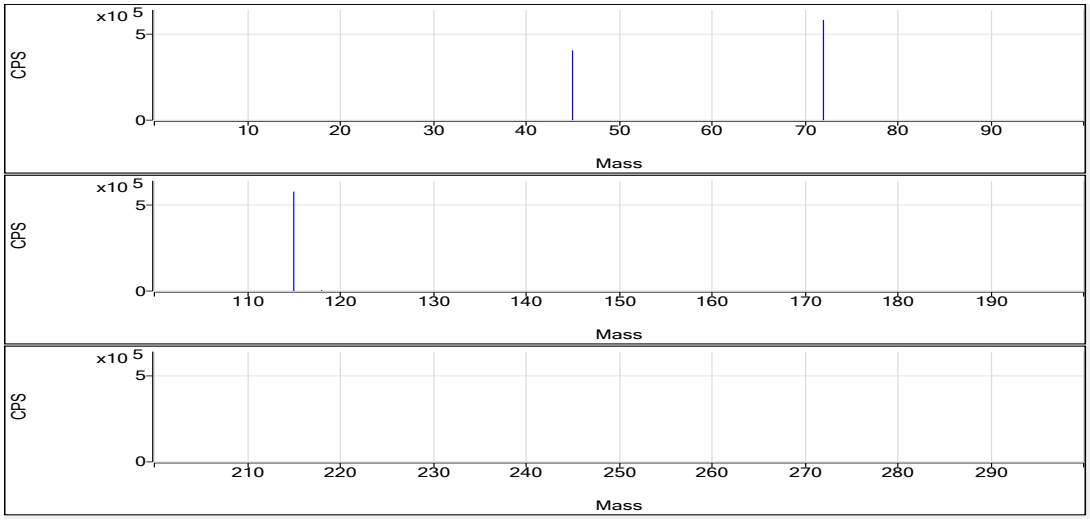
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1128244.93	0.3	99.2	Pulse	0.1000	3
No Gas	Ge	72	1019948.79	0.7	101.1	Pulse	0.1000	3
H2	Sc	45	407185.75	0.4	97.8	Pulse	0.1000	3
H2	Ge	72	585265.71	1.3	100.2	Pulse	0.1000	3
H2	In	115	580556.01	0.5	103.2	Pulse	0.1000	3
He	Sc	45	84120.03	2.3	96.7	Pulse	0.1000	3
He	Ge	72	270620.32	0.4	103.5	Pulse	0.1000	3
He	In	115	135162.20	0.9	99.3	Pulse	0.1000	3
He	Tb	159	393461.95	1.0	98.4	Pulse	0.1000	3
He	Bi	209	255145.67	1.4	98.4	Pulse	0.1000	3

No Gas

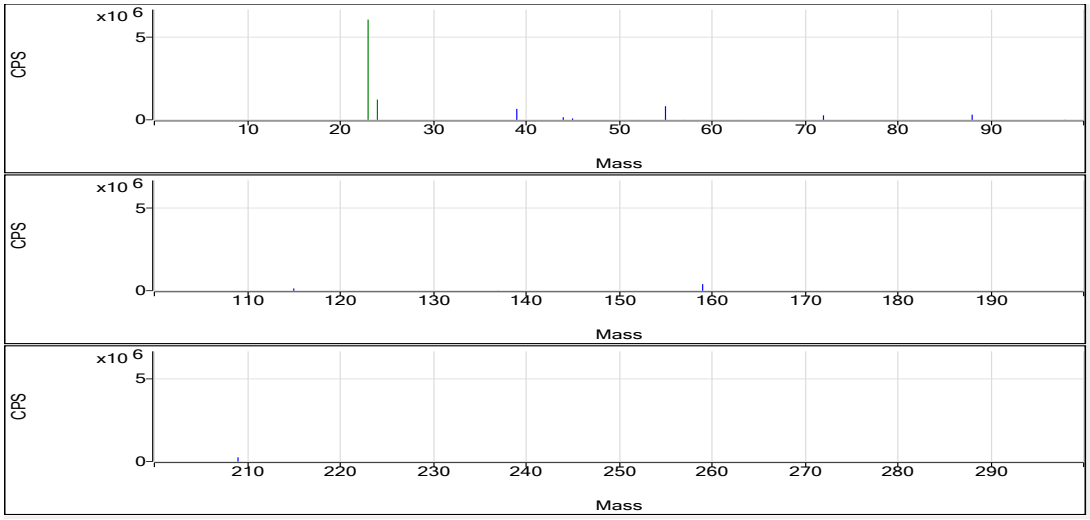


H2



Quantitation Report

He



Quantitation Report

Data File Name	264SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 9:19:20 PM
Sample Name	410-10772-i-1-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

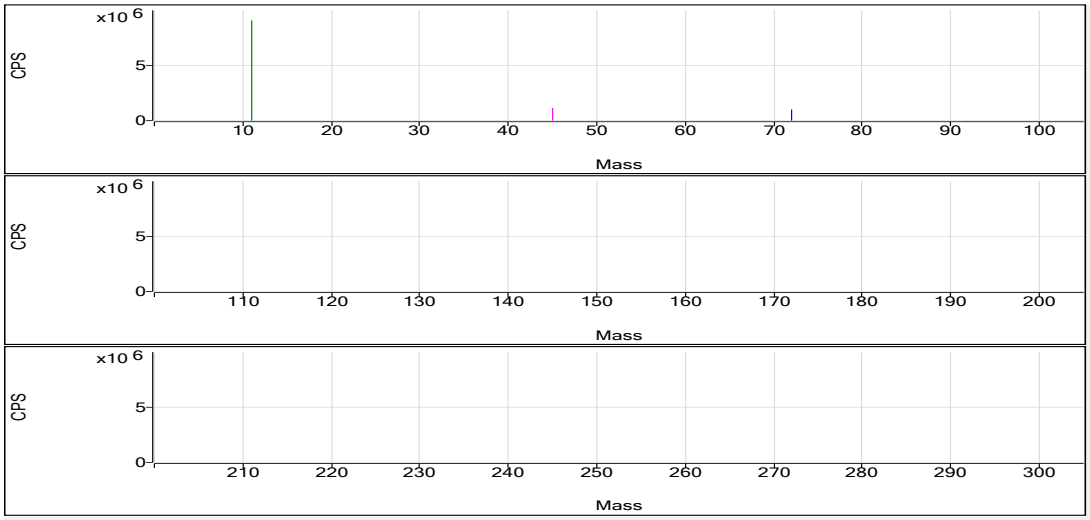
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.098	ppb	8.5	79.33	0.0001	Pulse	0.5000	3
B	11	45	No Gas	18929.863	ppb	1.6	9006956.00	7.8738	Analog	0.5000	3
Se	78	115	H2	0.909	ppb	12.4	120.89	0.0002	Pulse	1.5000	3
Na	23	72	He	242232.986	ppb	1.3	62724237.40	238.0764	Analog	0.1000	3
Mg	24	45	He	43958.316	ppb	0.1	5902574.49	70.6303	Analog	0.1000	3
Al	27	45	He	2.754	ppb	38.5	256.68	0.0031	Pulse	0.1000	3
K	39	45	He	59262.916	ppb	1.3	7274296.56	87.0533	Analog	0.1000	3
Ca	44	45	He	256256.423	ppb	1.3	1719942.00	20.5831	Analog	0.1000	3
Ti	47	45	He	1.730	ppb	45.3	83.33	0.0010	Pulse	0.1000	3
V	51	45	He	-0.056	ppb	N/A	1426.79	0.0171	Pulse	0.1000	3
Cr	52	45	He	0.310	ppb	49.1	2737.03	0.0328	Pulse	0.1000	3
Mn	55	45	He	138.331	ppb	0.8	150193.42	1.7973	Pulse	0.1000	3
Fe	57	45	He	31.393	ppb	2.6	1573.47	0.0188	Pulse	0.1000	3
Co	59	115	He	0.218	ppb	9.3	793.38	0.0061	Pulse	0.1000	3
Ni	60	115	He	0.969	ppb	12.0	1803.51	0.0139	Pulse	0.1000	3
Cu	63	115	He	0.132	ppb	64.0	1776.85	0.0137	Pulse	0.1000	3
Zn	66	115	He	-0.570	ppb	N/A	1546.81	0.0119	Pulse	0.1000	3
As	75	115	He	3.845	ppb	2.8	1100.72	0.0085	Pulse	0.5000	3
Sr	88	115	He	4740.075	ppb	1.7	7060871.77	54.4887	Analog	0.1000	3
Mo	98	115	He	2192.844	ppb	1.4	4802166.18	37.0573	Analog	0.1000	3
Ag	107	115	He	0.071	ppb	34.5	350.02	0.0027	Pulse	0.1000	3
Cd	111	115	He	0.305	ppb	11.3	189.33	0.0015	Pulse	0.5000	3
Sn	120	115	He	0.080	ppb	41.0	1783.53	0.0138	Pulse	0.1000	3
Sb	121	72	He	0.163	ppb	36.3	346.68	0.0013	Pulse	0.1000	3
Ba	137	115	He	20.499	ppb	0.9	12726.37	0.0982	Pulse	0.1000	3
Tl	205	209	He	0.008	ppb	50.2	66.67	0.0003	Pulse	0.1000	3
Pb	208	209	He	-0.006	ppb	N/A	216.67	0.0009	Pulse	0.1000	3
U	238	209	He	1.862	ppb	2.0	18560.77	0.0783	Pulse	0.1000	3

Quantitation Report

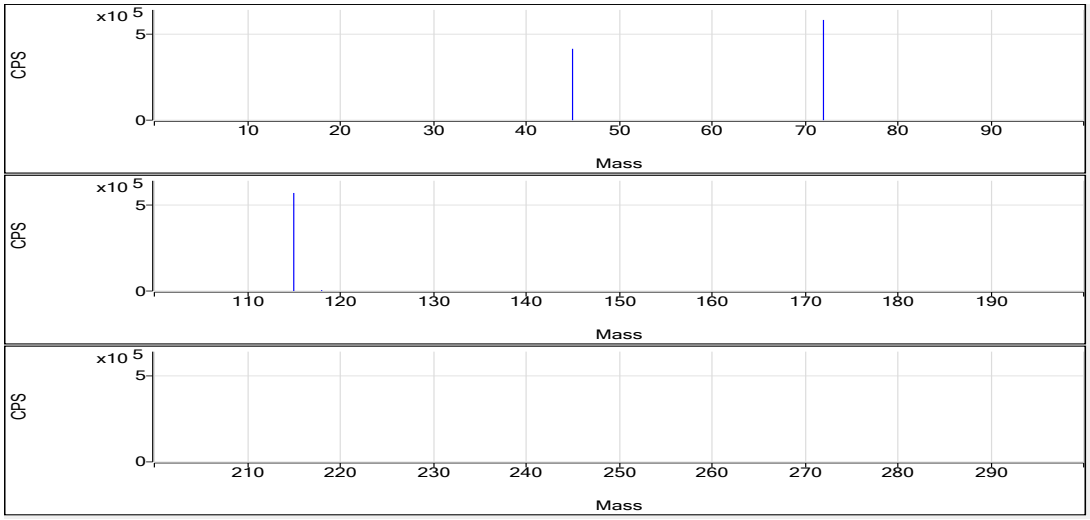
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1144203.24	2.5	100.6	Mix	0.1000	3
No Gas	Ge	72	1002051.21	0.4	99.3	Pulse	0.1000	3
H2	Sc	45	412568.16	0.8	99.1	Pulse	0.1000	3
H2	Ge	72	579435.11	1.1	99.2	Pulse	0.1000	3
H2	In	115	566944.34	0.5	100.7	Pulse	0.1000	3
He	Sc	45	83570.12	1.4	96.1	Pulse	0.1000	3
He	Ge	72	263480.33	1.0	100.8	Pulse	0.1000	3
He	In	115	129597.01	1.2	95.2	Pulse	0.1000	3
He	Tb	159	383906.02	0.6	96.0	Pulse	0.1000	3
He	Bi	209	237145.82	0.2	91.4	Pulse	0.1000	3

No Gas

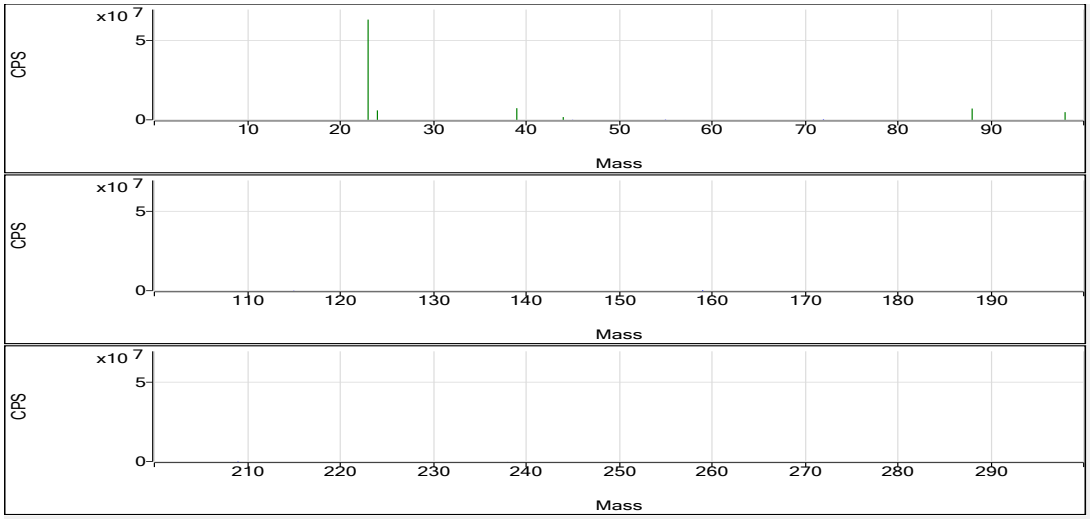


H2



Quantitation Report

He



Quantitation Report

Data File Name	265SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 9:21:32 PM
Sample Name	410-10696-o-3-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

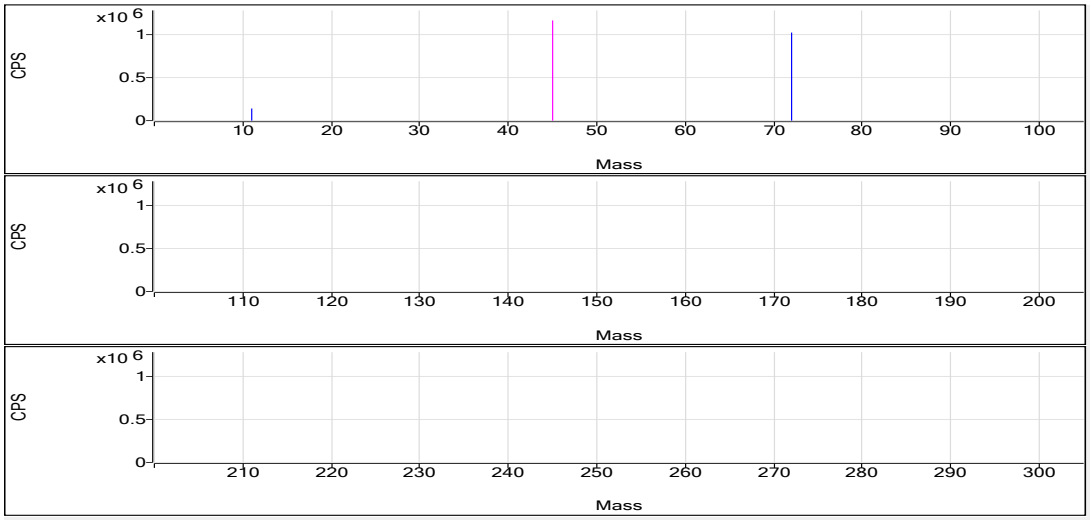
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.046	ppb	30.0	40.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	290.516	ppb	3.4	142189.56	0.1213	Pulse	0.5000	3
Se	78	115	H2	0.913	ppb	10.0	122.44	0.0002	Pulse	1.5000	3
Na	23	72	He	48998.293	ppb	1.0	12949906.48	48.2112	Analog	0.1000	3
Mg	24	45	He	26053.782	ppb	1.1	3573345.26	41.8627	Analog	0.1000	3
Al	27	45	He	185.081	ppb	9.6	10027.54	0.1173	Pulse	0.1000	3
K	39	45	He	267.925	ppb	4.4	66813.58	0.7828	Pulse	0.1000	3
Ca	44	45	He	50295.755	ppb	1.3	344937.27	4.0413	Pulse	0.1000	3
Ti	47	45	He	3.743	ppb	35.4	183.35	0.0022	Pulse	0.1000	3
V	51	45	He	0.201	ppb	42.4	1890.20	0.0221	Pulse	0.1000	3
Cr	52	45	He	3.085	ppb	9.6	8743.26	0.1025	Pulse	0.1000	3
Mn	55	45	He	3305.223	ppb	1.6	3660577.65	42.8896	Analog	0.1000	3
Fe	57	45	He	24779.351	ppb	1.8	1097520.38	12.8596	Pulse	0.1000	3
Co	59	115	He	6.609	ppb	2.2	23666.74	0.1786	Pulse	0.1000	3
Ni	60	115	He	3.323	ppb	3.0	4120.74	0.0311	Pulse	0.1000	3
Cu	63	115	He	0.555	ppb	19.0	2980.56	0.0225	Pulse	0.1000	3
Zn	66	115	He	1.725	ppb	33.1	2483.63	0.0187	Pulse	0.1000	3
As	75	115	He	19.817	ppb	1.8	5603.80	0.0423	Pulse	0.5000	3
Sr	88	115	He	431.587	ppb	1.4	657383.20	4.9614	Pulse	0.1000	3
Mo	98	115	He	4.717	ppb	2.9	10701.10	0.0807	Pulse	0.1000	3
Ag	107	115	He	0.017	ppb	10.0	116.67	0.0009	Pulse	0.1000	3
Cd	111	115	He	0.012	ppb	25.4	10.00	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.068	ppb	193.0	1800.19	0.0136	Pulse	0.1000	3
Sb	121	72	He	0.311	ppb	3.9	636.71	0.0024	Pulse	0.1000	3
Ba	137	115	He	264.378	ppb	1.8	167747.54	1.2660	Pulse	0.1000	3
Tl	205	209	He	0.008	ppb	24.5	66.67	0.0003	Pulse	0.1000	3
Pb	208	209	He	2.423	ppb	2.3	26895.15	0.1085	Pulse	0.1000	3
U	238	209	He	0.072	ppb	5.1	766.72	0.0031	Pulse	0.1000	3

Quantitation Report

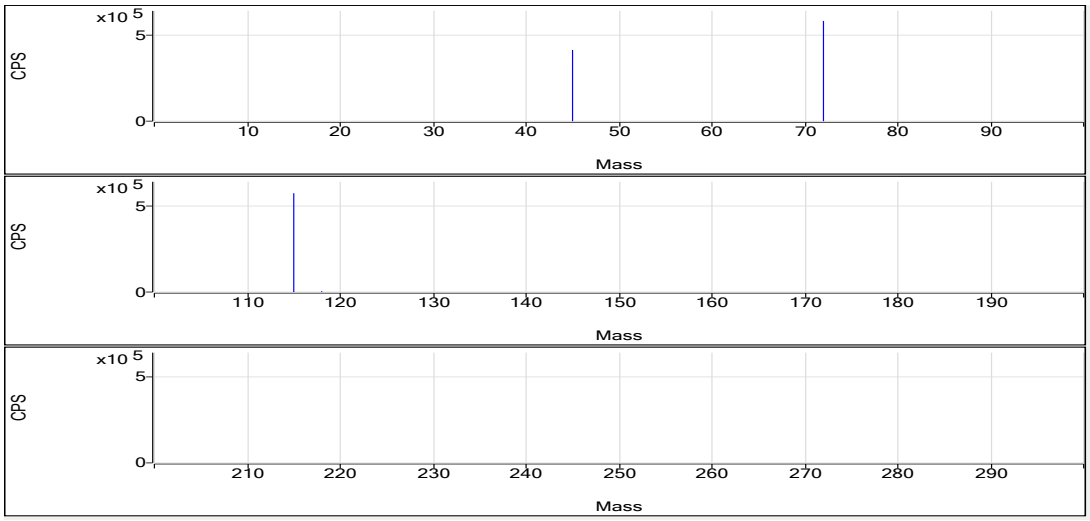
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1172458.50	2.2	103.1	Mix	0.1000	3
No Gas	Ge	72	1030316.68	0.5	102.1	Pulse	0.1000	3
H2	Sc	45	411932.68	0.8	99.0	Pulse	0.1000	3
H2	Ge	72	580009.52	0.7	99.3	Pulse	0.1000	3
H2	In	115	571895.28	1.0	101.6	Pulse	0.1000	3
He	Sc	45	85366.65	2.0	98.1	Pulse	0.1000	3
He	Ge	72	268611.82	0.6	102.7	Pulse	0.1000	3
He	In	115	132517.75	1.5	97.3	Pulse	0.1000	3
He	Tb	159	390703.20	0.2	97.7	Pulse	0.1000	3
He	Bi	209	247810.43	0.8	95.5	Pulse	0.1000	3

No Gas

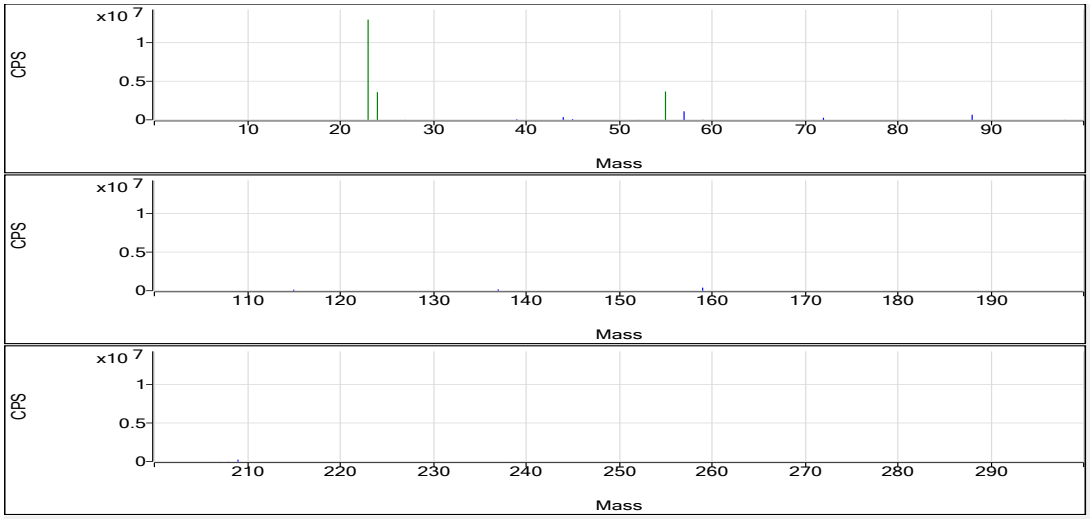


H2



Quantitation Report

He



Quantitation Report

Data File Name	266SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 9:23:48 PM
Sample Name	410-10696-o-6-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

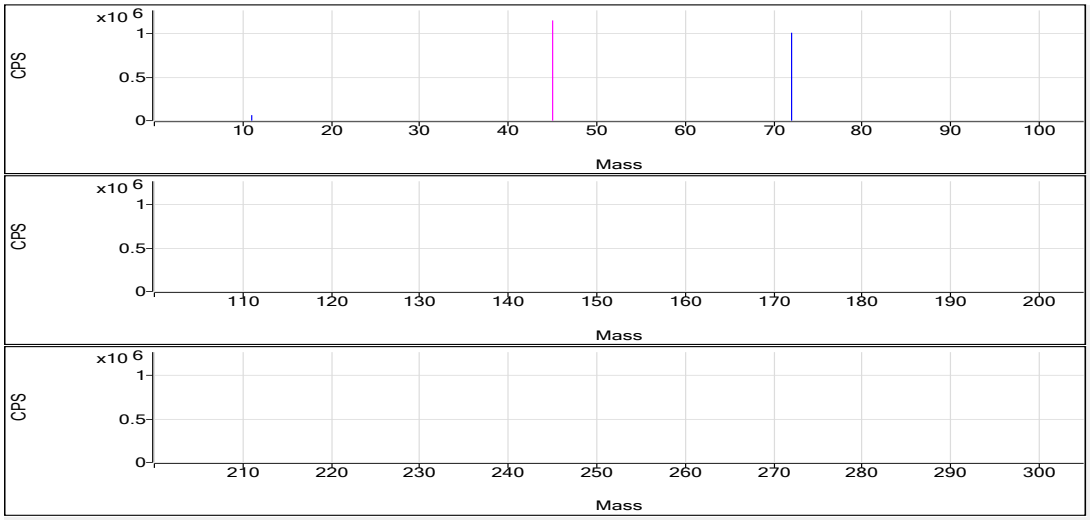
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.012	ppb	56.9	14.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	130.788	ppb	0.9	63366.05	0.0548	Pulse	0.5000	3
Se	78	115	H2	0.711	ppb	15.1	95.33	0.0002	Pulse	1.5000	3
Na	23	72	He	23442.718	ppb	0.6	6110840.33	23.1012	Analog	0.1000	3
Mg	24	45	He	30891.979	ppb	1.1	4202641.40	49.6363	Analog	0.1000	3
Al	27	45	He	7.651	ppb	26.6	520.03	0.0061	Pulse	0.1000	3
K	39	45	He	540.599	ppb	5.0	100038.02	1.1816	Pulse	0.1000	3
Ca	44	45	He	58886.557	ppb	1.0	400597.56	4.7313	Pulse	0.1000	3
Ti	47	45	He	0.544	ppb	56.4	26.67	0.0003	Pulse	0.1000	3
V	51	45	He	-0.386	ppb	N/A	896.73	0.0106	Pulse	0.1000	3
Cr	52	45	He	3.190	ppb	5.2	8903.01	0.1052	Pulse	0.1000	3
Mn	55	45	He	5094.398	ppb	0.3	5597413.25	66.1053	Analog	0.1000	3
Fe	57	45	He	1482.324	ppb	2.3	65328.85	0.7717	Pulse	0.1000	3
Co	59	115	He	7.300	ppb	3.7	25907.31	0.1973	Pulse	0.1000	3
Ni	60	115	He	8.916	ppb	4.2	9440.08	0.0719	Pulse	0.1000	3
Cu	63	115	He	0.496	ppb	5.2	2797.06	0.0213	Pulse	0.1000	3
Zn	66	115	He	15.969	ppb	6.7	8002.52	0.0609	Pulse	0.1000	3
As	75	115	He	2.676	ppb	10.7	790.02	0.0060	Pulse	0.5000	3
Sr	88	115	He	504.140	ppb	1.6	761242.85	5.7954	Pulse	0.1000	3
Mo	98	115	He	10.249	ppb	4.0	22879.33	0.1742	Pulse	0.1000	3
Ag	107	115	He	0.035	ppb	68.3	196.67	0.0015	Pulse	0.1000	3
Cd	111	115	He	0.013	ppb	15.8	10.67	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.070	ppb	234.4	1787.08	0.0136	Pulse	0.1000	3
Sb	121	72	He	0.205	ppb	3.3	426.69	0.0016	Pulse	0.1000	3
Ba	137	115	He	360.188	ppb	1.6	226553.84	1.7247	Pulse	0.1000	3
Tl	205	209	He	0.008	ppb	41.2	70.00	0.0003	Pulse	0.1000	3
Pb	208	209	He	0.209	ppb	9.7	2600.21	0.0104	Pulse	0.1000	3
U	238	209	He	1.611	ppb	0.4	16905.05	0.0677	Pulse	0.1000	3

Quantitation Report

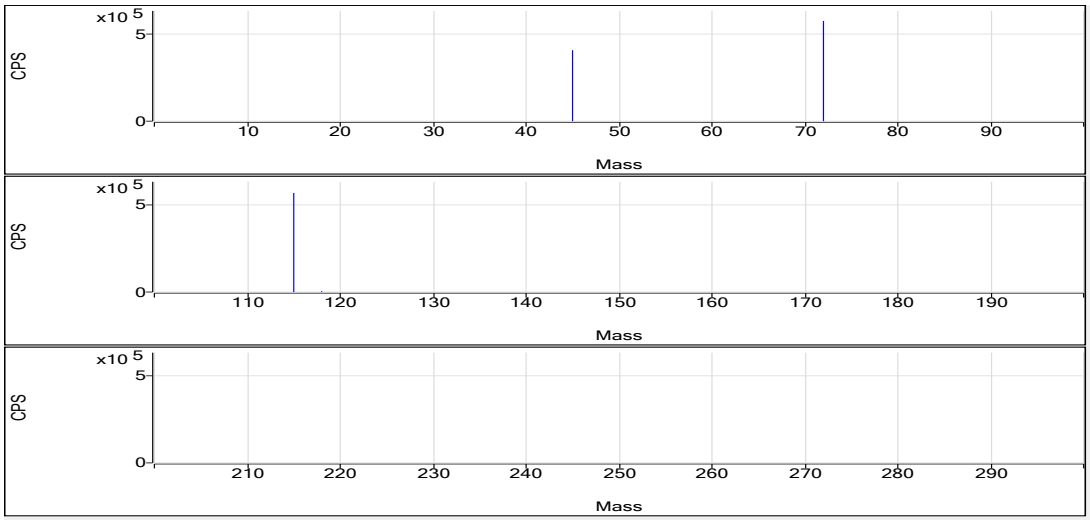
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1155507.33	1.2	101.6	Mix	0.1000	3
No Gas	Ge	72	1013550.32	0.1	100.4	Pulse	0.1000	3
H2	Sc	45	408279.21	1.7	98.1	Pulse	0.1000	3
H2	Ge	72	576639.27	0.9	98.7	Pulse	0.1000	3
H2	In	115	570110.64	0.2	101.3	Pulse	0.1000	3
He	Sc	45	84676.69	1.4	97.3	Pulse	0.1000	3
He	Ge	72	264525.93	0.3	101.2	Pulse	0.1000	3
He	In	115	131373.07	1.5	96.5	Pulse	0.1000	3
He	Tb	159	392509.78	0.5	98.1	Pulse	0.1000	3
He	Bi	209	249655.46	0.4	96.2	Pulse	0.1000	3

No Gas

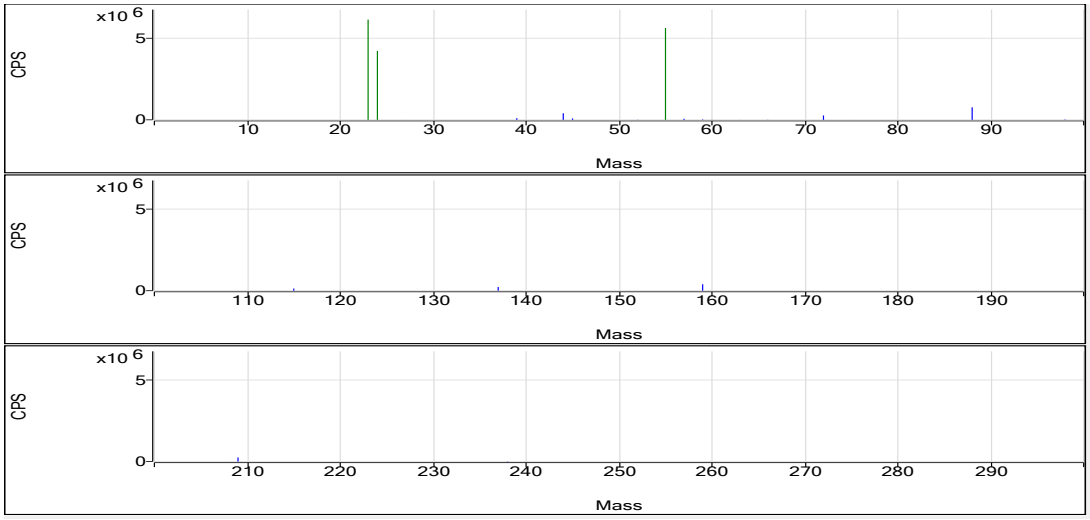


H2



Quantitation Report

He



Quantitation Report

Data File Name	267SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 9:26:05 PM
Sample Name	410-10696-q-1-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

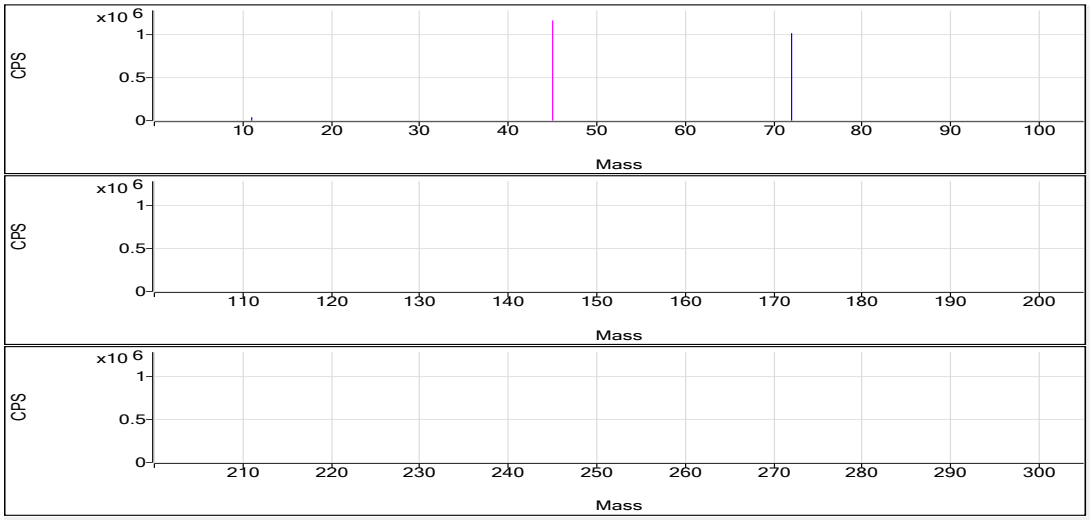
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.022	ppb	56.1	22.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	80.416	ppb	0.7	39687.87	0.0339	Pulse	0.5000	3
Se	78	115	H2	0.289	ppb	13.7	39.55	0.0001	Pulse	1.5000	3
Na	23	72	He	4855.195	ppb	1.8	1289554.07	4.8378	Analog	0.1000	3
Mg	24	45	He	13992.859	ppb	2.2	1906736.01	22.4841	Analog	0.1000	3
Al	27	45	He	14.895	ppb	37.9	906.82	0.0107	Pulse	0.1000	3
K	39	45	He	1527.073	ppb	1.8	222561.93	2.6241	Pulse	0.1000	3
Ca	44	45	He	30406.049	ppb	0.8	207274.25	2.4439	Pulse	0.1000	3
Ti	47	45	He	0.684	ppb	76.2	33.33	0.0004	Pulse	0.1000	3
V	51	45	He	-0.430	ppb	N/A	823.41	0.0097	Pulse	0.1000	3
Cr	52	45	He	2.890	ppb	2.0	8279.30	0.0976	Pulse	0.1000	3
Mn	55	45	He	801.280	ppb	0.8	881984.44	10.3995	Pulse	0.1000	3
Fe	57	45	He	51679.696	ppb	1.7	2274277.42	26.8172	Analog	0.1000	3
Co	59	115	He	10.367	ppb	1.4	37031.62	0.2800	Pulse	0.1000	3
Ni	60	115	He	2.630	ppb	4.9	3443.88	0.0260	Pulse	0.1000	3
Cu	63	115	He	0.132	ppb	28.1	1813.52	0.0137	Pulse	0.1000	3
Zn	66	115	He	0.606	ppb	30.3	2040.22	0.0154	Pulse	0.1000	3
As	75	115	He	35.332	ppb	0.9	9934.83	0.0751	Pulse	0.5000	3
Sr	88	115	He	294.777	ppb	0.3	448127.07	3.3887	Pulse	0.1000	3
Mo	98	115	He	1.559	ppb	3.0	3620.60	0.0274	Pulse	0.1000	3
Ag	107	115	He	0.387	ppb	8.4	1770.18	0.0134	Pulse	0.1000	3
Cd	111	115	He	0.008	ppb	24.6	7.33	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.089	ppb	240.5	1837.02	0.0139	Pulse	0.1000	3
Sb	121	72	He	0.050	ppb	26.3	136.67	0.0005	Pulse	0.1000	3
Ba	137	115	He	347.080	ppb	1.8	219768.56	1.6620	Pulse	0.1000	3
Tl	205	209	He	0.004	ppb	18.9	36.67	0.0001	Pulse	0.1000	3
Pb	208	209	He	0.015	ppb	12.7	466.69	0.0018	Pulse	0.1000	3
U	238	209	He	0.006	ppb	7.3	86.67	0.0003	Pulse	0.1000	3

Quantitation Report

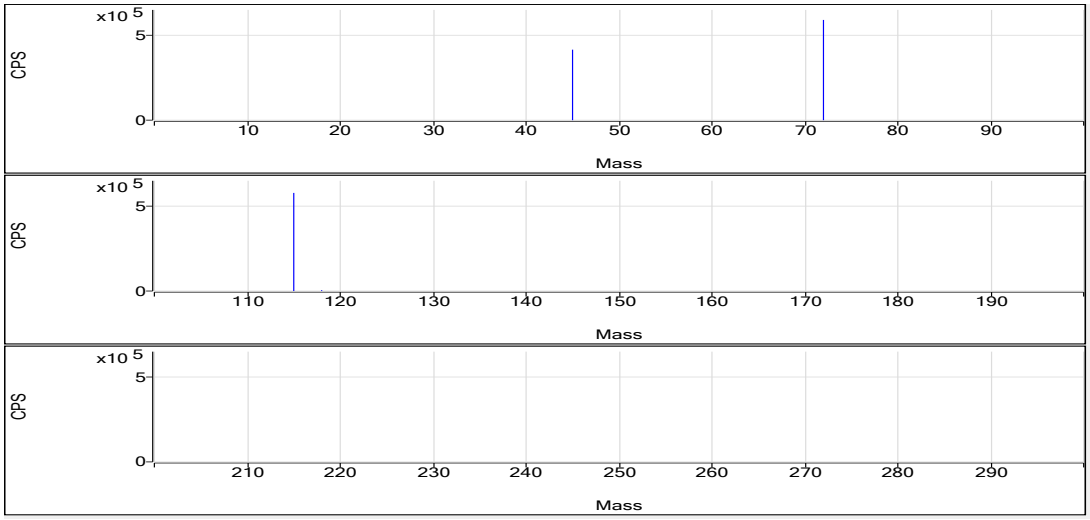
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1171111.26	2.2	103.0	Mix	0.1000	3
No Gas	Ge	72	1021967.92	0.1	101.3	Pulse	0.1000	3
H2	Sc	45	412693.81	0.7	99.1	Pulse	0.1000	3
H2	Ge	72	586783.61	0.2	100.4	Pulse	0.1000	3
H2	In	115	574520.10	0.3	102.1	Pulse	0.1000	3
He	Sc	45	84814.08	0.8	97.5	Pulse	0.1000	3
He	Ge	72	266555.48	0.1	101.9	Pulse	0.1000	3
He	In	115	132241.81	0.7	97.1	Pulse	0.1000	3
He	Tb	159	389209.25	0.9	97.3	Pulse	0.1000	3
He	Bi	209	253851.46	1.6	97.9	Pulse	0.1000	3

No Gas

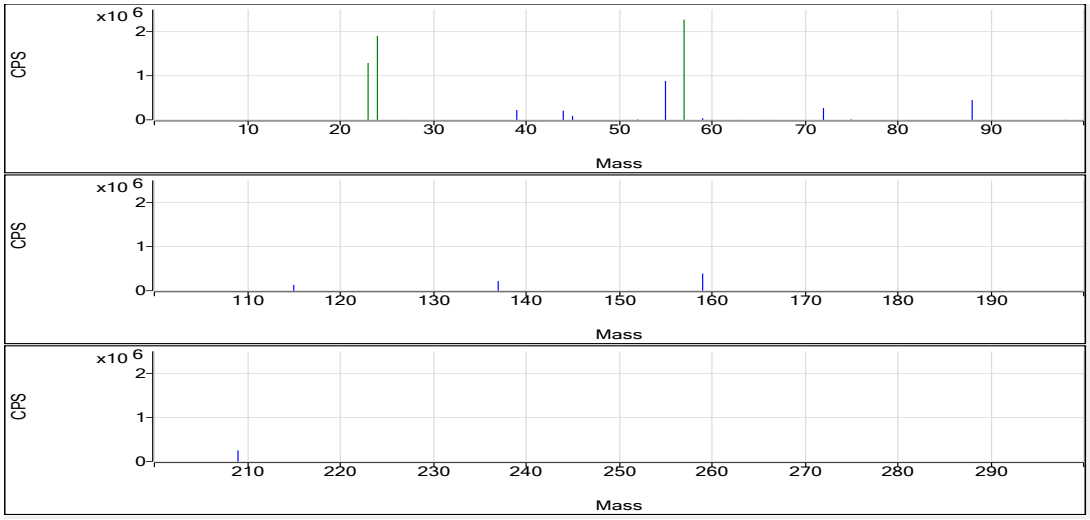


H2



Quantitation Report

He



Quantitation Report

Data File Name	268SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 9:28:21 PM
Sample Name	410-10720-f-3-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

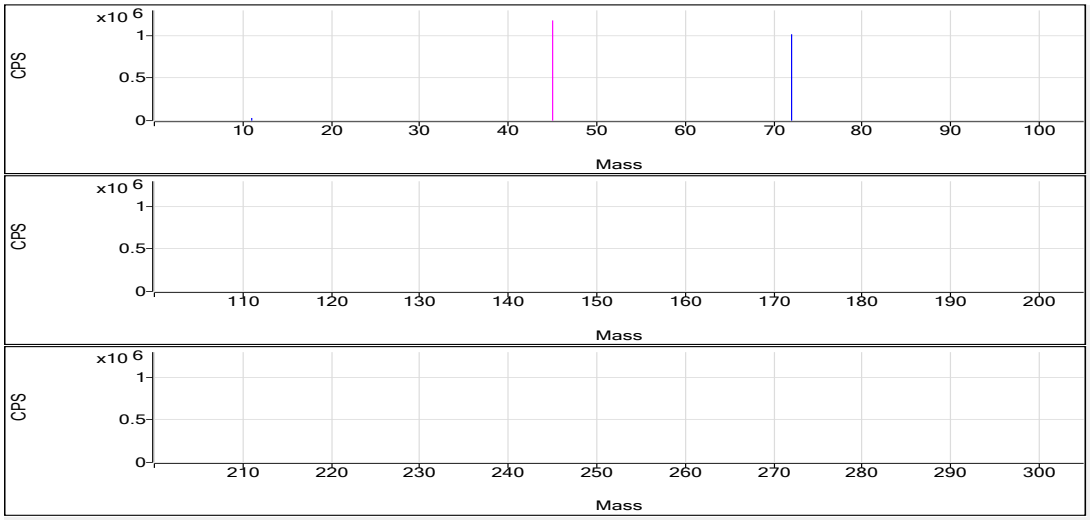
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.014	ppb	15.1	16.00	0.0000	Pulse	0.5000	3
B	11	45	No Gas	62.616	ppb	2.3	31237.90	0.0265	Pulse	0.5000	3
Se	78	115	H2	0.115	ppb	13.8	16.22	0.0000	Pulse	1.5000	3
Na	23	72	He	16442.745	ppb	0.8	4316325.35	16.2233	Analog	0.1000	3
Mg	24	45	He	34975.790	ppb	1.4	4740279.41	56.1979	Analog	0.1000	3
Al	27	45	He	5.361	ppb	27.7	396.69	0.0047	Pulse	0.1000	3
K	39	45	He	5969.699	ppb	0.6	769374.65	9.1208	Pulse	0.1000	3
Ca	44	45	He	209451.740	ppb	0.1	1419169.51	16.8240	Analog	0.1000	3
Ti	47	45	He	0.069	ppb	173.2	3.33	0.0000	Pulse	0.1000	3
V	51	45	He	0.967	ppb	14.3	3137.11	0.0372	Pulse	0.1000	3
Cr	52	45	He	2.954	ppb	2.8	8369.37	0.0992	Pulse	0.1000	3
Mn	55	45	He	5940.582	ppb	0.6	6502389.07	77.0850	Analog	0.1000	3
Fe	57	45	He	71.061	ppb	5.5	3323.83	0.0394	Pulse	0.1000	3
Co	59	115	He	3.377	ppb	4.8	12052.05	0.0914	Pulse	0.1000	3
Ni	60	115	He	5.206	ppb	2.0	5911.42	0.0448	Pulse	0.1000	3
Cu	63	115	He	0.331	ppb	5.7	2353.62	0.0178	Pulse	0.1000	3
Zn	66	115	He	5.408	ppb	13.4	3910.68	0.0297	Pulse	0.1000	3
As	75	115	He	0.246	ppb	48.7	115.33	0.0009	Pulse	0.5000	3
Sr	88	115	He	1512.648	ppb	0.8	2293000.44	17.3885	Analog	0.1000	3
Mo	98	115	He	0.847	ppb	1.2	2023.55	0.0153	Pulse	0.1000	3
Ag	107	115	He	0.056	ppb	39.9	293.35	0.0022	Pulse	0.1000	3
Cd	111	115	He	0.027	ppb	38.6	19.33	0.0001	Pulse	0.5000	3
Sn	120	115	He	-0.023	ppb	N/A	1613.49	0.0122	Pulse	0.1000	3
Sb	121	72	He	0.056	ppb	5.2	146.68	0.0006	Pulse	0.1000	3
Ba	137	115	He	38.147	ppb	2.5	24095.25	0.1827	Pulse	0.1000	3
Tl	205	209	He	0.016	ppb	36.4	133.34	0.0005	Pulse	0.1000	3
Pb	208	209	He	-0.007	ppb	N/A	210.01	0.0008	Pulse	0.1000	3
U	238	209	He	0.200	ppb	9.3	2100.26	0.0085	Pulse	0.1000	3

Quantitation Report

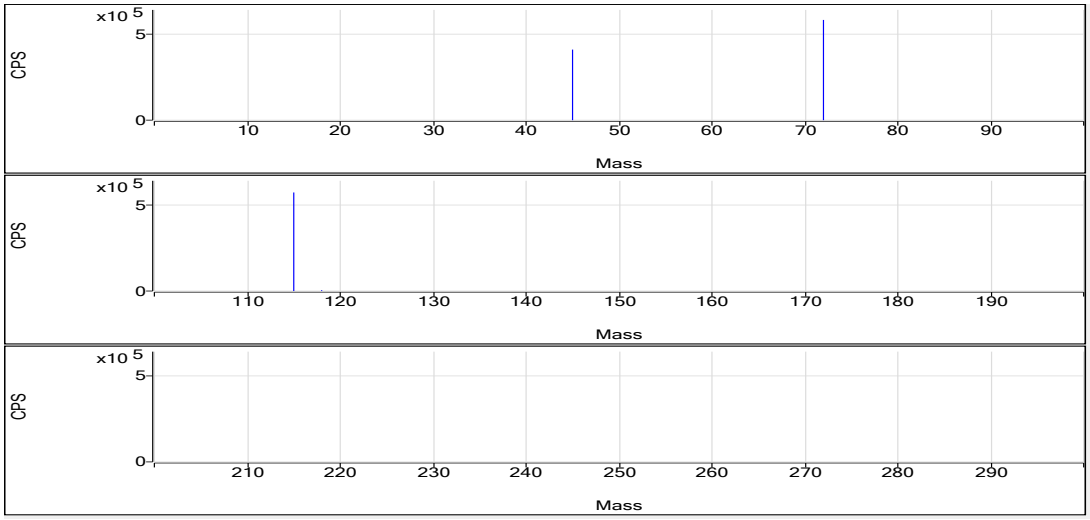
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1179607.61	2.0	103.8	Mix	0.1000	3
No Gas	Ge	72	1016862.30	0.5	100.8	Pulse	0.1000	3
H2	Sc	45	407959.04	0.9	98.0	Pulse	0.1000	3
H2	Ge	72	579407.04	0.7	99.2	Pulse	0.1000	3
H2	In	115	569764.02	0.7	101.2	Pulse	0.1000	3
He	Sc	45	84354.12	0.5	97.0	Pulse	0.1000	3
He	Ge	72	266049.19	0.6	101.7	Pulse	0.1000	3
He	In	115	131871.08	0.4	96.8	Pulse	0.1000	3
He	Tb	159	386432.22	1.0	96.6	Pulse	0.1000	3
He	Bi	209	247726.22	0.6	95.5	Pulse	0.1000	3

No Gas

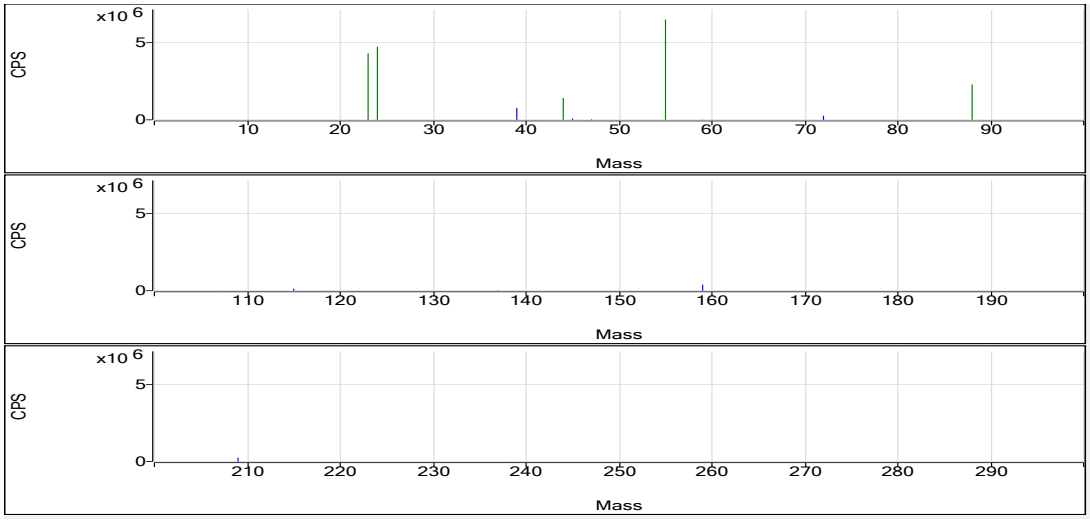


H2



Quantitation Report

He



Quantitation Report

Data File Name	269SMPL.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 9:30:37 PM
Sample Name	410-10720-f-1-a
Sample Type	Sample
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

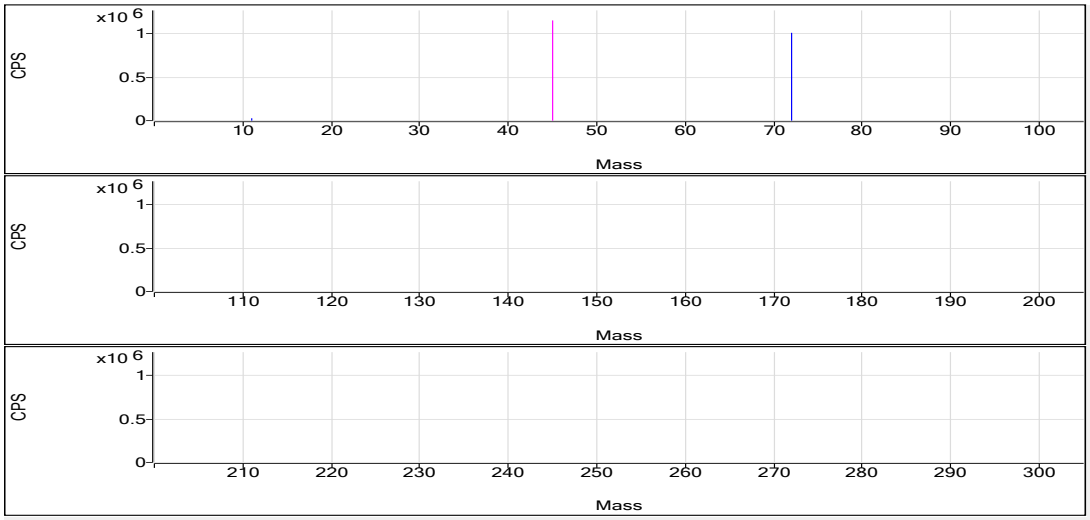
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.008	ppb	137.4	10.67	0.0000	Pulse	0.5000	3
B	11	45	No Gas	55.808	ppb	0.6	27353.69	0.0237	Pulse	0.5000	3
Se	78	115	H2	0.065	ppb	38.0	9.55	0.0000	Pulse	1.5000	3
Na	23	72	He	16453.597	ppb	0.7	4315553.48	16.2340	Analog	0.1000	3
Mg	24	45	He	36529.469	ppb	0.8	4901191.38	58.6942	Analog	0.1000	3
Al	27	45	He	8.699	ppb	26.2	566.70	0.0068	Pulse	0.1000	3
K	39	45	He	5975.750	ppb	0.6	762360.90	9.1296	Pulse	0.1000	3
Ca	44	45	He	216745.750	ppb	0.3	1453810.08	17.4098	Analog	0.1000	3
Ti	47	45	He	0.207	ppb	100.2	10.00	0.0001	Pulse	0.1000	3
V	51	45	He	1.131	ppb	5.4	3373.84	0.0404	Pulse	0.1000	3
Cr	52	45	He	3.090	ppb	3.9	8572.83	0.1026	Pulse	0.1000	3
Mn	55	45	He	9530.691	ppb	0.7	10326831.51	123.6688	Analog	0.1000	3
Fe	57	45	He	272.782	ppb	5.2	12028.80	0.1441	Pulse	0.1000	3
Co	59	115	He	6.187	ppb	3.3	22244.61	0.1672	Pulse	0.1000	3
Ni	60	115	He	5.520	ppb	6.1	6264.96	0.0471	Pulse	0.1000	3
Cu	63	115	He	0.336	ppb	11.6	2386.95	0.0179	Pulse	0.1000	3
Zn	66	115	He	7.417	ppb	4.1	4737.63	0.0356	Pulse	0.1000	3
As	75	115	He	0.328	ppb	23.4	139.33	0.0010	Pulse	0.5000	3
Sr	88	115	He	1526.555	ppb	1.4	2334108.20	17.5484	Analog	0.1000	3
Mo	98	115	He	0.872	ppb	3.7	2096.91	0.0158	Pulse	0.1000	3
Ag	107	115	He	0.046	ppb	30.7	250.01	0.0019	Pulse	0.1000	3
Cd	111	115	He	0.040	ppb	8.7	28.00	0.0002	Pulse	0.5000	3
Sn	120	115	He	0.004	ppb	557.4	1680.16	0.0126	Pulse	0.1000	3
Sb	121	72	He	0.044	ppb	31.4	123.34	0.0005	Pulse	0.1000	3
Ba	137	115	He	44.470	ppb	1.2	28330.12	0.2130	Pulse	0.1000	3
Tl	205	209	He	0.011	ppb	36.1	96.67	0.0004	Pulse	0.1000	3
Pb	208	209	He	-0.007	ppb	N/A	220.00	0.0009	Pulse	0.1000	3
U	238	209	He	0.224	ppb	4.3	2383.65	0.0095	Pulse	0.1000	3

Quantitation Report

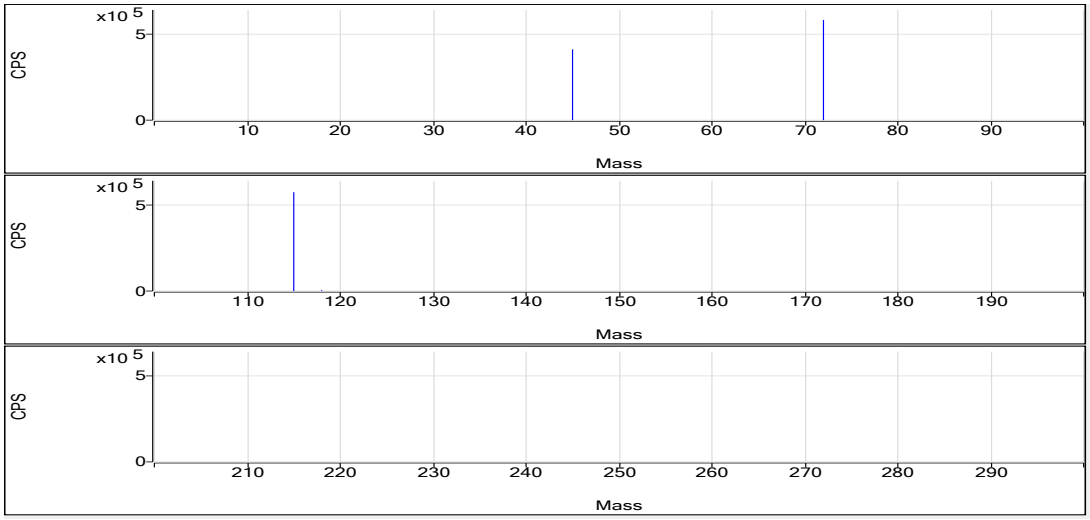
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1156278.97	1.7	101.7	Mix	0.1000	3
No Gas	Ge	72	1013313.50	0.3	100.4	Pulse	0.1000	3
H2	Sc	45	410020.15	0.8	98.5	Pulse	0.1000	3
H2	Ge	72	580363.04	0.4	99.3	Pulse	0.1000	3
H2	In	115	572233.87	0.1	101.7	Pulse	0.1000	3
He	Sc	45	83506.15	0.6	96.0	Pulse	0.1000	3
He	Ge	72	265839.97	0.6	101.7	Pulse	0.1000	3
He	In	115	133026.04	1.3	97.7	Pulse	0.1000	3
He	Tb	159	387713.65	0.8	96.9	Pulse	0.1000	3
He	Bi	209	251014.59	1.1	96.8	Pulse	0.1000	3

No Gas

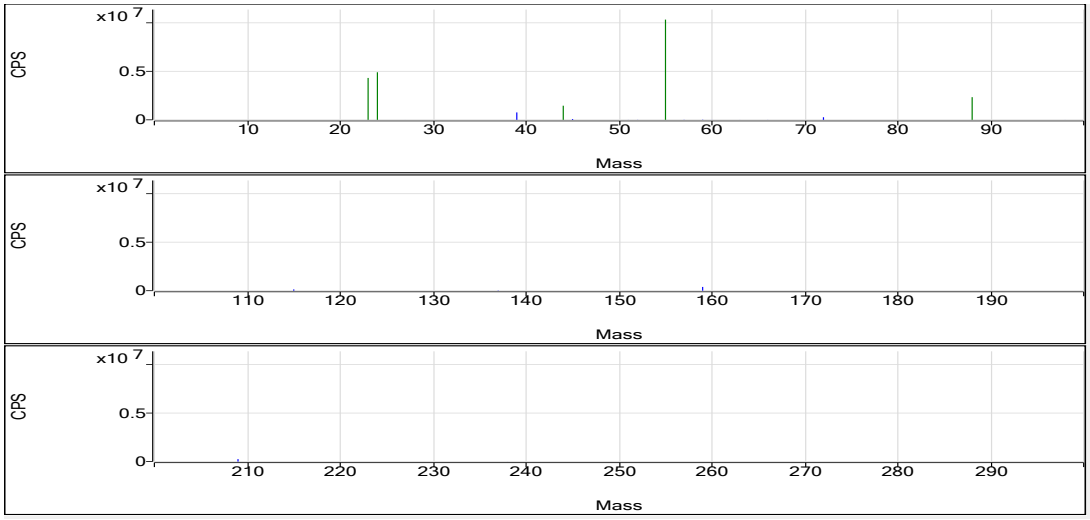


H2



Quantitation Report

He



Quantitation Report

Data File Name	270_CCV.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 9:32:50 PM
Sample Name	CCV 303766
Sample Type	CCV
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

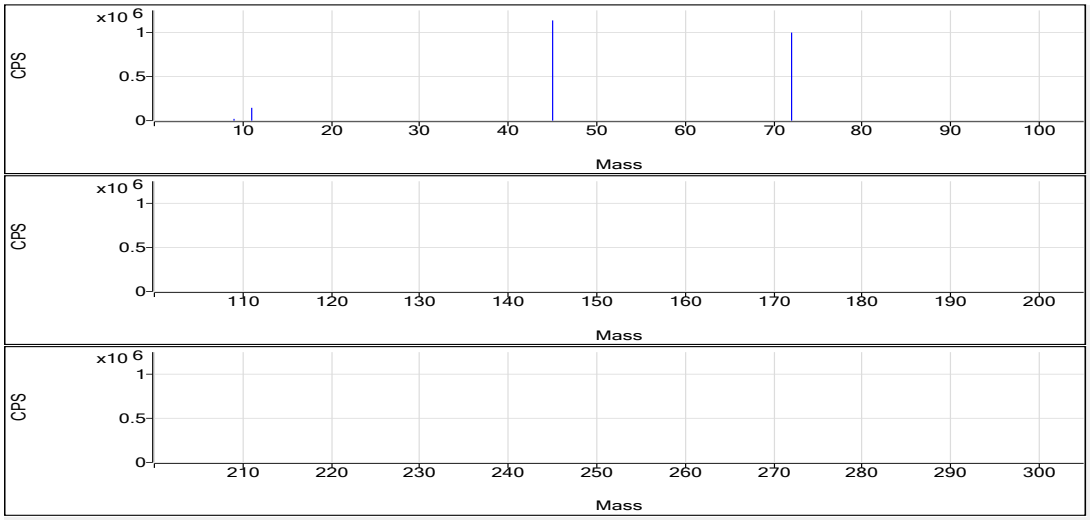
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	26.729	ppb	0.9	20123.54	0.0177	Pulse	0.5000	3
B	11	45	No Gas	306.814	ppb	0.6	145347.55	0.1281	Pulse	0.5000	3
Se	78	115	H2	30.580	ppb	1.9	4108.15	0.0071	Pulse	1.5000	3
Na	23	72	He	4934.304	ppb	0.6	1291360.87	4.9155	Analog	0.1000	3
Mg	24	45	He	4911.797	ppb	0.5	659518.79	7.8933	Pulse	0.1000	3
Al	27	45	He	4975.141	ppb	0.6	260635.49	3.1195	Pulse	0.1000	3
K	39	45	He	5100.776	ppb	0.4	655890.77	7.8501	Pulse	0.1000	3
Ca	44	45	He	5133.530	ppb	1.2	34601.78	0.4141	Pulse	0.1000	3
Ti	47	45	He	311.581	ppb	2.1	15004.86	0.1796	Pulse	0.1000	3
V	51	45	He	309.351	ppb	0.2	509689.84	6.1002	Pulse	0.1000	3
Cr	52	45	He	311.399	ppb	0.5	655871.23	7.8499	Pulse	0.1000	3
Mn	55	45	He	316.189	ppb	1.6	342995.70	4.1052	Pulse	0.1000	3
Fe	57	45	He	5222.981	ppb	0.2	226641.67	2.7125	Pulse	0.1000	3
Co	59	115	He	304.299	ppb	1.0	1106038.73	8.2135	Pulse	0.1000	3
Ni	60	115	He	308.183	ppb	1.1	303602.05	2.2546	Pulse	0.1000	3
Cu	63	115	He	301.856	ppb	0.8	847119.36	6.2907	Pulse	0.1000	3
Zn	66	115	He	312.807	ppb	1.2	126638.79	0.9404	Pulse	0.1000	3
As	75	115	He	321.549	ppb	1.3	91685.88	0.6809	Pulse	0.5000	3
Sr	88	115	He	31.591	ppb	0.7	48925.30	0.3633	Pulse	0.1000	3
Mo	98	115	He	32.197	ppb	2.5	73411.71	0.5451	Pulse	0.1000	3
Ag	107	115	He	30.175	ppb	1.1	137282.90	1.0194	Pulse	0.1000	3
Cd	111	115	He	31.370	ppb	1.2	19937.57	0.1481	Pulse	0.5000	3
Sn	120	115	He	31.855	ppb	0.9	65328.03	0.4851	Pulse	0.1000	3
Sb	121	72	He	31.443	ppb	1.2	58992.95	0.2246	Pulse	0.1000	3
Ba	137	115	He	313.276	ppb	1.5	202007.16	1.5001	Pulse	0.1000	3
Tl	205	209	He	30.827	ppb	1.4	248880.25	0.9799	Pulse	0.1000	3
Pb	208	209	He	29.949	ppb	0.9	337342.81	1.3281	Pulse	0.1000	3
U	238	209	He	50.112	ppb	0.8	534504.48	2.1044	Pulse	0.1000	3

Quantitation Report

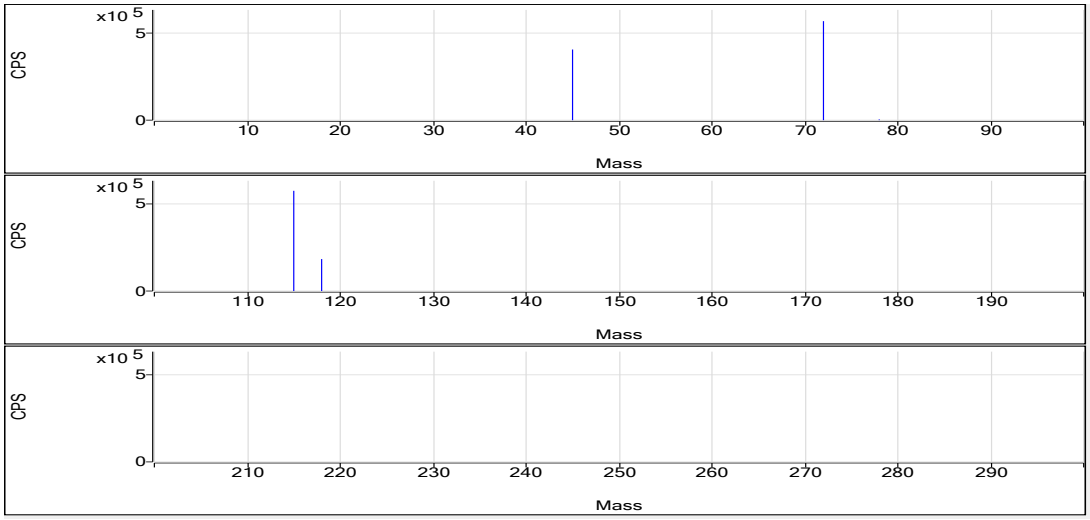
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1135056.44	0.6	99.8	Pulse	0.1000	3
No Gas	Ge	72	997201.60	0.3	98.8	Pulse	0.1000	3
H2	Sc	45	406522.42	1.0	97.7	Pulse	0.1000	3
H2	Ge	72	569711.05	1.0	97.5	Pulse	0.1000	3
H2	In	115	576644.95	0.5	102.5	Pulse	0.1000	3
He	Sc	45	83552.85	0.4	96.1	Pulse	0.1000	3
He	Ge	72	262717.53	0.7	100.5	Pulse	0.1000	3
He	In	115	134664.37	0.4	98.9	Pulse	0.1000	3
He	Tb	159	390967.49	0.6	97.8	Pulse	0.1000	3
He	Bi	209	254009.05	0.8	97.9	Pulse	0.1000	3

No Gas

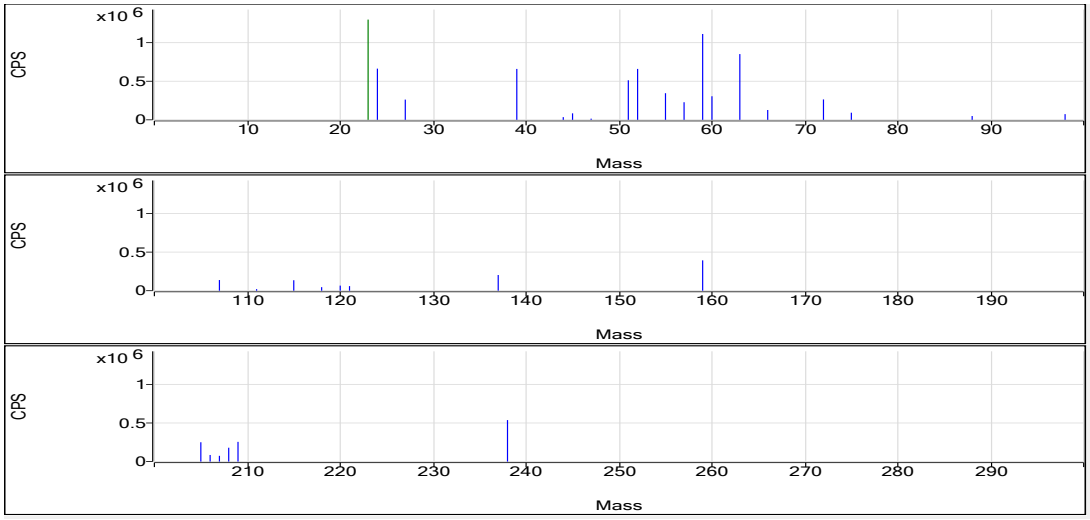


H2



Quantitation Report

He



Quantitation Report

Data File Name	271_CCB.d
Acq/Data Batch	D:\Agilent\ICPMH\1\DATA\20H19A00.b
Acq Time	8/19/2020 9:35:06 PM
Sample Name	CCB 305187
Sample Type	CCB
Comment	---
Prep Dilution	1.0000
Auto Dilution	1.0000
Total Dilution	1.0000
Operator Name	US19_USR_INS75560
Acq Mode	Spectrum
Cal Title	---
Cal Type	External Calibration
Last Calib	8/19/2020 1:36:55 PM
Bkg File	---
Bkg Mode	Count Subtraction except for ISTD
FQ BlankFile	---
VIS Fit	Point to Point

FullQuant Table

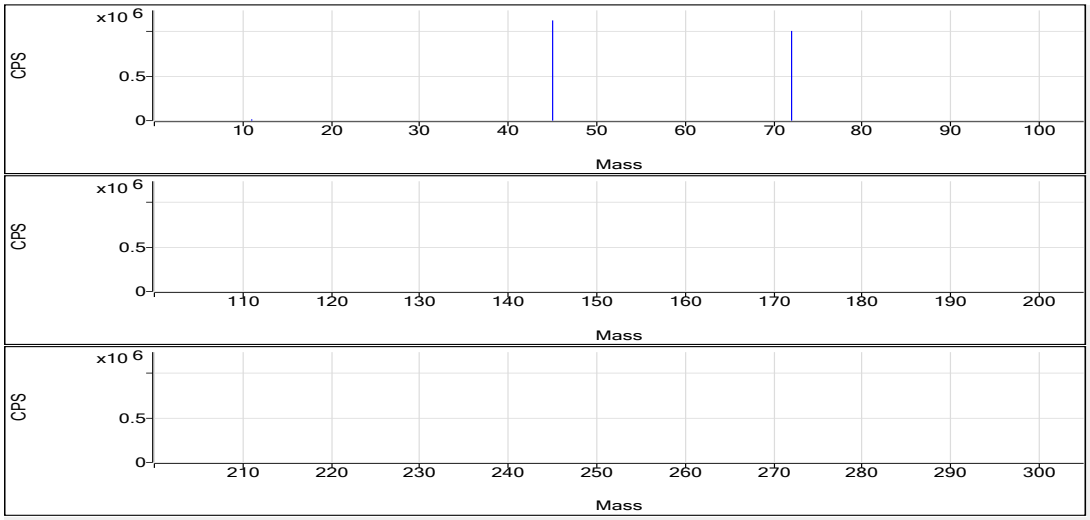
Element	Mass	ISTD	Tune Mode	Conc.	Units	RSD(%)	CPS	Ratio	Det.	Time(sec)	Rep
Be	9	45	No Gas	0.033	ppb	4.2	29.33	0.0000	Pulse	0.5000	3
B	11	45	No Gas	30.113	ppb	2.5	14615.88	0.0130	Pulse	0.5000	3
Se	78	115	H2	0.126	ppb	8.9	17.56	0.0000	Pulse	1.5000	3
Na	23	72	He	56.734	ppb	7.7	32125.90	0.1230	Pulse	0.1000	3
Mg	24	45	He	4.597	ppb	25.6	726.72	0.0088	Pulse	0.1000	3
Al	27	45	He	0.758	ppb	133.8	150.01	0.0018	Pulse	0.1000	3
K	39	45	He	18.509	ppb	81.1	34545.04	0.4181	Pulse	0.1000	3
Ca	44	45	He	18.317	ppb	45.7	273.35	0.0033	Pulse	0.1000	3
Ti	47	45	He	0.211	ppb	100.2	10.00	0.0001	Pulse	0.1000	3
V	51	45	He	-0.467	ppb	N/A	743.39	0.0090	Pulse	0.1000	3
Cr	52	45	He	0.187	ppb	45.0	2453.62	0.0297	Pulse	0.1000	3
Mn	55	45	He	1.046	ppb	19.9	1320.11	0.0160	Pulse	0.1000	3
Fe	57	45	He	2.971	ppb	23.9	336.69	0.0041	Pulse	0.1000	3
Co	59	115	He	0.076	ppb	21.3	303.35	0.0023	Pulse	0.1000	3
Ni	60	115	He	0.049	ppb	63.3	953.40	0.0072	Pulse	0.1000	3
Cu	63	115	He	0.150	ppb	28.7	1860.20	0.0141	Pulse	0.1000	3
Zn	66	115	He	0.169	ppb	144.1	1866.86	0.0141	Pulse	0.1000	3
As	75	115	He	0.164	ppb	17.0	92.67	0.0007	Pulse	0.5000	3
Sr	88	115	He	0.218	ppb	17.6	353.35	0.0027	Pulse	0.1000	3
Mo	98	115	He	0.381	ppb	4.2	986.74	0.0075	Pulse	0.1000	3
Ag	107	115	He	0.047	ppb	28.5	250.01	0.0019	Pulse	0.1000	3
Cd	111	115	He	0.010	ppb	162.7	8.67	0.0001	Pulse	0.5000	3
Sn	120	115	He	0.005	ppb	305.7	1670.17	0.0126	Pulse	0.1000	3
Sb	121	72	He	0.038	ppb	37.6	110.01	0.0004	Pulse	0.1000	3
Ba	137	115	He	0.111	ppb	57.7	76.67	0.0006	Pulse	0.1000	3
Tl	205	209	He	0.042	ppb	21.4	343.35	0.0014	Pulse	0.1000	3
Pb	208	209	He	-0.004	ppb	N/A	253.34	0.0010	Pulse	0.1000	3
U	238	209	He	0.068	ppb	8.7	736.72	0.0029	Pulse	0.1000	3

Quantitation Report

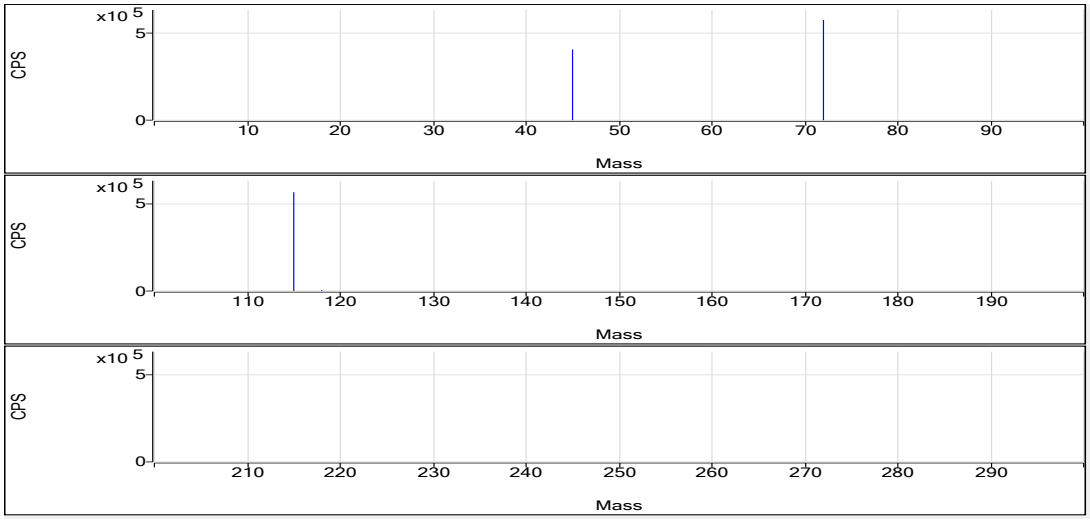
ISTD Table:

Tune Mode	Element	Mass	CPS	RSD(%)	ISTD Recovery %	Det.	Time(seq)	Rep
No Gas	Sc	45	1126946.94	0.6	99.1	Pulse	0.1000	3
No Gas	Ge	72	1008785.38	0.8	100.0	Pulse	0.1000	3
H2	Sc	45	407147.79	0.4	97.8	Pulse	0.1000	3
H2	Ge	72	577404.48	0.6	98.8	Pulse	0.1000	3
H2	In	115	569214.42	0.3	101.1	Pulse	0.1000	3
He	Sc	45	82607.56	0.5	95.0	Pulse	0.1000	3
He	Ge	72	261219.92	0.7	99.9	Pulse	0.1000	3
He	In	115	132123.17	0.5	97.0	Pulse	0.1000	3
He	Tb	159	385713.04	0.5	96.4	Pulse	0.1000	3
He	Bi	209	251638.53	0.9	97.0	Pulse	0.1000	3

No Gas

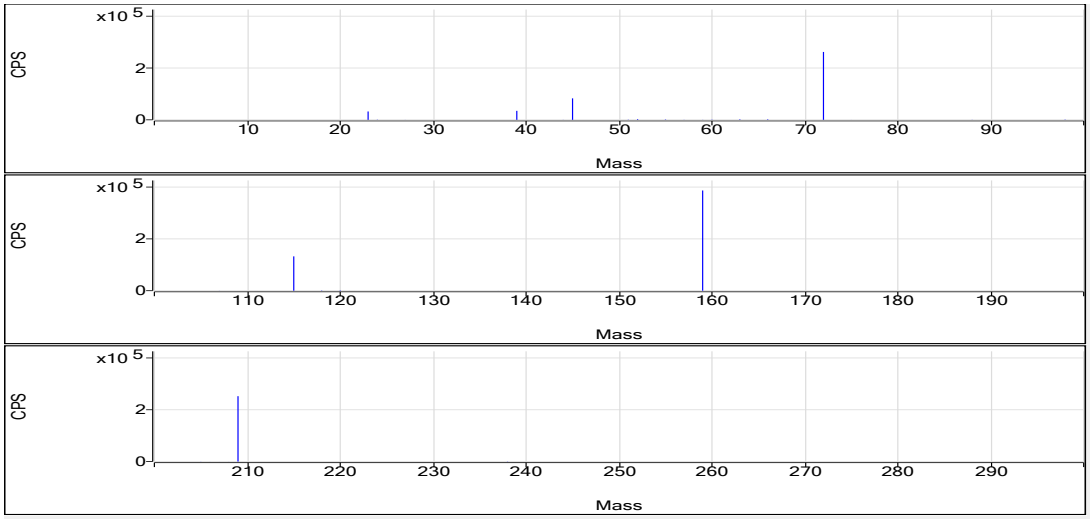


H2



Quantitation Report

He



Type	Sample ID	Extended I	Mean	SD	RSD	Stat Units	Wt.	Vol.	Type
S	blank		47	0	0	Intensity	1	1	Std
S	0.2 std		915	0	0	Intensity	1	1	Std
S	0.5 std		2508	0	0	Intensity	1	1	Std
S	1.0 std		5178	0	0	Intensity	1	1	Std
S	2.5 std		12692	0	0	Intensity	1	1	Std
S	5.0 std		27271	0	0	Intensity	1	1	Std
C	ICV		99.2% 2.47	0	0	Concen	1	1	CK STND
C	ICB		0.0062	0	0	Concen	1	1	CK STND
C	CRA		129.7% 0.2	0	0	Concen	1	1	CK STND
C	CCV		97.6% 0.97	0	0	Concen	1	1	CK STND
C	CCB		0.0433	0	0	Concen	1	1	CK STND
U	MB 410-33490/1-A		0.0714	0	0	Concen	1	1	SMPL
U	LCS 410-33490/2-A		1.0019	0	0	Concen	1	1	SMPL
U	410-10343-A-1-H		0.049	0	0	Concen	1	1	SMPL
U	410-10343-A-1-I DU		0.0674	0	0	Concen	1	1	SMPL
U	410-10343-A-1-J MS		1.8352	0	0	Concen	1	1	SMPL
U	410-10343-A-1-K MSI		1.7034	0	0	Concen	1	1	SMPL
U	630-5585-B-1-J		0.0255	0	0	Concen	1	1	SMPL
U	630-5585-B-1-K MS		1.6824	0	0	Concen	1	1	SMPL
U	410-10308-G-1-E		0.0202	0	0	Concen	1	1	SMPL
U	410-10308-E-2-E		0.0591	0	0	Concen	1	1	SMPL
C	CCV		97.1% 0.97	0	0	Concen	1	1	CK STND
C	CCB		0.0424	0	0	Concen	1	1	CK STND
U	LB 410-32328/1-E		0.0567	0	0	Concen	1	1	SMPL
U	LB 410-32758/1-E		0.0722	0	0	Concen	1	1	SMPL
U	410-10529-C-2-E		0.0554	0	0	Concen	1	1	SMPL
U	410-10529-C-2-F MS		1.8052	0	0	Concen	1	1	SMPL
U	410-10259-C-1-C		0.0236	0	0	Concen	1	1	SMPL
U	410-10308-E-3-E		0.0808	0	0	Concen	1	1	SMPL
U	MB 410-33537/1-A		0.0556	0	0	Concen	1	1	SMPL
U	LCS 410-33537/2-A		0.9683	0	0	Concen	1	1	SMPL
U	410-10795-P-1-A		0.0676	0	0	Concen	1	1	SMPL
U	410-10795-M-1-B DU		0.0915	0	0	Concen	1	1	SMPL
C	CCV		98.1% 0.98	0	0	Concen	1	1	CK STND
C	CCB		0.0409	0	0	Concen	1	1	CK STND
U	410-10795-O-1-C MS		1.0784	0	0	Concen	1	1	SMPL
U	410-10795-P-1-B MSI		1.1001	0	0	Concen	1	1	SMPL
U	410-10795-P-9-A		0.0663	0	0	Concen	1	1	SMPL
U	410-10713-E-4-A		0.2808	0	0	Concen	1	1	SMPL
U	410-10640-L-7-A		0.0505	0	0	Concen	1	1	SMPL
U	410-10795-P-2-A		0.0685	0	0	Concen	1	1	SMPL
U	410-10795-P-3-A		0.076	0	0	Concen	1	1	SMPL
U	410-10795-P-4-A		0.1608	0	0	Concen	1	1	SMPL
U	410-10795-P-5-A		0.1183	0	0	Concen	1	1	SMPL
U	410-10795-P-7-A		0.0656	0	0	Concen	1	1	SMPL
C	CCV		97.1% 0.97	0	0	Concen	1	1	CK STND

C	CCB	0.0382	0	0	Concen	1	1	CK STND
U	410-10795-P-8-A	0.0821	0	0	Concen	1	1	SMPL
U	MB 410-33595/1-A	0.0569	0	0	Concen	1	1	SMPL
U	LCS 410-33595/2-A	0.9786	0	0	Concen	1	1	SMPL
U	410-10659-D-1-B	0.1042	0	0	Concen	1	1	SMPL
U	410-10659-D-1-C DU	0.1317	0	0	Concen	1	1	SMPL
U	410-10659-D-1-D MS	1.1565	0	0	Concen	1	1	SMPL
U	410-10659-F-1-D MSI	1.1234	0	0	Concen	1	1	SMPL
U	410-10659-S-2-A	0.1012	0	0	Concen	1	1	SMPL
U	410-10520-X-1-A	0.1849	0	0	Concen	1	1	SMPL
U	410-10588-C-2-A	0.0477	0	0	Concen	1	1	SMPL
C	CCV	98.0% 0.97	0	0	Concen	1	1	CK STND
C	CCB	0.0371	0	0	Concen	1	1	CK STND
U	410-10696-P-1-A	0.0714	0	0	Concen	1	1	SMPL
U	410-10696-R-3-A	0.0775	0	0	Concen	1	1	SMPL
U	410-10696-R-6-A	0.0957	0	0	Concen	1	1	SMPL
U	410-10703-R-2-A	0.1029	0	0	Concen	1	1	SMPL
U	410-10706-P-1-A	0.0873	0	0	Concen	1	1	SMPL
U	410-10706-R-4-A	0.0854	0	0	Concen	1	1	SMPL
U	410-10706-P-5-A	0.0898	0	0	Concen	1	1	SMPL
U	410-10711-P-1-A	0.0742	0	0	Concen	1	1	SMPL
U	410-10711-P-2-A	0.0714	0	0	Concen	1	1	SMPL
U	410-10711-P-7-A	0.0738	0	0	Concen	1	1	SMPL
C	CCV	94.9% 0.94	0	0	Concen	1	1	CK STND
C	CCB	0.0411	0	0	Concen	1	1	CK STND
U	410-10649-N-5-A	0.0885	0	0	Concen	1	1	SMPL
U	410-10649-N-3-A	0.1104	0	0	Concen	1	1	SMPL
U	410-10649-P-4-A	0.0865	0	0	Concen	1	1	SMPL
U	410-10649-N-5-B	0.0641	0	0	Concen	1	1	SMPL
U	MB 410-33758/1-A	0.0645	0	0	Concen	1	1	SMPL
U	LCS 410-33758/2-A	0.945	0	0	Concen	1	1	SMPL
U	410-10153-A-1-O	0.0538	0	0	Concen	1	1	SMPL
U	410-10153-A-1-P DU	0.0779	0	0	Concen	1	1	SMPL
U	410-10153-A-1-Q MS	0.99	0	0	Concen	1	1	SMPL
U	410-10153-A-1-R MSI	0.9396	0	0	Concen	1	1	SMPL
C	CCV	93.2% 0.93	0	0	Concen	1	1	CK STND
C	CCB	0.0347	0	0	Concen	1	1	CK STND
U	410-10005-B-1-M	0.0486	0	0	Concen	1	1	SMPL
U	LB 410-31699/1-C	0.0481	0	0	Concen	1	1	SMPL
C	CRA	123.2% 0.2	0	0	Concen	1	1	CK STND
C	CCV	95.1% 0.95	0	0	Concen	1	1	CK STND
C	CCB	0.036	0	0	Concen	1	1	CK STND

Integration	Seq ID	A	B	C	Rho	Stnd Conc	Curve Type	Chapter	Method
54	8	-	-	-	-	0	-	245.1	245.1
54	9	-	-	-	-	0.2	-	245.1	245.1
54	10	-	-	-	-	0.5	-	245.1	245.1
54	15	-	-	-	-	1	-	245.1	245.1
54	16	-	-	-	-	2.5	-	245.1	245.1
54	17	-	-	-	-	5	-	245.1	245.1
54	18	-	-	-	-	-	Linear	245.1	245.1
54	19	-	-	-	-	-	Linear	245.1	245.1
54	26	-	-	-	-	-	Linear	245.1	245.1
54	27	-	-	-	-	-	Linear	245.1	245.1
54	28	-	-	-	-	-	Linear	245.1	245.1
54	29	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	30	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	31	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	32	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	33	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	34	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	35	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	36	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	37	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	38	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	39	-	-	-	-	-	Linear	245.1	245.1
54	40	-	-	-	-	-	Linear	245.1	245.1
54	41	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	42	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	43	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	44	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	45	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	46	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	47	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	48	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	49	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	50	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	51	-	-	-	-	-	Linear	245.1	245.1
54	52	-	-	-	-	-	Linear	245.1	245.1
54	53	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	54	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	55	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	56	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	57	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	58	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	59	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	60	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	61	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	62	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	63	-	-	-	-	-	Linear	245.1	245.1

54	64	-	-	-	-	-	Linear	245.1	245.1
54	65	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	66	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	67	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	68	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	69	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	70	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	71	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	72	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	73	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	74	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	75	-	-	-	-	-	Linear	245.1	245.1
54	76	-	-	-	-	-	Linear	245.1	245.1
54	77	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	78	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	79	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	80	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	81	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	82	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	83	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	84	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	85	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	86	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	87	-	-	-	-	-	Linear	245.1	245.1
54	88	-	-	-	-	-	Linear	245.1	245.1
54	89	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	90	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	92	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	93	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	94	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	95	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	96	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	97	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	98	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	99	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	100	-	-	-	-	-	Linear	245.1	245.1
54	101	-	-	-	-	-	Linear	245.1	245.1
54	102	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	103	0.00E+00	1.84E-04	4.41E-02	9.99E-01	-	Linear	245.1	245.1
54	104	-	-	-	-	-	Linear	245.1	245.1
54	105	-	-	-	-	-	Linear	245.1	245.1
54	106	-	-	-	-	-	Linear	245.1	245.1

Units	UI	US	DL	Blank Sub	Date	Stats Data	Element	PLOT CAL	
ppb		0	1 -	47	########	47	Hg	CAL:8	
ppb		0	1 -	915	########	915	Hg		
ppb		0	1 -	2508	########	2508	Hg		
ppb		0	1 -	5178	########	5178	Hg		
ppb		0	1 -	12692	########	12692	Hg		
ppb		0	1 -	27271	########	27271	Hg		
ppb		0	1 -	2.4797	########	2.4797	Hg	CAL:18	
ppb		0	1 -	0.0062	########	0.0062	Hg		
ppb		0	1 -	0.2593	########	0.2593	Hg		
ppb		0	1 -	0.9762	########	0.9762	Hg		
ppb		0	1 -	0.0433	########	0.0433	Hg		
ppb		0	1 0	0.0714	########	0.0714	Hg		
ppb		0	1 0	1.0019	########	1.0019	Hg		
ppb		0	1 0	0.049	########	0.049	Hg		
ppb		0	1 0	0.0674	########	0.0674	Hg		
ppb		0	1 0	1.8352	########	1.8352	Hg		
ppb		0	1 0	1.7034	########	1.7034	Hg		
ppb		0	1 0	0.0255	########	0.0255	Hg		
ppb		0	1 0	1.6824	########	1.6824	Hg		
ppb		0	1 0	0.0202	########	0.0202	Hg		
ppb		0	1 0	0.0591	########	0.0591	Hg		
ppb		0	1 -	0.9711	########	0.9711	Hg		
ppb		0	1 -	0.0424	########	0.0424	Hg		
ppb		0	1 0	0.0567	########	0.0567	Hg		
ppb		0	1 0	0.0722	########	0.0722	Hg		
ppb		0	1 0	0.0554	########	0.0554	Hg		
ppb		0	1 0	1.8052	########	1.8052	Hg		
ppb		0	1 0	0.0236	########	0.0236	Hg		
ppb		0	1 0	0.0808	########	0.0808	Hg		
ppb		0	1 0	0.0556	########	0.0556	Hg		
ppb		0	1 0	0.9683	########	0.9683	Hg		
ppb		0	1 0	0.0676	########	0.0676	Hg		
ppb		0	1 0	0.0915	########	0.0915	Hg		
ppb		0	1 -	0.9806	########	0.9806	Hg		
ppb		0	1 -	0.0409	########	0.0409	Hg		
ppb		0	1 0	1.0784	########	1.0784	Hg		
ppb		0	1 0	1.1001	########	1.1001	Hg		
ppb		0	1 0	0.0663	########	0.0663	Hg		
ppb		0	1 0	0.2808	########	0.2808	Hg		
ppb		0	1 0	0.0505	########	0.0505	Hg		
ppb		0	1 0	0.0685	########	0.0685	Hg		
ppb		0	1 0	0.076	########	0.076	Hg		
ppb		0	1 0	0.1608	########	0.1608	Hg		
ppb		0	1 0	0.1183	########	0.1183	Hg		
ppb		0	1 0	0.0656	########	0.0656	Hg		
ppb		0	1 -	0.9712	########	0.9712	Hg		

ppb	0	1	-		0.0382	########	0.0382	Hg
ppb	0	1		0	0.0821	########	0.0821	Hg
ppb	0	1		0	0.0569	########	0.0569	Hg
ppb	0	1		0	0.9786	########	0.9786	Hg
ppb	0	1		0	0.1042	########	0.1042	Hg
ppb	0	1		0	0.1317	########	0.1317	Hg
ppb	0	1		0	1.1565	########	1.1565	Hg
ppb	0	1		0	1.1234	########	1.1234	Hg
ppb	0	1		0	0.1012	########	0.1012	Hg
ppb	0	1		0	0.1849	########	0.1849	Hg
ppb	0	1		0	0.0477	########	0.0477	Hg
ppb	0	1	-		0.9799	########	0.9799	Hg
ppb	0	1	-		0.0371	########	0.0371	Hg
ppb	0	1		0	0.0714	########	0.0714	Hg
ppb	0	1		0	0.0775	########	0.0775	Hg
ppb	0	1		0	0.0957	########	0.0957	Hg
ppb	0	1		0	0.1029	########	0.1029	Hg
ppb	0	1		0	0.0873	########	0.0873	Hg
ppb	0	1		0	0.0854	########	0.0854	Hg
ppb	0	1		0	0.0898	########	0.0898	Hg
ppb	0	1		0	0.0742	########	0.0742	Hg
ppb	0	1		0	0.0714	########	0.0714	Hg
ppb	0	1		0	0.0738	########	0.0738	Hg
ppb	0	1	-		0.9486	########	0.9486	Hg
ppb	0	1	-		0.0411	########	0.0411	Hg
ppb	0	1		0	0.0885	########	0.0885	Hg
ppb	0	1		0	0.1104	########	0.1104	Hg
ppb	0	1		0	0.0865	########	0.0865	Hg
ppb	0	1		0	0.0641	########	0.0641	Hg
ppb	0	1		0	0.0645	########	0.0645	Hg
ppb	0	1		0	0.945	########	0.945	Hg
ppb	0	1		0	0.0538	########	0.0538	Hg
ppb	0	1		0	0.0779	########	0.0779	Hg
ppb	0	1		0	0.99	########	0.99	Hg
ppb	0	1		0	0.9396	########	0.9396	Hg
ppb	0	1	-		0.9317	########	0.9317	Hg
ppb	0	1	-		0.0347	########	0.0347	Hg
ppb	0	1		0	0.0486	########	0.0486	Hg
ppb	0	1		0	0.0481	########	0.0481	Hg
ppb	0	1	-		0.2464	########	0.2464	Hg
ppb	0	1	-		0.9508	########	0.9508	Hg
ppb	0	1	-		0.036	########	0.036	Hg

Type	Sample ID	Extended I	Mean	SD	RSD	Stat Units	Wt.	Vol.	Type
S	blank		47	0	0	Intensity	1	1	Std
S	0.2 std		912	0	0	Intensity	1	1	Std
S	0.5 std		2347	0	0	Intensity	1	1	Std
S	1.0 std		4757	0	0	Intensity	1	1	Std
S	2.5 std		11341	0	0	Intensity	1	1	Std
S	5.0 std		24219	0	0	Intensity	1	1	Std
C	ICV		(H)107.5%	0	0	Concen	1	1	CK STND
C	ICB		-0.0151	0	0	Concen	1	1	CK STND
C	CRA		124.4% 0.2	0	0	Concen	1	1	CK STND
C	CCV		106.9% 1.0	0	0	Concen	1	1	CK STND
C	CCB		0.0141	0	0	Concen	1	1	CK STND
U	MB 410-34030/1-A		0.0688	0	0	Concen	1	1	SMPL
U	LCS 410-34030/2-A		1.046	0	0	Concen	1	1	SMPL
U	410-9851-A-1-E		0.0413	0	0	Concen	1	1	SMPL
U	410-9851-A-1-F DU		0.0648	0	0	Concen	1	1	SMPL
U	410-9851-A-1-G MS		1.7235	0	0	Concen	1	1	SMPL
U	410-9851-A-1-H MSD		1.8599	0	0	Concen	1	1	SMPL
U	410-10346-A-1-J		0.0116	0	0	Concen	1	1	SMPL
U	410-10346-A-1-K MS		1.5584	0	0	Concen	1	1	SMPL
U	410-10346-A-2-J		0.0106	0	0	Concen	1	1	SMPL
U	410-10346-A-2-K MS		1.7891	0	0	Concen	1	1	SMPL
C	CCV		102.0% 1.0	0	0	Concen	1	1	CK STND
C	CCB		0.0152	0	0	Concen	1	1	CK STND
U	410-10552-A-2-E		0.4862	0	0	Concen	1	1	SMPL
U	410-10552-A-1-E		0.4777	0	0	Concen	1	1	SMPL
U	LB 410-33165/1-E		0.0546	0	0	Concen	1	1	SMPL
U	410-10551-A-1-E		0.071	0	0	Concen	1	1	SMPL
U	MB 410-33593/1-A		0.0511	0	0	Concen	1	1	SMPL
U	LCS 410-33593/2-A		1.0743	0	0	Concen	1	1	SMPL
U	410-10659-F-1-E		0.0359	0	0	Concen	1	1	SMPL
U	410-10659-F-1-B DU		0.0629	0	0	Concen	1	1	SMPL
U	410-10659-F-1-C MS		1.0269	0	0	Concen	1	1	SMPL
U	410-10659-D-1-A MSI		0.963	0	0	Concen	1	1	SMPL
C	CCV		100.4% 1.0	0	0	Concen	1	1	CK STND
C	CCB		0.0137	0	0	Concen	1	1	CK STND
U	410-10659-U-2-A		0.0885	0	0	Concen	1	1	SMPL
U	410-10696-R-1-A		0.0742	0	0	Concen	1	1	SMPL
U	410-10696-P-3-A		0.0771	0	0	Concen	1	1	SMPL
U	410-10696-P-6-A		0.08	0	0	Concen	1	1	SMPL
U	410-10703-P-2-A		0.0827	0	0	Concen	1	1	SMPL
U	410-10706-R-1-A		0.0806	0	0	Concen	1	1	SMPL
U	410-10706-P-3-A		0.0746	0	0	Concen	1	1	SMPL
U	410-10706-P-4-A		0.0575	0	0	Concen	1	1	SMPL
U	410-10706-R-5-A		0.0806	0	0	Concen	1	1	SMPL
U	410-10711-R-1-A		0.087	0	0	Concen	1	1	SMPL
C	CCV		104.2% 1.0	0	0	Concen	1	1	CK STND

C	CCB	0.0154	0	0	Concen	1	1	CK STND
U	410-10711-R-2-A	0.0912	0	0	Concen	1	1	SMPL
U	410-10711-R-7-A	0.097	0	0	Concen	1	1	SMPL
U	410-10649-Q-2-A	0.0901	0	0	Concen	1	1	SMPL
U	410-10649-P-3-A	0.091	0	0	Concen	1	1	SMPL
U	410-10649-N-4-A	0.0787	0	0	Concen	1	1	SMPL
U	410-10649-N-1-A	0.0634	0	0	Concen	1	1	SMPL
U	410-10649-H-1-A DU	0.0613	0	0	Concen	1	1	SMPL
U	410-10649-N-1-B MS	1.0107	0	0	Concen	1	1	SMPL
U	410-10649-P-1-A MSI	0.9343	0	0	Concen	1	1	SMPL
U	MB 410-34227/1-A	0.0646	0	0	Concen	1	1	SMPL
C	CCV	103.9% 1.(	0	0	Concen	1	1	CK STND
C	CCB	0.0154	0	0	Concen	1	1	CK STND
U	LCS 410-34227/2-A	1.1243	0	0	Concen	1	1	SMPL
U	410-10703-S-1-A	0.0665	0	0	Concen	1	1	SMPL
U	410-10703-R-1-B DU	0.0893	0	0	Concen	1	1	SMPL
U	410-10703-P-1-B MS	1.0427	0	0	Concen	1	1	SMPL
U	410-10703-R-1-C MSI	1.0203	0	0	Concen	1	1	SMPL
U	410-10881-P-1-A	0.1074	0	0	Concen	1	1	SMPL
U	410-10881-P-5-A	0.103	0	0	Concen	1	1	SMPL
U	410-10881-R-4-A	0.0924	0	0	Concen	1	1	SMPL
U	410-10881-P-3-A	0.0974	0	0	Concen	1	1	SMPL
U	410-10706-R-3-A	0.1205	0	0	Concen	1	1	SMPL
C	CCV	105.3% 1.(	0	0	Concen	1	1	CK STND
C	CCB	0.0148	0	0	Concen	1	1	CK STND
U	410-10738-E-2-A	0.1213	0	0	Concen	1	1	SMPL
U	410-10823-J-1-A	0.092	0	0	Concen	1	1	SMPL
U	410-10738-L-3-A	0.1313	0	0	Concen	1	1	SMPL
U	410-10881-R-1-A	0.1581	0	0	Concen	1	1	SMPL
U	410-10942-E-3-A	0.1306	0	0	Concen	1	1	SMPL
U	410-10881-R-3-A	0.0906	0	0	Concen	1	1	SMPL
U	410-10942-V-4-A	0.0766	0	0	Concen	1	1	SMPL
U	410-10881-P-4-A	0.1207	0	0	Concen	1	1	SMPL
U	410-10881-R-5-A	0.1348	0	0	Concen	1	1	SMPL
U	410-10663-C-2-A	0.0586	0	0	Concen	1	1	SMPL
C	CCV	105.0% 1.(	0	0	Concen	1	1	CK STND
C	CCB	0.0181	0	0	Concen	1	1	CK STND
U	410-10663-C-2-B DU	0.0553	0	0	Concen	1	1	SMPL
U	410-10663-C-2-C MS	1.0479	0	0	Concen	1	1	SMPL
U	410-10663-C-2-D MSI	1.04	0	0	Concen	1	1	SMPL
U	MB 410-34228/1-A	0.0216	0	0	Concen	1	1	SMPL
U	LCS 410-34228/2-A	1.0373	0	0	Concen	1	1	SMPL
U	410-10703-Q-1-D	0.0455	0	0	Concen	1	1	SMPL
U	410-10703-P-1-C DU	0.0644	0	0	Concen	1	1	SMPL
U	410-10703-R-1-D MS	1.0286	0	0	Concen	1	1	SMPL
U	410-10703-P-1-D MSI	0.9216	0	0	Concen	1	1	SMPL
U	410-10649-P-1-B	0.0451	0	0	Concen	1	1	SMPL

C	CCV	103.2% 1.(	0	0	Concen	1	1	CK STND
C	CCB	0.0083	0	0	Concen	1	1	CK STND
U	410-10649-J-1-A DU	0.0893	0	0	Concen	1	1	SMPL
U	410-10649-P-1-C MS	1.0328	0	0	Concen	1	1	SMPL
U	410-10649-N-1-C MSI	1.0101	0	0	Concen	1	1	SMPL
C	CCV	104.4% 1.(	0	0	Concen	1	1	CK STND
C	CCB	0.0141	0	0	Concen	1	1	CK STND
C	CRA	117.7% 0.2	0	0	Concen	1	1	CK STND
C	CCV	104.7% 1.(	0	0	Concen	1	1	CK STND
C	CCB	0.0141	0	0	Concen	1	1	CK STND
U	410-10823-J-1-A	0.0974	0	0	Concen	1	1	SMPL
U	410-10663-C-2-A	0.0596	0	0	Concen	1	1	SMPL
U	410-10663-C-2-B DU	0.0565	0	0	Concen	1	1	SMPL
U	410-10663-C-2-C MS	1.0465	0	0	Concen	1	1	SMPL
U	410-10663-C-2-D MSI	1.0253	0	0	Concen	1	1	SMPL
U	410-10259-C-1-C	-0.0002	0	0	Concen	1	1	SMPL
C	CCV	105.6% 1.(	0	0	Concen	1	1	CK STND
C	CCB	0.0193	0	0	Concen	1	1	CK STND

Integration	Seq ID	A	B	C	Rho	Stnd Conc	Curve Type	Chapter	Method
54	153	-	-	-	-	0	-	245.1	245.1
54	154	-	-	-	-	0.2	-	245.1	245.1
54	155	-	-	-	-	0.5	-	245.1	245.1
54	156	-	-	-	-	1	-	245.1	245.1
54	157	-	-	-	-	2.5	-	245.1	245.1
54	158	-	-	-	-	5	-	245.1	245.1
54	159	-	-	-	-	-	Linear	245.1	245.1
54	160	-	-	-	-	-	Linear	245.1	245.1
54	161	-	-	-	-	-	Linear	245.1	245.1
54	162	-	-	-	-	-	Linear	245.1	245.1
54	163	-	-	-	-	-	Linear	245.1	245.1
54	164	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	165	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	166	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	167	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	168	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	169	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	170	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	171	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	172	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	173	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	174	-	-	-	-	-	Linear	245.1	245.1
54	175	-	-	-	-	-	Linear	245.1	245.1
54	176	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	177	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	178	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	179	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	180	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	181	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	182	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	183	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	184	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	185	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	186	-	-	-	-	-	Linear	245.1	245.1
54	187	-	-	-	-	-	Linear	245.1	245.1
54	188	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	189	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	190	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	191	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	192	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	193	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	194	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	195	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	196	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	198	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	199	-	-	-	-	-	Linear	245.1	245.1

54	200	-	-	-	-	-	Linear	245.1	245.1
54	201	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	202	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	203	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	204	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	205	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	206	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	207	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	208	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	209	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	210	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	211	-	-	-	-	-	Linear	245.1	245.1
54	212	-	-	-	-	-	Linear	245.1	245.1
54	213	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	214	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	217	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	218	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	219	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	220	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	221	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	222	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	223	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	224	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	225	-	-	-	-	-	Linear	245.1	245.1
54	226	-	-	-	-	-	Linear	245.1	245.1
54	227	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	228	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	229	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	230	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	231	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	232	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	233	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	234	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	235	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	238	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	239	-	-	-	-	-	Linear	245.1	245.1
54	240	-	-	-	-	-	Linear	245.1	245.1
54	241	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	242	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	243	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	244	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	245	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	246	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	247	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	248	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	249	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	250	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1

54	251	-	-	-	-	-	Linear	245.1	245.1
54	252	-	-	-	-	-	Linear	245.1	245.1
54	253	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	254	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	255	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	257	-	-	-	-	-	Linear	245.1	245.1
54	258	-	-	-	-	-	Linear	245.1	245.1
54	260	-	-	-	-	-	Linear	245.1	245.1
54	261	-	-	-	-	-	Linear	245.1	245.1
54	262	-	-	-	-	-	Linear	245.1	245.1
54	264	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	265	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	266	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	267	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	268	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	269	0.00E+00	2.08E-04	2.35E-02	9.99E-01	-	Linear	245.1	245.1
54	271	-	-	-	-	-	Linear	245.1	245.1
54	272	-	-	-	-	-	Linear	245.1	245.1

Units	UI	US	DL	Blank Sub	Date	Stats Data	Element	PLOT CAL	
ppb		0	1 -	47	########	47	Hg	CAL:153	
ppb		0	1 -	912	########	912	Hg		
ppb		0	1 -	2347	########	2347	Hg		
ppb		0	1 -	4757	########	4757	Hg		
ppb		0	1 -	11341	########	11341	Hg		
ppb		0	1 -	24219	########	24219	Hg		
ppb		0	1 -	2.6868	########	2.6868	Hg	CAL:159	
ppb		0	1 -	-0.0151	########	-0.0151	Hg		
ppb		0	1 -	0.2488	########	0.2488	Hg		
ppb		0	1 -	1.0689	########	1.0689	Hg		
ppb		0	1 -	0.0141	########	0.0141	Hg		
ppb		0	1 0	0.0688	########	0.0688	Hg		
ppb		0	1 0	1.046	########	1.046	Hg		
ppb		0	1 0	0.0413	########	0.0413	Hg		
ppb		0	1 0	0.0648	########	0.0648	Hg		
ppb		0	1 0	1.7235	########	1.7235	Hg		
ppb		0	1 0	1.8599	########	1.8599	Hg		
ppb		0	1 0	0.0116	########	0.0116	Hg		
ppb		0	1 0	1.5584	########	1.5584	Hg		
ppb		0	1 0	0.0106	########	0.0106	Hg		
ppb		0	1 0	1.7891	########	1.7891	Hg		
ppb		0	1 -	1.0205	########	1.0205	Hg		
ppb		0	1 -	0.0152	########	0.0152	Hg		
ppb		0	1 0	0.4862	########	0.4862	Hg		
ppb		0	1 0	0.4777	########	0.4777	Hg		
ppb		0	1 0	0.0546	########	0.0546	Hg		
ppb		0	1 0	0.071	########	0.071	Hg		
ppb		0	1 0	0.0511	########	0.0511	Hg		
ppb		0	1 0	1.0743	########	1.0743	Hg		
ppb		0	1 0	0.0359	########	0.0359	Hg		
ppb		0	1 0	0.0629	########	0.0629	Hg		
ppb		0	1 0	1.0269	########	1.0269	Hg		
ppb		0	1 0	0.963	########	0.963	Hg		
ppb		0	1 -	1.0043	########	1.0043	Hg		
ppb		0	1 -	0.0137	########	0.0137	Hg		
ppb		0	1 0	0.0885	########	0.0885	Hg		
ppb		0	1 0	0.0742	########	0.0742	Hg		
ppb		0	1 0	0.0771	########	0.0771	Hg		
ppb		0	1 0	0.08	########	0.08	Hg		
ppb		0	1 0	0.0827	########	0.0827	Hg		
ppb		0	1 0	0.0806	########	0.0806	Hg		
ppb		0	1 0	0.0746	########	0.0746	Hg		
ppb		0	1 0	0.0575	########	0.0575	Hg		
ppb		0	1 0	0.0806	########	0.0806	Hg		
ppb		0	1 0	0.087	########	0.087	Hg		
ppb		0	1 -	1.0417	########	1.0417	Hg		

ppb	0	1	-		0.0154	########	0.0154	Hg
ppb	0	1		0	0.0912	########	0.0912	Hg
ppb	0	1		0	0.097	########	0.097	Hg
ppb	0	1		0	0.0901	########	0.0901	Hg
ppb	0	1		0	0.091	########	0.091	Hg
ppb	0	1		0	0.0787	########	0.0787	Hg
ppb	0	1		0	0.0634	########	0.0634	Hg
ppb	0	1		0	0.0613	########	0.0613	Hg
ppb	0	1		0	1.0107	########	1.0107	Hg
ppb	0	1		0	0.9343	########	0.9343	Hg
ppb	0	1		0	0.0646	########	0.0646	Hg
ppb	0	1	-		1.0386	########	1.0386	Hg
ppb	0	1	-		0.0154	########	0.0154	Hg
ppb	0	1		0	1.1243	########	1.1243	Hg
ppb	0	1		0	0.0665	########	0.0665	Hg
ppb	0	1		0	0.0893	########	0.0893	Hg
ppb	0	1		0	1.0427	########	1.0427	Hg
ppb	0	1		0	1.0203	########	1.0203	Hg
ppb	0	1		0	0.1074	########	0.1074	Hg
ppb	0	1		0	0.103	########	0.103	Hg
ppb	0	1		0	0.0924	########	0.0924	Hg
ppb	0	1		0	0.0974	########	0.0974	Hg
ppb	0	1		0	0.1205	########	0.1205	Hg
ppb	0	1	-		1.0529	########	1.0529	Hg
ppb	0	1	-		0.0148	########	0.0148	Hg
ppb	0	1		0	0.1213	########	0.1213	Hg
ppb	0	1		0	0.092	########	0.092	Hg
ppb	0	1		0	0.1313	########	0.1313	Hg
ppb	0	1		0	0.1581	########	0.1581	Hg
ppb	0	1		0	0.1306	########	0.1306	Hg
ppb	0	1		0	0.0906	########	0.0906	Hg
ppb	0	1		0	0.0766	########	0.0766	Hg
ppb	0	1		0	0.1207	########	0.1207	Hg
ppb	0	1		0	0.1348	########	0.1348	Hg
ppb	0	1		0	0.0586	########	0.0586	Hg
ppb	0	1	-		1.0502	########	1.0502	Hg
ppb	0	1	-		0.0181	########	0.0181	Hg
ppb	0	1		0	0.0553	########	0.0553	Hg
ppb	0	1		0	1.0479	########	1.0479	Hg
ppb	0	1		0	1.04	########	1.04	Hg
ppb	0	1		0	0.0216	########	0.0216	Hg
ppb	0	1		0	1.0373	########	1.0373	Hg
ppb	0	1		0	0.0455	########	0.0455	Hg
ppb	0	1		0	0.0644	########	0.0644	Hg
ppb	0	1		0	1.0286	########	1.0286	Hg
ppb	0	1		0	0.9216	########	0.9216	Hg
ppb	0	1		0	0.0451	########	0.0451	Hg

ppb	0	1	-	1.0319	########	1.0319	Hg
ppb	0	1	-	0.0083	########	0.0083	Hg
ppb	0	1	0	0.0893	########	0.0893	Hg
ppb	0	1	0	1.0328	########	1.0328	Hg
ppb	0	1	0	1.0101	########	1.0101	Hg
ppb	0	1	-	1.0435	########	1.0435	Hg
ppb	0	1	-	0.0141	########	0.0141	Hg
ppb	0	1	-	0.2353	########	0.2353	Hg
ppb	0	1	-	1.0471	########	1.0471	Hg
ppb	0	1	-	0.0141	########	0.0141	Hg
ppb	0	1	0	0.0974	########	0.0974	Hg
ppb	0	1	0	0.0596	########	0.0596	Hg
ppb	0	1	0	0.0565	########	0.0565	Hg
ppb	0	1	0	1.0465	########	1.0465	Hg
ppb	0	1	0	1.0253	########	1.0253	Hg
ppb	0	1	0	-0.0002	########	-0.0002	Hg
ppb	0	1	-	1.0564	########	1.0564	Hg
ppb	0	1	-	0.0193	########	0.0193	Hg

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG No.:

Project: EPA 6 Wilcox Oil Co Superfund Site

Client Sample ID	Lab Sample ID
MW-01	410-10696-1
MW-04	410-10696-3
WPA-GW-02	410-10696-6

Comments:

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-01 Lab Sample ID: 410-10696-1

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG ID.:

Matrix: Water Date Sampled: 08/11/2020 15:45

Reporting Basis: WET Date Received: 08/14/2020 11:09

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
15438-31-0	Ferrous Iron	52.7	2.50	0.750	mg/L		HF	50	3500 Fe B-2011
	Oxygen, Dissolved	ND	0.400	0.400	mg/L		HF	1	4500 O G-2011

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: MW-04 | Lab Sample ID: 410-10696-3

Lab Name: Eurofins Lancaster Laboratories Env | Job No.: 410-10696-1

SDG ID.:

Matrix: Water | Date Sampled: 08/11/2020 13:40

Reporting Basis: WET | Date Received: 08/14/2020 11:09

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
15438-31-0	Ferrous Iron	28.1	1.00	0.300	mg/L		HF	20	3500 Fe B-2011
	Oxygen, Dissolved	ND	0.400	0.400	mg/L		HF	1	4500 O G-2011

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: WPA-GW-02 | Lab Sample ID: 410-10696-6

Lab Name: Eurofins Lancaster Laboratories Env | Job No.: 410-10696-1

SDG ID.:

Matrix: Water | Date Sampled: 08/11/2020 14:15

Reporting Basis: WET | Date Received: 08/14/2020 11:09

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
15438-31-0	Ferrous Iron	11.5	0.500	0.150	mg/L		HF	10	3500 Fe B-2011
	Oxygen, Dissolved	7.42	0.400	0.400	mg/L		HF	1	4500 O G-2011

2-IN
CALIBRATION QUALITY CONTROL
GENERAL CHEMISTRY

Lab Name: Eurofins Lancaster Laboratories En Job No.: 410-10696-1

SDG No.:

Analyst: L8MI Batch Start Date: 08/17/2020

Reporting Units: mg/L Analytical Batch No.: 34032

Sample Number	QC Type	Time	Analyte	Result	Spike Amount	(%) Recovery	Limits	Qual	Reagent
8	ICV	09:08	Ferrous Iron	1.011	1.00	101	90-110		WC_FL_Fe2CCV_00015
9	ICB	09:08	Ferrous Iron	ND					
11	CCV	09:33	Ferrous Iron	0.9949	1.00	99	90-110		WC_FL_Fe2CCV_00015
12	CCB	09:33	Ferrous Iron	ND					
23	CCV	09:36	Ferrous Iron	1.026	1.00	103	90-110		WC_FL_Fe2CCV_00015
24	CCB	09:37	Ferrous Iron	ND					
120	CCV	13:23	Ferrous Iron	0.9778	1.00	98	90-110		WC_FL_Fe2CCV_00015
121	CCB	13:23	Ferrous Iron	ND					
123	CCV	13:34	Ferrous Iron	0.9797	1.00	98	90-110		WC_FL_Fe2CCV_00015
124	CCB	13:34	Ferrous Iron	ND					
125	CCV	13:48	Ferrous Iron	0.9737	1.00	97	90-110		WC_FL_Fe2CCV_00015
126	CCB	13:48	Ferrous Iron	ND					
129	CCV	13:49	Ferrous Iron	0.9688	1.00	97	90-110		WC_FL_Fe2CCV_00015
130	CCB	13:50	Ferrous Iron	ND					

Note! Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM II-IN

3-IN
METHOD BLANK
GENERAL CHEMISTRY

Lab Name: Eurofins Lancaster Laboratories Job No.: 410-10696-1

SDG No.:

Method	Lab Sample ID	Analyte	Result	Qual	Units	RL	Dil
Batch ID: 34032	Date: 08/17/2020 09:34						
3500 Fe B-2011	MB 410-34032/14	Ferrous Iron	ND		mg/L	0.0500	1

FORM III-IN

7A-IN
LAB CONTROL SAMPLE
GENERAL CHEMISTRY

Lab Name: Eurofins Lancaster Laboratories En Job No.: 410-10696-1

SDG No.:

Matrix: Water

Method	Lab Sample ID	Analyte	Result	C	Unit	Spike Amount	Pct. Rec.	Limits	RPD	RPD Limit	Q
Batch ID: 34032	Date: 08/17/2020 09:33										
						LCS Source: WC_FL_Fe2CCV_00015					
3500 Fe B-2011	LCS 410-34032/13	Ferrous Iron	1.003		mg/L	1.00	100	90-110			

Calculations are performed before rounding to avoid round-off errors in calculated results.

FORM VIIA-IN

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG Number:

Matrix: Water Instrument ID: 27769

Method: 3500 Fe B-2011 MDL Date: 06/05/2018 15:25

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Ferrous Iron		0.05	0.015

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG Number:

Matrix: Water Instrument ID: 27769

Method: 3500 Fe B-2011 XMDL Date: 01/22/2019 13:18

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Ferrous Iron		0.05	0.015

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 4500 O G-2011 MDL Date: 11/01/2016 00:00

Analyte	Wavelength/ Mass	RL (mg/L)	MDL (mg/L)
Oxygen, Dissolved		0.4	0.4

9-IN
CALIBRATION BLANK DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Lancaster Laboratories Job Number: 410-10696-1

SDG Number:

Matrix: Water Instrument ID: NOEQUIP

Method: 4500 O G-2011 XMDL Date: 11/01/2016 08:46

Analyte	Wavelength/ Mass	XRL (mg/L)	XMDL (mg/L)
Oxygen, Dissolved		0.4	0.4

11-IN
LINEAR RANGES
GENERAL CHEMISTRY

Lab Name: Eurofins Lancaster Laboratorie Job No: 410-10696-1

SDG No.:

Instrument ID: 27769 Date: 07/01/2019 12:21

Analyte	Integ. Time (Sec.)	Concentration (mg/L)	Method
Ferrous Iron		2.0	3500 Fe B-2011

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 27769 Analysis Method: 3500 Fe B-2011

Start Date: 08/17/2020 09:05 End Date: 08/17/2020 13:50

Lab Sample Id	D/F	Type	Time	Analytes																								
				Fe2																								
IC 410-34032/1			09:05	X																								
IC 410-34032/2			09:05	X																								
IC 410-34032/3			09:06	X																								
IC 410-34032/4			09:06	X																								
IC 410-34032/5			09:07	X																								
IC 410-34032/6			09:07	X																								
IC 410-34032/7			09:08	X																								
ICV 410-34032/8	1		09:08	X																								
ICB 410-34032/9	1		09:08	X																								
ZZZZZZ			09:08																									
CCV 410-34032/11	1		09:33	X																								
CCB 410-34032/12	1		09:33	X																								
LCS 410-34032/13	1	T	09:33	X																								
MB 410-34032/14	1	T	09:34	X																								
ZZZZZZ			09:34																									
ZZZZZZ			09:34																									
ZZZZZZ			09:34																									
ZZZZZZ			09:34																									
ZZZZZZ			09:34																									
ZZZZZZ			09:36																									
ZZZZZZ			09:36																									
ZZZZZZ			09:36																									
CCV 410-34032/23	1		09:36	X																								
CCB 410-34032/24	1		09:37	X																								
ZZZZZZ			09:45																									
ZZZZZZ			09:46																									
ZZZZZZ			09:46																									
ZZZZZZ			09:47																									
CCV 410-34032/29			09:47																									
CCB 410-34032/30			09:47																									
ZZZZZZ			09:48																									
CCV 410-34032/32			09:48																									
CCB 410-34032/33			09:49																									
ZZZZZZ			09:57																									
CCV 410-34032/35			09:57																									
CCB 410-34032/36			09:57																									
ZZZZZZ			09:58																									
ZZZZZZ			09:58																									
CCV 410-34032/39			09:59																									
CCB 410-34032/40			09:59																									
ZZZZZZ			10:00																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 27769 Analysis Method: 3500 Fe B-2011

Start Date: 08/17/2020 09:05 End Date: 08/17/2020 13:50

Lab Sample Id	D/F	Type	Time	Analytes																								
				Fe2																								
ZZZZZZ			10:00																									
CCV 410-34032/43			10:00																									
CCB 410-34032/44			10:01																									
410-10696-3	20	T	10:12	X																								
CCV 410-34032/46			10:12																									
CCB 410-34032/47			10:12																									
CCV 410-34032/48			10:31																									
CCB 410-34032/49			10:31																									
ZZZZZZ			10:31																									
ZZZZZZ			10:32																									
CCV 410-34032/52			10:32																									
CCB 410-34032/53			10:32																									
CCV 410-34032/54			10:59																									
CCB 410-34032/55			10:59																									
ZZZZZZ			11:00																									
ZZZZZZ			11:00																									
ZZZZZZ			11:00																									
ZZZZZZ			11:00																									
ZZZZZZ			11:00																									
ZZZZZZ			11:00																									
ZZZZZZ			11:00																									
ZZZZZZ			11:02																									
ZZZZZZ			11:02																									
ZZZZZZ			11:02																									
CCV 410-34032/66			11:03																									
CCB 410-34032/67			11:03																									
ZZZZZZ			11:11																									
ZZZZZZ			11:12																									
ZZZZZZ			11:12																									
CCV 410-34032/71			11:12																									
CCB 410-34032/72			11:13																									
ZZZZZZ			11:14																									
ZZZZZZ			11:15																									
ZZZZZZ			11:15																									
CCV 410-34032/76			11:15																									
CCB 410-34032/77			11:15																									
ZZZZZZ			11:23																									
CCV 410-34032/79			11:23																									
CCB 410-34032/80			11:23																									
ZZZZZZ			11:24																									
CCV 410-34032/82			11:24																									

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 27769 Analysis Method: 3500 Fe B-2011

Start Date: 08/17/2020 09:05 End Date: 08/17/2020 13:50

Lab Sample Id	D/F	Type	Time	Analytes
				Fe2
CCB 410-34032/83			11:24	
ZZZZZZ			11:26	
CCV 410-34032/85			11:26	
CCB 410-34032/86			11:27	
ZZZZZZ			11:36	
CCV 410-34032/88			11:36	
CCB 410-34032/89			11:36	
ZZZZZZ			11:38	
CCV 410-34032/91			11:38	
CCB 410-34032/92			11:38	
CCV 410-34032/93			12:27	
CCB 410-34032/94			12:27	
ZZZZZZ			12:28	
ZZZZZZ			12:28	
ZZZZZZ			12:29	
ZZZZZZ			12:30	
CCV 410-34032/99			12:30	
CCB 410-34032/100			12:30	
CCV 410-34032/101			12:51	
CCB 410-34032/102			12:51	
ZZZZZZ			12:51	
ZZZZZZ			12:52	
CCV 410-34032/105			12:52	
CCB 410-34032/106			12:52	
CCV 410-34032/107			13:10	
CCB 410-34032/108			13:10	
ZZZZZZ			13:10	
ZZZZZZ			13:10	
ZZZZZZ			13:10	
ZZZZZZ			13:11	
ZZZZZZ			13:11	
CCV 410-34032/114			13:11	
CCB 410-34032/115			13:12	
ZZZZZZ			13:22	
CCV 410-34032/117			13:22	
CCB 410-34032/118			13:22	
ZZZZZZ			13:23	
CCV 410-34032/120	1		13:23	X
CCB 410-34032/121	1		13:23	X
410-10696-6	10	T	13:34	X
CCV 410-34032/123	1		13:34	X

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: 27769 Analysis Method: 3500 Fe B-2011

Start Date: 08/17/2020 09:05 End Date: 08/17/2020 13:50

Lab Sample Id	D/F	Type	Time	Analytes																								
				Fe2																								
CCB 410-34032/124	1		13:34	X																								
CCV 410-34032/125	1		13:48	X																								
CCB 410-34032/126	1		13:48	X																								
ZZZZZZ			13:49																									
410-10696-1	50	T	13:49	X																								
CCV 410-34032/129	1		13:49	X																								
CCB 410-34032/130	1		13:50	X																								

Prep Types:
T = Total/NA

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Lancaster Laboratories Env Job No.: 410-10696-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: 4500 O G-2011

Start Date: 08/15/2020 16:46 End Date: 08/15/2020 16:46

Lab Sample Id	D/F	Type	Time	Analytes																								
				DO																								
410-10696-1	1	T	16:46	X																								
410-10696-3	1	T	16:46	X																								
410-10696-6	1	T	16:46	X																								
ZZZZZZ			16:46																									
ZZZZZZ			16:46																									
ZZZZZZ			16:46																									
ZZZZZZ			16:46																									
ZZZZZZ			16:46																									
ZZZZZZ			16:46																									
ZZZZZZ			16:46																									
ZZZZZZ			16:46																									
ZZZZZZ			16:46																									
ZZZZZZ			16:46																									
ZZZZZZ			16:46																									
ZZZZZZ			16:46																									
ZZZZZZ			16:46																									
ZZZZZZ			16:46																									
ZZZZZZ			16:46																									
ZZZZZZ			16:46																									

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 34032 Batch Start Date: 08/17/20 09:05 Batch Analyst: Saul, Jonathan S

Batch Method: 3500 Fe B-2011 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	WC_FL_Fe2CCV 00015					
ICV 410-34032/8		3500 Fe B-2011		# mL					
CCV 410-34032/11		3500 Fe B-2011		# mL					
LCS 410-34032/13		3500 Fe B-2011		# mL					
CCV 410-34032/23		3500 Fe B-2011		# mL					
CCV 410-34032/120		3500 Fe B-2011		# mL					
CCV 410-34032/123		3500 Fe B-2011		# mL					
CCV 410-34032/125		3500 Fe B-2011		# mL					
CCV 410-34032/129		3500 Fe B-2011		# mL					

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Lancaster Laboratorie Job No.: 410-10696-1

SDG No.:

Batch Number: 33637 Batch Start Date: 08/15/20 16:46 Batch Analyst: Pandya, Gaurang A

Batch Method: 4500 O G-2011 Batch End Date: 08/15/20 17:27

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	SampleTemp			
410-10696-D-1	MW-01	4500 O G-2011	T	500 mL	500 mL	20.70 Celsius			
410-10696-D-3	MW-04	4500 O G-2011	T	500 mL	500 mL	20.55 Celsius			
410-10696-D-6	WPA-GW-02	4500 O G-2011	T	500 mL	500 mL	20.49 Celsius			

Batch Notes	
Barometric Pressure - Corrected	751 mmHg
Barometric Pressure - Uncorrected	751 mmHg

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed using the stated concentration for this reagent.

Calibration results

FE+2 Version number 1.6

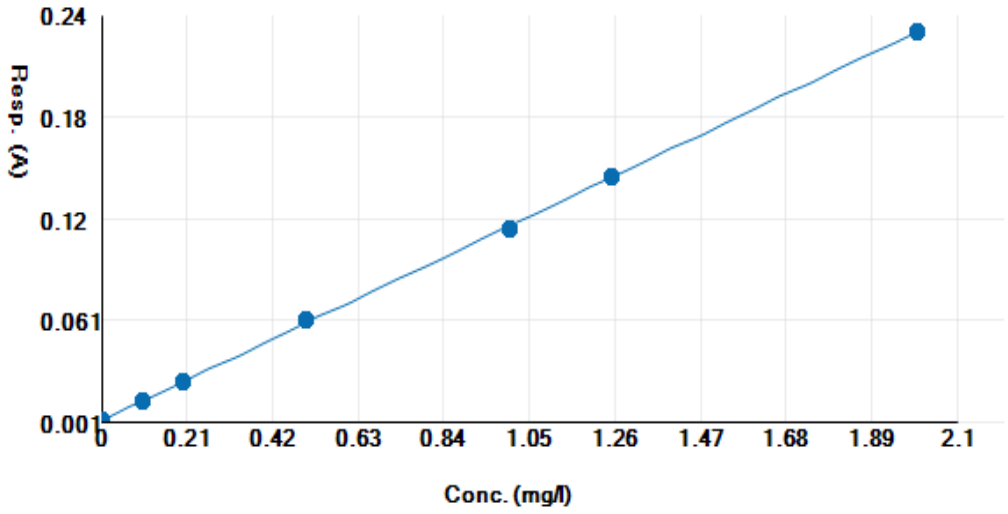
Date 8/17/2020 **User** Gallery

Time 1:51:30PM **Software version: 6.0.1**

Analyzer name Analyzer 1

Test	FE+2	**Coeff. of deter.**	0.999860
Status	Accepted	**Total factor**	8.733
Accepted	8/17/2020 9:11 AM		
Checked	8/17/2020 9:11 AM	Zero-order factor	0.001
User name	Gallery	1st order factor	0.115
Comment		2nd order factor	0.000
Errors			

Cal/Ctrl	Response	Calc. conc.	Given conc.	Lot	Errors
Fe2+-0	0.001	-0.00336	0.00000	Default	
Fe+2 CAL	0.012	0.09609	0.10000	Default	
Fe+2 CAL	0.024	0.19828	0.20000	Default	
Fe+2 CAL	0.061	0.51649	0.50000	Default	
Fe+2 CAL	0.115	0.98884	1.00000	Default	
Fe+2 CAL	0.145	1.25490	1.25000	Default	
Fe+2 CAL	0.230	1.99876	2.00000	Default	
1Fe+2 ICV	0.117	1.0113	1.0000	Default	
2Fe+2 ICB	0.001	-0.0047	0.0000	Default	Test limit Low, Outside calibration
LRV	0.012	0.0877	0.1000	Default	



General Chemistry Raw Data Report

Job ID: 410-10696-1

Batch: 33637 **Analyst Initials: TI24**

Method: 4500 O G-2011 **Instrument: NONE**

Lab Sample ID: 410-10696-D-1 **Analysis Date: Aug 15, 2020 16:46**

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Oxygen, Dissolved	None	1	0.16	mg/L	500 mL	500 mL

Lab Sample ID: 410-10696-D-3 **Analysis Date: Aug 15, 2020 16:46**

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Oxygen, Dissolved	None	1	0.14	mg/L	500 mL	500 mL

Lab Sample ID: 410-10696-D-6 **Analysis Date: Aug 15, 2020 16:46**

Analyte	Detector	Dilution	Raw Result	Unit	Initial Amount	Final Amount
Oxygen, Dissolved	None	1	7.42	mg/L	500 mL	500 mL

Shipping and Receiving Documents

410-10696 Chain of Custody

USEPA CLP COC (LAB COPY) **IN OF CUSTODY RECORD** **No: #1-WPA4.04.01**

DateShipped: 8/12/2020
CarrierName: FedEx
AirbillNo: 7712 4521 9740

DAS #:
Cooler #:

Lab: Europhins Lanchaster Laboratories Env
Lab Contact: Kay Hower
Lab Phone: 717-556-7364

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
MW-01		Water/ W. Ganter	Grab	Total TAL Metals, Diss. TAL Metals (Filtered), Diss. Oxygen, Ferrous Iron, VOC, Nitrate, Nitrogen, Sulfate, Volatile Headspace Hydrocarbon, CO2, TCL SW846 8270D MINI	263 (HNO3), 264 (HNO3), 265 (None), 266 (HCL), 267 (HCL), 268 (None), 269 (HCL), 270 (None), 271 (None) (14)	MW-01	08/11/2020 15:45	
MW-03		Water/ W. Ganter	Grab	VOC	285 (HCL) (9)	MW-03	08/12/2020 09:40	
MW-04		Water/ W. Ganter	Grab	Total TAL Metals, Diss. TAL Metals (Filtered), Diss. Oxygen, Ferrous Iron, VOC, Nitrate, Nitrogen, Sulfate, Volatile Headspace Hydrocarbon, CO2, TCL SW846 8270D MINI	290 (HNO3), 291 (HNO3), 292 (None), 293 (HCL), 294 (HCL), 295 (None), 296 (HCL), 297 (None), 298 (None) (14)	MW-04	08/11/2020 13:40	
MW-05		Water/ W. Ganter	Grab	VOC	303 (HCL) (3)	MW-05	08/12/2020 14:30	
TB-01		Water/ W. Ganter	Grab	VOC	317 (HCL) (3)	TB-01	08/11/2020 07:00	

Sample(s) to be used for Lab QC: MW-03 Tag 285 - Special Instructions: PO# 15838

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	G/G EA	8/12/20 1800	Fedex	8/12/20 1800	
			ETE	9/14/20 1109	Good

ZH

USEPA CLP COC (LAB COPY)

CHAIN OF CUSTODY RECORD

No: #1-WPA4.04.01

DateShipped: 8/12/2020
CarrierName: FedEx
AirbillNo: 7712 4521 9740

DAS #:
Cooler #:

Lab: Europhins Lanchaster Laboratories Env
Lab Contact: Kay Hower
Lab Phone: 717-556-7364

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	For Lab Use Only
WPA-GW-02		Water/ W. Ganter	Grab	Total TAL Metals, Diss. TAL Metals (Filtered), Diss. Oxygen, Ferrous Iron, VOC, Nitrate, Nitrogen, Sulfate, Volatile Headspace Hydrocarbon, CO2, TCL SW846 8270D MINI	146 (HNO3), 147 (HNO3), 148 (None), 149 (HCL), 150 (HCL), 151 (None), 152 (HCL), 153 (None), 154 (None) (14)	WPA-GW-02	08/11/2020 14:15	

Special Instructions: PO# 15838

Shipment for Case Complete? N

Samples Transferred From Chain of Custody #

Analysis Key

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
	EA	8/12/20 1800	Fedex	8/12/20 1900	
			ETE	9/14/20 1109	Good

Login Sample Receipt Checklist

Client: EA Engineering, Science, and Technology

Job Number: 410-10696-1

Login Number: 10696
List Number: 1
Creator: Rivera, Tatiana

List Source: Eurofins Lancaster Laboratories Env

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable (</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV: Container Temperature is acceptable (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified.	N/A	
Residual Chlorine Checked.	N/A	
Sample custody seals are intact.	N/A	

ATTACHMENT 5

TRANSDUCER DATA (on SharePoint separately)

Appendix C

Development of Human Health Risk Based Preliminary Remediation Goals Technical Memorandum

Development of Ecological Preliminary Remediation Goals Technical Memorandum

TECHNICAL MEMORANDUM

TO: Katrina Higgins-Coltrain, EPA Region 6

FROM: Cynthia Cheatwood, Human Health Risk Assessor / EA Engineering, Science, & Technology, Inc., PBC (EA)

DATE: 7 May 2021

SUBJECT: Development of Human Health Risk Based Preliminary Remediation Goals for the Wilcox Oil Company Superfund Site, Bristow, Creek County, Oklahoma

This technical memorandum discusses the derivation of Preliminary Remediation Goals (PRGs) based on the human health risk assessment (HHRA) for the Wilcox Oil Company Superfund Site.

1. HUMAN HEALTH RISK MANAGEMENT DECISIONS

As noted in the HHRA and RI report, a number of potential source areas were present within the Site. These potential source areas include the skimming and cracking plant, re-distillation battery, stills, cooling ponds, Lead Additive Area, approximately 10 buildings housing refinery operations, storage tanks, and other related refinery structures historically located on the Lorraine and Wilcox Process Areas. Other potential source areas include approximately 80 bulk storage tanks of various sizes historically located at the Lorraine and Wilcox Process Areas, as well as the East and North Tank Farms. Surficial waste material was also identified in the Loading Dock Area.

Crude oil, fuel oil, gas oil, distillate, kerosene, naphtha, and benzene (petroleum ether), acids, and other refined products were reportedly stored on the property (EA 2016c). Site data suggest that periodic releases of crude oil, sludge, and refined product occurred in these areas during operations. These releases may have been discharged to surface and subsurface soil, and subsequently migrated to groundwater, surface water, and sediment. VOCs may have also migrated into the vadose zone as soil gas.

As a result of the varied sources and source areas, the HHRA evaluated a wide range of contaminants of potential concern (COPCs) in site media for each of the five exposure areas. Risk results for most of the COPCs fall within EPA's risk management range. Many of these additional COPCs are suspected to be ubiquitous regional contaminants related to historical activities and/or background concentrations rather than site-specific contaminants. This section provides: (1) a basis of understanding regarding carcinogenic and non-carcinogenic risks and EPA's risk management range, (2) a discussion of chemicals that fall above EPA's acceptable risk range, and (3) an evaluation of chemicals within EPA's risk management range based on spatial extent, magnitude of exceedance, and fate and transport considerations in order to determine an appropriate path forward within the context of risk management.

1.1 BASIS OF UNDERSTANDING

Human health risks are evaluated by carcinogenic and non-carcinogenic risks as discussed in the subsections below. Additionally, potential human health concerns associated with lead in soil were evaluated using blood-lead modeling.

1.1.1 Carcinogenic Risk

For carcinogens, risks are expressed as the incremental probability of an individual developing cancer over a lifetime as a result of exposure to the level of the carcinogen at the site. A carcinogenic risk of 10^{-6} indicates that an individual experiencing the reasonable maximum exposure estimate for the site has a 1 in 1,000,000 chance of developing cancer as a result of site-related exposure. This is referred to as an excess incremental lifetime cancer risk because it would be in addition to the risks of cancer individuals face from other causes. The chance of an individual developing cancer from all other causes has been estimated to be as high as 40 percent (Howlader et al., 2015).

Because the cancer slope factor (used to calculate excess lifetime carcinogenic risk) is the statistical 95th percent upper-bound confidence limit on the dose-response slope, this method provides a conservative, upper-bound estimate of risk. It should be noted that the interpretation of the significance of the cancer risk estimate is based on the appropriate public policy. EPA in the NCP (40 Code of Federal Regulation Part 300) (1990a) states that:

> *"...For known or suspected carcinogens, acceptable exposure levels are generally concentration levels that represent an excess upper bound lifetime cancer risk to an individual of between 10^{-4} and 10^{-6}."*

This risk range represents EPA's generally acceptable risk range for site-related exposures, or a 1 in 10,000 to 1 in 1,000,000 chance, respectively, of an individual developing cancer. Carcinogenic risks that are below the lower end of the acceptable risk range (i.e., 10^{-6}) are considered *de minimis* and require no action. Carcinogenic risks within the risk management range (i.e., between 10^{-4} and 10^{-6}) are subject to a risk management decision. Generally, only carcinogenic risks above the upper end of the acceptable risk range (i.e., 10^{-4}) warrant additional consideration. However, the upper end of the cancer risk range is not a discrete line and "specific risk estimate around 10(-4) may be considered acceptable if justified based on site-specific conditions, including any remaining uncertainties on the nature and extent of contamination and associated risks (EPA 1991c)". Additionally, the EPA notes, "A risk manager may also decide that a lower level of risk to human health is unacceptable and that remedial action is warranted where, for example, there are uncertainties in the risk assessment results (EPA 1991c)."

1.1.2 Non-carcinogenic Risk

For non-carcinogens (systemic toxicants), potential effects are evaluated by comparing an exposure level over a specified time period (e.g., exposure duration) with a reference dose or reference concentration derived for a similar exposure period. A reference dose or reference concentration represents a level to which an individual may be exposed and not expected to cause any harmful effect. A HQ (ratio of average daily intake level to acceptable daily intake level) of less than 1.0 indicates that a receptor's dose of a single contaminant is less than the reference dose. As a result, there will be no concern that potential adverse systemic health

effects will be observed in the exposed populations. However, if the sum of several HQs exceeds 1.0, and the COPC affect the same target organ, there may be concern that potential adverse systemic health effects will be observed in the exposed populations. In general, the greater the value of the HQ above 1.0, the greater the level of concern. However, the HQ does not represent a statistical probability that an adverse health effect will occur.

For the consideration of exposures to more than one chemical causing systemic toxicity via several different pathways, the individual HQs are summed to provide an overall HI. If the HI is less than 1.0, then no adverse health effects are likely to be associated with exposures at the site. However, if the total HI is greater than 1.0, separate endpoint-specific HIs may be calculated based on toxic endpoint of concern or target organ (e.g., HQs for neurotoxins are summed separately from HQs for renal toxins). If an endpoint-specific HI is greater than 1.0, there is reason for concern about potential health effects for that endpoint. Similar to carcinogenic risks, uncertainties associated with the risk assessment may not warrant action for noncancer hazards that are greater than 1.0.

1.1.3 Lead Modeling

Potential health concerns associated with lead exposure relates the effect in terms of the amount of lead in blood associated with an observed effect. For this HHRA, the amount of lead in blood associated with an observed effect was set to a reference value based on the 97.5th percentile of the NHANES-generated blood-lead level in children 1-5 years old (CDC 2012) which equates to 5 µg/dL. Therefore, this blood-lead level is used to identify potential concerns for children with elevated blood-lead levels. Additionally, blood-lead levels of 8 µg/dL and 10 µg/dL were evaluated. To achieve a specific level of protectiveness, the EPA has established a limit that a typical (or hypothetical) child would have an estimated risk of no more than 5 percent exceeding the reference blood-lead level.

1.1.4 Media and Chemicals With Carcinogenic Risks Above 10^{-4}, Non-carcinogenic Hazards Above a Hazard Index of 1.0, or Blood-Lead Level Exceedance

The HHRA revealed carcinogenic risks above 10^{-4}, noncarcinogenic hazards above 1.0, and/or blood-lead levels above a level of concern for soil within the Loading Dock Area, Wilcox Process Area, and Lorraine Process Area and shallow groundwater within the Wilcox Process Area. Media and chemicals that resulted in potential risk concerns are discussed below.

1.1.4.1 Soil

<u>Lead</u>

Surface soil within the Lorraine Process Area and Wilcox Process revealed greater than 5% of the child population exceeded all reference blood-lead levels evaluated in the IEUBK. A range of reference blood-lead levels were evaluated: 5 µg /dL, 8 µg /dL, and 10 µg /dL. This reveals lead is a potential concern for resident children in surface soil within the Lorraine Process Area and the Wilcox Process Area. For the adult lead model, only the 5 µg/dL reference blood-lead level had greater than 5% of the population exceeding in the Lorraine and Wilcox Process Areas. Additionally, the Lead Additive Area within the Wilcox Process Area has surface soil that contains high levels of leachable lead down to a depth of approximately 2 ft bgs. This source area is being addressed under the site's Source Control ROD (EPA 2018b) and was not evaluated

in this HHRA. This reveals lead is a potential concern across these areas and is identified as a COPC for further consideration.

Metals (Cobalt, Copper, Iron)

The HHRA revealed cobalt, copper, and iron, with noncarcinogenic hazards greater than 1 for the Loading Dock Area (cobalt) and the Wilcox Process Area (cobalt, copper, iron) under the resident scenario. The exceedance of the noncarcinogenic hazard of 1 was due to the ingestion of homegrown produce and ingestion of beef exposure pathways. As noted, these pathways are modeled from surface soil concentrations. The models used to estimate the concentration of these metals in produce and beef have a high degree of uncertainty and are likely to overestimate potential concentrations. For cobalt, the background UPL is 11.1 mg/kg. The 95UCL within the Loading Dock Area (15.2 mg/kg) is only slightly higher than the background UPL, and the Wilcox Process Area 95UCL (3.87 mg/kg) is lower than the background UPL. This reveals that cobalt is not a site concern. For copper within the Wilcox Process Area, the 95UCL is highly influenced by the maximum detected concentration of 7,490 mg/kg at WPA-SB-28-0.5. The sample collected at 2 ft bgs at WPA-SB-28 revealed a copper concentration of 8.8 mg/kg. Also, this maximum detected concentration is 60 times higher than the next highest detection of 124 mg/kg at WPA-SB-48. For iron within the Wilcox Process Area, the maximum detected concentration of 47,500 mg/kg at WPA-SB-27-0.5 slightly exceeds the background UPL of 14,700 mg/kg. Additionally, the maximum detected concentration does not exceed the full residential soil RSL of 55,000 mg/kg. As a result of the uncertainty associated with the homegrown produce and beef ingestion exposure routes and overall chemical concentrations, cobalt, copper, and iron are not considered COPCs for the site.

Residential Yards

The assessment of the residential yards found potential concerns for exposure to surface soil. Carcinogenic risks were equal to the upper end of the EPA's acceptable cancer risk range, and non-carcinogenic hazards were above 1. Cadmium and cobalt were the COPCs with non-carcinogenic hazards above 1, and benzo(a)pyrene and arsenic are the primary contributors to carcinogenic risks. It is noted that the assessment of the residential yards used the maximum detected concentration. Additionally, risk concerns identified for soil also include the ingestion of homegrown produce and beef. As noted previously, these exposure routes are modeled on conservative parameters and likely overestimate risks.

The maximum detected concentration of cobalt in surface soil was 61.2 mg/kg (sample location WO-021-005-06-51) and a 95%UCLM of 3.69 mg/kg (Table 3.16). The 95%UCLM of cobalt is below the background UTL of 11.1 mg/kg (Table 2.16). This reveals the overall distribution of cobalt concentrations across the residential yards is consistent with background concentrations. Additionally, the maximum detected concentration of cobalt at residential location WO-021 is six times higher than the next detect of 10.9 mg/kg. The 95UCL for cobalt at location WO-021 15.0 mg/kg, which would result in a noncarcinogenic hazard less than 1 for cobalt. Therefore, cobalt is not retained as a COPC for the residential yards.

The background cadmium (average or 95UCL) could not be calculated because it was detected in only one background sample while all others were non-detect. The non-carcinogenic hazard of 2 is a result of direct contact with soil and ingestion of homegrown produce. The ingestion of homegrown produce is a modeled exposure pathway with high uncertainty. Additionally, these

risk results are based upon the maximum detected concentration of 80.2 at WO-008-001. The next highest detection of cadmium at WO-008 was 2.2 mg/kg. Additionally, the overall 95%UCLM of cadmium was 0.23 mg/kg and the arithmetic mean was 6.07 mg/kg of all residential yards combined (Table 3.16). Both of these are below the EPA RSL of 71 mg/kg. This reveals that cadmium concentrations are not a concern across the residential yards and is not retained as a COPC.

Arsenic and benzo(a)pyrene were the primary contributors to carcinogenic risks of $1x10^{-4}$ within the residential yards. Similar to cadmium, the 95UCL for arsenic (3.29 mg/kg) and benzo(a)pyrene (0.148 mg/kg) are an order of magnitude lower than the maximum detected concentration used in the risk calculations (Table 3.16). This reveals the overall distribution of arsenic and benzo(a)pyrene in the residential yards is not a concern.

1.1.5 Media and Chemicals Subject to a Risk Management Decision: Carcinogenic Risks Between 10^{-6} and 10^{-4}

Potential exposures to surface water and sediment at the site were within the EPA acceptable cancer risk range and noncarcinogenic hazards were below the level of concern. Therefore, these media are not expected to pose human health concerns. Carcinogenic risks for all receptors exposure to soil were also within the EPA acceptable risk range.

It is noted that the HHRA evaluated potential human health concerns based the entire exposure area. However, the exposure areas are larger than area that are typically evaluated for residential yards. To further evaluate the surface soil medium of concern and evaluate potential concerns for smaller exposure areas (i.e., potential residential yards), sample results were reviewed to determine if areas of high concentration are present within the five soil exposure areas. Areas of high concentration were determined as concentrations that exceed the residential soil RSL by two orders of magnitude (i.e., 100 times). The only chemical that exceeded this criterion was benzo(a)pyrene within the Wilcox Process Area, the Lorraine Process Area, and East Tank Farm. The maximum detected concentrations of benzo(a)pyrene in surface soil (WPA-SB-20-2.0 at 31 mg/kg; LOR-TP-09-0.5 at 38.9 mg/kg; and ETF-SB-02-0.5 at 12 mg/kg) and subsurface soil (WPA-SB-20-6.0 at 24 mg/kg) exceeded the residential soil RSL by greater than two orders of magnitude. Additionally, benzo(a)pyrene was detected within WPA-SB-18-2.0 at 23 mg/kg. The highest detections of benzo(a)pyrene were primarily within the Wilcox Process Area, except for the one detection within the Lorraine Process Area and one location in the East Tank Farm. The maximum detected concentration of benzo(a)pyrene in surface soil (ETF-SB-02-0.5 at 12 mg/kg) within the East Tank Farm exceeded the residential soil RSL by two orders of magnitude; however, this location was cleaned up as a result of a removal action completed in 2017. Therefore, benzo(a)pyrene should be retained as a COPC for the site.

2. DEVELOPMENT OF PRGS

Risk results from the HHRA were reviewed to determine PRGs for the site. The site-specific PRGs are chemical limits calculated upon toxicity values and site-specific exposure conditions evaluated in the HHRA (EA 2020). As presented in the HHRA, the site was divided into five exposure areas for evaluation due to the sites overall size and configuration. The HHRA determined potential health concerns for receptors with exposures to lead in soil (Lorraine Process Area and Wilcox Process Area) and exposures to shallow groundwater (Wilcox Process Area). For shallow groundwater, potential unacceptable risks were determined for the resident, construction worker, and commercial worker exposure.

Additionally, soil sample results were reviewed to determine if areas of high concentration are present within the five soil exposure areas. Areas of high concentration were determined as concentrations that exceed the residential soil Regional Screening Level (RSL) by two orders of magnitude (i.e., 100 times). The only chemical that exceeded this criterion was benzo(a)pyrene. Therefore, benzo(a)pyrene was also identified as a COPC.

PRGs were determined for each of the chemicals identified as COPCs. PRGs were developed for chemicals with cancer risks greater than 10^{-6} and target organ specific Hazard Index (HI) greater than 1. Tables 1 through 2 present a summary of the PRGs calculated for the site COPCs. Calculations for the determination of PRGs are provided in Attachment 1. The PRGs are for cancer risk levels of 10^{-6}, 10^{-5}, and 10^{-4} or a noncancer hazard of 0.1 and 1. The following equation was used to calculate site-specific PRGs:

For carcinogens:

$$\textit{Site Specific } PRG = \frac{EPC}{Risk} \times TR$$

Where,

PRG	=	Preliminary remediation goal
TR	=	Target carcinogenic risk level (i.e., 10^{-6}, 10^{-5}, 10^{-4})
Risk	=	Chemical-specific cumulative carcinogenic risk calculated in HHRA
EPC	=	Chemical-specific exposure point concentration presented in HHRA

For non-carcinogens:

$$\textit{Site Specific } PRG = \frac{EPC}{HQ} \times THQ$$

Where,

PRG	=	Preliminary remediation goal
THQ	=	Target hazard quotient (i.e., 1, 0.1)
HQ	=	Chemical-specific total hazard quotient shown in HHRA
EPC	=	Chemical-specific exposure point concentration presented in HHRA.

3. SELECTION OF SOIL PRGS

A brief discussion of the risk-based PRGs is presented below.

Lead is classified a probable human carcinogen. However, EPA has not published a slope factor (SF) or inhalation unit risk (IUR) for quantifying carcinogenic risks. Blood lead levels are the indicator of excess lead exposure in humans. In the HHRA, modeled blood level results are compared to the established threshold of no more than 5 percent of the population having a blood-lead of 5, 8, and 10 micrograms (µg) lead per deciliter (dL) or greater. Blood-lead levels were evaluated for residents using the EPA's Integrated Exposure Uptake Biokinetic Model (IEUBK) Lead Model and for workers using the EPA's Recommendations of the Technical Review Workgroup (TRW) for Lead, An Interim Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil. Land use within the five exposure areas at the site vary from residential to commercial/industrial. Zoning does not exist for the area the site is located. As a result, acceptable lead concentrations in soil may vary within an exposure area. To simply this difference in land use across the exposure area, lead PRGs were determined based upon the blood-lead levels of 5, 8, and 10 µg lead/dL of blood. The IEUBK model was used to determine the appropriate PRGs for the various blood-lead levels. It is noted that the IEUBK model does not provide a printout of the PRG determination. For the worker, the EPA Adult Lead Model was used to determine the appropriate PRGs for the various blood-lead levels. Outputs from this model are provided in Attachment 1. The final selection of the appropriate PRG will depend upon identified land use and remedial feasibility.

Benzo(a)pyrene was identified as a site COPC in the HHRA even though carcinogenic risks were within the EPA acceptable cancer risk range. The HHRA evaluated potential human health concerns based the entire exposure area. However, the exposure areas are larger than typical areas that are evaluated as residential yards. To further evaluate the surface soil medium of concern and evaluate potential concerns for smaller exposure areas (i.e., potential residential yards), sample results were reviewed to determine if areas of high concentration are present within the five soil exposure areas. Based upon this review, it was determined that localized levels of benzo(a)pyrene within the Wilcox Process Area and East Tank Farm may present carcinogenic risks greater than the EPA acceptable cancer risk range. For benzo(a)pyrene, the highest concentrations in soil were found just north of the lead additive area in the Wilcox Process Area (sample locations WPA-SB-09, WPA-SB-18 and WPA-SB-20).

Tables 1 and 2 present the summary of soil COPC PRGs for the resident and commercial/industrial worker in soil.

4. REFERENCES

EA Engineering, Science, and Technology, Inc. PBC. 2020. *Final Human Health Risk Assessment, Revision 02, Remedial Investigation / Feasibility Study, Wilcox Oil Company Superfund Site, Bristow, Creek County, Oklahoma*. April

Oklahoma Department of Environmental Quality (ODEQ). 2020. *Letter to Katrina Higgins-Coltrain, EPA, From: Todd Downham, ODEQ, Re: Groundwater Use, Wilcox Oil Company Superfund Site, Bristow, Creek County, Oklahoma*. 19 May 2020.

Tables

1 Risk-Based Site-Specific Preliminary Remediation Goals for Carcinogenic and Non-Carcinogenic Risks in Soil, Resident, Child and Adult

2 Risk-Based Site-Specific Preliminary Remediation Goals for Carcinogenic and Non-Carcinogenic Risks in Soil, Commercial/Industrial Worker

Tables

This page intentionally left blank

TABLE 1
RISK-BASED SITE-SPECIFIC PRELIMINARY REMEDIATION GOALS FOR CARCINOGENIC AND NON-CARCINOGENIC RISKS IN SOIL
RESIDENT ADULT AND CHILD
WILCOX OIL COMPANY SUPERFUND SITE
BRISTOW, CREEK COUNTY, OKLAHOMA

Contaminant of Concern	PRG[1] for HI = 1.0 (mg/kg)	PRG[1] for HI = 0.1 (mg/kg)	Site-Specific PRG for Carcinogenic Risk 10^{-6} (mg/kg)	Site-Specific PRG for Carcinogenic Risk 10^{-5} (mg/kg)	Site-Specific PRG for Carcinogenic Risk 10^{-4} (mg/kg)	Background UPL (mg/kg)	Maximum Concentration[2] (mg/kg)
Resident Adult and Child[3]							
Benzo(a)pyrene	NA	NA	0.12	1.2	11.5	NA	31.0

Contaminant of Concern	PRG for HI = 1.0 (mg/kg)	PRG for HI = 0.1 (mg/kg)	Site-Specific PRG for 5 µg/dL Blood-Lead Level[3] (mg/kg)	Site-Specific PRG for 8 µg/dL Blood-Lead Level[3] (mg/kg)	Site-Specific PRG for 10 µg/dL Blood-Lead Level[3] (mg/kg)	Background UPL (mg/kg)	Maximum Concentration[2] (mg/kg)
Resident Child							
Lead	NA	NA	200	300	400	9.19	20,800

1) Non carcinogenic hazard was below a level of 1, so noncancer endpoint is not evaluated.
2) Maximum concentration is for the entire Wilcox Oil Superfund Site.
3) Carcinogenic risks for the resident adult and child are combined to represent a lifetime, incremental carcinogenic risk
4) PRGs for lead are rounded to one significant figure to remain consistent with EPA lead policy.

EPC - Exposure Point Concentration
mg/kg - milligrams per kilogram
NA - Not Applicable
HI - Hazard Index
PRG - Preliminary Remediation Goal
RME - Reasonable Maximum Exposure

TABLE 2
RISK-BASED SITE-SPECIFIC PRELIMINARY REMEDIATION GOALS FOR CARCINOGENIC AND NON-CARCINOGENIC RISKS IN SOIL
COMMERCIAL/INDUSTRIAL WORKER
WILCOX OIL COMPANY SUPERFUND SITE
BRISTOW, CREEK COUNTY, OKLAHOMA

Contaminant of Concern	PRG[1] for HI = 1.0 (mg/kg)	PRG[1] for HI = 0.1 (mg/kg)	Site-Specific PRG for Carcinogenic Risk 10^{-6} (mg/kg)	Site-Specific PRG for Carcinogenic Risk 10^{-5} (mg/kg)	Site-Specific PRG for Carcinogenic Risk 10^{-4} (mg/kg)	Background UPL (mg/kg)	Maximum Concentration[2] (mg/kg)
Worker							
Benzo(a)pyrene	NA	NA	3.0	30	300	NA	31.0

Contaminant of Concern	PRG for HI = 1.0 (mg/kg)	PRG for HI = 0.1 (mg/kg)	Site-Specific PRG for 5 µg/dL Blood-Lead Level[3] (mg/kg)	Site-Specific PRG for 8 µg/dL Blood-Lead Level[3] (mg/kg)	Site-Specific PRG for 10 µg/dL Blood-Lead Level[3] (mg/kg)	Background UPL (mg/kg)	Maximum Concentration[2] (mg/kg)
Worker							
Lead	NA	NA	500	800	1,000	9.19	20,800

1) Non carcinogenic hazard was below a level of 1, so noncancer endpoint is not evaluated.
2) Maximum concentration is for the entire Wilcox Oil Superfund Site.
3) PRGs for lead are rounded to one significant figure to remain consistent with EPA lead policy.

EPC - Exposure Point Concentration
mg/kg - milligrams per kilogram
NA - Not Applicable
HI - Hazard Index
PRG - Preliminary Remediation Goal
RME - Reasonable Maximum Exposure
UPL - Upper prediction limit

Attachment 1

This page intentionally left blank

TABLE 1
PRG CALCULATION
REASONABLE MAXIMUM EXPOSURE
WILCOX OIL COMPANY SUPERFUND SITE - WILCOX PROCESS AREA
BRISTOW, CREEK COUNTY, OKLAHOMA

Location: Wilcox Process Area
Scenario Timeframe:
Current/Future Receptor
Population: Resident Receptor Age:

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Exposure Point Concentration	Carcinogenic Risk				Chemical of Concern	Non-Carcinogenic Hazard Quotient			
					Exposure Routes Total	Preliminary Remediation Goal				Primary Target Organ	Exposure Routes Total	Preliminary Remediation Goal	
						Risk = 10^{-6}	Risk = 10^{-5}	Risk = 10^{-4}				HI = 0.1	HI = 1.0
Soil	Surface Soil	Wilcox Process Area	**PAHs** BENZO(A)PYRENE	2.53	1.9E-05	NA	NA	NA	**PAHs** BENZO(A)PYRENE	Developmental System	NA	NA	NA
		Wilcox Process Area (Adult)	**PAHs** BENZO(A)PYRENE	2.53	2.7E-06	NA	NA	NA	**PAHs** BENZO(A)PYRENE	Developmental System	NA	NA	NA
		Wilcox Process Area (Adult + Child)	**PAHs** BENZO(A)PYRENE	2.53	2.2E-05	0.12	1.2	11.5					

TABLE *2*
PRG CALCULATION
REASONABLE MAXIMUM EXPOSURE
WILCOX OIL COMPANY SUPERFUND SITE - WILCOX PROCESS AREA
BRISTOW, CREEK COUNTY, OKLAHOMA

Location: Wilcox Process Area
Scenario Timeframe: Current/Future
Receptor Population: Commercial/Industrial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Concern	Exposure Point Concentration	Exposure Routes Total	Preliminary Remediation Goal			Chemical of Concern	Non-Carcinogenic Hazard Quotient			
						Risk = 10^{-6}	Risk = 10^{-5}	Risk = 10^{-4}		Primary Target Organ	Exposure Routes Total	Preliminary Remediation Goal HI = 0.1	Preliminary Remediation Goal HI = 1.0
Soil	Surface Soil	Wilcox Process	**PAHs** BENZO(A)PYRENE	2.53	8.5E-07	3.0	30	299	**PAHs** BENZO(A)PYRENE	Developmental System	NA	NA	NA

Calculations of Preliminary Remediation Goals (PRGs) for Soil in Nonresidential Areas

U.S. EPA Technical Review Workgroup for Lead, Adult Lead Committee

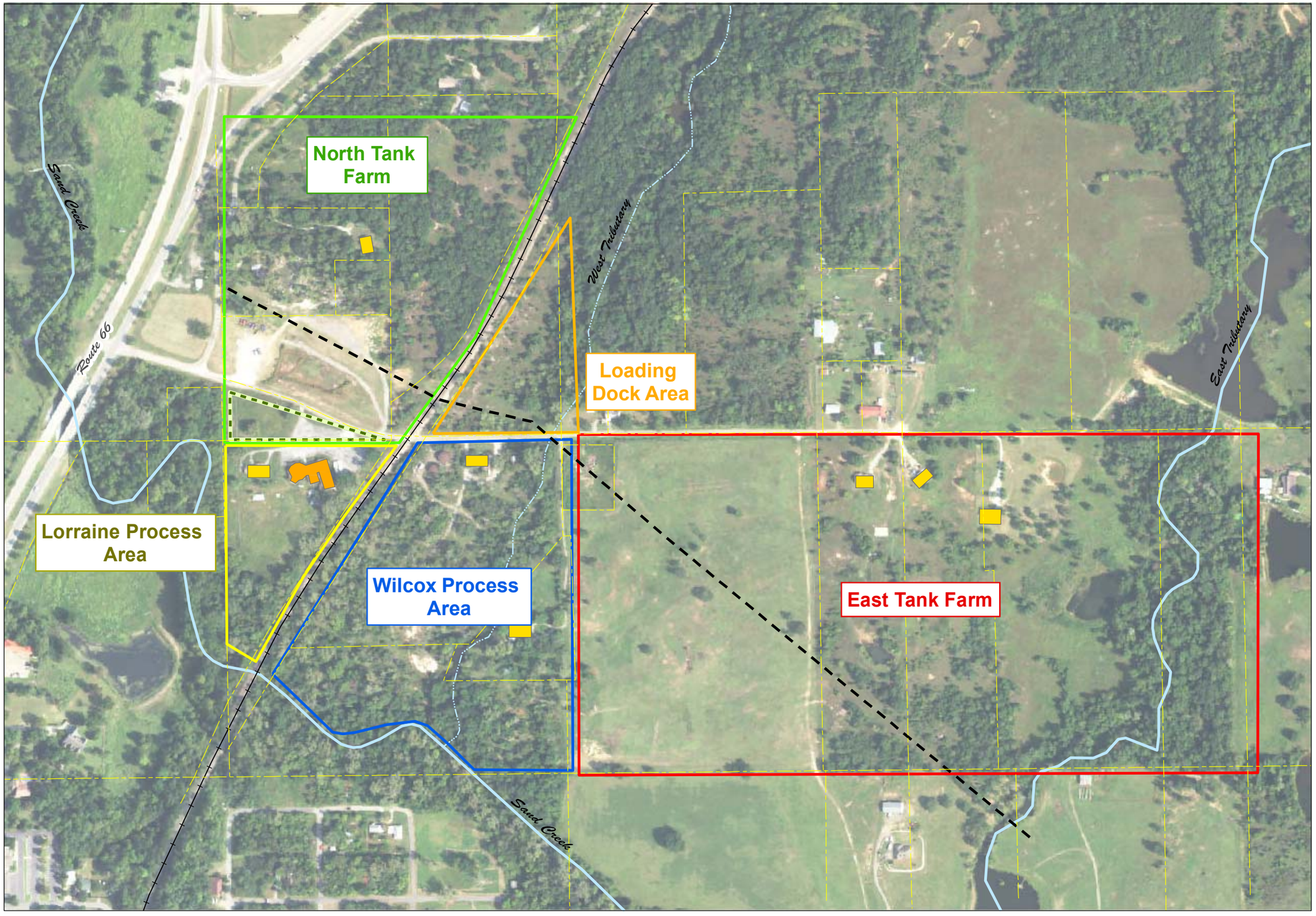
Version date 06/14/2017

EDIT RED CELLS

Variable	Description of Variable	Units	GSDi and PbBo from Analysis of NHANES 2009-2014	GSDi and PbBo from Analysis of NHANES 2009-2014	GSDi and PbBo from Analysis of NHANES 2009-2014
$PbB_{fetal,\ 0.95}$	Target PbB in fetus (e.g., 2-8 µg/dL)	µg/dL	5	8	10
$R_{fetal/maternal}$	Fetal/maternal PbB ratio	--	0.9	0.9	0.9
BKSF	Biokinetic Slope Factor	µg/dL per	0.4	0.4	0.4
GSD_i	Geometric standard deviation PbB	--	1.8	1.8	1.8
PbB_0	Baseline PbB	µg/dL	0.6	0.6	0.6
IR_S	Soil ingestion rate (including soil-derived indoor dust)	g/day	0.100	0.100	0.100
$AF_{S,D}$	Absorption fraction (same for soil and dust)	--	0.12	0.12	0.12
$EF_{S,D}$	Exposure frequency (same for soil and dust)	days/yr	250	250	250
$AT_{S,D}$	Averaging time (same for soil and dust)	days/yr	365	365	365
PRG in Soil for no more than 5% probability that fetal PbB exceeds target PbB		**ppm**	**460**	**846**	**1,103**

BENZO(A)PYRENE HOT SPOT EVALUATION

M:\Federal\EPA\RAC II\0128-Wilcox Oil RI-FS\GIS\MXDs\RI\2-Site Layout.mxd 10/2/2020 EA-Dallas jschwertz



0 200 400 800 Feet

1 inch = 400 feet

Legend

- Property Lines
- Stream, Intermittent
- Stream, Perennial
- Pipeline
- Railroad

On-Site Building

- Church
- Residence
- Area will be designated as part of Lorraine Process Area for this investigation.

Image Source: National Agriculture Imagery Program 2015.

Wilcox Oil Company Superfund Site
Bristow, Creek County, Oklahoma

Figure 1
Site Layout and Property Lines

Benzo(a)pyrene ProUCL Inputs

benzoapyr	d_benzoapyrene	
38.9	1	TP-09-0.5
0.025	1	SB-01-0.5
0.027	1	SB-02-0.5
0.015	1	SB-03-0.5
0.16	1	SB-07-0.5
2.1	1	SB-8-0.5
0.0088	1	SB-02-2
0.002	1	SB-03-2
0.035	1	SB-07-2
0.36	1	SB-08-2
0.915	1	TP-09-2

UCL Statistics for Uncensored Full Data Sets

User Selected Options	
Date/Time of Computation	ProUCL 5.1 10/30/2020 12:53:08 PM
From File	benzoapyrene input.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	10000

benzoapyrene

General Statistics

Total Number of Observations	11	Number of Distinct Observations	11
		Number of Missing Observations	0
Minimum	0.002	Mean	3.868
Maximum	38.9	Median	0.035
SD	11.64	Std. Error of Mean	3.508
Coefficient of Variation	3.008	Skewness	3.299

Normal GOF Test

Shapiro Wilk Test Statistic	0.382	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.85	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.469	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.251	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		95% UCLs (Adjusted for Skewness)	
95% Student's-t UCL	10.23	95% Adjusted-CLT UCL (Chen-1995)	13.37
		95% Modified-t UCL (Johnson-1978)	10.81

Gamma GOF Test

A-D Test Statistic	1.209	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.859	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.246	**Kolmogorov-Smirnov Gamma GOF Test**
5% K-S Critical Value	0.281	Detected data appear Gamma Distributed at 5% Significance Level

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.206	k star (bias corrected MLE)	0.21
Theta hat (MLE)	18.82	Theta star (bias corrected MLE)	18.41
nu hat (MLE)	4.521	nu star (bias corrected)	4.622
MLE Mean (bias corrected)	3.868	MLE Sd (bias corrected)	8.439
		Approximate Chi Square Value (0.05)	0.982
Adjusted Level of Significance	0.0278	Adjusted Chi Square Value	0.741

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50)	18.21	95% Adjusted Gamma UCL (use when n<50)	24.13

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.951	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.85	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.201	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.251	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	-6.215	Mean of logged Data	-2.213
Maximum of Logged Data	3.661	SD of logged Data	2.847

Assuming Lognormal Distribution

95% H-UCL	3852	90% Chebyshev (MVUE) UCL	7.505
95% Chebyshev (MVUE) UCL	9.924	97.5% Chebyshev (MVUE) UCL	13.28
99% Chebyshev (MVUE) UCL	19.88		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	9.639	95% Jackknife UCL	10.23
95% Standard Bootstrap UCL	9.403	95% Bootstrap-t UCL	161.1
95% Hall's Bootstrap UCL	134.9	95% Percentile Bootstrap UCL	10.78
95% BCA Bootstrap UCL	14.54		
90% Chebyshev(Mean, Sd) UCL	14.39	95% Chebyshev(Mean, Sd) UCL	19.16
97.5% Chebyshev(Mean, Sd) UCL	25.78	99% Chebyshev(Mean, Sd) UCL	38.78

Suggested UCL to Use

95% Adjusted Gamma UCL 24.13

When a data set follows an approximate (e.g., normal) distribution passing one of the GOF test
When applicable, it is suggested to use a UCL based upon a distribution (e.g., gamma) passing both GOF tests in ProUCL

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Site-specific
Resident Soil Inputs

Variable	Resident Soil Default Value	Form-input Value
A (PEF Dispersion Constant)	16.2302	14.1901
A (VF Dispersion Constant)	11.911	11.911
A (VF Dispersion Constant - mass limit)	11.911	11.911
B (PEF Dispersion Constant)	18.7762	18.5634
B (VF Dispersion Constant)	18.4385	18.4385
B (VF Dispersion Constant - mass limit)	18.4385	18.4385
City (PEF Climate Zone) Selection	Default	Lincoln, NE (5)
City (VF Climate Zone) Selection	Default	Default
C (PEF Dispersion Constant)	216.108	210.5281
C (VF Dispersion Constant)	209.7845	209.7845
C (VF Dispersion Constant - mass limit)	209.7845	209.7845
foc (fraction organic carbon in soil) g/g	0.006	0.006
F(x) (function dependent on U_m/U_t) unitless	0.194	0.182
n (total soil porosity) L_{pore}/L_{soil}	0.43396	0.43396
p_h (dry soil bulk density) g/cm ^{3}	1.5	1.5
p_h (dry soil bulk density - mass limit) g/cm ^{3}	1.5	1.5
PEF (particulate emission factor) m ^{3}/kg	1359344438	1309396003.8905
p_c (soil particle density) g/cm ^{3}	2.65	2.65
Q/C_{wind} (g/m^2-s per kg/m^3)	93.77	82.590858718966
Q/C_{vol} (g/m^2-s per kg/m^3)	68.18	68.18
Q/C_{vol} (g/m^2-s per kg/m^3 - mass limit)	68.18	68.18
A_s (PEF acres)	0.5	0.5
A_s (VF acres)	0.5	0.5
A_s (VF mass-limit acres)	0.5	0.5
AF_{0-2} (mutagenic skin adherence factor) mg/cm ^{2}	0.2	0.2
AF_{2-6} (mutagenic skin adherence factor) mg/cm ^{2}	0.2	0.2
AF_{6-16} (mutagenic skin adherence factor) mg/cm	0.07	0.07
AF_{16-26} (mutagenic skin adherence factor) mg/cm ^{2}	0.07	0.07
AF_{res-a} (skin adherence factor - adult) mg/cm ^{2}	0.07	0.07
AF_{res-c} (skin adherence factor - child) mg/cm ^{2}	0.2	0.2
AT_{res} (averaging time - resident carcinogenic)	365	365

Output generated 30OCT2020:12:57:10

Site-specific
Resident Soil Inputs

Variable	Resident Soil Default Value	Form-input Value
BW_{0-2} (mutagenic body weight) kg	15	15
BW_{2-6} (mutagenic body weight) kg	15	15
BW_{6-16} (mutagenic body weight) kg	80	80
BW_{16-26} (mutagenic body weight) kg	80	80
BW_{res-a} (body weight - adult) kg	80	80
BW_{res-c} (body weight - child) kg	15	15
$DFS_{res-adj}$ (age-adjusted soil dermal factor) mg/kg	103390	103390
$DFSM_{res-adj}$ (mutagenic age-adjusted soil dermal factor) mg/kg	428260	428260
ED_{res} (exposure duration) years	26	26
ED_{0-2} (mutagenic exposure duration) years	2	2
ED_{2-6} (mutagenic exposure duration) years	4	4
ED_{6-16} (mutagenic exposure duration) years	10	10
ED_{16-26} (mutagenic exposure duration) years	10	10
ED_{res-a} (exposure duration - adult) years	20	20
ED_{res-c} (exposure duration - child) years	6	6
EF_{res} (exposure frequency) days/year	350	350
EF_{0-2} (mutagenic exposure frequency) days/year	350	350
EF_{2-6} (mutagenic exposure frequency) days/year	350	350
EF_{6-16} (mutagenic exposure frequency) days/year	350	350
EF_{16-26} (mutagenic exposure frequency) days/year	350	350
EF_{res-a} (exposure frequency - adult) days/year	350	350
EF_{res-c} (exposure frequency - child) days/year	350	350
ET_{res} (exposure time) hours/day	24	24
ET_{0-2} (mutagenic exposure time) hours/day	24	24
ET_{2-6} (mutagenic exposure time) hours/day	24	24
ET_{6-16} (mutagenic exposure time) hours/day	24	24
ET_{16-26} (mutagenic exposure time) hours/day	24	24
ET_{res-a} (adult exposure time) hours/day	24	24
ET_{res-c} (child exposure time) hours/day	24	24
THQ (target hazard quotient) unitless	0.1	0.1
$IFS_{res-adj}$ (age-adjusted soil ingestion factor) mg/kg	36750	36750

Site-specific
Resident Soil Inputs

Variable	Resident Soil Default Value	Form-input Value
$IFSM_{res\text{-}adj}$ (mutagenic age-adjusted soil ingestion factor) mg/kg	166833.3	166833.3
$IRS_{0\text{-}2}$ (mutagenic soil intake rate) mg/day	200	200
$IRS_{2\text{-}6}$ (mutagenic soil intake rate) mg/day	200	200
$IRS_{6\text{-}16}$ (mutagenic soil intake rate) mg/day	100	100
$IRS_{16\text{-}26}$ (mutagenic soil intake rate) mg/day	100	100
$IRS_{res\text{-}a}$ (soil intake rate - adult) mg/day	100	100
$IRS_{res\text{-}c}$ (soil intake rate - child) mg/day	200	200
LT (lifetime) years	70	70
$SA_{0\text{-}2}$ (mutagenic skin surface area) cm^2/day	2373	2373
$SA_{2\text{-}6}$ (mutagenic skin surface area) cm^2/day	2373	2373
$SA_{6\text{-}16}$ (mutagenic skin surface area) cm^2/day	6032	6032
$SA_{16\text{-}26}$ (mutagenic skin surface area) cm^2/day	6032	6032
$SA_{res\text{-}a}$ (skin surface area - adult) cm^2/day	6032	6032
$SA_{res\text{-}c}$ (skin surface area - child) cm^2/day	2373	2373
TR (target risk) unitless	1.0E-06	1.0E-06
T_w (groundwater temperature) Celsius	25	25
$Theta_a$ (air-filled soil porosity) L_{air}/L_{soil}	0.28396	0.28396
$Theta_w$ (water-filled soil porosity) L_{water}/L_{soil}	0.15	0.15
T (exposure interval) s	819936000	819936000
T (exposure interval) yr	26	26
U_m (mean annual wind speed) m/s	4.69	4.65
U_t (equivalent threshold value)	11.32	11.32
V (fraction of vegetative cover) unitless	0.5	0.5
VF_{ml} (volitization factor - mass limit) m^3/kg	.	0

Output generated 30OCT2020:12:57:10

Site-specific

Resident Regional Screening Levels (RSL) for Soil

Key: I = IRIS; P = PPRTV; O = OPP; A = ATSDR; C = Cal EPA; X = PPRTV Screening Level; H = HEAST; D = DWSHA; W = TEF applied; E = RPF applied; G = see user's guide; U = user provided; ca = cancer; nc = noncancer; * = where: nc SL < 100X ca SL; ** = where nc SL < 10X ca SL; SSL values are based on DAF=1; max = ceiling limit exceeded; sat = Csat exceeded.

Chemical	CAS Number	Mutagen?	Volatile?	Chemical Type	SF_o $(mg/kg\text{-}day)^{-1}$	SF_o Ref	IUR $(ug/m^3)^{-1}$	IUR Ref	RfD (mg/kg-day)	RfD Ref	RfC (mg/m^3)	RfC Ref
Benzo[a]pyrene	50-32-8	Yes	No	Organics	1.00E+00	I	6.00E-04	I	3.00E-04	I	2.00E-06	I

GIABS	ABS	RBA	Soil Saturation Concentration (mg/kg)	S (mg/L)	K_{oc} \ (cm^3/g)	K_d \ (cm^3/g)	HLC (atm-m^3/mole)	Henry's Law Constant Used in Calcs (unitless)	H` and HLC Ref	Normal Boiling Point BP (K)	BP Ref
1	0.13	1	-	1.62E-03	5.87E+05	-	4.57E-07	1.87E-05	PHYSPROP	768.15	PHYSPROP

Critical Temperature TC (K)	TC Ref	Chemical Type	D_{ia} \ (cm^2/s)	D_{iw} \ (cm^2/s)	D_A \ (cm^2/s)	Particulate Emission Factor (m^3/kg)	Volatilization Factor (m^3/kg)	Ingestion SL TR=1E-06 (mg/kg)	Dermal SL TR=1E-06 (mg/kg)	Inhalation SL TR=1E-06 (mg/kg)
969.27	EPA 2001 Fact Sheet	PAH	2.55E-02	6.58E-06	-	1.31E+09	-	1.53E-01	4.59E-01	2.21E+03

Carcinogenic SL TR=1E-06 (mg/kg)	Ingestion SL Child THQ=0.1 (mg/kg)	Dermal SL Child THQ=0.1 (mg/kg)	Inhalation SL Child THQ=0.1 (mg/kg)	Noncarcinogenic SL Child THI=0.1 (mg/kg)	Ingestion SL Adult THQ=0.1 (mg/kg)	Dermal SL Adult THQ=0.1 (mg/kg)	Inhalation SL Adult THQ=0.1 (mg/kg)	Noncarcinogenic SL Adult THI=0.1 (mg/kg)	Screening Level (mg/kg)
1.15E-01	2.35E+00	7.61E+00	2.73E+02	1.78E+00	2.50E+01	4.56E+01	2.73E+02	1.53E+01	1.15E-01 ca

Site-specific Resident Risk for Soil

Chemical	SF_o (mg/kg-day) $^{-1}$	SF_o Ref	IUR (ug/m^3)$^{-1}$	IUR Ref	RfD (mg/kg-day)	RfD Ref	RfC (mg/m^3)	RfC Ref	GIABS	ABS	RBA	Soil Saturation Concentration (mg/kg)	S (mg/L)	K_{oc} \ (cm^3/g)	K_d \ (cm^3/g)	HLC (atm-m^3/mole)
Benzo[a]pyrene	1.00E+00	I	6.00E-04	I	3.00E-04	I	2.00E-06	I	1	0.13	1	-	1.62E-03	5.87E+05	-	4.57E-07
*Total Risk/HI	-		-		-		-		-	-	-	-	-	-	-	-

Chemical	Henry's Law Constant Used in Calcs (unitless)	H` and HLC Ref	Normal Boiling Point BP (K)	BP Ref	Critical Temperature TC (K)	TC Ref	Chemical Type	D_{ia} \ (cm^2/s)	D_{iw} \ (cm^2/s)	D_A \ (cm^2/s)	Particulate Emission Factor (m^3/kg)	Volatilization Factor (m^3/kg)	Concentration (mg/kg)
Benzo[a]pyrene	1.87E-05	PHYSPROP	768.15	PHYSPROP	969.27	EPA 2001 Fact Sheet	PAH	2.55E-02	6.58E-06	-	1.31E+09	-	2.41E+01
*Total Risk/HI	-		-		-			-	-	-	-	-	-

Chemical	Ingestion Risk	Dermal Risk	Inhalation Risk	Carcinogenic Risk	Ingestion Child HQ	Dermal Child HQ	Inhalation Child HQ	Noncarcinogenic Child HI	Ingestion Adult HQ	Dermal Adult HQ	Inhalation Adult HQ	Noncarcinogenic Adult HI
Benzo[a]pyrene	1.57E-04	5.25E-05	1.09E-08	2.10E-04	1.03E+00	3.17E-01	8.82E-03	1.35E+00	9.63E-02	5.29E-02	8.82E-03	1.58E-01
*Total Risk/HI	1.57E-04	5.25E-05	1.09E-08	2.10E-04	1.03E+00	3.17E-01	8.82E-03	1.35E+00	9.63E-02	5.29E-02	8.82E-03	1.58E-01

Appendix D

Detailed Cost Estimates

COST ESTIMATE SUMMARY

Description	Total Cost [(a)]	Lower Range (-30%)	Upper Range (+50%)
ALTERNATIVE S-1: NO ACTION	$0	$ -	$ -
ALTERNATIVE S-2: EXCAVATION AND OFFSITE DISPOSAL	$ 3,356,649.95	$ 2,349,654.97	$ 5,034,974.93
ALTERNATIVE S-3: EXCAVATION AND ONSITE CONTAINMENT REPOSITORY	$ 6,939,557.49	$ 4,857,690.24	$ 10,409,336.24
ALTERNATIVE S-4: EXCAVATION, ONSITE CONSOLIDATION, AND CAPPING	$ 5,157,146.74	$ 3,610,002.72	$ 7,735,720.11

Notes:
(a) The capital and operations and maintenance costs are rounded up to the nearest thousand
Estimate not intended for construction
Expected accuracy +50%/-30%

ALTERNATIVE S-1: NO ACTION

Description	Total Cost	Data Source [(a)]
CAPITAL COST		
TOTAL - CAPITAL COST	$0	

Notes:
(a) Sources expressed as a numerical value were obtained from the following source: RACER ®, 2017, Version 11.4.63.0. Pricing: Year 2021.

ALTERNATIVE S-2: EXCAVATION AND OFFSITE DISPOSAL

Description		Total Cost	Data Source [a]
CAPITAL COST			
Mobilization/Demobilization			
	$	184,616.11	RACER
Clear and Grub			
To include brush and tree clearing & grubbing, cut & chip light trees, to 12 inch diameter	$	13,624.55	RACER
Excavation			
Excavation, including confirmation sampling and backfill	$	1,558,596.79	RACER
Off-site Transportation and Waste Disposal - *Non-Hazardous Waste*			
Transportation and disposal	$	1,437,606.10	RACER
Cleanup and Landscaping			
Seeding and Site restoration	$	121,821.57	RACER
Site Close-out Documentation			
	$	40,384.84	RACER
TOTAL - CAPITAL COST		$3,356,649.95	
TOTAL - PRESENT WORTH[d]		$3,356,649.95	RACER

Notes:
(a) Sources expressed as a numerical value were obtained from the following source: RACER ®, 2017, Version 11.4.63.0. Pricing: Year 2021.

ALTERNATIVE S-3: EXCAVATION AND ONSITE DISPOSAL

Description		Total Cost	Data Source [a]
CAPITAL COST			
Mobilization/Demobilization			
	$	184,616.11	RACER
Clear and Grub			
To include brush and tree clearing & grubbing, cut & chip light trees, to 12 inch diameter	$	13,624.55	RACER
Excavation			
Excavation, including confirmation sampling and backfill	$	1,558,596.79	RACER
Capping			
RCRA subtitle D designed containment cell	$	4,063,058.28	RACER
Cleanup and Landscaping			
Seeding and Site restoration	$	121,821.57	RACER
Groundwater Monitoring Wells			
10 wells, installed to a depth of 15ft, 2in PVC pipe	$	36,435.31	RACER
Site Close-out Documentation			
	$	40,384.84	RACER
Administrative Land Use Controls			
	$	106,479.89	RACER
TOTAL - CAPITAL COST	$	6,125,017.34	
O&M COST			
Groundwater Monitoring			
10 wells, sampled annually	$	726,243.00	First year $55,876.51 Out Years $23,116 RACER
Five-Year Reviews			
Includes six reviews, one review every five years for 30 years. Includes document review, site inspection and report.	$	88,297.00	Per Five Year $14,716 RACER
TOTAL - O&M[b]	$	814,540.00	
TOTAL - MARKED-UP COST[c]	$	6,939,557.49	
TOTAL - PRESENT WORTH[d]	$	6,596,518.88	

Notes:
(a) Sources expressed as a numerical value were obtained from the following source: RACER ®, 2017, Version 11.4.63.0. Pricing: Year 2021.

ALTERNATIVE S-4: SOIL CONSOLIDATION AND ONSITE CAPPING

Description		Total Cost	Data Source [a]
CAPITAL COST			
Mobilization/Demobilization			
	$	184,616.11	RACER
Clear and Grub			
To include brush and tree clearing & grubbing, cut & chip light trees, to 12 inch diameter	$	13,624.55	RACER
Excavation			
Excavation, including confirmation sampling and backfill	$	1,558,596.79	RACER
Capping			
Capping	$	2,280,647.53	RACER
Cleanup and Landscaping			
Seeding and Site restoration	$	121,821.57	RACER
Groundwater Monitoring Wells			
10 wells, installed to a depth of 15ft, 2in PVC pipe	$	36,435.31	RACER
Site Close-out Documentation			
	$	40,384.84	RACER
Administrative Land Use Controls			
	$	106,479.89	RACER
TOTAL - CAPITAL COST	$	4,342,606.74	
O&M COST			
Groundwater Monitoring			
10 wells, sampled annually	$	726,243.00	First year $55,876.51 Out Years $23,116 RACER
Five-Year Reviews			
Includes six reviews, one review every five years for 30 years. Includes document review, site inspection and report.	$	88,297.00	Per Five Year $14,716 RACER
TOTAL - O&M[b]	$	814,540.00	
TOTAL - MARKED-UP COST[c]	$	5,157,146.74	
TOTAL - PRESENT WORTH[d]	$	4,814,108.28	

Notes:
(a) Sources expressed as a numerical value were obtained from the following source: RACER ®, 2017, Version 11.4.63.0. Pricing: Year 2021.

SUMMARY OF ASSUMPTIONS

Technology
CAPITAL COST
Mobilization/Demobilization
10 person crew for 120 days
Clear and Grub
Clear 3 Acres of Dry Material
To include brush of medium density
Tree clearing, cut & chip light trees, to 12 inch diameter
Grubbing Depth 6 inches, bulk factor 1.2
Excavation
Excavation of 34,477 cy of soil (at 2 ft depth), Sand-Silt/Sand-Clay Mix
Existing Cover Soil/Gravel
Repacement Cover Soil/Seed
Backfill Haul Distance 10 miles
Confirmation Sampling 200 sample points; Metals and SVOC Analysis
Capping - Alternative 3
RCRA Non-Hazardous Waste Cap - 10.7 acres, side slope 3:1
Top Cover of 6 in of Vegetation
Protection Layer 12 in offsite soil/clay
Impervious Layer 40 mil HDPE
Soil Layer 18 in common fill
Foundation layer 12 in offsite soil/clay
Drainage geotextiles, non-woven
Capping - Alternative 4
Dermal cover - 10.7 acres, side slope 3:1
Top Cover of 6 in of Vegetation
Foundation layer 12 in offsite soil/clay
Drainage geotextiles, non-woven
Cleanup and Landscaping
10.5 Acre for cleanup and landscaping
Seeding and Site restoration
Groundwater Monitoring Wells
10 wells, installed to a depth of 15ft, 2in Schedule 80 PVC pipe
Site Close-out Documentation
Includes (1) Meeting, no travel
Draft and Final Work Plans
Draft, Draft Final and Final Close-out Report and Decision Document
O&M COST
Groundwater Monitoring
10 wells, sampled annually, 1 Field Duplicate, 1 Rinse Blank, 1 Matrix Spike/Matrix Duplicate; Metals and SVOC Analysis
Administrative Land Use Controls
Include Planning Documents and Impementation; LUC Implementation Plan of Low Complexity
(1) Planning Meeting with no travel
Five-Year Reviews
Includes six reviews, one review every five years for 30 years. Includes document review, site inspection and report.
Notes:
(a) Assumptions were inputted into: RACER ®, 2017, Version 11.4.63.0. Pricing: Year 2021.

Backup Worksheet - O&M

Costs calculated using a real discount rate of 7% - 2019 rate from the OMB circular A-94.

Costs include 7% Markup for Contingency and Fees

Alt 1			Alt2			Alt3			Alt4		
No Action			**Five Year Reviews**			**Monitoring and Five Year Review**			**Monitoring and Five Year Review**		
FV	PV	Time	FV	PV	Time	FV	PV	Time	FV	PV	Time
	$ -	1		$ -	1	$ 55,877	$ 52,221	1	$ 55,877	$ 52,221	1
	$ -	2		$ -	2	$ 23,116	$ 20,190	2	$ 23,116	$ 20,190	2
	$ -	3		$ -	3	$ 23,116	$ 18,870	3	$ 23,116	$ 18,870	3
	$ -	4		$ -	4	$ 23,116	$ 17,635	4	$ 23,116	$ 17,635	4
	$ -	5	$ 14,716	$ 10,492	5	$ 37,832	$ 26,974	5	$ 37,832	$ 26,974	5
	$ -	6		$ -	6	$ 23,116	$ 15,403	6	$ 23,116	$ 15,403	6
	$ -	7		$ -	7	$ 23,116	$ 14,395	7	$ 23,116	$ 14,395	7
	$ -	8		$ -	8	$ 23,116	$ 13,454	8	$ 23,116	$ 13,454	8
	$ -	9		$ -	9	$ 23,116	$ 12,574	9	$ 23,116	$ 12,574	9
	$ -	10	$ 14,716	$ 7,481	10	$ 37,832	$ 19,232	10	$ 37,832	$ 19,232	10
	$ -	11		$ -	11	$ 23,116	$ 15,833	11	$ 23,116	$ 15,833	11
	$ -	12		$ -	12	$ 23,116	$ 15,298	12	$ 23,116	$ 15,298	12
	$ -	13		$ -	13	$ 23,116	$ 14,780	13	$ 23,116	$ 14,780	13
	$ -	14		$ -	14	$ 23,116	$ 14,281	14	$ 23,116	$ 14,281	14
	$ -	15	$ 14,716	$ 5,334	15	$ 37,832	$ 22,582	15	$ 37,832	$ 22,582	15
	$ -	16		$ -	16	$ 23,116	$ 13,331	16	$ 23,116	$ 13,331	16
	$ -	17		$ -	17	$ 23,116	$ 12,880	17	$ 23,116	$ 12,880	17
	$ -	18		$ -	18	$ 23,116	$ 12,445	18	$ 23,116	$ 12,445	18
	$ -	19		$ -	19	$ 23,116	$ 12,024	19	$ 23,116	$ 12,024	19
	$ -	20	$ 14,716	$ 3,803	20	$ 37,832	$ 19,013	20	$ 37,832	$ 19,013	20
	$ -	21		$ -	21	$ 23,116	$ 11,224	21	$ 23,116	$ 11,224	21
	$ -	22		$ -	22	$ 23,116	$ 10,845	22	$ 23,116	$ 10,845	22
	$ -	23		$ -	23	$ 23,116	$ 10,478	23	$ 23,116	$ 10,478	23
	$ -	24		$ -	24	$ 23,116	$ 10,124	24	$ 23,116	$ 10,124	24
	$ -	25	$ 14,716	$ 2,711	25	$ 37,832	$ 16,008	25	$ 37,832	$ 16,008	25
	$ -	26		$ -	26	$ 23,116	$ 9,451	26	$ 23,116	$ 9,451	26
	$ -	27		$ -	27	$ 23,116	$ 9,131	27	$ 23,116	$ 9,131	27
	$ -	28		$ -	28	$ 23,116	$ 8,822	28	$ 23,116	$ 8,822	28
	$ -	29		$ -	29	$ 23,116	$ 8,524	29	$ 23,116	$ 8,524	29
	$ -	30	$ 14,716	$ 1,933	30	$ 37,832	$ 13,479	30	$ 37,832	$ 13,479	30
	$ -			**$ 31,754**			**$ 471,502**			**$ 471,502**	

Phase Technology Cost Detail Report
(with Markups)

System:

RACER Version: RACER® Version 11.4.63.0
Database Location: C:\Users\Administrator\Desktop\RACER Backups\Racer_Backup_8_1_2019.mdb

Folder:

Folder Name: wilcox

Project:

ID: Wilcox FS
Name: Remedial Action Screening
Category: None

Location
State / Country: OKLAHOMA
City: OKLAHOMA STATE AVERAGE

Location Modifier	Default	User	Reason for changes
	0.890	0.890	

Options
Database: System Costs
Cost Database Date: 2017
Report Option: Fiscal

Description Remedial Action

Site:

ID: Wilcox
Name: Feasibility Study
Type: None

Media/Waste Type

Primary: Soil
Secondary: N/A

Contaminant

Primary: Metals
Secondary: Semi-Volatile Organic Compounds (SVOCs)

Phase Names

- Pre-Study ☐
- Study ☐
- Design ☑
- Removal/Interim Action ☐
- Remedial Action ☑
- Operations & Maintenance ☑
- Long Term Monitoring ☐
- Site Closeout ☑

Documentation

Description: Reports
Support Team: Documentation of personnel used to provide support for estimator and preparation of the estimate.
References: Documentation of reference sources used in the preparation of the estimate.

Estimator Information

Estimator Name: Brooke Campanell
Estimator Title: Engineer

Agency/Org./Office:	EA Engineering, Science and Technology
Business Address:	1311 Continental Dr Suite K Abindon, MD 21009
Telephone Number:	4106716051
Email Address:	bcampanell@eaest.com
Estimate Prepared Date:	10/01/2019

Estimator Signature: _____ Date: _____

Reviewer Information

Reviewer Name:	
Reviewer Title:	
Agency/Org./Office:	
Business Address:	
Telephone Number:	
Email Address:	
Date Reviewed:	03/09/2021

Reviewer Signature: _____ Date: _____

Phase Documentation:

Phase Type:	Remedial Action
Phase Name:	Alternative 2 - Excavation, Offsite Disposal
Description:	Excavation and offsite hauling of soil to disposal facility
Approach:	Ex Situ
Start Date:	April, 2021
Labor Rate Group:	System Labor Rate
Analysis Rate Group:	System Analysis Rate
Phase Markup Template:	System Defaults

Technology Markups	Markup	% Prime	% Sub.
Excavation	True	100	0
Off-site Transportation and Waste Disposal	True	100	0
Site Close-Out Documentation	True	100	0
Cleanup and Landscaping	True	100	0
Clear and Grub	True	100	0
Mobilization/Demobilization	True	100	0

Total Marked-up Cost: $3,356,649.95

Technologies:

Technology: Excavation

Technology: Excavation

Element:

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
17020416	12 CY Dump Truck Haul/Hour	2,141.00	HR	0.00	94.17	62.67	0.00	$335,793.03	False
17030242	22 CY Scraper by BCY	34,572.00	CY	0.00	1.67	2.91	0.00	$158,576.70	False
17030423	Unclassified Fill, 6" Lifts, Off-Site, Includes Delivery, Spreading, and Compaction	44,943.60	CY	18.22	1.62	1.23	0.00	$947,029.57	False
18050402	Seeding, Vegetative Cover	12.86	ACR	4,849.18	735.78	323.35	0.00	$75,980.79	False
33020401	Disposable Materials per Sample	200.00	EA	12.71	0.00	0.00	0.00	$2,542.16	False
33021709	Testing, TAL metals (6010/7000s)	50.00	EA	0.00	0.00	0.00	202.16	$10,107.85	False
33021721	Testing, semi-volatile organics (625, 8270)	50.00	EA	0.00	0.00	0.00	350.91	$17,545.70	False
33220102	Project Manager	9.00	HR	0.00	257.81	0.00	0.00	$2,320.33	False
33220108	Project Scientist	31.00	HR	0.00	193.87	0.00	0.00	$6,009.98	False
33220110	QA/QC Officer	5.00	HR	0.00	183.84	0.00	0.00	$919.18	False
33220112	Field Technician	5.00	HR	0.00	118.84	0.00	0.00	$594.21	False
33220114	Word Processing/Clerical	5.00	HR	0.00	120.66	0.00	0.00	$603.32	False
33220115	Draftsman/CADD	5.00	HR	0.00	114.80	0.00	0.00	$573.98	False

Total Element Cost:	$1,558,596.79
Total 1st Year Tech Cost:	$1,558,596.79

Technology: Off-site Transportation and Waste Disposal

Element:

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33190102	Bulk Solid Waste Loading Into Disposal Vehicle or Bulk Disposal Container	34,572.00	BCY	1.33	1.87	0.58	0.00	$130,519.90	False
33190205	Transport Bulk Solid Hazardous Waste, Maximum 20 CY (per Mile)	60,515.00	MI	0.00	0.00	0.00	2.37	$143,335.16	False
33190317	Waste Stream Evaluation Fee, Not Including 50% Rebate on 1st Shipment	1.00	EA	0.00	0.00	0.00	53.35	$53.35	False
33190807	32 Ft. Dump Truck, 6 Mil Liner, disposable	1,729.00	EA	33.04	0.00	0.00	0.00	$57,118.51	False
33197270	Landfill Nonhazardous Solid Bulk Waste by CY	34,572.00	CY	0.00	0.00	0.00	32.01	$1,106,579.18	False

Total Element Cost:	$1,437,606.10
Total 1st Year Tech Cost:	$1,437,606.10

Technology: Site Close-Out Documentation

Element: Meetings

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33220102	Project Manager	7.00	HR	0.00	257.81	0.00	0.00	$1,804.70	False
33220106	Staff Engineer	6.00	HR	0.00	234.44	0.00	0.00	$1,406.65	False

Technology: Site Close-Out Documentation

33220114	Word Processing/Clerical	2.00	HR	0.00	120.66	0.00	0.00	$241.33	False

Total Element Cost: $3,452.67

Element: Work Plans & Reports

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33220101	Senior Project Manager	7.00	HR	0.00	280.35	0.00	0.00	$1,962.48	False
33220102	Project Manager	61.00	HR	0.00	257.81	0.00	0.00	$15,726.68	False
33220104	Senior Staff Engineer	4.00	HR	0.00	277.85	0.00	0.00	$1,111.41	False
33220109	Staff Scientist	2.00	HR	0.00	156.57	0.00	0.00	$313.14	False
33220114	Word Processing/Clerical	49.00	HR	0.00	120.66	0.00	0.00	$5,912.50	False
33220115	Draftsman/CADD	6.00	HR	0.00	114.80	0.00	0.00	$688.78	False

Total Element Cost: $25,714.99

Element: Documents

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33220102	Project Manager	9.00	HR	0.00	257.81	0.00	0.00	$2,320.33	False
33220104	Senior Staff Engineer	2.00	HR	0.00	277.85	0.00	0.00	$555.71	False
33220106	Staff Engineer	26.00	HR	0.00	234.44	0.00	0.00	$6,095.47	False
33220114	Word Processing/Clerical	11.00	HR	0.00	120.66	0.00	0.00	$1,327.30	False
33220115	Draftsman/CADD	8.00	HR	0.00	114.80	0.00	0.00	$918.37	False

Total Element Cost:	$11,217.18
Total 1st Year Tech Cost:	$40,384.84

Technology: Cleanup and Landscaping

Element:

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
17040101	Cleaning Up, site debris clean up and removal	10.70	ACR	0.00	790.66	60.38	0.00	$9,106.10	False
18050101	Area Preparation, 67% Level & 33% Slope	10.70	ACR	0.00	29.98	30.31	0.00	$645.06	False
18050401	Seeding, 67% Level & 33% Slope, Hydroseeding	10.70	ACR	2,054.10	1,247.00	583.97	0.00	$41,570.30	False
18050408	Fertilizer, Hydro Spread	21.40	ACR	1,157.24	120.13	65.50	0.00	$28,737.54	False
18050413	Watering with 3,000-Gallon Tank Truck, per Pass	85.60	ACR	257.49	65.62	69.30	0.00	$33,590.44	False
18050415	Mowing	21.40	ACR	0.00	381.88	0.00	0.00	$8,172.14	False

Total Element Cost:	$121,821.57
Total 1st Year Tech Cost:	$121,821.57

Technology: Clear and Grub

Element:

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override

Technology: Clear and Grub

17010102	Selective clearing, brush, medium clearing, with dozer and brush rake, excludes removal offsite	3.00	ACR	0.00	192.11	151.54	0.00	$1,030.97	False
17010211	Site clearing trees, with 335 H.P. dozer, to 12" diameter	300.00	EA	0.00	7.99	11.70	0.00	$5,908.92	False
17010315	Grub stumps, with 335 H.P. dozer, to 12" diameter	300.00	EA	0.00	4.80	8.44	0.00	$3,971.62	False
17010501	Grub and stack, 140 H.P. dozer	363.00	CY	0.00	4.80	2.68	0.00	$2,713.03	False

Total Element Cost: $13,624.55

Total 1st Year Tech Cost: $13,624.55

Technology: Mobilization/Demobilization

Element:

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
16029002	Mobilization & Fee	1.00	LS	2,404.28	0.00	0.00	0.00	$2,404.28	False
33010114	Mobilization Equipment (Soils)	1.00	LS	0.00	2,636.64	2,472.11	0.00	$5,108.75	False
33010115	Demobilize Equipment (Soils)	1.00	LS	0.00	2,636.64	2,472.11	0.00	$5,108.75	False
33010202	Per Diem (per person)	1,200.00	DAY	0.00	0.00	0.00	142.14	$170,568.00	True
33010204	Mobilize Crew, 100 Miles, per Person	10.00	EA	0.00	0.00	0.00	142.63	$1,426.33	False

Total Element Cost: $184,616.11

Total 1st Year Tech Cost:	$184,616.11
Total Phase Element Cost	$3,356,649.95

Phase Technology Cost Detail Report
(with Markups)

System:

RACER Version: RACER® Version 11.4.63.0
Database Location: C:\Users\Administrator\Desktop\RACER Backups\Racer_Backup_8_1_2019.mdb

Folder:

Folder Name: wilcox

Project:

ID: Wilcox FS
Name: Remedial Action Screening
Category: None

Location
State / Country: OKLAHOMA
City: OKLAHOMA STATE AVERAGE

Location Modifier	Default	User	Reason for changes
	0.890	0.890	

Options
Database: System Costs
Cost Database Date: 2017
Report Option: Fiscal

Description: Remedial Action

Site:

ID: Wilcox
Name: Feasibility Study
Type: None

Media/Waste Type

Primary: Soil
Secondary: N/A

Contaminant

Primary: Metals
Secondary: Semi-Volatile Organic Compounds (SVOCs)

Phase Names

- Pre-Study ☐
- Study ☐
- Design ☑
- Removal/Interim Action ☐
- Remedial Action ☑
- Operations & Maintenance ☑
- Long Term Monitoring ☐
- Site Closeout ☑

Documentation

Description: Reports
Support Team: Documentation of personnel used to provide support for estimator and preparation of the estimate.
References: Documentation of reference sources used in the preparation of the estimate.

Estimator Information

Estimator Name: Brooke Campanell
Estimator Title: Engineer

Agency/Org./Office:	EA Engineering, Science and Technology
Business Address:	1311 Continental Dr Suite K Abindon, MD 21009
Telephone Number:	4106716051
Email Address:	bcampanell@eaest.com
Estimate Prepared Date:	10/01/2019

Estimator Signature: _____ Date: _____

Reviewer Information

Reviewer Name:	
Reviewer Title:	
Agency/Org./Office:	
Business Address:	
Telephone Number:	
Email Address:	
Date Reviewed:	03/09/2021

Reviewer Signature: _____ Date: _____

Phase Documentation:

Phase Type:	Remedial Action
Phase Name:	Alternative 3 - Excavation, Onsite Disposal Five Year Review
Description:	Excavation, onsite disposal in RCRA containment cell, LUCs and five year review
Approach:	Ex Situ
Start Date:	April, 2021
Labor Rate Group:	System Labor Rate
Analysis Rate Group:	System Analysis Rate
Phase Markup Template:	System Defaults

Technology Markups	Markup	% Prime	% Sub.
Excavation	True	100	0
Site Close-Out Documentation	True	100	0
Cleanup and Landscaping	True	100	0
Clear and Grub	True	100	0
ADMINISTRATIVE LAND USE CONTROLS	True	100	0
Five-Year Review	True	100	0
Capping	True	100	0
Mobilization/Demobilization	True	100	0
Groundwater Monitoring Well	True	100	0
MONITORING	True	100	0

Total Marked-up Cost: $6,939,557.49

Technologies:

Technology: Excavation

Element:

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
17020416	12 CY Dump Truck Haul/Hour	2,141.00	HR	0.00	94.17	62.67	0.00	$335,793.03	False
17030242	22 CY Scraper by BCY	34,572.00	CY	0.00	1.67	2.91	0.00	$158,576.70	False
17030423	Unclassified Fill, 6" Lifts, Off-Site, Includes Delivery, Spreading, and Compaction	44,943.60	CY	18.22	1.62	1.23	0.00	$947,029.57	False
18050402	Seeding, Vegetative Cover	12.86	ACR	4,849.18	735.78	323.35	0.00	$75,980.79	False
33020401	Disposable Materials per Sample	200.00	EA	12.71	0.00	0.00	0.00	$2,542.16	False
33021709	Testing, TAL metals (6010/7000s)	50.00	EA	0.00	0.00	0.00	202.16	$10,107.85	False
33021721	Testing, semi-volatile organics (625, 8270)	50.00	EA	0.00	0.00	0.00	350.91	$17,545.70	False
33220102	Project Manager	9.00	HR	0.00	257.81	0.00	0.00	$2,320.33	False
33220108	Project Scientist	31.00	HR	0.00	193.87	0.00	0.00	$6,009.98	False
33220110	QA/QC Officer	5.00	HR	0.00	183.84	0.00	0.00	$919.18	False
33220112	Field Technician	5.00	HR	0.00	118.84	0.00	0.00	$594.21	False
33220114	Word Processing/Clerical	5.00	HR	0.00	120.66	0.00	0.00	$603.32	False
33220115	Draftsman/CADD	5.00	HR	0.00	114.80	0.00	0.00	$573.98	False

Total Element Cost:	$1,558,596.79
Total 1st Year Tech Cost:	$1,558,596.79

Technology: Site Close-Out Documentation

Element: Meetings

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33220102	Project Manager	7.00	HR	0.00	257.81	0.00	0.00	$1,804.70	False
33220106	Staff Engineer	6.00	HR	0.00	234.44	0.00	0.00	$1,406.65	False
33220114	Word Processing/Clerical	2.00	HR	0.00	120.66	0.00	0.00	$241.33	False

Total Element Cost: $3,452.67

Element: Work Plans & Reports

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33220101	Senior Project Manager	7.00	HR	0.00	280.35	0.00	0.00	$1,962.48	False
33220102	Project Manager	61.00	HR	0.00	257.81	0.00	0.00	$15,726.68	False
33220104	Senior Staff Engineer	4.00	HR	0.00	277.85	0.00	0.00	$1,111.41	False
33220109	Staff Scientist	2.00	HR	0.00	156.57	0.00	0.00	$313.14	False
33220114	Word Processing/Clerical	49.00	HR	0.00	120.66	0.00	0.00	$5,912.50	False
33220115	Draftsman/CADD	6.00	HR	0.00	114.80	0.00	0.00	$688.78	False

Total Element Cost: $25,714.99

Technology: Site Close-Out Documentation

Element: Documents

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33220102	Project Manager	9.00	HR	0.00	257.81	0.00	0.00	$2,320.33	False
33220104	Senior Staff Engineer	2.00	HR	0.00	277.85	0.00	0.00	$555.71	False
33220106	Staff Engineer	26.00	HR	0.00	234.44	0.00	0.00	$6,095.47	False
33220114	Word Processing/Clerical	11.00	HR	0.00	120.66	0.00	0.00	$1,327.30	False
33220115	Draftsman/CADD	8.00	HR	0.00	114.80	0.00	0.00	$918.37	False

Total Element Cost:	$11,217.18
Total 1st Year Tech Cost:	$40,384.84

Technology: Cleanup and Landscaping

Element:

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
17040101	Cleaning Up, site debris clean up and removal	10.70	ACR	0.00	790.66	60.38	0.00	$9,106.10	False
18050101	Area Preparation, 67% Level & 33% Slope	10.70	ACR	0.00	29.98	30.31	0.00	$645.06	False
18050401	Seeding, 67% Level & 33% Slope, Hydroseeding	10.70	ACR	2,054.10	1,247.00	583.97	0.00	$41,570.30	False
18050408	Fertilizer, Hydro Spread	21.40	ACR	1,157.24	120.13	65.50	0.00	$28,737.54	False
18050413	Watering with 3,000-Gallon Tank	85.60	ACR	257.49	65.62	69.30	0.00	$33,590.44	False

Technology: Cleanup and Landscaping

18050415	Truck, per Pass Mowing	21.40	ACR	0.00	381.88	0.00	0.00	$8,172.14	False

Total Element Cost:	$121,821.57
Total 1st Year Tech Cost:	$121,821.57

Technology: Clear and Grub

Element:

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
17010102	Selective clearing, brush, medium clearing, with dozer and brush rake, excludes removal offsite	3.00	ACR	0.00	192.11	151.54	0.00	$1,030.97	False
17010211	Site clearing trees, with 335 H.P. dozer, to 12" diameter	300.00	EA	0.00	7.99	11.70	0.00	$5,908.92	False
17010315	Grub stumps, with 335 H.P. dozer, to 12" diameter	300.00	EA	0.00	4.80	8.44	0.00	$3,971.62	False
17010501	Grub and stack, 140 H.P. dozer	363.00	CY	0.00	4.80	2.68	0.00	$2,713.03	False

Total Element Cost:	$13,624.55
Total 1st Year Tech Cost:	$13,624.55

Technology: ADMINISTRATIVE LAND USE CONTROLS

Technology: ADMINISTRATIVE LAND USE CONTROLS

Element: Planning Docs

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33220102	Project Manager	22.00	HR	0.00	211.41	0.00	0.00	$4,650.97	False
33220105	Project Engineer	30.00	HR	0.00	146.01	0.00	0.00	$4,380.32	False
33220106	Staff Engineer	45.00	HR	0.00	192.24	0.00	0.00	$8,650.88	False
33220110	QA/QC Officer	11.00	HR	0.00	150.75	0.00	0.00	$1,658.20	False
33220114	Word Processing/Clerical	60.00	HR	0.00	98.94	0.00	0.00	$5,936.63	False
33220115	Draftsman/CADD	30.00	HR	0.00	94.13	0.00	0.00	$2,824.00	False
33220503	Attorney, Partner, Real Estate	22.00	HR	0.00	223.72	0.00	0.00	$4,921.78	False
33240101	Other Direct Costs	1.00	LS	491.63	0.00	0.00	0.00	$491.63	True

Total Element Cost: $33,514.41

Element: Planning Meetings

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33010202	Per Diem (per person)	1.00	DAY	0.00	0.00	0.00	142.14	$142.14	True
33220102	Project Manager	20.00	HR	0.00	211.41	0.00	0.00	$4,228.16	False
33220114	Word Processing/Clerical	16.00	HR	0.00	98.94	0.00	0.00	$1,583.10	False
33220115	Draftsman/CADD	8.00	HR	0.00	94.13	0.00	0.00	$753.07	False
33240101	Other Direct Costs	1.00	LS	86.10	0.00	0.00	0.00	$86.10	True

Total Element Cost: $6,792.56

Element: Implementation

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33022037	Overnight Delivery, 8 oz Letter	10.00	EA	0.00	0.00	0.00	30.12	$301.19	False
33040671	Portable GPS Set with Mapping, 5 cm Accuracy	1.00	MO	6,972.07	0.00	0.00	0.00	$6,972.07	False
33220102	Project Manager	40.00	HR	0.00	211.41	0.00	0.00	$8,456.31	False
33220105	Project Engineer	60.00	HR	0.00	146.01	0.00	0.00	$8,760.64	False
33220106	Staff Engineer	80.00	HR	0.00	192.24	0.00	0.00	$15,379.35	False
33220110	QA/QC Officer	17.00	HR	0.00	150.75	0.00	0.00	$2,562.67	False
33220114	Word Processing/Clerical	40.00	HR	0.00	98.94	0.00	0.00	$3,957.76	False
33220115	Draftsman/CADD	120.00	HR	0.00	94.13	0.00	0.00	$11,296.01	False
33220213	Surveying - 3-man Crew	4.00	DAY	0.00	1,745.68	17.85	0.00	$7,054.12	False
33240101	Other Direct Costs	1.00	LS	835.80	0.00	0.00	0.00	$835.80	True
33990111	Local Fees	2.00	LS	298.50	0.00	0.00	0.00	$597.00	True

Total Element Cost:	$66,172.91
Total 1st Year Tech Cost:	$106,479.89

Technology: Five-Year Review

Element: Document Review

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33220105	Project Engineer	2.00	HR	0.00	178.06	0.00	0.00	$356.12	False
33220108	Project Scientist	2.00	HR	0.00	193.87	0.00	0.00	$387.74	False

Technology: Five-Year Review

33220109	Staff Scientist	4.00	HR	0.00	156.57	0.00	0.00	$626.29	False

Total Element Cost: $1,370.15

Element: Site Inspection

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33220102	Project Manager	3.00	HR	0.00	257.81	0.00	0.00	$773.44	False
33220105	Project Engineer	3.00	HR	0.00	178.06	0.00	0.00	$534.19	False
33220108	Project Scientist	3.00	HR	0.00	193.87	0.00	0.00	$581.61	False
33220109	Staff Scientist	3.00	HR	0.00	156.57	0.00	0.00	$469.72	False

Total Element Cost: $2,358.96

Element: Report

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33220102	Project Manager	6.00	HR	0.00	257.81	0.00	0.00	$1,546.89	False
33220105	Project Engineer	16.00	HR	0.00	178.06	0.00	0.00	$2,848.99	False
33220108	Project Scientist	13.00	HR	0.00	193.87	0.00	0.00	$2,520.31	False
33220109	Staff Scientist	26.00	HR	0.00	156.57	0.00	0.00	$4,070.87	False

Total Element Cost: $10,987.06

Total 1st Year Tech Cost: $14,716.17

Technology: Capping

Element:

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
17030423	Unclassified Fill, 6" Lifts, Off-Site, Includes Delivery, Spreading, and Compaction	44,700.07	CY	18.22	1.62	1.23	0.00	$941,898.03	False
17030615	Geosynthetic soil stabilization, geotextile fabric, non-woven, 120 lb. tensile strength, includes scarifying and compaction	215,263.08	SY	1.47	0.46	0.00	0.00	$415,520.33	False
18050301	Loam or topsoil, imported topsoil, 6" deep, furnish and place	11,175.02	LCY	37.19	8.82	2.71	0.00	$544,413.38	False
18050402	Seeding, Vegetative Cover	11.08	ACR	4,849.18	735.78	323.35	0.00	$65,464.01	False
33080506	Clay 10E-7, 6" Lifts, On-Site	10,147.08	CY	1.62	5.61	4.26	0.00	$116,615.94	False
33080507	Clay, Low Permeability, 6"Lifts, Off-Site	37,548.06	CY	14.90	3.71	2.63	0.00	$797,590.20	False
33080531	Drainage geotextiles, non-woven polypropylene, 60 mils thick	215,263.08	SY	1.42	1.41	0.27	0.00	$667,684.96	False
33080571	40 Mil Polymeric Liner, High-density Polyethylene	531,036.83	SF	0.58	0.36	0.03	0.00	$513,871.42	False

Total Element Cost:	$4,063,058.28
Total 1st Year Tech Cost:	$4,063,058.28

Technology: Mobilization/Demobilization

Technology: Mobilization/Demobilization

Element:

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
16029002	Mobilization & Fee	1.00	LS	2,404.28	0.00	0.00	0.00	$2,404.28	False
33010114	Mobilization Equipment (Soils)	1.00	LS	0.00	2,636.64	2,472.11	0.00	$5,108.75	False
33010115	Demobilize Equipment (Soils)	1.00	LS	0.00	2,636.64	2,472.11	0.00	$5,108.75	False
33010202	Per Diem (per person)	1,200.00	DAY	0.00	0.00	0.00	142.14	$170,568.00	True
33010204	Mobilize Crew, 100 Miles, per Person	10.00	EA	0.00	0.00	0.00	142.63	$1,426.33	False

Total Element Cost:	$184,616.11
Total 1st Year Tech Cost:	$184,616.11

Technology: Groundwater Monitoring Well

Element: Aquifer 1

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33020303	Organic Vapor Analyzer Rental, per Day	2.00	DAY	0.00	0.00	0.00	43.44	$86.88	False
33170808	Decontaminate Rig, Augers, Screen (Rental Equipment)	2.00	DAY	51.14	883.19	0.00	0.00	$1,868.65	False
33220112	Field Technician	60.00	HR	0.00	118.84	0.00	0.00	$7,130.50	False
33230111	2" PVC, Schedule 80, Well Casing	100.00	LF	5.57	7.43	6.35	0.00	$1,934.05	False

Technology: Groundwater Monitoring Well

33230211	2" PVC, Schedule 80, Well Screen	50.00	LF	8.30	7.43	6.35	0.00	$1,103.84	False
33230301	2" PVC, Well Plug	10.00	EA	12.27	22.29	19.04	0.00	$535.98	False
33231126	Air Rotary, 6" Dia Borehole (Consolidated), Depth <= 100 ft	160.00	LF	0.00	26.53	30.13	0.00	$9,065.37	False
33231401	2" Screen, Filter Pack	70.00	LF	6.97	5.74	4.90	0.00	$1,232.52	False
33231811	2" Well, Portland Cement Grout	70.00	LF	7.60	0.00	0.00	0.00	$532.21	False
33232101	2" Well, Bentonite Seal	10.00	EA	19.10	148.19	126.57	0.00	$2,938.66	False

Total Element Cost: $26,428.67

Element: General Aquifers

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33010101	Mobilize/DeMobilize Drilling Rig & Crew	1.00	LS	0.00	2,228.80	956.51	0.00	$3,185.31	False
33231178	Move Rig/Equipment Around Site	9.00	EA	119.15	320.39	137.50	0.00	$5,193.35	False
33231182	DOT steel drums, 55 gal., open, 17C	5.00	EA	136.13	0.00	0.00	0.00	$680.64	False
33231504	Surface Pad, Concrete, 2' x 2' x 4"	10.00	EA	67.55	24.79	2.40	0.00	$947.34	False

Total Element Cost: $10,006.64

Total 1st Year Tech Cost: $36,435.31

Technology: MONITORING

Element: Groundwater

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33020401	Disposable Materials per Sample	14.00	EA	12.71	0.00	0.00	0.00	$177.95	False
33020402	Decontamination Materials per Sample	14.00	EA	22.54	0.00	0.00	0.00	$315.58	False
33020561	Lysimeter accessories, nylon tubing, 1/4" OD	125.00	LF	0.54	0.00	0.00	0.00	$68.08	False
33021509	Monitor well sampling equipment, rental, water quality testing parameter device rental	1.00	WK	0.00	0.00	0.00	309.41	$309.41	False
33021603	Testing, dissolved solids	14.00	EA	0.00	0.00	0.00	22.30	$312.18	False
33021604	Testing, suspended solids	14.00	EA	0.00	0.00	0.00	22.30	$312.18	False
33021620	Testing, TAL metals (6010/7000s)	14.00	EA	0.00	0.00	0.00	202.16	$2,830.20	False
33022124	Testing, RCRA evaluations, EP toxicity analysis, metals (6010,7470)	1.00	EA	0.00	0.00	0.00	120.03	$120.03	False
33022135	Testing, base neutral & acid extractable organics (SW3510/SW8270)	14.00	EA	0.00	0.00	0.00	365.29	$5,114.07	False
33190403	DOT steel drums, 55 gal., closed only, 17H	3.00	EA	116.53	0.00	0.00	0.00	$349.60	False
33220102	Project Manager	3.00	HR	0.00	257.81	0.00	0.00	$773.44	False
33220112	Field Technician	40.00	HR	0.00	118.84	0.00	0.00	$4,753.66	False
33230614	Peristaltic Pump, Weekly Rental	1.00	WK	0.00	0.00	0.00	101.89	$101.89	False

					Total Element Cost:			$15,538.29	

Element: Data Management

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33220102	Project Manager	9.00	HR	0.00	257.81	0.00	0.00	$2,320.33	False
33220105	Project Engineer	30.00	HR	0.00	178.06	0.00	0.00	$5,341.85	False
33220108	Project Scientist	59.00	HR	0.00	193.87	0.00	0.00	$11,438.34	False
33220109	Staff Scientist	80.00	HR	0.00	156.57	0.00	0.00	$12,525.76	False
33220110	QA/QC Officer	17.00	HR	0.00	183.84	0.00	0.00	$3,125.20	False
33220112	Field Technician	1.00	HR	0.00	118.84	0.00	0.00	$118.84	False
33220114	Word Processing/Clerical	13.00	HR	0.00	120.66	0.00	0.00	$1,568.62	False
33220115	Draftsman/CADD	9.00	HR	0.00	114.80	0.00	0.00	$1,033.17	False

					Total Element Cost:			$37,472.13	

Element: General Monitoring

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33022043	Overnight delivery service, 51 to 70 lb packages	240.00	LB	0.00	0.00	0.00	7.98	$1,915.36	False
33220112	Field Technician	8.00	HR	0.00	118.84	0.00	0.00	$950.73	False

					Total Element Cost:			$2,866.09	
					Total 1st Year Tech Cost:			$55,876.51	

Total Phase Element Cost	$6,195,610.01

Phase Technology Cost Detail Report
(with Markups)

System:

RACER Version: RACER® Version 11.4.63.0
Database Location: C:\Users\Administrator\Desktop\RACER Backups\Racer_Backup_8_1_2019.mdb

Folder:

Folder Name: wilcox

Project:

ID: Wilcox FS
Name: Remedial Action Screening
Category: None

Location
State / Country: OKLAHOMA
City: OKLAHOMA STATE AVERAGE

Location Modifier	Default	User	Reason for changes
	0.890	0.890	

Options
Database: System Costs
Cost Database Date: 2017
Report Option: Fiscal

Description Remedial Action

Site:

ID: Wilcox
Name: Feasibility Study
Type: None

Media/Waste Type

Primary: Soil
Secondary: N/A

Contaminant

Primary: Metals
Secondary: Semi-Volatile Organic Compounds (SVOCs)

Phase Names

- Pre-Study ☐
- Study ☐
- Design ☑
- Removal/Interim Action ☐
- Remedial Action ☑
- Operations & Maintenance ☑
- Long Term Monitoring ☐
- Site Closeout ☑

Documentation

Description: Reports
Support Team: Documentation of personnel used to provide support for estimator and preparation of the estimate.
References: Documentation of reference sources used in the preparation of the estimate.

Estimator Information

Estimator Name: Brooke Campanell
Estimator Title: Engineer

Agency/Org./Office:	EA Engineering, Science and Technology
Business Address:	1311 Continental Dr Suite K Abindon, MD 21009
Telephone Number:	4106716051
Email Address:	bcampanell@eaest.com
Estimate Prepared Date:	10/01/2019

Estimator Signature: _____ Date: _____

Reviewer Information

Reviewer Name:	
Reviewer Title:	
Agency/Org./Office:	
Business Address:	
Telephone Number:	
Email Address:	
Date Reviewed:	03/09/2021

Reviewer Signature: _____ Date: _____

Phase Documentation:

Phase Type:	Remedial Action
Phase Name:	Alternative 4 - Excavation, Onsite Disposal Five Year Review
Description:	Onsite capping
Approach:	Ex Situ
Start Date:	April, 2021
Labor Rate Group:	System Labor Rate
Analysis Rate Group:	System Analysis Rate
Phase Markup Template:	System Defaults

Technology Markups	Markup	% Prime	% Sub.
Excavation	True	100	0
Site Close-Out Documentation	True	100	0
Cleanup and Landscaping	True	100	0
Clear and Grub	True	100	0
ADMINISTRATIVE LAND USE CONTROLS	True	100	0
Five-Year Review	True	100	0
Capping	True	100	0
MONITORING	True	100	0
Groundwater Monitoring Well	True	100	0
Mobilization/Demobilization	True	100	0

Total Marked-up Cost: $5,157,146.74

Technologies:

Technology: Excavation

Element:

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
17020416	12 CY Dump Truck Haul/Hour	2,141.00	HR	0.00	94.17	62.67	0.00	$335,793.03	False
17030242	22 CY Scraper by BCY	34,572.00	CY	0.00	1.67	2.91	0.00	$158,576.70	False
17030423	Unclassified Fill, 6" Lifts, Off-Site, Includes Delivery, Spreading, and Compaction	44,943.60	CY	18.22	1.62	1.23	0.00	$947,029.57	False
18050402	Seeding, Vegetative Cover	12.86	ACR	4,849.18	735.78	323.35	0.00	$75,980.79	False
33020401	Disposable Materials per Sample	200.00	EA	12.71	0.00	0.00	0.00	$2,542.16	False
33021709	Testing, TAL metals (6010/7000s)	50.00	EA	0.00	0.00	0.00	202.16	$10,107.85	False
33021721	Testing, semi-volatile organics (625, 8270)	50.00	EA	0.00	0.00	0.00	350.91	$17,545.70	False
33220102	Project Manager	9.00	HR	0.00	257.81	0.00	0.00	$2,320.33	False
33220108	Project Scientist	31.00	HR	0.00	193.87	0.00	0.00	$6,009.98	False
33220110	QA/QC Officer	5.00	HR	0.00	183.84	0.00	0.00	$919.18	False
33220112	Field Technician	5.00	HR	0.00	118.84	0.00	0.00	$594.21	False
33220114	Word Processing/Clerical	5.00	HR	0.00	120.66	0.00	0.00	$603.32	False
33220115	Draftsman/CADD	5.00	HR	0.00	114.80	0.00	0.00	$573.98	False

Total Element Cost:	$1,558,596.79
Total 1st Year Tech Cost:	$1,558,596.79

Technology: Site Close-Out Documentation

Element: Meetings

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33220102	Project Manager	7.00	HR	0.00	257.81	0.00	0.00	$1,804.70	False
33220106	Staff Engineer	6.00	HR	0.00	234.44	0.00	0.00	$1,406.65	False
33220114	Word Processing/Clerical	2.00	HR	0.00	120.66	0.00	0.00	$241.33	False

Total Element Cost: $3,452.67

Element: Work Plans & Reports

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33220101	Senior Project Manager	7.00	HR	0.00	280.35	0.00	0.00	$1,962.48	False
33220102	Project Manager	61.00	HR	0.00	257.81	0.00	0.00	$15,726.68	False
33220104	Senior Staff Engineer	4.00	HR	0.00	277.85	0.00	0.00	$1,111.41	False
33220109	Staff Scientist	2.00	HR	0.00	156.57	0.00	0.00	$313.14	False
33220114	Word Processing/Clerical	49.00	HR	0.00	120.66	0.00	0.00	$5,912.50	False
33220115	Draftsman/CADD	6.00	HR	0.00	114.80	0.00	0.00	$688.78	False

Total Element Cost: $25,714.99

Technology: Site Close-Out Documentation

Element: Documents

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33220102	Project Manager	9.00	HR	0.00	257.81	0.00	0.00	$2,320.33	False
33220104	Senior Staff Engineer	2.00	HR	0.00	277.85	0.00	0.00	$555.71	False
33220106	Staff Engineer	26.00	HR	0.00	234.44	0.00	0.00	$6,095.47	False
33220114	Word Processing/Clerical	11.00	HR	0.00	120.66	0.00	0.00	$1,327.30	False
33220115	Draftsman/CADD	8.00	HR	0.00	114.80	0.00	0.00	$918.37	False

Total Element Cost:	$11,217.18
Total 1st Year Tech Cost:	$40,384.84

Technology: Cleanup and Landscaping

Element:

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
17040101	Cleaning Up, site debris clean up and removal	10.70	ACR	0.00	790.66	60.38	0.00	$9,106.10	False
18050101	Area Preparation, 67% Level & 33% Slope	10.70	ACR	0.00	29.98	30.31	0.00	$645.06	False
18050401	Seeding, 67% Level & 33% Slope, Hydroseeding	10.70	ACR	2,054.10	1,247.00	583.97	0.00	$41,570.30	False
18050408	Fertilizer, Hydro Spread	21.40	ACR	1,157.24	120.13	65.50	0.00	$28,737.54	False
18050413	Watering with 3,000-Gallon Tank	85.60	ACR	257.49	65.62	69.30	0.00	$33,590.44	False

Technology: Cleanup and Landscaping

18050415	Truck, per Pass Mowing	21.40	ACR	0.00	381.88	0.00	0.00	$8,172.14	False

Total Element Cost:	$121,821.57
Total 1st Year Tech Cost:	$121,821.57

Technology: Clear and Grub

Element:

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
17010102	Selective clearing, brush, medium clearing, with dozer and brush rake, excludes removal offsite	3.00	ACR	0.00	192.11	151.54	0.00	$1,030.97	False
17010211	Site clearing trees, with 335 H.P. dozer, to 12" diameter	300.00	EA	0.00	7.99	11.70	0.00	$5,908.92	False
17010315	Grub stumps, with 335 H.P. dozer, to 12" diameter	300.00	EA	0.00	4.80	8.44	0.00	$3,971.62	False
17010501	Grub and stack, 140 H.P. dozer	363.00	CY	0.00	4.80	2.68	0.00	$2,713.03	False

Total Element Cost:	$13,624.55
Total 1st Year Tech Cost:	$13,624.55

Technology: ADMINISTRATIVE LAND USE CONTROLS

Technology: ADMINISTRATIVE LAND USE CONTROLS

Element: Planning Docs

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33220102	Project Manager	22.00	HR	0.00	211.41	0.00	0.00	$4,650.97	False
33220105	Project Engineer	30.00	HR	0.00	146.01	0.00	0.00	$4,380.32	False
33220106	Staff Engineer	45.00	HR	0.00	192.24	0.00	0.00	$8,650.88	False
33220110	QA/QC Officer	11.00	HR	0.00	150.75	0.00	0.00	$1,658.20	False
33220114	Word Processing/Clerical	60.00	HR	0.00	98.94	0.00	0.00	$5,936.63	False
33220115	Draftsman/CADD	30.00	HR	0.00	94.13	0.00	0.00	$2,824.00	False
33220503	Attorney, Partner, Real Estate	22.00	HR	0.00	223.72	0.00	0.00	$4,921.78	False
33240101	Other Direct Costs	1.00	LS	491.63	0.00	0.00	0.00	$491.63	True

Total Element Cost: $33,514.41

Element: Planning Meetings

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33010202	Per Diem (per person)	1.00	DAY	0.00	0.00	0.00	142.14	$142.14	True
33220102	Project Manager	20.00	HR	0.00	211.41	0.00	0.00	$4,228.16	False
33220114	Word Processing/Clerical	16.00	HR	0.00	98.94	0.00	0.00	$1,583.10	False
33220115	Draftsman/CADD	8.00	HR	0.00	94.13	0.00	0.00	$753.07	False
33240101	Other Direct Costs	1.00	LS	86.10	0.00	0.00	0.00	$86.10	True

Total Element Cost: $6,792.56

Element: Implementation

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33022037	Overnight Delivery, 8 oz Letter	10.00	EA	0.00	0.00	0.00	30.12	$301.19	False
33040671	Portable GPS Set with Mapping, 5 cm Accuracy	1.00	MO	6,972.07	0.00	0.00	0.00	$6,972.07	False
33220102	Project Manager	40.00	HR	0.00	211.41	0.00	0.00	$8,456.31	False
33220105	Project Engineer	60.00	HR	0.00	146.01	0.00	0.00	$8,760.64	False
33220106	Staff Engineer	80.00	HR	0.00	192.24	0.00	0.00	$15,379.35	False
33220110	QA/QC Officer	17.00	HR	0.00	150.75	0.00	0.00	$2,562.67	False
33220114	Word Processing/Clerical	40.00	HR	0.00	98.94	0.00	0.00	$3,957.76	False
33220115	Draftsman/CADD	120.00	HR	0.00	94.13	0.00	0.00	$11,296.01	False
33220213	Surveying - 3-man Crew	4.00	DAY	0.00	1,745.68	17.85	0.00	$7,054.12	False
33240101	Other Direct Costs	1.00	LS	835.80	0.00	0.00	0.00	$835.80	True
33990111	Local Fees	2.00	LS	298.50	0.00	0.00	0.00	$597.00	True

Total Element Cost:	$66,172.91
Total 1st Year Tech Cost:	$106,479.89

Technology: Five-Year Review

Element: Document Review

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33220105	Project Engineer	2.00	HR	0.00	178.06	0.00	0.00	$356.12	False
33220108	Project Scientist	2.00	HR	0.00	193.87	0.00	0.00	$387.74	False

Technology: Five-Year Review

33220109	Staff Scientist	4.00	HR	0.00	156.57	0.00	0.00	$626.29	False

Total Element Cost: $1,370.15

Element: Site Inspection

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33220102	Project Manager	3.00	HR	0.00	257.81	0.00	0.00	$773.44	False
33220105	Project Engineer	3.00	HR	0.00	178.06	0.00	0.00	$534.19	False
33220108	Project Scientist	3.00	HR	0.00	193.87	0.00	0.00	$581.61	False
33220109	Staff Scientist	3.00	HR	0.00	156.57	0.00	0.00	$469.72	False

Total Element Cost: $2,358.96

Element: Report

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33220102	Project Manager	6.00	HR	0.00	257.81	0.00	0.00	$1,546.89	False
33220105	Project Engineer	16.00	HR	0.00	178.06	0.00	0.00	$2,848.99	False
33220108	Project Scientist	13.00	HR	0.00	193.87	0.00	0.00	$2,520.31	False
33220109	Staff Scientist	26.00	HR	0.00	156.57	0.00	0.00	$4,070.87	False

Total Element Cost: $10,987.06

Total 1st Year Tech Cost: $14,716.17

Technology: Capping

Element:

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
17030423	Unclassified Fill, 6" Lifts, Off-Site, Includes Delivery, Spreading, and Compaction	22,350.03	CY	18.22	1.62	1.23	0.00	$470,948.91	False
17030615	Geosynthetic soil stabilization, geotextile fabric, non-woven, 120 lb. tensile strength, includes scarifying and compaction	215,263.08	SY	1.47	0.46	0.00	0.00	$415,520.33	False
18050301	Loam or topsoil, imported topsoil, 6" deep, furnish and place	11,175.02	LCY	37.19	8.82	2.71	0.00	$544,413.38	False
18050402	Seeding, Vegetative Cover	11.08	ACR	4,849.18	735.78	323.35	0.00	$65,464.01	False
33080506	Clay 10E-7, 6" Lifts, On-Site	10,147.08	CY	1.62	5.61	4.26	0.00	$116,615.94	False
33080531	Drainage geotextiles, non-woven polypropylene, 60 mils thick	215,263.08	SY	1.42	1.41	0.27	0.00	$667,684.96	False

Total Element Cost:	$2,280,647.53
Total 1st Year Tech Cost:	$2,280,647.53

Technology: Mobilization/Demobilization

Element:

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override

Technology: Mobilization/Demobilization

16029002	Mobilization & Fee	1.00	LS	2,404.28	0.00	0.00	0.00	$2,404.28	False
33010114	Mobilization Equipment (Soils)	1.00	LS	0.00	2,636.64	2,472.11	0.00	$5,108.75	False
33010115	Demobilize Equipment (Soils)	1.00	LS	0.00	2,636.64	2,472.11	0.00	$5,108.75	False
33010202	Per Diem (per person)	1,200.00	DAY	0.00	0.00	0.00	142.14	$170,568.00	True
33010204	Mobilize Crew, 100 Miles, per Person	10.00	EA	0.00	0.00	0.00	142.63	$1,426.33	False

Total Element Cost:	$184,616.11
Total 1st Year Tech Cost:	$184,616.11

Technology: MONITORING

Element: Groundwater

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33020401	Disposable Materials per Sample	14.00	EA	12.71	0.00	0.00	0.00	$177.95	False
33020402	Decontamination Materials per Sample	14.00	EA	22.54	0.00	0.00	0.00	$315.58	False
33020561	Lysimeter accessories, nylon tubing, 1/4" OD	125.00	LF	0.54	0.00	0.00	0.00	$68.08	False
33021509	Monitor well sampling equipment, rental, water quality testing parameter device rental	1.00	WK	0.00	0.00	0.00	309.41	$309.41	False
33021603	Testing, dissolved solids	14.00	EA	0.00	0.00	0.00	22.30	$312.18	False
33021604	Testing, suspended solids	14.00	EA	0.00	0.00	0.00	22.30	$312.18	False
33021620	Testing, TAL metals (6010/7000s)	14.00	EA	0.00	0.00	0.00	202.16	$2,830.20	False

Technology: MONITORING

33022124	Testing, RCRA evaluations, EP toxicity analysis, metals (6010,7470)	1.00	EA	0.00	0.00	0.00	120.03	$120.03	False
33022135	Testing, base neutral & acid extractable organics (SW3510/SW8270)	14.00	EA	0.00	0.00	0.00	365.29	$5,114.07	False
33190403	DOT steel drums, 55 gal., closed only, 17H	3.00	EA	116.53	0.00	0.00	0.00	$349.60	False
33220102	Project Manager	3.00	HR	0.00	257.81	0.00	0.00	$773.44	False
33220112	Field Technician	40.00	HR	0.00	118.84	0.00	0.00	$4,753.66	False
33230614	Peristaltic Pump, Weekly Rental	1.00	WK	0.00	0.00	0.00	101.89	$101.89	False

Total Element Cost: $15,538.29

Element: Data Management

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33220102	Project Manager	9.00	HR	0.00	257.81	0.00	0.00	$2,320.33	False
33220105	Project Engineer	30.00	HR	0.00	178.06	0.00	0.00	$5,341.85	False
33220108	Project Scientist	59.00	HR	0.00	193.87	0.00	0.00	$11,438.34	False
33220109	Staff Scientist	80.00	HR	0.00	156.57	0.00	0.00	$12,525.76	False
33220110	QA/QC Officer	17.00	HR	0.00	183.84	0.00	0.00	$3,125.20	False
33220112	Field Technician	1.00	HR	0.00	118.84	0.00	0.00	$118.84	False
33220114	Word Processing/Clerical	13.00	HR	0.00	120.66	0.00	0.00	$1,568.62	False
33220115	Draftsman/CADD	9.00	HR	0.00	114.80	0.00	0.00	$1,033.17	False

					Total Element Cost:			$37,472.13	

Element: General Monitoring

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33022043	Overnight delivery service, 51 to 70 lb packages	240.00	LB	0.00	0.00	0.00	7.98	$1,915.36	False
33220112	Field Technician	8.00	HR	0.00	118.84	0.00	0.00	$950.73	False

					Total Element Cost:			$2,866.09	
					Total 1st Year Tech Cost:			$55,876.51	

Technology: Groundwater Monitoring Well

Element: Aquifer 1

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33020303	Organic Vapor Analyzer Rental, per Day	2.00	DAY	0.00	0.00	0.00	43.44	$86.88	False
33170808	Decontaminate Rig, Augers, Screen (Rental Equipment)	2.00	DAY	51.14	883.19	0.00	0.00	$1,868.65	False
33220112	Field Technician	60.00	HR	0.00	118.84	0.00	0.00	$7,130.50	False
33230111	2" PVC, Schedule 80, Well Casing	100.00	LF	5.57	7.43	6.35	0.00	$1,934.05	False
33230211	2" PVC, Schedule 80, Well Screen	50.00	LF	8.30	7.43	6.35	0.00	$1,103.84	False
33230301	2" PVC, Well Plug	10.00	EA	12.27	22.29	19.04	0.00	$535.98	False
33231126	Air Rotary, 6" Dia Borehole	160.00	LF	0.00	26.53	30.13	0.00	$9,065.37	False

Technology: Groundwater Monitoring Well

	(Consolidated), Depth <= 100 ft								
33231401	2" Screen, Filter Pack	70.00	LF	6.97	5.74	4.90	0.00	$1,232.52	False
33231811	2" Well, Portland Cement Grout	70.00	LF	7.60	0.00	0.00	0.00	$532.21	False
33232101	2" Well, Bentonite Seal	10.00	EA	19.10	148.19	126.57	0.00	$2,938.66	False

Total Element Cost: $26,428.67

Element: General Aquifers

Assembly	Description	Quantity	Unit of Measure	Material Unit Cost	Labor Unit Cost	Equipment Unit Cost	Sub Bid Cost	Extended Cost	Cost Override
33010101	Mobilize/DeMobilize Drilling Rig & Crew	1.00	LS	0.00	2,228.80	956.51	0.00	$3,185.31	False
33231178	Move Rig/Equipment Around Site	9.00	EA	119.15	320.39	137.50	0.00	$5,193.35	False
33231182	DOT steel drums, 55 gal., open, 17C	5.00	EA	136.13	0.00	0.00	0.00	$680.64	False
33231504	Surface Pad, Concrete, 2' x 2' x 4"	10.00	EA	67.55	24.79	2.40	0.00	$947.34	False

Total Element Cost: $10,006.64

Total 1st Year Tech Cost: $36,435.31

Total Phase Element Cost $4,413,199.26